This study examines the impact of accounting choices on the valuation of initial public offerings (IPOs). The empirical analysis focuses on the role of accounting decisions in shaping the valuation of IPOs. The results suggest that the choice of accounting methods can significantly affect the valuation of IPOs, with implications for investors and analysts. This finding underscores the importance of accounting practices in determining the market value of new issuers.
Liberty and Zimmerman (1986) examined manipulation of earnings by managers facing upcoming union negotiations. Like DeAngelo (1985), they found no evidence of systematic accounting choice to lower reported earnings. The remainder of this study is organized as follows. The second section describes the methodology and estimation procedure. The third section analyzes the results, and the last section provides a summary.

Methodology and estimation procedure

Data

The sample consisted of a group of 229 industrial companies that went public between January 1983 and June 1987. The sample was drawn from an exhaustive list of 1,162 U.S. firm commitment common shares offerings reported in various issues of Going Public: The IPO Reporter for the period examined. Prospectuses were requested directly from each firm, and a total of 681 prospectuses was received. Although the resulting response rate was 58.61 percent, only 560 of these, or 47.79 percent, could be analyzed to determine the extent of earnings management. To the extent that the results are more pronounced among smaller firms with less leverage, any survivorship bias could possibly produce at least a partial explanation for the lack of evidence of manipulation.

From the 560 IPOs for which prospectuses were received, 249 special IPOs were excluded. As entrepreneur wishing to manipulate income to increase the IPO's offering price may begin such manipulation years before the date of the initial offering, to examine the possibility that earnings management began two years before the offering date; the remaining 312 firms were further reduced, with only those reporting in their prospectuses annual financial statements for each of the three fiscal years prior to the initial public offering retained. Another reason that financial statements for three years prior to the public offering were desired was to make a proper adjustment to anticipate growing accruals due solely to growth in assets. There is a cost to excluding from the sample the 249 IPOs that reported only one or two years' annual financial statements in their prospectuses. One would expect that, like the survivorship bias, this further restriction would exclude firms that, on average, are smaller and of higher risk. An examination of these 249 excluded firms indicated that they were indeed smaller, on average, than the 229 remaining firms, but, based on financial leverage, there was no clear difference in risk. Further analysis indicated that restricting the sample to the 229 firms with three years of financial statements does not meaningfully affect the results. The final sample thus consisted of 229 industrial IPOs, of which 41 went public in 1985, 131 in 1986, and 57 in the first half of 1987. The majority of the sample firms (87.3 percent) were first traded in the over-the-counter (OTC) capital market.

Entrepreneurs may have both the incentive and opportunity to manipulate income through the choice of accounting conventions, providing the motivation for this research. The present study relies on the approach used by Healy (1985) and DeAngelo (1986, 1985) in examining whether or not earnings management had occurred. They used total accruals as a proxy for discretionary accruals, an approach that is justified when discretionary accruals are believed to be stable over time. However, a significant reason for firms going public is that they experience rapid growth. Such growth may give rise to discretionary accruals that are not stationary. Therefore, adjustments were made to reduce the chance that the measure of discretionary accruals was due solely to growth. It should be noted, however, that one would expect more severe problems of nonstationarity after the IPO. Only then would one expect a large change in the firm's investment opportunity set resulting from the immense infusion of cash and significant changes in the contracting technology.

The study used to respond to the request. Thus, this survivorship bias in the final sample would result in the sample being drawn from larger and less risky firms. In partial response to this potential problem, the third section investigates how firm size and leverage are related to measures of earnings management. To the extent that the results are more pronounced among smaller firms with higher leverage, any survivorship bias could possibly produce at least a partial explanation for the lack of evidence of manipulation.

From the 681 IPOs for which prospectuses were received, 249 special IPOs were excluded. As entrepreneur wishing to manipulate income to increase the IPO's offering price may begin such manipulation years before the date of the initial offering, to examine the possibility that earnings management began two years before the offering date; the remaining 432 firms were further reduced, with only those reporting in their prospectuses annual financial statements for each of the three fiscal years prior to the initial public offering retained. Another reason that financial statements for three years prior to the public offering were desired was to make a proper adjustment to anticipate growing accruals due solely to growth in assets. There is a cost to excluding from the sample the 249 IPOs that reported only one or two years' annual financial statements in their prospectuses. One would expect that, like the survivorship bias, this further restriction would exclude firms that, on average, are smaller and of higher risk. An examination of these 249 excluded firms indicated that they were indeed smaller, on average, than the 229 remaining firms, but, based on financial leverage, there was no clear difference in risk. Further analysis indicated that restricting the sample to the 229 firms with three years of financial statements does not meaningfully affect the results. The final sample thus consisted of 229 industrial IPOs, of which 41 went public in 1985, 131 in 1986, and 57 in the first half of 1987. The majority of the sample firms (87.3 percent) were first traded in the over-the-counter (OTC) capital market.

Initial Public Offerings
Summary measures of various sample characteristics are presented in Table 1. These include both accounting and first-trading-day capital market statistics. Consistent with the previous discussion concerning potential survivorship bias, a comparison of the population of similar type IPOs obtained from Registration Offerings Statistics tape indicates that the sample consists of relatively large firms. For example, the median total assets in the sample is $2.53 billion compared with $1.32 billion for the population. Also, the median total initial offering value of common equity and the median proceeds in the sample are $5.17 billion and $11.22 billion, respectively, compared with $3.24 billion and $8.5 million, respectively, in the population. The median long-term debt as a percentage of total assets in the sample is smaller than that of the population (0.139 and 0.216, respectively), again consistent with the existence of a survivorship bias. Finally, the sample firms experienced, on average, positive first-trading-day returns of 5.5 percent, which is consistent with the findings of other studies.

An examination of the industry affiliation of the sample firms shows a wide distribution over 99 three-digit SIC industry categories without any significant tendency for industry concentration. In only four cases were there 10 or more firms within a single industry.

Hypotheses

Two related hypotheses regarding earnings management were tested. The first proposes that entrepreneurs who plan to take their private corporations public systematically overstate reported earnings in periods prior to the initial public offerings. The presumed goal of this manipulation is to induce outside investors to pay a higher (offer) price for the firm's common shares than is justified by its true profitability. As discussed in the introduction, such manipulation may be motivated by the entrepreneur's desire to increase wealth by increasing the value of shares retained and cash receipts from the (partial) disposition of existing shares.

The second hypothesis relates the quality of auditor and underwriter to the extent of the earnings management. Titman and Trueman (1986) define audit/underwriter quality as the accuracy of the information that he or she supplies to investors. The function of auditors in the process of going public is to audit financial data and help prepare registration statements. The managing underwriter investigates the firm's overall prospects and estimates its value.

High-quality auditors/underwriters have greater incentives to provide accurate information about the IPO value than do low-quality auditors/underwriters for the following reason. The Securities Act of 1933 mandates that underwriters and auditors are liable for any false or misleading information about the prospects of the issuing. Hull and Rennar (1988) caution auditors of initial public offerings that they may be prime targets of legal actions by disappointed investors if the new public firm "goes sour." Hull and Rennar go on to advise auditors to be aware of manipulations that would sharply boost sales and earnings. Because higher-quality firms have more invested in reputation

variables through manipulation in public markets.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
</tr>
<tr>
<td>Capital raising ($ million)</td>
</tr>
<tr>
<td>Net income ($ million)</td>
</tr>
<tr>
<td>Long-term debt as a percentage of total assets</td>
</tr>
<tr>
<td>Total book value of common equity</td>
</tr>
<tr>
<td>IPO price per share</td>
</tr>
<tr>
<td>First-trading-day returns</td>
</tr>
</tbody>
</table>

* All accruals data are from the book annual report. Dividends in the prospectus prior to the IPO.
capital, they will have more to lose if they fail to reveal material misrepresentations (DeAngelo 1981).

The preceding analysis implies that the choice of auditor and underwriter may give an indication of the probability that managers have manipulated income. Because any management of accounting choices will more likely be discovered by a higher quality of auditor and underwriter, managers of IPOs using prestigious auditors and underwriters may have less opportunity to manipulate income than managers of IPOs using less prestigious auditors and underwriters. These arguments lead to the second hypothesis that the extent of manipulation is inversely related to the quality of auditors and underwriters.

One should note, however, that the two hypotheses are not inconsistent with the selection of high-quality auditors and underwriters by some managers who want to take their firms public. Suppose that a manager believes that a higher offering price could be obtained by manipulating accounting numbers and that the manager's ability to manipulate would be hampered by engaging a high-quality auditor and a high-quality underwriter. The manager could still find it advantageous to hire a high-quality auditor and a high-quality underwriter for the reasons given below.

As previously mentioned, potential investors, having very limited public information about an IPO, rely heavily on the information provided in the prospectus. Without other sources, however, investors are not able to discern the quality of the information furnished. Under these circumstances, Titman and Trueman (1986) argue that the choice of auditor or underwriter may be used by investors to form a more precise estimate of the firm value. Therefore, managers with favorable information face countervailing incentives in their choice of auditor and underwriter. On one hand, by selecting prestigious auditors and underwriters, their favorable information can be conveyed to investors and, hence, their offer price will receive increased valuation. On the other hand, such a choice may reduce their ability to manipulate income, which may be restricted in lower valuations. As long as the choice of prestigious auditors and underwriters is expected to result in higher firm value than would have been the case with lower-quality auditors and underwriters but with more manipulation, managers can be expected to select the prestigious auditors and underwriters.

To assess whether earnings have been manipulated by entrepreneurs, we adopt the total accounting accruals approach developed in Icaiy (1985) and DeAngelo (1986, 1988), incorporating the modifications to adjust for those attributes that are peculiar to initial public offerings.

Estimating unexpected standardized total accounting accruals

Total accounting accruals in period t (ACt) are defined as the difference between reported net income from continuing operations (NIt) and operating cash flows (CFt) in period t:

\[
AC_t = N_t - CF_t
\]  

(1)

\[UAC_t = \frac{AC_t}{(TAt + TAt-1)/2} = \frac{AC_{t-1}}{TAt-1 + TAt-2}/2 \]  

(2)

Returning to the example, with the measure given in (2), \[UAC_1 = 110 / [(1.210 + 1.100) / 2] = 110 / (1.155 + 1.000) / 2 = 40\] so that the bias caused by a growth in accruals that is proportional to the growth in assets has been corrected.

The null hypothesis is that the proportion of total accruals to total assets remains unchanged between two successive periods. A significant average increase in this ratio would be interpreted as indicative of manipulation of directionally accounting accruals by entrepreneurs prior to going public. This approach implicitly assumes that changes in the proportion of nondirectionary accruals to total assets between two successive periods are drawn from a distribution with zero mean. Of course, it may be the case that growth rates for assets and nondirectionary accruals differ. Thus, the tests for manipula-
tion jointly test for manipulation and the hypothesis that the ratio of nondiscretionary accruals to average assets remains fixed.

In a similar fashion, unexpected standardized net income (UNI) and unexpected standardized operating cash flows (UCF) in period 1 were also calculated.

The process of going public is relatively long. An entrepreneur may well have made this decision one or two years prior to the public offering becomes effective. Thus, it is not clear a priori which period should be the "event period," in which instance manipulation may have taken place, and which period is the appropriate "benchmark period." Given data availability of three annual financial statements, two event periods are examined, using the random-walk expectation model. The first event period is the most recent fiscal year as a private corporation. The second event period considered is the year preceding the most recent fiscal year.

If the results show that there was an abnormal increase in accruals with the second event period, it would be consistent with the joint hypothesis that, on average, the decision to go public was made approximately two years prior to the actual public offering date and that there was earnings management. Further, it is expected that once the decision was made, firms would continue manipulating income in the subsequent pre-IPO periods. That is, the evidence of unexpected positive accruals will be revealed again using the last fiscal year as an event period. However, if the manipulation did not occur until the last year, this might simply imply that the going public decision was generally made a year or two years before the offering.

Cross-sectional average unexpected standardized accruals were used in tests of the hypothesis that entrepreneurs systematically manipulate accruals to report higher earnings prior to going public. The parametric one-tailed t-test and nonparametric Wilcoxon signed-ranks test are reported and discussed below.

**Results**

An analysis of the entire sample Table 2 presents mean and median unexpected standardized accruals, earnings, and operating cash flows as a proportion of total assets for each of the two fiscal years prior to going public. As with the accrual data reported in DeAngelo (1986, 1988), the Shapiro-Wilk W-tests indicated significant nonnormality in the present data. Thus, for the reasons presented in DeAngelo (1990, 1994) and Lo (1991), one would expect these nonparametric tests to be more reliable. However, for the sake of completeness, parametric one-tailed tests of significance of means are reported as well as nonparametric Wilcoxon signed rank tests of significance of medians. Table 2 also reports the percentage of positive cases in each of the three accounting measures.

For the entire sample, the results for the first fiscal year preceding the IPO indicate a median unexpected earnings of 3.7 percent of total assets, significant at the 1 percent level. The comparable mean estimate is 6.9 percent of total assets, with a similar significance level. The results further reveal that this increase in the ratio of earnings to total assets is an outcome of an increase in the ratios of both operating cash flows and net income to total assets. However, the median unexpected operating cash flows totaled 2.6 percent of total assets (significant at the 1 percent level), but the median unexpected accruals accounted for only 1.1 percent of total assets, statistically insignificant from 0. Furthermore, the mean of unexpected operating cash flows was 4.3 percent, significant at the 1 percent level, while the mean of unexpected accruals was 2.6 percent, significant at the 10 percent level.

For the second fiscal year prior to the IPO, the findings also show positive median and mean unexpected earnings (0.6 and 5.7 percent of total assets, respectively), both significantly different from 0 at the 5 and 1 percent levels, respectively. However, two observations should be made. First, the magnitudes of these figures are lower than the corresponding figures for the year immediately preceding the IPO. Second, neither the median nor the mean unexpected accruals are statistically different from 0. Thus, any growth in earnings seems to be solely an outcome of real growth in profitability. The
### TABLE 3

Unexpected standardized accruals, earnings, and operating cash flows in the two years prior to an IPO. The data include 149 firms using Big Eight auditors and probationary underwriters (A), and 80 other firms (B) in the period 1972-1979.

<table>
<thead>
<tr>
<th>Year</th>
<th>A</th>
<th>B</th>
<th>Diff</th>
<th>A</th>
<th>B</th>
<th>Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>One year prior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.007</td>
<td>0.009</td>
<td>0.036</td>
<td>0.011</td>
<td>0.006</td>
<td>-0.005</td>
</tr>
<tr>
<td>Median</td>
<td>0.002</td>
<td>0.002</td>
<td>0.004</td>
<td>0.001</td>
<td>0.002</td>
<td>0.001</td>
</tr>
<tr>
<td>Percent positive</td>
<td>45.0%</td>
<td>45.0%</td>
<td></td>
<td>45.3%</td>
<td>45.9%</td>
<td></td>
</tr>
<tr>
<td>Two years prior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.047</td>
<td>0.055</td>
<td>-0.055</td>
<td>0.049</td>
<td>0.039</td>
<td>-0.018</td>
</tr>
<tr>
<td>Median</td>
<td>0.043</td>
<td>0.041</td>
<td>-0.002</td>
<td>0.045</td>
<td>0.037</td>
<td>-0.008</td>
</tr>
<tr>
<td>Percent positive</td>
<td>56.4%</td>
<td>65.4%</td>
<td>-9.0%</td>
<td>57.3%</td>
<td>60.2%</td>
<td>-2.8%</td>
</tr>
</tbody>
</table>

The significance level is 5.0 percent, one-sided test.

*Wilcoxon signed-ranks test is used to test the null hypothesis (two-tailed test).

**Wilcoxon rank sum test (z-statistic) is used to test the null hypothesis (two-tailed test).

*Significant at 1.0 percent level, one-tailed test.

A *Wilcoxon signed-ranks test* was used to test the null hypothesis of no difference in the medians. The results indicate that the difference in the medians of the two groups is statistically significant at the 5 percent level.

The analysis of the entire sample provides, at best, weak evidence of an association between accounting earnings and the year of the IPO. The next subsection analyzes whether a further distinction can be made based on the choice of underwriters and auditors.

#### Partition by choice of underwriters and auditors

Auditors' quality is measured by the widely used two-tier classification scheme of Big Eight versus non-Big Eight auditors. Quality of underwriters is more difficult to measure precisely. Most studies employ a classification scheme first suggested by Hayes (1972, 1979). According to the classification scheme, the prestigious group of underwriters consists of the top three brackets of the underwriters' hierarchy, known as the special bracket, major bracket, and submajor bracket.

To examine whether the choice of underwriters and auditors is related to the extent of earnings management by entrepreneurs prior to the IPO, the entire sample was partitioned into two subgroups: 149 firms that employed both prestigious underwriters and Big Eight auditors (denoted as sub-group A) and 80 other firms (denoted as sub-group B). Again, standard tests indicated significant differences in total assets, costs of sales, and the three years prior to the IPO.

For both subgroups, the results in the first fiscal year prior to the IPO indicate, on average, no significant difference in earnings management. However, other aspects of the analysis show such a conclusion to be premature. In particular, non-normality of the data would argue that much more weight be placed on the non-parametric tests. As observed above, the

#### Notes

1. The data include 149 firms using Big Eight auditors and probationary underwriters (A) and 80 other firms (B) in the period 1972-1979.

2. Wilcoxon signed-ranks test is used to examine the statistical significance level of the difference in the medians.

3. Wilcoxon rank sum test (z-statistic) is used to examine the statistical significance level of the difference in the medians.

4. Significant at 1.0 percent level, one-tailed test.
Table 4: Sample characteristics for two subgroups of IPOs: 1980 and 1981. Eight million and pretax adjustment subgroups (A) versus B, other (B)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>2.13</td>
<td>2.01</td>
</tr>
<tr>
<td>Mean</td>
<td>3.63</td>
<td>3.41</td>
</tr>
</tbody>
</table>

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.. mean and median unexpected operating cash flows are negative (-0.6 and -1.4 percent of total assets, respectively, although neither is statistically significant).

Finally, although the median and mean operating cash flows are significantly larger for subgroup A (the difference between medians is 5.1 percent and between means is 10.4 percent of total assets, both significant at the 1 percent level), the median and mean accruals are significantly larger for subgroup B (the difference between medians is 3.4 percent and between means is 5.3 percent of total assets, both significant at 1 percent level). These results seem to support the hypothesis that firms whose real profitability is relatively low in the fiscal year prior to the IPO tend to manipulate accruals to increase reported earnings. Such firms are distinguished by the choice of lower-quality underwriters and/or auditors. Entrepreneurs of relatively high-quality issues, as manifested by large positive unexpected operating cash flows, may have much less incentive to manipulate accruals and thus may be more motivated to select high-quality underwriters and auditors.

Results for the second fiscal year prior to the IPO show no evidence of accrual manipulations by either subgroup. Both median and mean unexpected accruals are significantly different from 0 for the two subgroups. Finally, the mean unexpected earnings are positive and statistically significant for each subgroup (6.9 and 3.5 percent of total assets, for subgroups A and B, respectively, with no significant differences between the groups. For subgroup A, there are no significant positive unexpected median operating cash flows, but the test indicates significant positive unexpected mean cash flows as a cause of the increase in reported earnings.

It is possible that the sample firms differ by additional attributes that are related to underwriters and auditors' quality level. If so, the empirical results presented in Table 3 may also be an outcome of these attributes.

Table 4 presents descriptive statistics for size, financial leverage, and profitability measures, in each of the two subgroups. It is evident that group A, using prestigious underwriters and auditors, is, on average, considerably larger than group B. For example, the median total assets of group A, in the latest annual report prior to the IPO, is about 50 percent larger than that of group B ($32.2 million versus $14.8 million, respectively). Also, the median total initial value of common equity and the median total proceeds of group A are more than twice those of group B ($71.4 million and $13.4 million versus $28.8 million and $7.2 million, respectively). However, the median ratio of long-term debt to total assets is almost 30 percent larger in group B (0.20 versus 0.11). To examine these relationships simultaneously and to control for other firm-specific variables that may affect accruals and earnings management, a multivariate analysis was conducted next.

Multivariate analysis

Three cross-sectional multiple linear ordinary least squares (OLS) regressions were run, each of the two years prior to the IPO (years t and t-1, respectively).
The first regression uses UAC, the second UNY, and the third UCP as dependent variables. Each regression has the following form:

\[
\text{Dep. Var.}_j = \beta_0 + \beta_1 \cdot \text{QIN} + \beta_2 \cdot \ln(TA) + \beta_3 \cdot GIP + \beta_4 \cdot LVR + \epsilon_j \tag{3}
\]

where:

- \(\text{QIN}\) = Dummy variable equal to 1 if prestigious underwriters and auditors are selected by firm \(j\), and to 0 otherwise.
- \(\ln(TA)\) = Natural logarithm of total assets of firm \(j\).
- \(GIP\) = Average annual growth rate (geometric mean) of total assets of firm \(j\) between end of year \(t - 2\) and end of year \(t\).
- \(LVR\) = Ratio of long-term debt to total assets of firm \(j\).
- \(\epsilon_j\) = Random error term satisfying the requirements of the OLS regression.

Variable TA was selected to control for the size of the firm. The second firm-specific variable considered in the regression was the growth of total assets over the last three years. As indicated earlier, most IPOs experience a rapid growth prior to going public (a median geometric mean growth of 45 percent), and growth is a major reason that firms seek to raise additional capital by going public. The growth variable is included in the check that the measure of unexpected accruals was not driven by growth.

The third factor that may influence an IPO's unexpected change of the accounts is the financial structure. It can be suggested (Watts and Zimmerman 1978) that the more levered the firm, the more likely that the firm's manager will choose accounting conventions that increase current income. Although the sample IPOs in general are not highly levered firms (mean of long-term debt to total assets 20 percent), the financial distress risk or bankruptcy cost could jeopardize the success of the public offering. Therefore, firms with higher leverage are expected to adopt income-increasing strategies to ensure the successful completion of the public offering.

Table 5 reports regression estimates of equation (3) for each measure of the dependent variable in each of the two years prior to the IPO (panels A and B, respectively). The estimates presented in Table 5 are OLS estimates modified by using White's (1980) heteroskedastic-consistency variance matrix estimator in computing standard errors.20 Note that the regression coefficients are mechanically related to the sum of the coefficients obtained by employing UAC and UCP as the dependent variable equals the coefficients obtained by employing UNY as the dependent variable. The results of all three regressions for each period are presented, but the focus is on the regressions using UAC as the dependent variable.

The results for the first fiscal year prior to the IPO (panel A) show that unexpected standardized accruals (UAC) are negatively related to firm size and positively related to firm financial leverage (both coefficients significant
management among IPOs could be detected, the study provided some evidence that this phenomenon was, on the average, more pronounced among small firms and firms with large financial leverage. It could find only weak evidence that earnings management was related to the quality of the underwriters and auditors employed by firms when going public.

The evidence of manipulation that was found could be a result of other factors. For example, the results may be due to changes in the accrual process experienced by these rapidly growing firms. Although the study corrected for changes in non-discretionary accruals that are proportional to changes in the value of assets, it may be the case that rapid growth causes non-discretionary accruals to grow at a rate faster than assets. In any case, the overall evidence presented, using powerful accrual tests that were able to detect earnings management in other contexts, indicates little, if any, manipulation.

Entrepreneurs may hesitate to manipulate earnings because they believe that investors closely analyze the prospectus so that manipulation will not be rewarded with a higher price. Moreover, in the context of management buyouts, DeAngelo (1986, 241) makes a compelling case that managers are faced with the prospect of detailed scrutiny that could endanger large personal wealth losses through allegations of fraud and securities law violations.

Although the present study is consistent with the manipulation hypothesis, the absence of strong evidence leads to a more critical evaluation of the belief that earnings manipulation in new offerings is widespread. Although future research into the earnings and accrual processes for IPOs may lead to more powerful methods of detecting earnings management, the authors believe that the study represents an important step in addressing a complex set of issues.

Endnotes
1. Holmstrom (1982) gives a detailed discussion on the setting of the offer price. She writes (p. 54) that during the waiting period, "the underwriter acts as buyer how much stock they want at what price."

2. This motivation to cash out underlies the analytical earnings management model of Dye (1986).

3. The details of the adjustment are given later in equation (2). A further check to see the results are not driven by growth is given in the multivariate analysis section.

4. When there are 15 firms were dropped from the sample, the results were unaffected.

5. Best-effort contracts and unit offerings were not considered. Under a best-effort agreement, underwriters agree to use their best efforts to sell the issue, acting only as agents of the issuer. They have no obligation to purchase any shares not purchased by the public. Thus, there is uncertainty in terms of the number of new shares to be sold. Under certain best-effort contracts, the offering is correlated with a minimum number of shares sold. Best-effort offerings tend to be small offerings (see Ritter 1987). A unit offering is a combination of two securities sold for one price. A unit usually consists of common stock and warrants or common stock and debt.

6. Note, however, that the analysis referred to in note 8 that is not reported here suggested that the manipulation conclusion is not due to any manipulate.

7. Special IPOs include: closed-end funds, limited partnerships, American Depository, private secondary offerings, and initial offerings.

Summary and conclusions
This study provided an examination of the hypothesis that prior to taking their firms public, entrepreneurs select accounting methods that enhance reported earnings. It argued that entrepreneurs may have both the incentive and opportunity to manipulate income through the choice of accounting conventions prior to initial public offerings. The study further examined the hypothesis that earnings manipulations are less prevalent among firms that select prestigious underwriters and high-quality auditors when going public.

Both univariate and multivariate analyses were conducted on a sample of 298 industrial firms that went public between January 1985 and June 1987. The methodology employed was based on the total accounting accruals approach developed in Hitter (1985) and DeAngelo (1986). Because firms going public generally experience rapid growth prior to the offering, precaution were taken so that growth in accruals proportion to growth in assets would not be interpreted as an income in discretionary accruals and hence, indicative of earnings management.

The study found only very weak support for the hypothesis that entrepreneurs choose accounting methods to increase reported net income in the period prior to the public offering. Furthermore, to the extent that earnings
A similar calculation approach was taken by DeAngelo (1986, 1988). See also Drivas and Larg in (1982) for details.

For an extension of the Shockley–Wilson test to large samples, see Roynton (1982). Similar results were obtained using the Lifebefore test for normality (see Conover 1980, 357–361).

See DeAngelo (1981) for a discussion of auditor size as a surrogate for audit quality.

Hayes (1971, 1979) indicated that the Tombstone advertisements placed in the financial magazines and financial sections of newspapers explicitly indicate which auditors are prestigious. In the present sample, 61 firms employed auditors from the special bracket, 33 firms employed auditors from the major brackets, and 5 firms employed auditors from the minor bracket.

Of these 80 firms, 57 employed Big Eight auditors and nonprestigious auditors, and 10 firms employed prestigious auditors and non–Big Eight auditors.

As noted above, the nonnormality of the data makes the tests of the means and differences of means suspect. However, by dropping four outliers from the subgroups, the study cannot reject the hypothesis of normality, and without those outliers, it finds nonparametric results to be positive and significant at the 10 percent level for subgroup B and insignificant for sample used in this paper, hence provides additional support for the manipulation hypothesis.

White (1980) also suggested a test for heteroskedasticity by comparing the consistent estimator to the usual OLS variance matrix estimator. In the absence of heteroskedasticity, both estimates will be the same. Otherwise, they will generally diverge. The results of this test on the data provided White’s and usual OLS estimates of similar magnitudes for most variables. The significance level of all coefficients remained the same both ways.

References


8 The full analysis for the 203 excluded firms is available from the authors upon request. They note that the 102 firms that have assets greater than or equal to the 203 firm median have characteristics similar to the final sample of 229 firms. Of the 108 firms that were smaller, the authors could collect cash flow data from only 58, although these 58 appeared to be quite representative of the 108 smaller firms. Given the results presented in the multivariate analysis section of this paper, one might conjecture that inclusion of these smaller 58 firms would strengthen the evidence of management manipulation. The analysis indicated no such strengthening. The authors thus believe that the sample (discussed earlier) of further restricting the sample to the 229 firms outweighs the cost of this restriction.

9 Of the entire sample of 229 firms, 140 provided unaudited interim financial statements for the months between the last annual report date and the IPO date. Given the unaudited nature of the financial statements, this interim period is not considered in the empirical analysis discussed in the remaining sections of this paper. After the paper was essentially completed, the authors became aware of a working paper by Freedman (1992), who also looked at earnings manipulations by IPOs. Freedman examined an IPO sample covering earlier years than the present study, took a different view concerning the value of unaudited interim data, and found significant evidence for manipulation. For the whole sample, Freedman found that the study sample was small in 1990, and that this subset of 229 firms was not audited, in contrast to the present study, which found that most were audited. Freedman's study found that the sample had a significantly higher percentage of unaudited interim data. The two studies are therefore not directly comparable.


Hughes, P. J. Signalling by Direct Disclosure under Asymmetric Information. Journal of Accounting and Economics (June 1986), 119-142.


Detecting Earnings Management

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ABSTRACT: This paper evaluates alternative accrual-based models for detecting earnings management. The evaluation compares the specification and power of commonly used test statistics across the measures of discretionary accruals generated by the models and provides the following major insights. First, all of the models appear well specified when applied to a random sample of firm-years. Second, the models all generate tests of low power for earnings management of economically plausible magnitudes (e.g., one to five percent of total assets). Third, all models reject the null hypothesis of no earnings management at rates exceeding the specified test-levels when applied to samples of firms with extreme financial performance. This result highlights the importance of controlling for financial performance when investigating earnings management stimuli that are correlated with financial performance. Finally, a modified version of the model developed by Jones (1991) exhibits the most power in detecting earnings management.

Key Words: Earnings management, Discretionary accruals, Models selection, SEC.

Data Availability: Data used in this study are publicly available from the sources identified in the paper. A listing of the firms investigated by the SEC is available from the authors.

We appreciate the inputs of workshop participants at the University of Arizona, Harvard University (1994 Financial Decision and Control Sessions), Michigan State University, New York University, the University of Pennsylvania, Pennsylvania State University, Purdue University, the University of Rochester, Rutgers University, Stanford University, Temple University, Texas Christian University and the 1994 AAA annual meetings. We are particularly grateful for the suggestions of both Nicholson and two referees.

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I. INTRODUCTION

ANALYSIS of earnings management often focuses on management's use of discretionary accruals. Such research requires a model that estimates the discretionary component(s) of reported income. Existing models range from simple models, in which discretionary accruals are measured as total accruals, to more sophisticated models that attempt to separate total accruals into discretionary and non-discretionary components. However, no systematic evidence on the relative performance of these alternative models at detecting earnings management.

We evaluate the relative performance of the competing models by comparing the specification and power of commonly used test statistics. The specification of the test statistics is evaluated by examining the frequency with which they generate type I errors. Type I errors arise when the null hypothesis that earnings are not systematically managed in response to the stimulus identified by the researcher is rejected when the null is true. We generate type I errors for both a random sample of firm-years and for samples of firm-years with extreme financial performance. We focus on samples with extreme financial performance because the stimuli investigated in previous research are frequently correlated with financial performance. Thus, our findings shed light on the specification of test statistics in cases where the stimulus identified by the researcher does not cause earnings to be managed, but is correlated with firm performance.

The power of the test statistics is evaluated by examining the frequency with which they generate type II errors. Type II errors arise when the null hypothesis that earnings are not systematically managed in response to the stimulus identified by the researcher is not rejected when it is false. We generate type II errors in two ways. First, we measure rejection frequencies for samples of firm-years in which we have artificially added a fixed and known amount of accruals to each firm-year. These simulations are similar to those performed by Brown and Warner (1980; 1985) in evaluating alternative models for detecting abnormal stock price performance. However, our simulations differ in several respects. In particular, we must make explicit assumptions concerning the components of accruals that are managed and the timing of the accrual reversals. To the extent that our assumptions are not representative of the circumstances of actual earnings management, our results lack external validity. To circumvent this problem, we generate type II errors for a random set of firms, for which we have strong priors that earnings have been managed. This sample consists of firms that have been targeted by the Securities and Exchange Commission (SEC) for allegedly overstating annual earnings. The external validity of these results rests on the assumption that the SEC has correctly identified firm-years in which earnings have been managed. This assumption seems reasonable, since the SEC (1992) indicates that out of the large number of cases that are brought to its attention, it only pursues cases involving the most significant and blatant incidences of earnings manipulation.

The empirical analysis generates the following major insights. First, all of the models appear well specified when applied to a random sample of firm-years. Second, the models all generate tests of low power for earnings management of economically plausible magnitudes (e.g., one to five percent of total assets). Third, all models reject the null hypothesis of no earnings.
management at rates exceeding the specified test-levels when applied to samples of firms with extreme financial performance. Finally, a version of the model developed by Jones (1991) that is modified to detect revenue-based earnings management generates the fewest type II errors.

The paper is organized as follows. Section II outlines the statistical testing procedure used to detect earnings management and highlights the effects of model misspecification on statistical inference. Section III introduces the competing models for measuring discretionary accruals. The experimental design is described in section IV and the empirical results are analyzed in section V. Section VI concludes the paper and provides suggestions for future earnings management research.

II. STATISTICAL ISSUES

This section considers potential misspecifications in tests for earnings management and their impact on inferences concerning earnings management. The analysis builds on a related analysis in McNichols and Wilson (1988). Following McNichols and Wilson, accrual-based tests for earnings management can be cast in the following linear framework:

\[ \text{DA}_i = \alpha + \beta \text{PART}_i + \sum_{m} \gamma_m X_{im} + \epsilon_i \]  

where

- \( \text{DA}_i \) = discretionary accruals (typically defined by lagged net assets);
- \( \text{PART}_i \) = a dummy variable partitioning the data set into two groups for which earnings management predictions are specified by the researcher;
- \( X_{im} \) = (for \( k = 1, \ldots, K \)) other relevant variables influencing discretionary accruals; and
- \( \epsilon_i \) = an error term that is independently and identically normally distributed.

In most research contexts, PART will be set equal to one in firm-years during which systematic earnings management is hypothesized in response to the stimulus identified by the researcher (the "estimation period") and zero during firm-years in which no systematic earnings management is hypothesized (the "estimation period"). The null hypothesis of no earnings management in response to the researcher's stimulus will be rejected if \( \hat{\beta} \), the estimated coefficient on PART, has the hypothesized sign and is statistically significant at conventional levels.

Unfortunately, the researcher cannot readily identify the other relevant variables. (the \( X_{im} \)) and so excludes them from the model. Similarly, the researcher does not observe \( \text{DA}_i \), and is forced to use a proxy. (DAF), that measures \( \text{DA}_i \) with error, \( \epsilon_i \):

\[ \text{DAF}_i = \text{DA}_i + \epsilon_i \]

Thus, the correctly specified model can be expressed in terms of the researcher's proxy for discretionary accruals as:

\[ \text{DAF}_i = \alpha + \beta \text{PART}_i + \sum_{m} \gamma_m X_{im} + \mu_i + \epsilon_i \]  

This model can be summarized as:

\[ \text{DAF}_i = \alpha + \beta \text{PART}_i + \mu_i + \epsilon_i \]  

1 The excessive rejection rates in the samples with extreme financial performance have two potential causes. First, non-discretionary accruals that are not accounted for in the model may be correlated with performance. Second, other factors that are correlated with firm performance may cause earnings to be systematically managed. In the former case, the null hypothesis is falsely rejected because of unbalanced measurement error in the proxy for discretionary accruals. In the latter case, the test is correctly detecting earnings management, but the cause of earnings management is not known. Thus, if a researcher selects a stimulus that does not cause earnings to be managed but is correlated with firm performance, the test will be misspecified. We expand on these issues in Section III.

where \( \mu_i \) captures the sum of the effects of the omitted relevant variables on discretionary accruals and the error in the researcher's proxy for discretionary accruals. Given the regular Gaussian assumptions, the OLS estimate of \( \beta \) (\( \hat{\beta} \)) from a multiple regression of \( \text{DAF} \) on \( \text{PART} \) and \( \mu \) is the best unbiased estimator of \( \beta \). Also, the ratio of \( \beta / \hat{\beta} \) to its standard errors \( (\hat{\beta}, \hat{\epsilon}) \), has a \( t \)-distribution, which can be used to test for earnings management. This framework therefore provides a benchmark for evaluating the case where \( \mu_i \) is omitted from the regression.

The model of earnings management typically estimated by the researcher can be represented as

\[ \text{DAF}_i = \beta \text{PART}_i + \epsilon_i \]  

(2)

The researcher's model is misspecified by the omission of the relevant variable \( \mu_i \). Recall that the \( \mu_i \) can represent either measurement error in \( \text{DAF} \) or omitted relevant variables influencing \( \text{DA} \). Estimating model (2) using OLS has two undesirable consequences:

(i) \( \hat{\beta} \) is a biased estimator of \( \beta \), with the direction of the bias being the same as the sign of the expected correlation between \( \text{PART} \) and \( \mu \); and
(ii) \( \text{SE}(\hat{\beta}) \) is a biased estimator of \( \text{SE}(\beta) \). In particular, if \( \text{PART} \) and \( \mu \) are uncorrelated, \( \text{SE}(\hat{\beta}) \) will provide an upwardly biased estimate of \( \text{SE}(\beta) \).

These consequences lead to the following three problems for statistical inference in tests for earnings management:

Problem 1: Incorrectly attributing earnings management to \( \text{PART} \)

If the earnings management that is hypothesized to be caused by \( \text{PART} \) does not take place (i.e., the true coefficient on \( \text{PART} \) is zero) and \( \mu_i \) correlated with \( \text{PART} \), then the estimated coefficient on \( \text{PART} \) will be biased away from zero, increasing the probability of a type I error.

This problem will arise when (i) the proxy for discretionary accruals contains measurement error that is correlated with \( \text{PART} \) and (ii) other variables that cause earnings management are correlated with \( \text{PART} \) and are omitted from the analysis. In this latter case, earnings management is correctly detected by the model, but causality is incorrectly attributed to \( \text{PART} \).

Problem 2: Unintentionally extracting earnings management caused by \( \text{PART} \)

If the earnings management that is hypothesized to be caused by \( \text{PART} \) does not take place and the correlation between \( \mu_i \) and \( \text{PART} \) is opposite in sign to the true coefficient on \( \text{PART} \), then the estimated coefficient on \( \text{PART} \) will be biased toward zero. This will increase the probability of a type II error.

This problem will arise when the model used to generate the discretionary accrual proxy unintentionally removes some or all of the discretionary accruals. Under such conditions, the measurement error in the proxy for discretionary accruals (i.e., \( \mu_i \)) will be
negatively correlated with the discretionary accrual proxy, causing the coefficient on PART to be biased toward zero.

Problem 3: Low power test

If PART is not correlated with PART, then the estimated coefficient on PART will not be biased. However, the exclusion of relevant (uncorrelated) variables leads to an inflated standard error for the estimated coefficient on PART. This will increase the probability of a type II error.

We will refer back to each of these problems in our discussion of the models for detecting earnings management.

III. MEASURING DISCRETIONARY ACCRUALS

The usual starting point for the measurement of discretionary accruals is total accruals. A particular model is then assumed for the process generating the nondiscretionary component of total accruals, enabling total accruals to be decomposed into discretionary and a nondiscretionary component. Most of the models require at least one parameter to be estimated, and this is typically implemented through the use of an "estimation period," during which no systematic earnings management is predicted. This paper considers five models of the process generating nondiscretionary accruals. These models are general representations of those that have been used in the extant earnings management literature. We have cast all models in the same general framework to facilitate comparability, rather than trying to exactly replicate the models as they may have appeared in the literature.

The Healy Model

Healy (1985) tests for earnings management by comparing mean total accruals (scaled by lagged total assets) across the earnings management partitioning variable. Healy's study differs from most other earnings management studies in that he predicts that systematic earnings management occurs in every period. His partitioning variable divides the sample into three groups, with earnings predicted to be managed upwards in one of the groups and downwards in the other two groups. Inferences are then made through pairwise comparisons of the mean total accruals in the group where earnings are predicted to be managed upwards to the mean total accruals for each of the groups where earnings are predicted to be managed downwards. This approach is equivalent to treating the set of observations for which earnings are predicted to be managed upwards as the estimation period and the set of observations for which earnings are predicted to be managed downwards as the event period. The mean total accruals from the estimation period then represent the measure of nondiscretionary accruals. This implies the following model for nondiscretionary accruals:

$$\sum_{t=1}^{T} TA_t = NDA_t = \alpha_0 + \alpha_1 \text{REV}_t + \alpha_2 \text{PPE}_{t-1} \tag{4}$$

where

- $NDA_t$ = estimated nondiscretionary accruals;
- $TA_t$ = total accruals scaled by lagged total assets;
- $t = 1, 2, \ldots, T$ is a year subscript for years included in the event period; and
- $\alpha_0, \alpha_1, \alpha_2$ = firm-specific parameters.

Estimates of the firm-specific parameters, $\alpha_0, \alpha_1, \alpha_2$, are generated using the following model in the estimation period:

$$TA_t = \alpha_0 (\text{REV}_t) + \alpha_1 \text{PPE}_{t-1} + \alpha_2 \text{PPE}_{t-1} + \epsilon_t \tag{7}$$
$a_1$, $a_2$, and $a_3$ denote the OLS estimate of $a_1$, $a_2$, and $a_3$ and TA is total accruals scaled by lagged total assets. The results in Jones (1991) indicate that the model is successful in explaining around one quarter of the variation in total accruals.

An assumption implicit in the Jones model is that revenues are non-discretionary. If earnings are managed through discretionary revenues, then the Jones Model will remove part of the estimated earnings from the discretionary accrual proxy (problem 2). For example, consider a situation where management uses its discretion to accrue revenues at year-end when the cash has not yet been received and it is highly questionable whether the revenues have been earned. The result of this managerial discretion will be an increase in revenues and total accruals through an increase in receivables. The Jones model orthogonalizes total accruals with respect to revenues and will therefore extract this discretionary component of accruals, causing the estimate of earnings management to be biased toward zero. Jones recognizes this limitation of her model (see Jones 1991, footnote 31).

The Modified Jones Model

We consider a modified version of the Jones Model in the empirical analysis. The modification is designed to eliminate the conceptual deficiency of the Jones Model to measure discretionary accruals with error when discretion is exercised over revenues. In the modified model, non-discretionary accruals are estimated during the estimation period (i.e., during periods in which earnings management is hypothesized) as

$$NDA = a_1(\Delta A) + a_2(\Delta REV) + a_3(\Delta REC) + a_4(\Delta PPE),$$

where

$\Delta REC = \text{net changes in receivables in year } t - 1$ and $\Delta REC = \text{net total assets at year } t - 1$.

The estimates of $a_1$, $a_2$, and non-discretionary accruals during the estimation period (in which systematic earnings management is hypothesized) are those obtained from the original Jones Model. The only adjustment relative to the original Jones Model is that the change in receivables is adjusted for the change in receivables in the event period. The original model implicitly assumes that discretion is not exercised over revenue in either the estimation period or the event period. The modified version of the Jones Model implicitly assumes that all changes in receivables in the event period result from earnings management. This is based on the reasoning that it is easier to manage earnings by exercising discretion over the recognition of revenue on credit sales than it is to manage earnings by exercising discretion over the recognition of revenue on cash sales. If this modification is successful, then the estimate of earnings management should no longer be biased toward zero in samples where earnings management has taken place through the management of revenues.

The Industry Model

The final model considered is the Industry model used by Dechow and Sloan (1991). Similar to the Jones Model, the Industry Model relaxes the assumption that non-discretionary accruals are constant over time. However, instead of attempting to directly model the determinants of non-discretionary accruals, the Industry Model focuses on the determinants of non-discretionary accruals. The model estimates non-discretionary accruals common across firms in the same industry. The Industry Model for non-discretionary accruals is:

$$NDA = \gamma_1 + \gamma_2 \text{median}(TA),$$

where

$\gamma_1$ and $\gamma_2$ are estimated using OLS on the observations in the estimation period.

The firm specific parameters $\gamma_1$ and $\gamma_2$ are estimated using OLS on the observations in the estimation period.

The ability of the Industry Model to mitigate measurement error in discretionary accruals hinges on the industry characteristics. First, the Industry Model only removes variation in non-discretionary accruals that is common across firms in the same industry. If changes in non-discretionary accruals are largely reflected in changes in firm-specific circumstances, then the Industry Model will not capture all non-discretionary accruals from the discretionary accrual proxy. Second, the Industry Model captures variation in discretionary accruals that is correlated across firms in the same industry, potentially causing problem 2. The severity of this problem depends on the extent to which the earnings management stimulus is correlated across firms in the same industry.

IV. EXPERIMENTAL DESIGN

Sample Construction

The empirical analysis is conducted by testing for earnings management using four distinct samples of firm-years as event-years:

(i) a randomly selected sample of 1000 firm-years;
(ii) a randomly selected sample of 1000 firm-years from which 1000 firm-years are randomly selected from pools of firm-years experiencing extreme financial performance;
(iii) samples of 1000 randomly selected firm-years in which a fixed and known amount of accrual manipulation has been artificially introduced; and
(iv) a sample of 32 firms that are subject to SEC enforcement actions for allegedly overstating annual earnings in 36 firm-years.

Sample (i) is designed to investigate the specification of the test statistics generated by the model when the measurement error in discretionary accruals (ii) is uncorrelated with the earnings management partitioning variable (PART). Because the earnings management partitioning variable is selected at random, it is expected to be uncorrelated with any omitted variables. Note that this is simply a test of whether the Gaussian assumptions underlying the regression are satisfied. The existence of uncorrelated omitted variables reduces the power of the test (problem 3), but will not systematically bias the type 1 errors.

The 1000 randomly selected firm-years are selected from the 168,771 firm-years on the COMPUSTAT industrial files with the necessary data between 1990 and 1991. The 1000 firm-years are selected in a sequential fashion and without replacement. A firm-year is not selected if its inclusion in the random sample leaves less than ten unselected observations for the estimation period. Selected firms have an average of 21.5 observations. The requirement of more than 10 observations is necessary to efficiently estimate the parameters of the non-discretionary accrual model for each firm. This sequential selection procedure continues until the random sample consists of 1000 firm-years.

Sample (ii) is designed to test the specification of each model when the earnings management partitioning variable, PART, is correlated with firm performance. The earnings management stimulus investigated in many existing studies is correlated with firm performance. For
example, Healy (1995) hypothesizes that management reduce earnings when either earnings are below the lower bound or cash from operations are above the upper bound of top executive bonus plans. Researchers have also investigated whether management attempt to lower debt covenant restrictions through their accrual changes (e.g., Duflo and Hamalainen 1994; DeAngelo et al. 1994). Firms close to debt covenant restrictions are often experiencing poor earnings and/or cash flow performance. A final example is studies investigating accrual manipulation around non-routine management changes (e.g., Puri 1993, DeAngelo 1988). DeAngelo (1988) points out that prior earnings performance is often cited as a reason for management change. Thus, sample (ii) is used to examine the impact of firm performance on model specification.

To investigate the estimators of discretionary accruals produced by the models when firm performance is unusual, firm-years are selected to have either extreme earnings performance or extreme cash from operations performance. A "high" and a "low" sample is formed for each of the performance measures, resulting in a total of four samples. These samples are formed using the following procedure. Each of the performance measures is standardized by lagged total assets. All firm-years with available data on the COMPUSTAT Industrial files are then separately ranked on each performance measure. For each measure, firm-years are assigned in equal numbers to decile portfolios based on their ordered ranks. Each portfolio contains approximately 17,000 firm-years. Samples of 1000 firm-years are randomly selected from the highest and lowest portfolios for each performance measure using the same procedure that was discussed for sample (i).

Sample (iii) is designed to evaluate the relative frequency with which the components of nondiscretionary accruals generate type II errors. Brown and Warner (1980, 1985) investigate the type II errors of alternative models for measuring security price performance by artificially introducing a fixed and known amount of abnormal stock price performance into a randomly selected sample of firm-years. Inducing abnormal stock returns is more complex than inducing abnormal accruals for two reasons. First, we have to make explicit assumptions concerning the component(s) of accrals that are manipulated. This assumption is critical for the Jones Model, because if we introduce earnings management by artificially inflating revenues, then both accruals and abnormal stock returns will increase. The increase in revenues will offset the increase in abnormal accruals generated by the Jones Model. Second, since accrals must sum to zero over the life of the firm, artificially inducing discretionary accruals requires additional assumptions about the timing of the accruals reversals. Thus, we artificially introduce earnings management into sample (iii) to test the null hypothesis that the external validity of the results is contingent upon how representative our assumptions are of actual cases of earnings management.

We obtain sample (iii) by beginning with the 1000 randomly selected firm-years in sample (i) and then adding accrual manipulation ranging in magnitude from zero percent to 100 percent of lagged assets (in increments of ten percent). In all cases, we assume that the accrals fully reverse themselves in the next fiscal year. We make three different sets of assumptions regarding the components of accrals that are managed:

(1) Expense Manipulation - delayed recognition of expenses. This approach is implemented by adding the assumed amount of expense manipulation to total accrals in the earnings management year, and subtracting the same amount in the following year. Since none of the models use expenses to estimate nondiscretionary accrals, none of the other variables used in the study need to be adjusted.

We focus on the most extreme deciles of each performance measure to generate powerful test for plausible performance related manipulations. Our samples are therefore likely to have more extreme performance than that occurring in specific earnings management studies. Thus, we expect the performance related manipulations to be more severe in our extreme decile samples. In additional tests (not reported), we confirm that the performance induced misspecifications are not limited to the extreme decile.
restrictions result if a sample of 32 firms that are alleged to have overstated earnings in a total of 56 firm-years. Fifteen of the sample firms are targeted for overstating revenue alone, three are targeted for overstating revenue in combination with understated expenses and the remaining 14 firms are alleged to have understated a variety of expenses.

Data Analysis

The empirical tests for earnings management follow from the regression framework developed in section II. The empirical tests are separately applied to each of the samples described above. The firm-years in each sample represent the event-years that are to be treated for earnings management. We therefore begin by matching each firm-year represented in a sample with the remaining non-event-years for that firm on COMPUSTAT to form the estimation period. The sample selection procedures ensure that all firms have at least ten observations in their estimation period.

Consistent with previous studies of earnings management (Healy 1985 and Jones 1991), total accruals (TA), are computed as:

\[
TA = \frac{\Delta CA}{1 + \frac{\Delta CASH}{\Delta CASH + \Delta STD}},
\]

where

\[
\Delta CA = \text{change in current assets (COMPUSTAT item 4)};
\]

\[
\Delta CASH = \text{change in cash and cash equivalents (COMPUSTAT item 1)};
\]

\[
\Delta STD = \text{change in debt included in current liabilities (COMPUSTAT item 34)};
\]

\[
\text{Dep} = \text{depreciation and amortization expense (COMPUSTAT item 14)}; \quad \text{and}
\]

\[
A = \text{Total Assets (COMPUSTAT item 6)}.
\]

Earnings is measured using net income before extraordinary items and discontinued operations (COMPUSTAT item 18) and is also standardized by lagged total assets. Cash from operations is computed as:

\[
\text{Cash from operations} = \text{Earnings} - TA.
\]

Using each of the competing models, discretionary accruals are then estimated by subtracting the predicted level of nondiscretionary accruals (NDAP) from total accruals (standardized by lagged total assets):

\[
\text{DAP} = TA - \text{NDAP}.
\]

To test for earnings management, the estimated discretionary accruals are regressed on the partitioning variable, PART. Recall that the regression pools across observations in the event period and the estimation period. PART is set equal to one if the observation is from the event period and zero if the observation is from the estimation period:

\[
\text{DAP} = \beta_0 + \beta_1 \text{PART} + \epsilon.
\]

The coefficient on PART, \( \beta_1 \), provides a point estimate of the magnitude of the earnings management attributable to the stimulus represented by PART. The null hypothesis of no earnings management in response to this factor is tested by applying a t-test to the null hypothesis that \( \beta_1 = 0 \). The null hypothesis that the average t-statistic is zero for the N firms in the sample is also tested by aggregating the individual t-statistics to form a Z-statistic:

\[
Z = \frac{\sum t_i}{\sqrt{\frac{N-2}{\sum (1-t_i^2)}}},
\]

where

\[
t_i = \text{t-statistic for firm } i; \quad \text{and}
\]

\[
N = \text{degrees of freedom for t-statistic of firm } i.
\]

The Z-statistic is asymptotically distributed unit normal if the \( t \)'s are cross-sectionally independent.

V. EMPIRICAL RESULTS

Random Sample of Firm-Years

Table 1 provides descriptive statistics on the parameter estimates and test statistics generated by each of the discretionary accruals models when applied to the sample of 1000 randomly selected firm-years. For each model, the row labeled "earnings management" represents the estimated coefficient on PART (\( \beta_1 \)). The row labeled "standard error" represents the standard error of this coefficient estimate, and the row labeled "t-statistic" represents the t-statistic for testing the null hypothesis that this coefficient is equal to zero. The mean and median values of earnings management are close to zero for all models indicating, as expected, that there is no systematic evidence of earnings management in the randomly selected event-years relative to years in the estimation period. The standard errors tend to be highest for the DeAngelo Model and lowest for the Jones and Modified Jones models, supporting the latter models are more effective at modeling the time-series process generating discretionary accruals and suffer less from misspecifications caused by omitted determinants of nondiscretionary accruals. Note, however, that from a researcher's perspective, the standard errors are high in all models. For example, the mean standard error exceeds 0.09 for all models. Earnings management would therefore have to exceed 18 percent of lagged assets before we would expect to generate a t-statistic greater than two for an individual firm. Alternatively, if a Z-statistic were computed for a sample of firms that had all managed earnings by one percent of total assets, over 300 firms would be required in the sample before the Z-statistic is expected to exceed two. Thus, none of the models are expected to produce powerful tests for earnings management of economically plausible magnitudes.

Table 2 reports the incidence of type I errors for the sample of 1000 randomly selected firm-years using the conventional test levels of five percent and one percent. Since the earnings management partitioning variable is selected at random in this sample, it is expected to be uncorrelated with any omitted variables. Thus, the type I errors should correspond to the test levels applied, so long as the Gaussian assumptions are satisfied. Type I errors are reported for both the null hypothesis that discretionary accruals are less than or equal to zero and the null hypothesis

\[ \beta_1 = 0 \]
### TABLE 1

Results of Tests for Earnings Management Using Alternative Models to Measure Discretionary Accruals. The results are based on a sample of 1000 randomly selected firm-years.

<table>
<thead>
<tr>
<th>Model</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Model:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earnings management</td>
<td>0.002</td>
<td>1.241</td>
<td>-0.035</td>
<td>-0.001</td>
<td>0.049</td>
</tr>
<tr>
<td>standard error</td>
<td>0.195</td>
<td>4.573</td>
<td>0.034</td>
<td>0.065</td>
<td>0.136</td>
</tr>
<tr>
<td>t-statistic</td>
<td>0.012</td>
<td>1.174</td>
<td>-0.583</td>
<td>0.016</td>
<td>0.598</td>
</tr>
<tr>
<td>Deltaqin Model:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earnings management</td>
<td>0.002</td>
<td>0.151</td>
<td>-0.048</td>
<td>0.001</td>
<td>0.032</td>
</tr>
<tr>
<td>standard error</td>
<td>0.281</td>
<td>6.799</td>
<td>0.054</td>
<td>0.090</td>
<td>0.143</td>
</tr>
<tr>
<td>t-statistic</td>
<td>0.002</td>
<td>1.135</td>
<td>-0.572</td>
<td>0.008</td>
<td>0.633</td>
</tr>
<tr>
<td>Jones Model:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earnings management</td>
<td>0.001</td>
<td>0.118</td>
<td>-0.037</td>
<td>-0.001</td>
<td>0.036</td>
</tr>
<tr>
<td>standard error</td>
<td>0.092</td>
<td>0.438</td>
<td>0.036</td>
<td>0.090</td>
<td>0.095</td>
</tr>
<tr>
<td>t-statistic</td>
<td>0.013</td>
<td>1.155</td>
<td>-0.847</td>
<td>-0.022</td>
<td>0.644</td>
</tr>
<tr>
<td>Modified Jones Model:</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>earnings management</td>
<td>0.002</td>
<td>0.119</td>
<td>-0.035</td>
<td>0.001</td>
<td>0.041</td>
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<tr>
<td>standard error</td>
<td>0.092</td>
<td>0.437</td>
<td>0.036</td>
<td>0.090</td>
<td>0.095</td>
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<tr>
<td>t-statistic</td>
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<td>-0.613</td>
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<td>Industry Model:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earnings management</td>
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<td>-0.032</td>
<td>0.000</td>
<td>0.039</td>
</tr>
<tr>
<td>standard error</td>
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<td>0.038</td>
<td>0.062</td>
<td>0.101</td>
</tr>
<tr>
<td>t-statistic</td>
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<td>1.165</td>
<td>-0.553</td>
<td>0.006</td>
<td>0.637</td>
</tr>
</tbody>
</table>

Notes: Earnings management represents the estimated coefficient on PART, $\hat{\beta}$, from the specific regression of DAP = \[ Y = \hat{\beta}_0 + \hat{\beta}_1 \text{PART} + \varepsilon, \] where DAP is the measure of discretionary accruals predicted by each of the models and PART is an indicator variable equal to one in years in which earnings management is hypothesized to occur and zero in the years identified by the researchers and 0 otherwise. Standard error is the standard error of the coefficient on PART for each of the regressions and t-statistic is the t-statistic testing the null hypothesis that the coefficient on PART is equal to zero. 

that discretionary accruals are greater than or equal to zero. A binomial test is also conducted to assess whether the empirical rejection frequencies are significantly different from the specified test levels. The empirical rejection frequencies are close to the specified test levels for all models, and none of the differences are significant at conventional levels. Thus all models appear well specified for a random sample of firm-years.

### Samples of Firm-Years Experiencing Extreme Financial Performance

This section considers the four samples of firm-years experiencing extreme financial performance. The first two samples exhibit high and low earnings performance, respectively. Figure 1 contains plots in event time of earnings and its components for each of the two samples.
Time Series of Median Annual Total accruals, Cash from Operations and Earnings all standardize by Lagged Total Assets. Year 0 is the Year in which Firm-Years are Selected from the Lowest and Highest Decile of Earnings Performance. Sample Consists of 1000 Firm-Years Randomly Selected from Firm-Years in the Lowest and Highest Deciles of Earnings Performance.
Panel B of Table 3 reports rejection frequencies for the sample of firm-years selected on the basis of high earnings performance. In this case, the results are opposite to those for the low earnings performance sample. The null hypothesis that earnings management is rejected at rates similar to those reported for the random sample in Table 2. However, the null hypothesis that earnings management is rejected at rates that are appreciably greater than the specified test levels and the differences are statistically significant in nearly all cases. For example, the test level of five percent yields rejection rates ranging from 6.5% for the Jones Model to 12.8% for the Hely Model. This reflects the fact that firm-years with high earnings tend to have high accruals and the models of nondiscretionary accruals do not completely extract the higher accruals. In both panels A and B, the misclassifications are less severe for the Jones and Modified Jones models than for the Hely Model. This is consistent with part of the systematic behavior in accruals being extracted by these more sophisticated models.

The results reported in panels A and B of Table 3 are open to two interpretations (see the discussion of problem 1 in section II): (i) Earnings performance is correlated with the error in measuring discretionary accruals (i.e., earnings performance is correlated with nondiscretionary accruals that are not completely extracted by any of the models); and/or (ii) earnings performance is correlated with other variables that cause earnings to be managed. If a researcher selects a stimulus that does not cause earnings to be managed but is correlated with earnings performance, then the tests for earnings management will generate excessive type 1 errors. That is, using the models evaluated here, the researcher will detect low discretionary accruals when earnings are high and high discretionary accruals when earnings are high, even if the cause of the earnings management is not the stimulus investigated by the researcher.

The evidence in Table 3 suggests that before attributing causation to the investigated stimulus, the researcher should ensure that the results are not induced by omitted variables correlated with earnings performance. Holthausen et al. (1985) illustrate this point in their extension of Hely's (1985) paper on executive bonus plans. They conclude that Hely's lower bound results are induced by the correlation between the partitioning variable and earnings performance and that Hely prematurely attributes the earnings management to bonus plans. We provide further discussion of this problem in section VI.

The second two samples of firm-years are selected on the basis of high cash from operations and low cash from operations performance, respectively. Event time plots for these two samples of firms are provided in Figure 2. The middle plots of cash from operations are high from operations sample peaks early in year 0 and declines thereafter. The low cash from operations sample exhibits the opposite behavior, falling to a trough in year 0 and improving thereafter. The bottom plots of earnings, which follow a similar, though less pronounced pattern, from operations. The top plot is of total accruals and is markedly different from the other two plots. In every year except for the event-year, total accruals are very similar for the two samples. In the event-year, the high cash from operations firms experience a sharp increase in total accruals, while the low cash from operations firms experience a sharp decrease in total accruals.

The event-year accrual changes are opposite in sign, but about half as large as the corresponding changes in cash from operations. These results are consistent with the findings of Dechow (1995), who hypothesizes that this negative correlation results from the application of the matching principle under accrual accounting. Dechow's evidence suggests that the event-year accrual changes represent nondiscretionary accruals that are made with the objective of eliminating temporary mismatches in cash from operations. If matching is the cause of the negative correlation, then a well-specified model of nondiscretionary accruals should control for this effect. However, the results in Table 4 indicate that existing models do not completely control for this negative correlation.
Table 4 reports the proportion of type I errors for the high and low cash from operations samples. Panel A indicates that the low cash from operations sample generates type I errors that are all significantly greater than the specified test levels for the null hypothesis that earnings management is 0. For example, at the five percent test level the rejection frequencies range from a low of 32.9% for the DeAngelo Model to a high of 40.3% for the Healy Model. This stems from the regularity documented in figure 2 that firms with low cash from operations tend to have high total accruals. The opposite problem is observed when testing the null hypothesis that earnings management 0. Both total accruals and discretionary accruals generated by the various models tend to be high, and the frequency of type I errors tend to be lower than the specified test levels.

Panel B of table 4 reports results for the high cash from operations sample. Recall that the high cash from operations sample has low total accruals. In every year, the results for this sample indicate that the null hypothesis that earnings management 0 tends to be under-rejected relative to the specified test levels, while the null hypothesis that earnings management 0 tends to be over-rejected. The over-rejections are most serious for the Healy Model, McN. These results illustrate the problem faced by Healy (1985) in his upper bound tests. Healy hypothesized that the executives of firms in which cash from operations exceeds the upper bound specified in their top executive bonus plans manage earnings downward. However, panel B illustrates that estimated discretionary accruals generally tend to be low for firms with high cash flows. The upper bound results reported in Healy’s table 2 are therefore likely to overstate the amount of earnings management that takes place at the upper bound. Healy recognizes this potential problem and controls for it through the use of a control sample in his table 4 results.

More generally, any earnings management study in which the stimulus under investigation is correlated with cash flow performance is likely to produce misspecified tests. For example, Gaver et al. (1995) replicate Healy’s lower bound results using nondiscretionary earnings to classify firms relative to the lower bounds specified in their executive bonus plans. Gaver et al. measure nondiscretionary earnings as the sum of cash from operations plus nondiscretionary accruals, as generated by the Jones model. The resulting measure of nondiscretionary earnings is highly positively correlated with cash from operations (the mean Pearson correlation exceeds 0.8). Thus, their tests are likely to suffer from the misspecification demonstrated in panel A of table 4. In particular, the lower bound sample is biased toward rejecting the null hypothesis that discretionary accruals are less than or equal to zero in favor of the alternative hypothesis that accruals are managed upward. This result is documented by Gaver et al. and attributed to managerial “smoothing” of earnings.

Samples of Firm-Years with Artificially Induced Earnings Management

The results of the simulations using artificially induced earnings management are summarized in figures 3 and 4. Figure 3 provides information on whether bias in the estimates of earnings management produced by the competing models. For the sake of simplicity, we present plots for only three models: the Healy Model; the Jones Model; and the Modified Jones Model. The results for the DeAngelo and Industry models are indistinguishable to those documented for the Healy and Modified Jones models. For each model and for each assumed source of earnings manipulation, we provide a plot of detected earnings management (vertical axis) against induced earnings management (horizontal axis). Since our simulations are based on a large number of independent observations, an unbiased estimator is expected to result in a 45 degree line. In each graph, the thin line represents the 45 degree line that would be generated by an unbiased estimator, and the thick line represents the results of our simulations.

The first column of graphs provides results for artificially induced expense manipulation. The thick line lies on the thin line in all cases, indicating that all models provide unbiased tests of expense-based earnings management. The second column of graphs provides results for
FIGURE 4

Simulation Results of Power Functions for Tests of Earnings Management Based on Alternative Models for Measuring Discretionary Accruals. Simulations are Conducted for Artificially Induced Amounts of Earnings Management Ranging from Zero Percent to 100 Percent. Each Simulation uses 1000 Firm-Years. The Thin Line Represents the Power Function for the Henly Model (Benchmark). The Thick Line Represents the Simulation Result for Each of the Other Models. Expense Manipulation and Revenue Manipulation Induced Earnings Management, Margin Induced Earnings Management, and Revenue Margin Induced Earnings Management are Shown.
Sample of Firm-Years in which the SEC Alleges Earnings are Overstated

Figure 5 provides event time plots of total accruals, cash from operations and earnings for the sample of 12 firms alleged by the SEC to have overstated earnings. Year 0 represents the year in which the SEC alleges that earnings are overstated. To provide a benchmark for comparison, plots are also provided for the sample of 1000 randomly selected event-years. The plot of median total accruals indicates that accruals are abnormally high in the years leading up to and including year 0, and abnormally low thereafter. The fact that total accruals are higher for the SEC sample relative to the random sample in every year 0 is consistent with the joint hypothesis that total accruals measure discretionary accruals and that discretionary accruals are positive. The plot also reveals a sharp decline in accruals in event year one, which is consistent with the managed accruals reversing.

The cash from operations plot indicates that cash flows tend to be slightly lower than normal for the SEC sample. The earnings plot indicates that earnings are close to the random sample in the years up to and including event-year 0, and substantially lower thereafter. Thus, the abnormally high accruals in years -5 through 0 have the effect of masking the lower cash flows in inflating reported earnings. This is consistent with management attempting to delay a decline in reported earnings through accrual management.

Table 5 summarizes the results from tests of earnings management using the alternative models to generate discretionary accruals. For each model of discretionary accruals, the table reports descriptive statistics on the estimates of earnings management, their standard errors and t-statistic along with the aggregate Z-statistic. The Z-statistic is positive and highly statistically significant at conventional levels for all five models, supporting the hypothesis that earnings have been managed upwards. The statistic is the largest for the Modified Jones Model (5.76) followed by the Industry Model (3.90), the Healy Model (3.90), the Jones Model (3.69) and the DeAngelo Model (2.18). A comparison of the point estimates of earnings management and their associated standard errors permit the source of the differences in the Z-statistics to be examined. The Jones and Modified Jones Models have standard errors that are markedly lower than the other models. This reinforces our previous findings from Table 1 that the Jones and Modified Jones Models are more successful at explaining variations in accruals. The lower standard errors explain the source of their power. The low power of the Jones Model relative to the Modified Jones Model stems from its smaller estimates of earnings management. These smaller estimates are consistent with the SEC sample including firms that overstate revenues and these overstatements not being detected by the Jones Model. This result is investigated in more detail in Table 8. Finally, the relatively high Z-statistic for the Industry Model stems from a combination of a high point estimate of earnings management relative to the Jones Model and a small standard error relative to the Healy and DeAngelo Models.

*Some firms are alleged to have overstated earnings for two or more consecutive years. In Figure 5, every year 0 equals across all observations for which overstatement is alleged, event year -1 is the year prior to the first year in which overstatement is alleged, and event year 1 is the year following the last year in which overstatement is alleged. Note that in the regression analysis, PART I is coded at one on years when earnings management is alleged and zero otherwise.

*Firms subsequently restore earnings in 79 of the 36 firms-years in which earnings overstatement is alleged by the SEC. These 19 observations provide us with an opportunity to investigate the extent of earnings management detected by the models compared to that identified by the SEC. The mean (median) restored earnings management as proportion of assets for the Jones Model is 14.6 (13.6), the Modified Jones Model is 16.3 (15.9), the DeAngelo Model is 14.6 (12.3), the Jones Model is 16.3 (15.9), and the Industry Models 13.6 (12.3). These results are consistent with other (ii) the SEC identifying or requiring only a subset of the total earnings management to be restored by the firms, or (iii) the models systematically underestimating the magnitude of earnings management in this sample.
### TABLE 3

Results of Tests for Earnings Management Using Alternative Models to Measure Discretionary Accruals. Sample of 32 Firms Targeted by the SEC in Accounting and Auditing Enforcement Releases (AEERs) between 1982 and 1992 for Allegedly Overstating Earnings.

<table>
<thead>
<tr>
<th>Model</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
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<tbody>
<tr>
<td>Henry Model</td>
<td>0.258</td>
<td>0.457</td>
<td>-0.022</td>
<td>0.058</td>
<td>0.258</td>
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<tr>
<td>Z-statistic</td>
<td></td>
<td>3.90**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delong Model</td>
<td>0.258</td>
<td>0.457</td>
<td>-0.022</td>
<td>0.058</td>
<td>0.258</td>
</tr>
<tr>
<td>Z-statistic</td>
<td></td>
<td>3.90**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jones Model</td>
<td>0.153</td>
<td>0.374</td>
<td>-0.073</td>
<td>0.061</td>
<td>0.172</td>
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<td></td>
<td>3.06**</td>
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<tr>
<td>Modified Jones Model</td>
<td>0.274</td>
<td>0.501</td>
<td>0.022</td>
<td>0.083</td>
<td>0.284</td>
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<td>Z-statistic</td>
<td></td>
<td>5.78**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Industry Model</td>
<td>0.218</td>
<td>0.448</td>
<td>-0.043</td>
<td>0.069</td>
<td>0.280</td>
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<tr>
<td>Z-statistic</td>
<td></td>
<td>5.00**</td>
<td></td>
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</tbody>
</table>

Notes:
- Earnings management represents the estimated coefficient on PART from firm-specific regressions of DAP = \( \bar{b}_1 + \bar{b}_2 \cdot PART + e _{j} \), where DAP is the measure of discretionary accruals produced by each of the models and PART is an indicator variable equal to 1 in a year in which earnings management is hypothesized to occur and 0 otherwise. 
- Standard error is the standard error of the coefficients on PART for each of the regressions and Z-statistic is the t-statistic testing the null hypothesis that the coefficient on the variable is equal to zero.
- **Significantly different from zero at the 1 percent level using a two-tailed test.

### TABLE 6


<table>
<thead>
<tr>
<th>Model</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
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<td>0.095</td>
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<td>1.56</td>
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<tr>
<td>Modified Jones Model</td>
<td>0.091</td>
<td>0.288</td>
<td>0.009</td>
<td>0.074</td>
<td>0.183</td>
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<tr>
<td>Z-statistic</td>
<td>3.88**</td>
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</table>

Panel A: Sample consists of 18 firms managing revenues

Panel B: Sample consists of 14 firms not managing revenues

Notes:
- Earnings management represents the estimated coefficient on PART from firm-specific regressions of DAP = \( \bar{b}_1 + \bar{b}_2 \cdot PART + e _{j} \), where DAP is the measure of discretionary accruals produced by each of the models and PART is an indicator variable equal to 1 in a year in which earnings management is hypothesized to occur in response to the stimulus identified by the researcher and 0 otherwise.
- **Significantly different from zero at the 1 percent level using a two-tailed test.

Table 6 provides an analysis of the impact of revenue-based earnings management on the performance of the Jones Model. The sample is stratified by the source of the earnings overstated that is alleged by the SEC. Fifteen of the sample firms are accused of overstating revenues alone. A further three firms are accused of overstating revenues in combination with understating expenses. The remaining 14 firms are accused of understating expenses. We form two samples consisting of the 18 firms that are alleged to have overstated revenues and the 14 firms for which no overstatement of revenues is alleged. Table 6 reports the results of tests for earnings management applied to each of these two samples using the Jones and Modified Jones Models.

Panel A of table 6 reports the results for the sample for which revenue overstatements are alleged. The Z-statistic of 1.56 for the Jones Model is insignificantly different from zero at
conventional levels, while the Z-statistic of 3.88 for the Modified Jones Model is highly significant. Inspection of the earnings management estimates for these two models indicates that the higher Z-statistic for the Modified Jones Model results from substantially larger estimates of earnings management. The mean (median) estimate of earnings management is 0.5% (3.8%) of lagged assets for the Jones Model and 9.1% (7.4%) of lagged assets for the Modified Jones Model.

Panel B of table 6 reports results for the sample for which no revenue-based overstatements of earnings are recorded. The Z-statistics for 3.80 for the Jones Model and 4.31 for the Modified Jones Model are similar and statistically significant. Further inspection reveals that the earnings management estimates are also very similar. Thus, consistent with results from our artificially managed samples, the two models appear to perform similarly in detecting expense-based earnings management. Overall, the results in table 6 provide confirmatory evidence that the Modified Jones Model is more powerful than the Jones Model in the presence of revenue-based earnings management.

The results in tables 5 and 6 provide descriptive evidence on the relative performance of the alternative models for measuring discretionary accruals. The results in table 7 directly investigate the frequency of type II errors for the competing models. Table 7 reports the proportion of samples in the SEC sample for which the null hypothesis that discretionary earnings is less than or equal to zero is rejected. If it is assumed that all models are well specified and that the SEC has correctly identified firms that manage earnings, then the proportions of rejections in table 7 provide estimates of the relative power of the tests. The results indicate that the Modified Jones Model rejects the null hypothesis most frequently, followed by the Industry Model, the Jones Model, the Healy Model and the DeAngelo Model. These rankings are closely similar to the conclusions of the power functions obtained in the simulation tests and reinforce the documented superiority of the Modified Jones Model.

VI. CONCLUSIONS AND IMPLICATIONS

This paper evaluates the ability of alternative models to detect earnings management. The results suggest that all the models evaluated appear to produce reasonably well-specified tests for a random sample of over-earners. However, the power of the tests is low for earnings management of economically plausible magnitudes. When the models are applied to samples of firm-years experiencing extreme financial performance, all models lead to misspecified tests. In this respect, our results highlight the conditions under which misspecified tests are likely to arise. However, we hasten to add that establishing the extent to which the results of an existing study are misspecified requires a detailed reexamination of that study (e.g., Holthausen et al. 1995 reexamination of Healy 1985). Finally, we find that a modified version of the model developed by Jones (1991) provides the most powerful tests of earnings management.

The findings in this study provide three major implications for research on earnings management. First, regardless of the model used to detect earnings management, the power of the tests is relatively low for earnings management of economically plausible magnitudes. Subtle cases of earnings management in the order of, say, one percent of total assets require sample sizes of several hundred firms to provide a reasonable chance of detection. Our analysis has focused primarily on documenting the properties of existing models. Further research to develop models that generate better specified and more powerful tests will further enhance our ability to detect earnings management.15

15 Preliminary work in this direction is conducted by Ronoh (1994).
REFERENCES


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Accounting Choices of Issuers of
Initial Public Offerings

JOHN M. FRIEDLAN York University

Abstract. Because there are no market-determined prices for IPO shares before they are sold to investors, issuers and underwriters must use nonprice information about the firm to set the offering price. Accounting-based measures are frequently identified as particularly useful in valuing untraded securities. This paper reports evidence that IPO issuers make income-increasing discretionary accruals in the financial statements released before the offering. This evidence is consistent with the hypothesis that issuers believe that financial statement information affects IPO offering prices.

Résumé. Les actions émises dans le cadre d'un premier appel public à l'épargne n'ayant pas de prix fixé par le marché avant d'être vendues aux investisseurs, les émetteurs et les personnes formes doivent utiliser l'information relative à l'entreprise n'ayant pas fait au prix pour établir le prix d'émission. Les modèles d'origine comptable ont souvent été considérés comme étant particulièrement utiles dans l'évaluation de valeurs mobilières non encore échangées. L'auteur démontre que dans les études financières qu'elles publient avant l'offre, les émetteurs font procéder à un premier appel public à l'épargne traitant les charges ohminées sur lesquelles elles exercent un pouvoir discrétionnaire de façon à hausser les bénéfices. Cette constatation est conforme à l'hypothèse selon laquelle les émetteurs estiment que l'information contenue dans les états financiers a une incidence sur le cours des actions émises dans le cadre d'un premier appel public à l'épargne.

The price at which the shares of an initial public offering (IPO) are sold to investors has a significant effect on the wealth of the issuers of the securities. Unlike most equity transactions in capital markets, there is no market price available to refer to when issuers and underwriters set the price of an IPO or when investors consider investing in it. Therefore, the offering price must be set and evaluated using nonprice information about the firm. One source of information comes from the financial statements presented in the prospectus. Evidence indicates that financial statement information is an input into the pricing of IPOs (for example, see DeAngelo 1988b; Bloch 1986; Perez 1984; Hughes 1986; Titman and Trueman 1986; and Krinsky and Rotenberg 1989). The apparent association between financial statement information and the offering prices of IPOs suggests that issuers have incentives to exercise accounting discretion to increase the proceeds from their offerings.

This study examines whether IPO issuers exercise accounting discretion by making income-increasing discretionary accruals in the financial statements that are included in prospectuses. Tests are conducted using a modification of the accrual-estimation method developed by DeAngelo (1986). The modified method adjusts for the growth in accruals that is associated with the growth of the IPO firms. The results support the hypothesis that issuers make income-increasing accruals before going public. It is found that when interim financial statements are the most current statements in prospectuses, issuers make income-increasing accruals in the interim statements but not in the most current annual statements. In contrast, firms for which the annual statements are the most current accounting information in their prospectuses make income-increasing accruals in the annual statements. These results are consistent with other findings that show that financial statement preparers manage their statements to influence the effect of accounting-based contracts on wealth distribution (see, for example, Healy 1995; DeAngelo 1988a; McNichols and Wilson 1988; and Moyer 1990).

The remainder of the paper is organized as follows. The next section examines the relationship between the financial statements and the offering prices of IPOs. The third section outlines the method used to estimate discretionary accruals made by issuers. The following section describes the sample, and the next section presents the empirical results. The paper concludes with a summary.

The role of accounting information in pricing IPOs

When a firm goes public, no market-determined price is available until after the shares are sold to investors. As a result, issuers and underwriters must use nonprice information about the issuing firm to set an offering price, and investors must use nonprice information to determine their demands.

One of the factors used by underwriters to price IPOs is information in the financial statements of issuing firms. DeAngelo (1988b) reports that of the major alternative valuation approaches available for issuances of publicly traded equity, the most common are approaches that develop a relationship between open-market prices and accounting variables by comparing similar firms. In the comparable-firms approach, the underwriter uses comparable firms' price-earnings ratios as a starting point to
determine an earnings multiple to apply to the IPO firm's earnings. Bloch (1986) and Perez (1984) provide anecdotal evidence that supports DeAngelo's finding. Also, analytical models by Hughes (1986) and Titman and Trueman (1986) suggest a relationship between financial statement information and the price of IPOs, and empirical work by Krinsky and Rotenberg (1989) shows a relationship between the pre-IPO accounting measure of total assets and the offering price of IPOs.

There is also evidence of a relationship between financial statement information in prospectuses and the prices of IPO shares in the immediate aftermarket. Klein (1989) presents a valuation model for IPOs and finds evidence of associations between accounting numbers in prospectuses, including earnings and revenue, and the market value of IPOs one week after the initial trading date. Clarkson, Donoh, Richardson, and Selcic (1992) find a positive relationship between an earnings signal and the market value of IPOs. Because financial statement information in prospectuses appears to be associated with the prices of the securities in the aftermarket, it is reasonable to expect that these data are used to set the offering prices of IPOs.

For many investors, the prospectus is likely the most cost-efficient means of obtaining information about an IPO. The prospectus is the only document that can be distributed by the issuers before the effective date of the registration statement, and because most IPO firms are small, often little information is readily available from other sources for investors to evaluate; and a large part of the prospectus is financial statements.

For issuers to act on incentives to manage accounting information, they must believe that underwriters and investors cannot fully detect the extent and implications of all accounting choices and adjust for them. This is a reasonable expectation given the nature of accounting information. Preparation of periodic accounting reports requires judgment by preparers when choosing among acceptable alternatives under generally accepted accounting principles (GAAP). Fully adjusting for all accounting choices is difficult and costly for underwriters because it requires (1) knowledge of what accounting information the market will value and how it will value the information, (2) knowledge of all the accounting choices made by the issuing firm, (3) being able to discriminate between opportunistic accounting discretion and accounting discretion exercised to communicate issuers' private information (Hoffman, 1980), and (4) knowledge of the accounting choices made by the comparable firm. Thus, not fully adjusting issuers' financial statements for all accounting choices may be the most efficient and cost-effective way for underwriters to use the information.

Investors may be similarly influenced by issuers' accounting choices. If investors use accounting information in deciding to purchase IPOs but are unable to fully disentangle the accounting information contained in prospectuses or are unwilling to incur the cost of doing so, investor demands may be influenced by the accounting choices of issuers. Even though investors can be aware that issuers manage accounting information, the costs of determining the extent of accounting discretion may make it undesirable for them to do so. If by exercising accounting discretion issuers influence the buying decisions of some investors, a higher offering price can be obtained without impairing the probability of selling out the issue.

The need to determine an offering price before trading begins in the aftermarket and the apparent use of accounting earnings in determining an offering price establishes incentives for issuers to exercise accounting discretion before going public. Thus, the main hypothesis tested in this study is whether issuers of IPOs exercise accounting discretion to increase reported net income by making income-increasing discretionary accruals in the periods before going public. Also tested is the behavior of earnings in the periods before going public. Earnings are likely increasing before the IPO even if issuers do not exercise accounting discretion before going public because the need to raise capital in the equity market is related to the success of the business—success that should be reflected in its accounting earnings. Thus, income-increasing accruals add to the expected increase in real earnings in the pre-IPO periods. The behavior of cash flow from operations is also examined in the tests. It is not possible, however, to make a prediction about the direction of the change in cash flow from operations in the periods before going public because of the conflicting effects of increased profitability and the need for growing firms to invest in current assets to support expanding operations. Increased profitability produces positive cash flow, whereas investment in current assets consumes cash.

Estimation of discretionary accruals

The estimation of discretionary accruals is based on the method developed by DeAngelo (1986). The method compares accruals in a test period with accruals in an earlier benchmark period and attributes deviations from the benchmark measure to accounting discretion. DeAngelo's model assumes that the nondiscretionary component of accruals follows a random walk and, thus, the change is total accruals between the benchmark and test periods is assumed to be due to the exercise of accounting discretion. However, the random walk assumption is not valid for IPOs because these firms tend to be growing. The growth should affect certain aspects of firms' operations, including accruals. If growth is ignored, a change in total accruals in the test period that is attributable to pre-IPO discretion may in fact be due to changes in nondiscretionary accruals caused by growth. This may lead to incorrect conclusions about the exercise of accounting discretion by preparers of financial statements.

The model presented here assumes that the change in total accruals between two periods is composed of two components: (1) the change due to firm growth and (2) the change due to incremental discretion by issuers. When a firm grows, the amount of nondiscretionary accruals and the pool of
available discretionary accruals should grow as well. For example, consider a firm that doubles in size from sales in year \( r-1 \) of $10,000 to sales in year \( r \) of $20,000. Assume that total accruals also double from year \( r-1 \) to year \( r \) from $1,000 to $2,000. If growth is ignored, the increase in total accruals could be attributed to discretion when in fact no discretion may have been exercised, because the increase in accruals is proportional to the increase in sales.

To control for the effect of growth on total accruals, a model that assumes a constant proportionality between total accruals and sales in successive periods is used. The amount of total accruals that is attributable to discretion is the difference between total accruals in the test period standardized by sales in the test period and total accruals in the benchmark period standardized by sales in the benchmark period. Formally,

\[
\text{Discretionary Accruals}_{\text{benchmark period}} = \frac{\text{Total accruals}_{\text{test period}}}{\text{Sales}_{\text{test period}}} - \frac{\text{Total accruals}_{\text{benchmark period}}}{\text{Sales}_{\text{benchmark period}}}
\]

As in DeAngelo (1986), total accruals are assumed to be net income before extraordinary items minus cash flow from operations. Cash flow from operations is estimated by adjusting working capital from operations as reported in the statement of changes in financial position in the IPO prospectus for changes in all current operating accounts.

The empirical tests reported in the empirical results section test the hypothesis that discretionary accruals are greater than zero. Using the facts described in the example above, if from year \( r-1 \) (benchmark period) to year \( r \) (test period), the firm grew by a factor of 2 and total accruals also doubled, no incremental discretionary accruals would be observed in year \( r \):

\[
\begin{bmatrix}
\frac{\text{Total accruals}}{\text{Sales}_{r-1}} - \frac{\text{Total accruals}}{\text{Sales}_{r}} \\
\end{bmatrix} = \begin{bmatrix}
\frac{2,000}{20,000} - \frac{2,000}{10,000} \\
\frac{1,000}{10,000} - \frac{1,000}{10,000} \\
\end{bmatrix} = \begin{bmatrix}
0 \\
0 \\
\end{bmatrix}
\]

Because the ratio of total accruals to sales did not change, there are no new discretionary accruals in the accounts. In contrast, if in year \( r \) total accruals increase to $2,100, then an income-increasing discretionary accrual is observed:

\[
\begin{bmatrix}
\frac{2,100}{20,000} - \frac{1,000}{10,000} \\
\end{bmatrix} = \begin{bmatrix}
0.005 \\
\end{bmatrix}
\]

6 Contemporary Accounting Research

Other techniques have been developed to estimate discretionary accruals. Jones (1991) uses a time-series approach by regressing total accruals on variables expected to explain the non discretionary accruals. IPO prospectuses do not provide a long enough time series of data to employ Jones’ model. Moyer (1990) and McNichols and Wilson (1988) use a cross-sectional approach on specific industries. In this study, however, there is heterogeneity in industry representation. Beatty and Verrecchia (1989) examine manager response to a mandatory accounting change and develop a model that compares the standardized deferred tax flows in adjacent periods with an as-if deferred tax flows had accruals not been managed. Beatty and Verrecchia’s model is not applicable to this study because the information necessary to estimate the as-if deferred tax flows is not available. Thus, the modified DeAngelo (1986) model described in this section is used.

An alternate model for estimating discretionary accruals is to standardize by change in sales rather than sales. It can be argued that change in sales is a more appropriate deflator because the change in accruals that is related to changes in current operating accounts is proportional to the change in sales, not to the sales level. The validity of the original model versus the alternative model depends on the assumption made about the accrual-generating process. Also, interpretation problems exist when the change in sales approaches zero. Nevertheless, the alternate model has considerable merit, and using it acts as an additional control for the model developed above. The results of the alternate model are found in the endnotes to the results section.

Sample selection

The firms used in the tests of accrual management were drawn from a sample of 277 IPO firms that (1) went public in the United States between 1981 and 1984, (2) issued their shares using firm commitment contracts, (3) were not in the financial, insurance or real estate industries (SIC codes 6000-6999), and (4) were in industries with large numbers of IPOs. Firms were dropped from the sample if they did not have at least two full fiscal years of operations before going public. As described in the previous section, the tests of accrual management estimate discretionary accruals by examining total accruals in the last two years before going public. If the next-to-last year is not a full operating year, the accruals tests are not valid because total accruals estimated for the next-to-last year is not a good benchmark. That is, any difference between estimated total accruals between the two years may be due to the next-to-last year not being a complete operating year. By using a two full-year requirement, I dropped from the sample all firms in the development stage. Based on these criteria, 211 firms in 12 industries (three-digit SIC codes) were available.

Firms were then discarded if the financial statements in last and next-to-last years before going public were not comparable. Financial state-
ments were considered noncomparable if a firm (1) acquired another firm in either year and the acquisition was accounted for using the purchase method, (2) discontinued a line of business, (3) changed an accounting policy or estimate for which the effects of the change were not reported retroactively, or (4) changed its year-end. Four additional firms were then discarded upon examination of the prospectuses when it was found that the firms, although not explicitly referred to as development-stage firms, were in the development stage based on the extremely low sales relative to costs and the description of the firms' business activities. Finally, one firm was dropped because it provided incomplete interim data. The resulting sample contains 155 firms in 12 industries. Of these 155 firms, 107 provide interim financial statements in their prospectuses. Table 1 provides the distribution of three-digit SIC industries in the two test periods examined in the study. The 12 industries in the sample represent 58 percent of all firms that went public between 1981 and 1984 using firm-commitment contracts.7

<table>
<thead>
<tr>
<th>SIC code</th>
<th>Industry name</th>
<th>Test year = 1</th>
<th>Test period = 1+1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Numbers</td>
<td>%</td>
</tr>
<tr>
<td>158</td>
<td>Oil and gas field services</td>
<td>12</td>
<td>.077</td>
</tr>
<tr>
<td>283</td>
<td>Drugs</td>
<td>11</td>
<td>.071</td>
</tr>
<tr>
<td>357</td>
<td>Office and computing machines</td>
<td>11</td>
<td>.071</td>
</tr>
<tr>
<td>366</td>
<td>Communications equipment</td>
<td>14</td>
<td>.091</td>
</tr>
<tr>
<td>367</td>
<td>Electronic components and acc.</td>
<td>15</td>
<td>.097</td>
</tr>
<tr>
<td>382</td>
<td>Measuring and controlling devices</td>
<td>17</td>
<td>.110</td>
</tr>
<tr>
<td>384</td>
<td>Medical instruments and supplies</td>
<td>13</td>
<td>.084</td>
</tr>
<tr>
<td>451</td>
<td>Certified air transportation</td>
<td>12</td>
<td>.077</td>
</tr>
<tr>
<td>508</td>
<td>Machinery, equipment and supplies</td>
<td>12</td>
<td>.077</td>
</tr>
<tr>
<td>731</td>
<td>Eating and drinking places</td>
<td>11</td>
<td>.071</td>
</tr>
<tr>
<td>737</td>
<td>Computer and data processing</td>
<td>15</td>
<td>.091</td>
</tr>
<tr>
<td>739</td>
<td>Miscellaneous business services</td>
<td>12</td>
<td>.077</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>155</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* Industry distribution of the firms used in the annual sample and the interim sample. The 107 firms in the interim sample are the firms in the annual sample that provided interim financial statements in their prospectuses.

Table 2 compares the sample firms with the population of firm-commitment IPOs that went public between 1981 and 1984 for four variables: sales in the last full fiscal year before going public, gross proceeds from the issue, offering price, and number of shares sold. Mean sales for sample firms is higher than for the population, although the median of the population is higher. For the three remaining variables, the means and medians of the population firms are greater than those of the sample firms. Tests for differences in the means of the population and the sample indicate no significant statistical difference between the two groups in any of the four variables. These results suggest that the sample firms are similar to the comparable population of firm-commitment IPOs (at least in the four variables discussed), despite the concentration of the sample in 12 industries.

**Empirical results**

**Time periods**

The time periods referred to in the following discussion can be seen in Figure 1. Firms make their public offerings in year t+1. The IPO date is

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample of IPOs issued between 1981 and 1984 (n = 155)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales†</td>
<td>45,513,000</td>
<td>7,407,000</td>
<td>289,082</td>
<td>45</td>
<td>3,129,575,000</td>
</tr>
<tr>
<td>Gross proceeds</td>
<td>12,402,331</td>
<td>6,000,000</td>
<td>19,823,315</td>
<td>750,000</td>
<td>123,750,000</td>
</tr>
<tr>
<td>Offering price</td>
<td>9,298</td>
<td>9,000</td>
<td>5,338</td>
<td>0,100</td>
<td>23,000</td>
</tr>
<tr>
<td>Number of shares sold</td>
<td>1,486,950</td>
<td>762,860</td>
<td>3,563,516</td>
<td>150,000</td>
<td>34,500,000</td>
</tr>
<tr>
<td>Population of IPOs issued between 1981 and 1984 (n = 1,066)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales‡</td>
<td>40,829,000</td>
<td>9,655,000</td>
<td>159,316,000</td>
<td>0</td>
<td>3,466,020,000</td>
</tr>
<tr>
<td>Gross proceeds</td>
<td>14,421,639</td>
<td>7,150,000</td>
<td>21,047,500</td>
<td>200,000</td>
<td>265,975,000</td>
</tr>
<tr>
<td>Offering price</td>
<td>9,533</td>
<td>9,000</td>
<td>5,651</td>
<td>0,010</td>
<td>30,000</td>
</tr>
<tr>
<td>Number of shares sold</td>
<td>1,973,251</td>
<td>1,000,000</td>
<td>7,045,185</td>
<td>100,000</td>
<td>152,250,000</td>
</tr>
</tbody>
</table>

*The sample was drawn from firms that made IPOs between 1981 and 1984, issued the shares using firm commitment contracts, were not in the financial, real estate, or insurance industries (SIC codes 6000-6999), and were in industries making large numbers of IPOs.

†Sales represents the 12-month revenue for the year before going public.

‡The population is all firms that made IPOs between 1981 and 1984, issued the shares using firm commitment contracts, were not in the financial, real estate or insurance industries (SIC codes 6000-6999), and did not issue units.

IPPO data obtained from the database provided by Professor Jay Ritter.
the date that the Securities and Exchange Commission (SEC) allows the registration to become effective and the securities can be sold to the public. The last set of annual financial statements provided in the prospectus is for year \( t \). Comparable information is available for year \( t-1 \), the next-to-last full year before the IPO. Year \( t \) is the test year in the study, and \( t-1 \) is the benchmark year. The interim statements provided by some firms in the sample cover a portion of years \( t-1 \), before the IPO date, and comparative statements are provided from the same period in year \( t \). In tests on interim information, the test period is \( t+1 \) and the benchmark period is \( t \).

Descriptive data

The model developed in this paper to estimate discretionary accruals is based on the assumption that firms going public are growing. Evidence supporting that assumption is provided in Table 3. The table shows that sample firms have mean sales growth between years \( t-1 \) and \( t \) of 3.96% (median 4.45%) with 143 of the 155 firms (92.3%) percent increasing in size. Two-tailed Wilcoxon and t-tests of the hypothesis that growth between the periods is equal to 1 yield highly significant results, resulting in rejection of the no-growth hypothesis. The results are similar for the interim period (see Table 3).

Table 4 presents descriptive data for the 155 firms in the annual sample and for the 107 firms that provide interim financial statements for net income, total accruals, cash flow from operations, sales, and total assets.

Overview of tests

The next two sections report a series of tests intended to provide evidence of earnings management by issuers of IPOs. This section provides an overview of the tests and the rationale for conducting them. The hypothesis that issuers make income-increasing discretionary accruals before going public is tested by examining the behavior of discretionary accruals in the most current financial statements in prospectuses. For firms that provide interim financial statements, the interim statements are the most current. For firms that do not provide financial statements, the year \( t \) annual financial statements are the most current. It is expected that if issuers exercise accounting discretion, they will at least do so in the most current statements because those are most likely to have the greatest effect on the decisions of underwriters and investors. In addition, the timing of the offering may limit some issuers’ ability to make income-increasing discretionary accruals in financial statements of periods before the most current one. Two sets of tests are used to directly test the hypothesis. The first set examines whether issuers of IPOs that provide interim financial statements exercise accounting discretion in the interim statements. In the second set, the sample is partitioned into two subsamples based on whether or not interim statements are included in the prospectus. The annual statements of firms in each subgroup are tested for evidence of earnings management.

Three sets of control tests are then conducted to provide support for the main results and to test the validity of the discretionary accruals estimation model. The first set of control tests uses a sample that comprises the most current financial statement data available for each firm (interim or annual). In the first test, the materiality of discretionary accruals is tested by taking the ratio of the change in nonstandardized discretionary accruals to the absolute value of net income in the test period. The second
The second set of control tests examines the behavior of discretionary accruals and changes in earnings and cash flow from operations in the years after the IPO (years t+1 and t+2). Discretionary accruals after the IPO are of interest because they may provide insights into issuers' actions during the pre-IPO period. Because over the life of a business the sum of a firm's earnings must equal the sum of its cash flow, discretionary accruals made in one period must reverse in later periods. If issuers of IPOs make income-increasing discretionary accruals before going public, some of these accruals may reverse soon after the IPO.

Finally, the third set of control tests uses non-IPO Compustat firms to examine the behavior of discretionary accruals of non-IPO firms and to compare discretionary accrual behavior of IPO firms and non-IPO firms. These tests are intended to provide additional evidence of the exercise of accounting discretion by issuers of IPOs and to support the reliability of the estimation model developed in this paper for estimating discretionary accruals.

The statistical tests used and reported in the next two sections to test the hypotheses are the Wilcoxon signed-rank test and the t-test. The t-tests are provided as additional support for the results of the Wilcoxon tests. Examination of the distributions of standardized discretionary accruals and changes in earnings, total accruals, and cash flow from operations shows the presence of large outliers. For the t-test to be interpretable, it is necessary to control for outliers; otherwise, the results of the t-tests will be driven by the outliers. To control for outliers, the only values are winsorized. Winsorizing rewrites outlying values to the nearest nonoutlying value. Selection of an appropriate value to winsorize to is somewhat arbitrary, but the general rule used here is to winsorize when a value is more than twice the previous value in an ordered ranking of the sample data.

Data used in tests of changes in earnings, total accruals, and cash flow from operations are standardized by sales in the test period. For each variable, the tables provide median and mean (both raw and winsorized) values, results of the Wilcoxon signed-ranks tests using raw (unwinsorized) data, results of t-tests using winsorized data, and percentage of positive observations (note that winsorizing is not used in tests of the non-IPO Compustat data). Results of tests on total accruals are presented for comparison purposes, but are not discussed.

**Evidence of Discretionary Accruals by Issuers of IPOs**

The first set of tests examines whether issuers of IPOs that provide interim financial statements exercise accounting discretion in the interim
statements. The results are presented in Table 5, panel A. It was predicted earlier that IPO firms report increasing net incomes before going public; even absent the exercise of accounting discretion by issuers. The results in column (1) of Table 5, panel A support this hypothesis. The median increase in net income is 2.94 percent of sales, and 77.6 percent (83 of 107) of the firms report earnings increases (p-value = .001). The Wilcoxon signed-ranks test has a p-value of .000, and the r-test on winsorized data has a p-value of .004. Column (2) summarizes the results of tests for discretionary accruals in the interim period. Median estimated discretionary accruals is 0.206 and 53.3 percent (57 of 107) report increases (p-value = .281). The p-value from the Wilcoxon test is .028, and for the r-test on winsorized data, the p-value is .017. Thus, the results indicate that issuers systematically make income-increasing discretionary accruals in the interim financial statements.

The median change in cash flow from operations over the interim periods is -0.25 percent of sales, with 48.6 percent of the firms having decreases (p-value = .771). The Wilcoxon test does not yield significant results at traditional levels, whereas the r-test on winsorized data yields a p-value of .094, indicating a decrease in cash from operations. These results show that IPO firms report increased earnings between interim periods i and i + 1, and that part of the increase in earnings results from the exercise of accounting discretion by issuers. The evidence indicates that the increase in earnings is not accompanied by an increase in cash flow from operations.

The next set of tests examines the behavior of discretionary accruals in annual financial statements. The sample of 155 firms is partitioned into two subsamples based on whether interim financial statements are included in a firm's prospectus. There are 48 firms that do not provide interim financial statements and 107 firms that do. For the 48 firms that do not provide interim financial statements, the annual statements are the most current available in the prospectus. Panel B of Table 5 provides results of tests on firms that do not provide interim financial statements, and panel C provides the results for the firms that do provide interim financial statements.

Columns (1) of panel B reports that the median increase in earnings for firms that do not provide interim financial statements is 5.65 percent of sales, and 85.4 percent (41 of 48) of the firms reported increases in standardized earnings (p-value = .005). The Wilcoxon test yields a one-tailed significance level of 0.00, and the p-value from the r-test on winsorized data is .011. The earnings of firms that provide interim information also increase—column (1) of panel C. The median increase in standardized earnings is 2.85 percent of sales, and 76.5 percent (82 of 107) of the firms report earnings increases (p-value = .800). Both the Wilcoxon test and the r-test on winsorized data are highly significant.

The results of tests on discretionary accruals in the two subsamples

<table>
<thead>
<tr>
<th>(1) Change in earnings</th>
<th>(2) Discretionary accruals</th>
<th>(3) Change in total accruals</th>
<th>(4) Change in cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A: Tests for period i + 1 (interim period before the IPO). Benchmark period = i, test period = i + 1, n = 107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.0294</td>
<td>0.0206</td>
<td>0.0164</td>
</tr>
<tr>
<td>Mean</td>
<td>0.0206</td>
<td>0.1635</td>
<td>0.0714</td>
</tr>
<tr>
<td>Winsorized mean</td>
<td>0.0358</td>
<td>0.0476</td>
<td>0.0448</td>
</tr>
<tr>
<td>Wilcoxon test</td>
<td>p-value</td>
<td>0.000</td>
<td>0.028</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>r-test</td>
<td>t-statistic</td>
<td>2.706</td>
<td>2.157</td>
</tr>
<tr>
<td>p-value</td>
<td>0.004</td>
<td>0.017</td>
<td>0.007</td>
</tr>
<tr>
<td>Percent positive</td>
<td>77.6</td>
<td>53.3</td>
<td>56.8</td>
</tr>
<tr>
<td>Panel B: Tests for year i (the year before the IPO) for firms with no interim financial statements. Benchmark period = i - 1, test period = i, n = 48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.0845</td>
<td>0.0143</td>
<td>0.0075</td>
</tr>
<tr>
<td>Mean</td>
<td>0.0310</td>
<td>0.1403</td>
<td>0.1013</td>
</tr>
<tr>
<td>Winsorized mean</td>
<td>0.0596</td>
<td>0.1069</td>
<td>0.0805</td>
</tr>
<tr>
<td>Wilcoxon test</td>
<td>p-value</td>
<td>0.000</td>
<td>0.046</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>r-test</td>
<td>t-statistic</td>
<td>2.386</td>
<td>2.234</td>
</tr>
<tr>
<td>p-value</td>
<td>0.011</td>
<td>0.015</td>
<td>0.008</td>
</tr>
<tr>
<td>Percent positive</td>
<td>85.4</td>
<td>60.4</td>
<td>64.6</td>
</tr>
<tr>
<td>Panel B: Tests for year i (the year before the IPO) for firms with interim financial statements. Benchmark period = i - 1, test period = i, n = 107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.0325</td>
<td>0.0001</td>
<td>0.0067</td>
</tr>
<tr>
<td>Mean</td>
<td>-0.0999</td>
<td>0.0232</td>
<td>-0.0437</td>
</tr>
<tr>
<td>Winsorized mean</td>
<td>0.0246</td>
<td>0.0337</td>
<td>0.0059</td>
</tr>
<tr>
<td>Wilcoxon test</td>
<td>p-value</td>
<td>0.000</td>
<td>0.268</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>r-test</td>
<td>t-statistic</td>
<td>1.597</td>
<td>1.289</td>
</tr>
<tr>
<td>p-value</td>
<td>0.056</td>
<td>0.100</td>
<td>0.106</td>
</tr>
<tr>
<td>Percent positive</td>
<td>76.6</td>
<td>31.4</td>
<td>54.2</td>
</tr>
</tbody>
</table>
Panel D: Tests for year \( t + 1 \). (First year end-of the IPO). Benchmark period \( t - 1 \), test period \( t + 1, n = 135 \)

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>Winzorized mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilcoxon test p-value</td>
<td>0.005</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>t-statistic</td>
<td>-0.5491</td>
<td>-0.2956</td>
<td>0.4068</td>
</tr>
<tr>
<td>p-value</td>
<td>0.0132</td>
<td>0.0045</td>
<td>0.0045</td>
</tr>
<tr>
<td>Percent positive</td>
<td>63.7</td>
<td>63.7</td>
<td>63.7</td>
</tr>
</tbody>
</table>
| Panel E: Tests for year \( t + 2 \). Benchmark period \( t - 1 \), test period \( t + 2, n = 118 \)

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>Winzorized mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilcoxon test p-value</td>
<td>0.005</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>t-statistic</td>
<td>-0.6038</td>
<td>-0.2562</td>
<td>0.6780</td>
</tr>
<tr>
<td>p-value</td>
<td>0.0056</td>
<td>0.0045</td>
<td>0.0045</td>
</tr>
<tr>
<td>Percent positive</td>
<td>62.5</td>
<td>62.5</td>
<td>62.5</td>
</tr>
</tbody>
</table>

\*The mean and medians reported in the table for earnings, total accruals, and cash flows from operations are the change in each variable between the benchmark period and the test period standardized by sales in the test period. That is,

\[
\text{Variable}_{\text{test period}} = \frac{\text{Variable}_{\text{benchmark period}}}{\text{Sales}_{\text{test period}}}
\]

where Variable represents earnings, total accruals, or cash flow from operations.

\#Discretionary accruals is the estimate of the change in total accruals that is due to the exercise of accounting discretion by issuers. Discretionary accruals is estimated as

\[
\text{Discretionary accruals} = \frac{\text{Total accruals}_{t+1} - \text{Total accruals}_{t-1}}{\text{Sales}_{t+1}}
\]

Significance levels for earnings, discretionary accruals, and total accruals are for one-tailed tests of the hypothesis that discretionary accruals and earnings increase in the year \( t \) (interim period) before going public. Significance levels for tests on cash flow from operations are two-tailed.

\#Tests are performed on winzorized data. The presence of large outliers limits the meaningfulness of the t-tests on the raw data.

\#Significance levels for all tests on years \( t+1 \) and \( t+2 \) are two-tailed.
accruals, and proceeds from the issue. In each case, the tests of location and distribution are not significant at traditional levels. These results support the contention that the firms in the two subsamples are drawn from the same distribution. This evidence suggests that differences in the accrual results between the two subsamples are due to the exercise of accounting discretion (subject to the caveats described in the next paragraph).

The results reported here are consistent with the hypothesis that issuers use accounting discretion to increase reported income in their prospectuses. However, if the model for estimating discretionary accruals does not fully correct for the effect of growth of nondiscretionary accruals, the observed results could be due to economic effects rather than issuer behavior. For example, if issuers time their offerings to follow a strong quarter, the evidence from partitioning the data on whether firms provide interim financial statements may be due to strong economic performance in the last reported period rather than the exercise of accounting discretion. Additional tests presented in the next section examine the efficacy of the estimation model used in this paper.

Next, a sample of the most current information available in each firm’s prospectus is formed by combining the interim financial statements of the 107 firms that provide interim statements and the annual statements of the 48 firms that do not provide interim information. The combined sample is used in three control tests to provide additional support for the hypothesis that issuers exercise accounting discretion when preparing the financial statements that are included in the prospectuses. The first control test examines the materiality of discretionary accruals on net income in the test period. The materiality of discretionary accruals is tested by taking the ratio of the change in nonstandardized discretionary accruals to the absolute value of net income in the test period. The change in accruals attributable to discretion is 22 percent of net income in the most current period reported in the prospectus, which is significant at the .005 level in a one-tailed Wilcoxon signed-ranks test.13 This result demonstrates that the exercise of accounting discretion is economically significant (22 percent of reported net income) and has a material effect on the net incomes reported by IPO firms.

The second test examines the frequency with which the accruals attributable to discretion in the test period turned net losses into profits (and profits into losses). Forty-four of the firms in the sample had losses converted to profits by making discretionary accruals (28 percent of the sample and 25 percent of the 127 firms that report net profits), whereas only three firms had profits converted to losses (2 percent of the sample and 11 percent of the 28 firms that report net losses). Thus, for the firms for which a change occurred, 94 percent reported a change that converted a loss into a profit. The hypothesis that this arrangement (44 versus 3) occurs by chance, assuming that the probability that a firm will report a net profit is .82 (127 of 155 firms), can be rejected at the .015 level using the binomial test. This result is consistent with the hypothesis that issuers use accounting discretion to avoid reporting a loss in the last period before going public.

The results of these sensitivity tests combined with the direct tests of accrual management (reported in Table 5, panels A, B, and C) provide evidence that issuers take actions to influence their reported net incomes and that the effects of their actions are economically significant.

In the third test, the combined sample is partitioned on whether cash from operations is positive or negative. It is assumed that firms with positive cash from operations are strong economic performers and have less need to make income-increasing discretionary accruals than firms with negative cash from operations. It is assumed that firms with negative cash from operations have greater incentives to dress up their poor cash flow performance by inflating earnings. Although there are some problems with this assumption (growing firms sometimes have negative cash from operations because cash is being invested in the expansion), anecdotal evidence suggests that higher-quality firms have positive cash from operations. For example, Schilit and Schilit (1992) state that a characteristic of better IPOs is strong cash flow from operations.

The results show that 86 firms report positive cash from operations in their most current financial statements and 69 firms report negative cash from operations. The firms that have positive cash flows do not show evidence of the exercise of accounting discretion (median discretionary accruals = 0.0251, p-value in a two-tailed Wilcoxon test of .372). In contrast, the firms that report negative cash flows have significant positive discretionary accruals (median 0.0065, p-value .0005). To the extent that cash flow in the most recent reported period is a measure of economic performance, better-performing firms do not make income-increasing discretionary accruals whereas poor-performing ones do.

The next tests examine the behavior of discretionary accruals in the years after the IPO (years r+1 and r+2). It is expected that income-decreasing discretionary accruals will be observed in these periods as the accruals made before going public reverse. For these tests, year r+1 is used as the benchmark year. Using year r+1 as the benchmark implies that if the discretionary accruals made before the IPO fully reverse, discretionary accruals in the post-IPO years will not be significantly different from zero as they return, on a growth-adjusted basis, to the level in year r+1. Thus, the hypothesis being tested in this discretionary accruals in the years after the IPO will be the same as those in year r+1. No directional hypotheses are stated for changes in earnings and cash flow from operations because there is no ex ante expectation about how these variables behave after the IPO. Note that the sample sizes for years r+1 and r+2 are reduced (year r+1 to 135 firms and year r+2 to 118 firms) because some firms in the original sample were taken over, others failed soon after going public, and financial statements for still others could not be obtained.

The results of these tests are presented in Table 5, panels D and E.
The results show that discretionary accruals return to the level in year r−1 after going public—in year r+2. In year r+1, discretionary accruals are significantly positive relative to year r−1 (see Table 5, panel D), indicating that the income-increasing accruals made before going public do not reverse in year r+1. The change in earnings is significantly positive under the Wilcoxon and t-tests. The change in cash flow from operations in r+1 relative to r−1 is not significant. In year r+2, discretionary accruals are not significantly different from zero under the Wilcoxon and t-tests (see Table 5, panel E). This result indicates that discretionary accruals return to the level in year r−1 and implies that the income-increasing accruals made before going public reverse in year r+2 and return the level of discretionary accruals to a "normal" level. However, because the expected outcome of this test is non-rejection of the null hypothesis of no increase in income-increasing discretionary accruals, the test is weak. To provide additional evidence of the reversal of the discretionary accruals, discretionary accruals in r+2 are also examined using year r+1 as a benchmark. A test of the hypothesis that discretionary accruals in year r+2 are negative using r+1 as the benchmark is significant under the Wilcoxon test (p-value = 0.03).

The changes in neither earnings and cash flow are significantly different from zero under the Wilcoxon (both change variables are significantly negative using the t-test). 13 The significantly greater level of discretionary accruals in year r+1 relative to year r−1 may be due to attempts by issuers to reduce the likelihood of litigation by investors following earnings declines soon after the IPO or to attempts to maintain earnings levels so that issuers can liquidate their holdings before any bad news arrives that may adversely affect share prices (see Ritter 1991). 14

The results of the tests on years r+1 and r+2 provide support for the viability of the model used to estimate discretionary accruals since the observed behavior of discretionary accruals is consistent with the expectation that discretionary accruals reverse.

Additional tests
As explained earlier, an alternate explanation for the results reported in the previous section is that the discretionary accruals are due to economic factors, not to earnings management by issuers. In this section, results are presented to provide additional evidence of the existence of accounting discretion by issuers of IPOs and to support the reliability of the estimation model developed in this paper for estimating discretionary accruals. The tests use three different samples of non-IPO firms selected from Compustat. On average, non-IPO firms should not have incentives to use accounting discretion to increase net income. Therefore, it is hypothesized that (1) discretionary accruals of non-IPO firms are approximately zero and (2) IPO firms make more income-increasing discretionary accruals than do matched non-IPO firms.

The first sample matches each IPO firm with non-IPO firms on Compustat that are from the same industry (three-digit SIC code) and have financial statements from the same year as the most current year of annual financial statements in the IPO firm’s prospectus (same industry year). Matched firms are then grouped by industry year. The matched sample contains 46 industry-year groups, with each group comprising 28 and 22 matched firms (median of 108 firms and mean of 90.4 firms). 15 For each industry-year matched group, the median estimated discretionary accruals for year i and median changes in earnings and cash flow from operations between years r−1 and 2 are calculated. The distribution of 46 medians for each variable is used to test whether discretionary accruals and the changes in earnings and cash flow from operations of non-IPO firms are zero. The median approach is used because it provides a non-IPO firm benchmark that is not strongly influenced by outliers and thus permits useful comparisons of variables between the IPO and non-IPO firms.

The first hypotheses test whether discretionary accruals and the changes in earnings and cash flow of non-IPO firms from the same industry years as the IPO sample firms are different from zero. The tests are conducted by determining whether the means and medians of the distributions of industry-year medians are different from zero. All tests are two tailed because there are no expectations about the direction of the changes in accruals, earnings, and cash flows of non-IPO firms. The results are presented in Table 6, panel A. The results show that although the changes in earnings and cash flow are significantly greater than zero under both the Wilcoxon signed-ranks and t-tests, discretionary accruals are not significantly different from zero. This result is consistent with the hypothesis that discretionary accruals for the matched firms are zero and provides validation for the model developed in this paper for estimating discretionary accruals. 16

Next, tests for differences between IPO firms and matched firms in the same industry year are conducted. It is hypothesized that the discretionary accruals of IPO firms are greater than those of matched firms. It is also hypothesized that earnings of IPO firms will be larger than earnings of matched non-IPO firms. For each IPO firm, the differences between the year i variables of the IPO firm and the median measures of the variables from the corresponding industry year are determined. For these tests, IPO firms are again partitioned into two groups: firms that provide interim financial statements in their prospectuses and firms that do not. The results are reported in Table 6, panel B. They are consistent with those reported in Table 5. For firms not providing interim statements, the Wilcoxon test indicates that year i discretionary accruals are greater for IPO firms than for matched firms. In contrast, for firms that provide
interim financial statements, the Wilcoxon test result does not permit rejection of the null hypothesis that year \( i \) discretionary accruals of IPO firms are not greater than median discretionary accruals of matched firms. In both subsamples, the difference in the change in earnings is significantly positive (one-tailed tests), although the increase in earnings is greater for firms not providing interim statements, which may be due to the greater amount of discretionary accruals made by firms that do not provide interim financial statements. The difference in the change in cash flow is not significantly different from zero in either subsample (two-tailed tests)\(^{27} \).

Next, the model developed in this paper is applied to firms that (1) are on Compustat for any year between 1980 to 1984 inclusive (the years that the IPO sample firms have their most current annual financial statements), (2) have sales growth between years \( i-1 \) and \( i \) comparable with that of the IPO firms (±1.645 standard deviations about the mean of the distribution of sales growth of firms in the IPO sample), and (3) have total accruals in year \( i-1 \) comparable with total accruals in year \( i-1 \) of the IPO firms (±1.645 standard deviations about the mean of the distribution of total accruals in year \( i-1 \) of firms in the IPO sample). These filters yield 9,473 firm years of data. If the model developed in this paper effectively identifies discretionary accruals, then discretionary accruals for the matched firms should be zero. All tests are two-tailed because there are no expectations about the direction of the changes of accruals, earnings, and cash flows of non-IPO firms.

The results are reported in Table 7, panel A. The results show that although the changes in earnings, total accruals, and cash flow are significantly greater than zero, discretionary accruals are not significantly different from zero. Because the behavior of discretionary accruals is consistent with the expectation, this result provides added confidence about the effectiveness of the estimation model.

The sample of 9,473 firm years matched on sales growth and year \( i-1 \) total accruals is then used to test whether IPO firms make more income-increasing discretionary accruals in year \( i \) than do the matched firms. The results of the tests are reported in Table 7, panel B, and are consistent with the partitioned annual results reported in Tables 5 and 6. The evidence indicates that firms that do not provide interim financial statements in their prospectuses make significantly more income-increasing discretionary accruals in year \( i \) than do the matched firms, using the normal approximation of the Wilcoxon rank-sum test. In contrast, for firms that provide interim statements, there is no difference in discretionary accruals between the IPO firm subsample and the matched firms in year \( i \). For both subsamples, the change in earnings is significantly larger for IPO firms than for matched firms, and the change in cash from operations for IPO firms is not significantly different from that of the matched firms.

The third control test compares the IPO firms with firms selected from Compustat that are in the same industry (three-digit SIC code) and have similar sales growth between years \( i-1 \) and \( i \). For each IPO firm in the sample, the Compustat firm (1) with sales growth closest to that of the IPO firm, (2) in the same industry, and (3) with financial information for the same year as the IPO firm is selected. Discretionary accruals in year \( i \) and changes in earnings, total accruals, and cash flows between years \( i-1 \) and \( i \) are calculated for the matched firm. If the model developed in this paper effectively identifies discretionary accruals, then discretionary accruals for the matched firm should be zero. All tests are two-tailed because there are no expectations about the direction of the changes of accruals, earnings, and cash flows of non-IPO firms.

The results are reported in Table 8. The results show that estimated discretionary accruals in year \( i \) are not significantly different from zero for firms matched to the subgroup of IPO firms that provide interim financial statements in their prospectuses (panel A of Table 8) or for firms matched to the subgroup that does not provide interim statements (panel B of Table 8). The firms are partitioned into two subgroups to allow comparison with the main results presented in Table 5, panels B and C. Comparison of discretionary accruals between IPO and non-IPO firms shows that for firms that do not provide interim statements in their prospectuses, discretionary accruals are significantly higher for the IPO firms. There is no difference in discretionary accruals between the IPO and non-IPO firms for the firms that provided interim statements in their prospectuses. These results are consistent with the findings reported in Table 5, panels B and C, in which it was reported that for IPO firms that
RESULTS OF CONTROL TEST PERFORMED ON 9473 NON-IPO FIRMS MATCHED ON SALES GROWTH AND TOTAL ACCRUALS IN YEAR T-3

Panel A: Tests on matched, non-IPO firms:

<table>
<thead>
<tr>
<th></th>
<th>(1) Change in earnings</th>
<th>(2) Discretionary accruals</th>
<th>(3) Change in total accruals</th>
<th>(4) Change in cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>0.0054</td>
<td>0.0011</td>
<td>-0.0034</td>
<td>0.0065</td>
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<tr>
<td>Wilcoxon test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.602</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Sign</td>
<td>+</td>
<td>-</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Percent positive</td>
<td>52.8</td>
<td>50.9</td>
<td>47.8</td>
<td>54.5</td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
<td>0.000</td>
</tr>
</tbody>
</table>

This summary report summarizes the results of the tests performed on matched, non-IPO firms. The table shows the results of the control test on 9473 non-IPO firms matched on sales growth and total accruals in year t-3. The table includes the median values, Wilcoxon test p-values, and the percent positive values for the change in earnings, discretionary accruals, change in total accruals, and change in cash flow. The tests were conducted to determine if there were significant differences between the matched groups. The results are consistent with the findings reported in Table 5.
TABLE 8 (continued)

Results of control tests performed on non-IPO firms matched on sales growth

<table>
<thead>
<tr>
<th>Panel A: Tests on non-IPO firms matched with the 107 IPO firms that provided interim financial statements in their prospectuses.†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Sign</td>
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<tr>
<td>Wilcoxon test</td>
</tr>
<tr>
<td>p-value</td>
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<tr>
<td>Sign</td>
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<tr>
<td>Wilcoxon test</td>
</tr>
<tr>
<td>p-value</td>
</tr>
<tr>
<td>Percent positive</td>
</tr>
<tr>
<td>Panel B: Tests on non-IPO firms matched with the 48 IPO firms that did not provide interim financial statements in their prospectuses.‡</td>
</tr>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Sign</td>
</tr>
<tr>
<td>Wilcoxon test</td>
</tr>
<tr>
<td>p-value</td>
</tr>
<tr>
<td>Sign</td>
</tr>
<tr>
<td>Wilcoxon test</td>
</tr>
<tr>
<td>p-value</td>
</tr>
<tr>
<td>Percent positive</td>
</tr>
</tbody>
</table>

| (1) Change in earnings |
| (2) Discretionary accruals† |
| (3) Change in total accruals |
| (4) Change in cash flow |

<table>
<thead>
<tr>
<th>Variable</th>
<th>48 IPO firms that did not provide interim financial statements in their prospectuses</th>
<th>107 IPO firms that provided interim financial statements in their prospectuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discretionary accruals</td>
<td>1.86</td>
<td>0.031</td>
</tr>
<tr>
<td>Accruals</td>
<td>2.73</td>
<td>0.003</td>
</tr>
<tr>
<td>Earnings</td>
<td>5.83</td>
<td>0.000</td>
</tr>
<tr>
<td>Cash flow</td>
<td>0.20</td>
<td>0.844</td>
</tr>
</tbody>
</table>

*Firms are selected that (1) are on the Compustat for any year between 1980 to 1984 inclusive (the years that the IPO firms in the sample have their most current annual financial statements), (2) had sales growth comparable with that of the IPO firms (±1.645 standard deviations from the mean sales growth of firms in the IPO sample), and (3) had total accruals in year t−1 comparable with total accruals in year t−1 of the IPO firms (±1.645 standard deviations from mean total accruals in year t−1 of firms in the IPO firm sample).

Discretionary accruals is the estimate of the change in total accruals that is due to the exercise of accounting discretion by issuers. Discretionary accruals is estimated as

\[
\text{Discretionary accruals} = \frac{\text{Total accruals}_{t} - \text{Total accruals}_{t-1}}{\text{Sales}_{t}} - \frac{\text{Sales}_{t-1}}{\text{Sales}_{t-1}}
\]

†The change in each variable between the benchmark period and the test period standardized by sales in the test period. That is,

\[
\text{Variable}_{t} - \text{Variable}_{t-1}
\]

 where Variable represents earnings, discretionary accruals, total accruals, or cash flow from operations.

‡Significance levels for changes in all variables are determined using two-tailed tests.

The test statistic is determined using the normal approximation of the Wilcoxon rank-sum test. Positive values for t-statistics mean that the observation for IPO firms is greater than for matched firms. Significance levels for earnings, discretionary accruals and total accruals are one-tailed tests of the hypothesis that IPO firms make more income-increasing discretionary accruals and have larger earnings increases in the year before going public than matched firms. The significance levels for cash flow from operations are based on two-tailed tests.
reference to market-determined prices because market prices are not determined until after the shares have been sold to investors. Therefore, underwriters must use nonprice information about firms to set offering prices. Some of the inputs frequently identified as useful in setting offering prices come from the financial statements included in prospectuses. The wealth effect of offering prices and the use of financial statement information in setting offering prices establish incentives for issuers to use the flexibility that accounting rules provide to increase their reported net incomes.

The results of the tests are consistent with the hypothesis that issuers of IPOs make income-increasing discretionary accruals before going public. Firms that provide interim financial statements for a period after the most current annual statements are found to make income-increasing discretionary accruals in the interim statements but not in the annual financial statements. Firms that do not provide interim statements exercise accounting discretion in the most current annual statements. Thus, the evidence indicates that issuers exercise accounting discretion in the most current financial statements included in prospectuses. A series of control tests provide support for the hypothesis of earnings management and for the model used to estimate discretionary accruals. An alternate model for estimating discretionary accruals also yields results consistent with the hypothesis of earnings management.

Endnotes
1. Other evidence suggests a relationship between accounting information and offering price. Hall and Reenan (1988) note that the success of IPOs usually tends to sharply rising sales and earnings trends. Khalid (1992) and Schilit and Schilit (1992) report instances in which issuers used aggressive accounting treatments to boost or maintain earnings.
2. Anecdotal evidence supports the contention that underwriters do not conduct a detailed review of the accounting choices made by issuers. In a meeting with an underwriter at a major investment banking house, the underwriter said that he does not read the accounts of an IPO firm during the due diligence investigation and importantly, does not examine in depth the accounts made by issuers. Instead, he said that he relies on the auditor’s opinion that the accounting methods chosen by the issuers are appropriate, limiting his investigation of accounting choices to major differences between the IPO firm and the comparable firms and to the accounting for areas he believes are sensitive. This evidence suggests that underwriters do not likely identify and adjust for all accounting choices made by issuers.

Audit can also be considered as a mechanism to inhibit the exercise of accounting discretion by issuers because auditors are liable under the Securities Act of 1933 and they have significant reputation capital at stake. Anecdotal evidence suggests, however, that audits may not be a very effective control. The chief accountant of the Securities and Exchange Commission (SEC) contends that auditors allow SEC registrants to use “incredible accounting” because they are afraid of losing clients (see The Bottom Line 1992). Many articles in the popular press cite examples of the use of aggressive accounting choices in audited financial statements in prospectuses—see, for example, Khalid (1992) and Schilit and Schilit (1992).

3. Sales are used to control for growth because they are an objective measure of a firm’s operations before the exercise of discretion by managers. However, sales are not completely exogenous. For example, managers can accelerate shipment of goods to advance the recognition of revenue to a pre-IPO period.

4. Thanks to the anonymous referee who suggested the alternate model.

Formally, the alternate model is stated as:

\[
\text{Discretionary} = \frac{\text{Total accruals}_{t, t+1} - \text{Total accruals}_{t, t-1}}{\text{Sales}_{t, t-1} - \text{Sales}_{t, t-2}}
\]

5. The firms used in this study were selected for a separate study that required many firms from each of several industries. As a result, the sample is not random but is drawn from a subpopulation composed of firms from industries with large numbers of IPOs. The effect of drawing the sample from this subpopulation, if any, is not clear, but it may limit the ability to draw inferences about the entire population of IPOs.

6. The Securities Act of 1933 requires that if the filing of the registration statement with the SEC is made within 45 days after the registrant’s fiscal year-end and audited financial statements for the most recent year-end are not available, the balance sheets may be as of the end of the two preceding fiscal years and an interim balance sheet at least as recent as the third quarter must be provided. If a firm files between 45 and 90 days after its year-end, it must provide an audited balance sheet as of the most recent year-end. For filings made after 134 days of the most recent fiscal year, an interim balance sheet to a date within 153 days of the filing date must be included in the filing. In addition, when an interim balance sheet is presented, the corresponding income statement and statement of changes in financial position must also be provided. Interim information does not have to be audited.

7. This finding is based on an analysis of a database of IPO firms that was generously provided by Professor Jay Ritter, University of Illinois.

8. Growth of total assets between the benchmark mid test periods yield similar results. For 127 firms that provide balance sheets for both periods, total assets increased an average of 2.04 times (median 1.35 times) with 213 of 127 (99.2 percent) of the firms showing increases. It was not possible to test asset growth between the interim periods because very few sample firms provide balance sheets for the benchmark period.

9. It is not possible to present results for tests on interim data using the alternate model for estimating discretionary accruals because it is rare for listing firms to provide more than two income statements or one balance sheet for interim periods. As a result, Sales_{t, t-1} is not available.

10. The results of tests on the published annual data using the alternate model for estimating discretionary accruals very closely resemble those of the original model. For firms that do not provide interim financial statements in their prospectuses, there is evidence of issuers making income-increasing discretionary accruals before their firms go public (median discretionary accruals = 0.096%, p-value for Wilcoxon sign test = .035). In contrast, for firms that do provide interim financial statements in their prospectuses, there is no evidence of earnings management (mean discretionary accruals = -0.003, p-value for Wilcoxon sign test = 1.97).

11. Abhary, Lin, and Loeb (1993) also investigate the hypothesis of accrual
management by issuers of IPOs. Aharonov et al. use IPOs from between January 1985 and June 1987 and report "only weak support for the hypothesis. ..." that issuers make income-increasing discretionary accruals before going public. They report, however, an association between estimated discretionary accruals and firm size. Aharonov et al. discuss that their sample selection method may be biased toward selecting larger IPOs and that this bias may explain the weakness of their results. Comparison of firm size between Aharonov et al. and this paper shows that year t total assets and sales are much larger in their sample (median sales are 3.8 times larger and median total assets 4.1 times larger in the Aharonov et al. study).

To test whether the selection bias affected the results of Aharonov et al., sample firms used in this paper were partitioned into two equal groups based on total assets in year t (similar results are obtained partitioning on sales in year t) and the tests for earnings management described above were run. The results show that it is smaller firms that exercise accounting discretion. Specifically, smaller firms that do not provide interim financial statements show evidence of the exercise of accounting discretion in their annual statements whereas larger firms that do provide interim financial statements do not show evidence of the exercise of accrual management in their annual statements. Both large and small firms that do provide interim financial statements show no evidence of accounting discretion in their annual statements. Tests on the interim data show that smaller firms exercise accounting discretion whereas larger firms do not. These results are consistent with a size hypothesis tested by Treflely (1989). These results suggest that an explanation for the weak results reported by Aharonov et al. is the large firm bias in their sample and that their findings are consistent with those reported in this paper.

12. The test was repeated on the 127 observations in the combined sample that have positive net incomes with similar results.
13. The results of tests on the two post-IPO years using the alternate model that standardizes by change in sales rather than by sales are similar to those obtained using the original model.
14. Section 11 of the Securities Act allows a suit to be brought by any person who bought a registered security, whether during distribution or in the open market. All the plaintiff must prove is that "any part of the registration statement, when such part became effective, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading." (Section 11(e)). The plaintiff does not have to show reliance on the untrue information or prove causality between the untrue information and the damages suffered. The defendant can have damages reduced by proving that they did not result from the errors or omissions in the registration statement. Thus, in the event of a drop in stock price, investors may look for any means available to recover their losses. If accounting measures, such as earnings, show a drop concomitantly with a stock price fall, investors may seek redress by claiming that the prospectus misrepresented the firm's future earnings prospects.

The burden of proof on plaintiffs increases if an investor acquired a security after the issuer had made available to security holders an earnings statement covering a period of at least 12 months beginning after the effective date of the registration statement (Securities Act, Section 11(a)(5)). If an appropriate earnings statement has been made available, the investor must prove reliance on the untrue statement in the registration statement or reliance on the registration statement without knowing about the omission. Thus, there

are incentives for issuers to discourage investors from initiating litigation in response to a price fall, and one way of doing so may be to defer earnings decreases.

Certain shares held by issuers are restricted under Rule 144 of the Securities Act of 1933. Beginning 90 days after the date of the prospectus, restricted shares may be sold if certain conditions are met. Restricted shares may not be sold unless they have been fully paid for and held for two years. After owning restricted shares that have been fully paid for at least two years, sales are limited in any three-month period to no more than the larger of 1 percent of the number of shares outstanding or the average weekly trading volume for a four-week period prior to each sale. Other restrictions also apply.

15. IPO sample firms have their most current annual financial statements from 1980 through 1984. With 12 industries in the sample, there are 60 industry years, of which 46 contain IPO simple firms. The tests reported used matched firms from the industry years represented in the IPO sample.

16. The test was also conducted by weighting industry years proportionally to their representation in the full IPO sample. The results were qualitatively similar to those reported above, except that the significance level for discretionary accruals was higher (but not significant).

17. The tests in this section are conducted only on the annual financial statements because a significant number of firms in the IPO sample do not provide interim information that is quarterly. As a result, it is not possible to match interim periods of IPO firms with Compustat firms. More than 25 percent of the firms with interim data have interim statements that are not quarterly.

References:
Hughes, P.J. Signalling by Direct Disclosure under Asymmetric Information. Journal of Accounting and Economics (June 1996), 119-142.
Khalil, R. Buy or Do Thy Homework: Failure (April 15, 1992), 47-48.
ABSTRACT

This paper presents a theoretical analysis of earnings management literature and its implications for future research in this area. This paper is organized around the theoretical focuses of earnings management literature in different periods. Specifically, this paper analyzes the theoretical focuses and the related empirical evidence in different periods. Furthermore, this paper summarizes and evaluates different methods to measure earnings management in the literature. Finally, this paper identifies a few important opportunities for future research on earnings management.

FOCUS OF EARNINGS MANAGEMENT

The major role of financial reporting is to effectively communicate financial information to outsiders in a timely and credible manner (FASB 1984). To do so, managers are given opportunities to exercise judgment in financial reporting. Managers can use their knowledge about the business to improve the effectiveness of financial statements as a means of communicating with potential investors and creditors. However, earnings management is also likely to occur when managers have incentives to mislead their financial statement users (both external and internal) by exercising discretion over accounting choices in financial reporting.

Earnings management has attracted a lot of attention in academic research. Early literature in the area of earnings management examined the impact of accounting choices on the capital market. Its primary focus was to differentiate between two competing hypotheses. The Mechanistic Hypothesis, prevalent in the 1960s accounting literature, states that financial statement users do not utilize sources of information other than firms’ financial reports. Investors arrive at their decisions based solely on the face value of firms’ reported financial information. The mechanistic hypothesis predicts that the relationship between accounting earnings and stock prices is a purely mechanical one. That is, investors can be systematically misled by firms’ accounting methods and choices.

Taking the opposite view is the Efficient Market Hypothesis (EMH). The EMH, the dominant paradigm for financial accounting research in the 1970s, states that market prices fully reflect all available information. There are three forms of the EMH: the weak form, the semi-strong form, and the strong form. The weak form asserts that current market prices reflect all information contained in the past series of firms’ stock prices. The semi-strong form implies that stock prices reflect all publicly available information while the strong form states that stock prices reflect all information including inside information. The semi-strong form is the most commonly assumed and tested form of the EMH in the literature. The implication of this form is that the market can see through the effect of cosmetic accounting changes so these changes cannot systematically mislead the market. That is, knowledge of information does not allow investors to earn excess profits because prices already incorporate the information.

Early empirical studies employing these hypotheses failed to confirm the predictions of either one. Prior research tested the mechanistic hypothesis by examining the stock market reaction to changes in accounting choices that increase reported income, but have no cash flow effect. Kaplan and Roll (1972) examined firms that changed their depreciation method for financial reporting purposes from accelerated to straight line and found that the cumulative abnormal returns of these firms were not significantly different from zero around the time of the earnings announcement. Their results are inconsistent with the mechanistic hypothesis. On the other hand, a number of market anomalies have been found that challenge the validity of the EMH, such as the January effect (Rozef and Kinney 1976), Monday effect (Cross 1973), and post announcement drift (Bernard and Thomas 1989). In addition, both the mechanistic hypothesis and the EMH have come under criticism for the simplified assumptions on which they are based. One of the criticisms relevant to this study is that investors are homogeneous in their abilities to obtain and process accounting information (Hand 1990). Since there is a lack of consistent support for either of these hypotheses, it is unclear why firms are making cosmetic accounting changes. In response to this question, Watts and Zimmerman (1978) developed their positive theory as an alternative explanation for cosmetic accounting choices. Positive theory proposes non-capital market incentives for firms to manage earnings. In doing so, positive
theory does not contradict the earlier hypotheses, but instead, focuses on firms' internal contractual incentives to employ different accounting choices. Accounting variables provide the basis for decisions involving resource allocation, management compensation, and avoiding debt covenant violations. Management, therefore, can influence the outcomes of these decisions through their choice of accounting methods and estimates. As such, positive theory is also referred to as "contracting theory."

The three major hypotheses proposed by Watts and Zimmerman (1986) are the bonus plan hypothesis, the debt covenant hypothesis, and the political cost hypothesis. The bonus plan hypothesis discusses the role accounting choices play in management compensation plans. In addition to their regular salaries, managers are frequently provided additional compensation based on their management performance. Financial choices play in management compensation plans. In addition to their methods and exercise discretion over accounting estimates to improve their compensation. Early researchers interpreted this to mean that managers with income-based bonuses had incentives to make income-increasing accounting choices. However, tests of this hypothesis were inconclusive. Healy (1985) explains the inconsistencies as being due to a failure to control for the existence of upper and lower bounds in many bonus plans. He finds that managers are more likely to choose income-decreasing accruals when the upper or lower bounds of their bonus plans are binding, and income-increasing accruals when these bounds are not binding. A more recent instance in which evidence of earnings management has been found is in Dechow and Sloan (1991), who show that CEOs increase their compensation in their final years in office by cutting R&D expenditures.

The second major hypothesis proposed by Watts and Zimmerman (1986) is the debt covenant hypothesis. This hypothesis postulates the existence of an incentive for earnings management created by debt covenants. Firms' creditors impose restrictions on payments of dividends, share repurchases, and issuance of additional debt to ensure repayment of their principal and interest (Watts and Zimmerman 1986). These restrictions are often expressed in terms of accounting numbers and ratios, such as working capital levels, interest coverage, and net worth. Therefore, the debt covenant hypothesis states that managers of firms with high debt to equity ratios tend to choose accounting methods and policies that increase reported earnings to avoid being in technical default of debt covenants. A number of studies have examined whether firms approaching lending covenants appear to manage earnings. DeFond and Jiambalvo (1994), using a sample of firms that report violating their lending covenants, find that the firms employed income-increasing accruals in the year prior to covenant violation. They interpret these findings as evidence that firms attempt to postpone violating lending covenants as long as possible. Sweeney (1994) also finds that managers of firms approaching default respond with income-increasing accounting changes. She finds that default costs imposed by lenders and the accounting flexibility available to managers are important determinants of managers' accounting responses.

The final positive theory hypothesis, the political cost hypothesis, examines the role of accounting choices in the political process. The political process imposes costs on firms or industries that are believed to be taking advantage of the public and making excessive profits. A determination that profits are excessive may result in pressure on these firms to reduce prices or face strict regulations. Managers of these firms may therefore have incentives to choose accounting methods and use their discretion to reduce reported profits and lower their political risk. Han and Wang (1998) analyzed oil firms' discretionary accruals in a period of rapid gas price increases during the 1990 Gulf War. They report that oil firms that expected to profit from the crisis reduced earnings by managing discretionary accounting accruals to avoid political costs and government regulation. Jones (1991) finds that firms defer income-increasing accruals for the purpose of import relief. There is also evidence that banks manage their loan loss provisions (Collins et al. 1995) and insurers manage claim loss reserves to meet regulatory requirements (Adiel 1996).

Overall, positive theory proposes three major noncapital market incentives for managers to make cosmetic accounting changes: the bonus plan incentive, the debt covenant incentive, and the political cost incentive. These incentives result from the existence of fixed contracts using accounting numbers. Thus, positive theory changed the direction of earnings management research from that of examining capital market incentives to focusing on firms' internal contractual reasons for cosmetic accounting changes.

Recent studies of earnings management have, however, shifted their emphasis away from positive theory and back to capital market incentives as explanations of the opportunistic behavior of managers. Recent studies examine the potential for managers to intentionally mislead investors about the underlying value of their firms. Specifically, recent studies have examined managers' attempts to influence equity offers by overstating earnings.
(e.g., Teoh et al. 1998a, 1998b), and/or to influence their short-term stock performance by managing earnings to meet financial analysts' expectation (e.g., Burgstahler and Eames 1998; Kasznik 1999). Consistent with this shift is the Healy and Wahlen (1999) definition of earnings management, which is that managers use judgment in financial reporting with the intention either to obscure a firm's fundamental value or to affect resource allocation. A likely reason for the current focus is that managers' abuse of accounting methods has received tremendous public attention (Healy and Wahlen 1999).

Overall, recent evidence indicates that earnings management appears to be a common practice among firms (Heninger 2001) and has recently been made a top priority for the SEC (Levitt 1998). While managers require discretion to effectively communicate their information to financial statement users, accounting standards should limit opportunities for managers to present earnings in a misleading fashion. The SEC is currently examining new disclosure requirements and has also formed an earnings management task force to regulate earnings management. To achieve their goals, the SEC must determine the level of discretion that managers should be allowed to exercise in financial reporting. Information likely to be taken into consideration when making this decision is the impact earnings management has on the stock markets and the level of earnings management in firms. In addition, research that seeks to identify firms that have opportunities and incentives to improve their stock performance through sophisticated accounting techniques rather than by improving their underlying business fundamentals would also provide relevant valuable information on this issue.

MEASUREMENT OF EARNINGS MANAGEMENT

Since earnings management cannot be directly measured, the earnings management literature offers several methods of approximating potential earnings management. These methods include the discretionary accruals method, the single accrual method, the total accruals method, the accounting changes method, and the distribution method. A detailed discussion of those methods is presented as follows.

The Discretionary Total Accruals Method

The most common method used is the discretionary accruals method, which assumes that managers primarily rely on their discretion over certain accounting accruals as a means of managing earnings (Jones 1991). Accounting accruals consist of discretionary accruals which are management determined and non-discretionary accruals which are economically determined. Managers can exercise their discretion over accounting methods and estimates related to discretionary accruals as well as over the timing of recognizing these accruals. This method therefore requires a separation of accruals into discretionary and non-discretionary components. Discretionary accruals are then used as the proxy for earnings management. The discretionary accruals method may also be differentiated into two methods based on the specific accruals being examined.

The first method is called the discretionary total accruals method. Under this method, total accruals are separated into discretionary and nondiscretionary accruals. The most frequently used models for achieving this separation are the Jones model (Jones 1991) and modified-Jones model (Dechow et al. 1995). The discretionary total accruals method has been widely employed in tests of the earnings management hypothesis. The major difficulty involved with using this method is the need to identify and separate total accruals into unmanaged and managed components. That is, a given company is expected to have a certain level of accruals that are economically, rather than management determined. Including these accruals in the earnings management computations adds noise to the measure. Thus, expected or non-discretionary accruals must be removed from total accruals to achieve a reasonable estimate of discretionary accruals.

The most frequently used models for separating expected and discretionary accruals are the Jones (1991) and modified Jones (Dechow et al. 1995) models. The Jones model assumes that two variables, the level of gross property, plant, and equipment (PPE) and changes in revenues, account for the level of unmanaged accruals occurring due to firms' economic transactions. The level of gross PPE determines depreciation expense while the change in revenues implies changes in working capital accounts.

The Jones model regresses total accruals on gross property, plant, and equipment and changes in revenues. The regression provides coefficients that are then used to estimate unmanaged accruals. The regression residuals are considered to be managed accruals.
Earnings Management and Its Measurement: A Theoretical Perspective


Abstract (Document Summary)

This paper presents a theoretical analysis of earnings management literature and its implications for future research in this area. This paper is organized around the theoretical focuses of earnings management literature in different periods. Specifically, this paper analyzes the theoretical focuses and the related empirical evidence in different periods. Furthermore, this paper summarizes and evaluates different methods to measure earnings management in the literature. Finally, this paper identifies a few important opportunities for future research on earnings management.

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Taking the opposite view is the Efficient Market Hypothesis (EMH). The EMH, the dominant paradigm for financial accounting research in the 1970s, states that market prices fully reflect all available information. There are three forms of the EMH: the weak form, the semi-strong form, and the strong form. The weak form asserts that current market prices reflect all information contained in the past series of firms' stock prices. The semi-strong form implies that stock prices reflect all publicly available information while the strong form states that stock prices reflect all information including inside information. The semi-strong form is the most commonly assumed and tested form of the EMH in the literature. The implication of this form is that the market can see through the effect of cosmetic accounting changes so these changes cannot systematically mislead the market. That is, knowledge of information does not allow investors to earn excess profits because prices already incorporate the information.

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The first method is called the discretionary total accruals method. Under this method, total accruals are separated into discretionary and non-discretionary accruals. The most frequently used models for achieving this separation are the Jones model (Jones 1991) and modified-Jones model (Dechow et al. 1995). The discretionary total accruals method has been widely employed in tests of the earnings management hypothesis. The major difficulty involved with using this method is the need to identify and separate total accruals into unmanaged and managed components. That is, a given company is expected to have a certain level of accruals that are economically determined, rather than management determined. Including these accruals in the earnings management computations adds noise to the measure. Thus, expected or non-discretionary accruals must be removed from total accruals to achieve a reasonable estimate of discretionary accruals.

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The Jones model regresses total accruals on gross property, plant, and equipment and changes in revenues. The regression provides coefficients that are then used to estimate unmanaged accruals. The regression residuals are considered to be managed accruals.
the modified Jones model, total accruals are regressed on gross property, plant, and equipment and the change in revenues adjusted for changes in receivables. The current study adopts the modified Jones model as the means of decomposing total accruals into their unmanaged and managed components.

The original tests of the Jones (1991) and modified Jones (Dechow et al. 1995) models were performed longitudinally over firms with sufficient time-series data to estimate firm specific coefficients. These coefficients were then used to estimate discretionary accruals for a particular year. Subsequently, many studies have estimated these models cross-sectionally (e.g., Teoh et al. 1998a, DuCharme et al. 2000) and using paired data (e.g., Haninger 2001). Since the modified Jones model is an extension to the Jones model, only the modified Jones model is specified in the paper.

The modified Jones model specifies that each sample firm is first matched with all firms having similar SIC code as the sample firm. Total accruals are regressed on gross property, plant, and equipment and the adjusted change in revenues for each group of control firms matched with a given sample firm. Data for the regression is taken from the fiscal year prior to the sample years and all variables are scaled by beginning of the period total assets.

There has been considerable discussion of the efficiency of the modified Jones model in detecting earnings management (Kang et al. 1995; Guay et al. 1996; Peasnell et al. 1998). Peasnell et al. (1998) demonstrate that the modified Jones model controls for only a small amount of normal working capital accrual activities. Therefore, recent studies have developed an alternative discretionary accruals method (Teoh et al. 1998a).

Due to imperfections in the models used to identify discretionary accruals, the discretionary accrual proxy can be noisy, regardless of the model used. However, under most circumstances, discretionary accruals are the most effective proxies for earnings management (Teoh et al. 1999).

The Single Accrual Method

Some studies have also examined earnings management using only a single accrual, such as bad debt provisions (e.g., McNichols and Wilson 1988), depreciation estimates (e.g., Teoh et al. 1999), and/or deferred tax valuation allowances (e.g., Teoh et al. 1999). Attempting to detect earnings management using a single accrual has its own disadvantages. First, earnings management can be detected under the single accrual method only if the accrual being examined is and it is usually difficult to identify the specific accrual used to manage earnings. Even if the appropriate accrual is examined, the effect of managing any one accrual by itself may not be large enough to achieve statistical significance. Secondly, it is logical to assume that managers use more than one accrual when managing earnings. Therefore, while the single accrual method is effective in detecting earnings management in some circumstances, it fails to detect earnings management under most circumstances (McNichols and Wilson 1988). Moreover, construct validity is lower for the single accrual method than the total accrual method because a single accrual can be easily influenced by other variables. For example, an income-increasing change in a firm's bad debt provision could be the result of earnings management. However, it could also be the result of a change in the firm's credit policies or simply a change in overall economic conditions.

The Total Accrual Method

Studies have examined earnings management by investigating total accruals and accounting changes. Healy (1985) uses both the total accruals and the accounting changes methods when examining the effect of bonus schemes on accounting decisions. While he finds support for his hypotheses using both earnings management proxies, he suggests that the total accruals method is more appealing than
accounting methods in years following the initial change. In general, although the total accruals method is also noisy, it is generally more effective than the accounting change method in detecting earning management under most circumstances. Additionally, it provides information on the extent of earnings management, which is of concern to the SEC.

Although this measure is noisy in detecting the magnitude of earnings management, and cannot identify the specific measures used for managing earnings, this measure can provide an indication of the existence of earnings management. Moreover, this measure provides an easy way to identify the specific measures used for managing earnings, this measure can provide an indication of evaluating the likelihood that a firm is engaging in earnings management without the use of sophisticated statistical methods.

The Distribution Method

Recent studies examining the prevalence of earnings management in order to avoid reporting losses and/or earnings declines have adopted an additional approach to test for earnings management. Burgstahler and Dichev (1997) examine the distribution of earnings changes and reported earnings. They find a higher frequency of firms with slightly positive earnings (or earnings changes) than firms with slightly negative earnings (or earnings changes). This approach is considered more objective in terms of detecting the prevalence of earnings management than the other methods discussed. Conversely, this approach has failed to disclose the extent of earnings management and the specific methods or accruals that are used for earnings management (Healy and Wahlen 1999).

In summary, each measure of earnings management has its own advantages and disadvantages as identified above. In the absence of a perfect model for detecting earnings management, earnings management studies should utilize different earnings management measures to enhance the robustness of their results.

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REFERENCES


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Text-only interface
INVESTIGASI MOTIVASI DAN STRATEGI MANAJEMEN LABA PADA PERUSAHAAN PUBlik DI INDONESIA

KOMARUDIN AHMAD
IMAM SUBEKTI
SARIATMINI
Universitas熏tika Makassar

ABSTRACT

This study investigates the existence of earnings management motivations and strategies. Based on ordinary least square regression, this study indicates that debt covenant and political cost motivations affect earnings management. However, bonus plan motivation and accounting method choice strategy do not affect earnings management. Investigation on strategy management practices explains that bonus plan motivation affects income increasing, but income decreasing. This study finds that the managers of public firms in Indonesia do not use accounting method choices as earnings management strategy. Some of them choose to use a little of accruals accounting flexibility and prefer both GAAP violations and intercompany transactions strategies. This study identifies that the motivations of debt covenant, political cost, and owners' wealth as well as the strategy of accruals accounting flexibility are earnings management practices with global value. Otherwise, earnings management practices with local value consist of motivation caused by both debt restructuring and going concern constraint and strategies through GAAP violations and intercompany transactions.

Key Words: Earnings management, Motivations, Bonus plan, Debt covenant, Political cost, Owners' wealth, Debt restructuring, Going concern, Strategy, Accounting method choice, Accruals accounting flexibility, GAAP violations, Intercompany transactions, Global value, Local value

1 Nama-nama perusahaan dan pihak-pihak yang terkait tidak diubah untuk tujuan penelitian ini. Kami berapresiasi kepada berbagai pihak yang telah memberi manfaat dalam penelitian ini.

1 PENDAHULUAN

Laporan keuangan dasar berdasarkan akuntansi berbasis akrual (accruals accounting). Akuntansi akrual mempunyai keunggulan bahwa informasi laba perusahaan dan pengakuan komponennya berdasarkan akuntansi akrual secara umum memberikan indikasi lebih baik tentang kinerja ekonomi perusahaan daripada informasi yang diberikan dari aspek penerimaan dan pengharian kas terkini (FASB 1978).


II. TEIASAH LITERATUR DAN PENGEMBANGAN HIPOTESIS

2.1. Teiasah Listeratur

Laporan keuangan disusun berdasarkan akuntansi aktual yang mengharuskan pengukuran pendapatan dan beban berdasarkan saat terjadinya hak dan kewajiban, bukan saat penerimaan dan pengeluaran kas. Laba yang dihasilkan akuntansi berbasis aktual memberikan informasi kinerja ekonomi yang lebih baik daripada laba yang dihasilkan akuntansi berbasis kas (FASB 1978).

Dalam penelitian akuntansi aktual, prinsip akuntansi berterima umum memberikan fleksibilitas dengan mengijinkan manajer untuk memilih kebijakan akuntansi dalam pelaporan laba. Fleksibilitas ini dimaksudkan agar manajer dapat menggunakan informasi kondisi ekonomi sesuai realitinya. Namun, fleksibilitas prinsip akuntansi menimbulkan peluang bagi manajer untuk mengelola laba. Menurut Fischer dan Rosenzweig (1995), manajemen laba merupakan tindakan manajer untuk meningkatkan (memanfaatkan) laba yang ditandai saat kini dari suatu unit yang menjadi tanggung jawab manajer tanpa mengakibatkan dengan peningkatan (penurunan) profitabilitas ekonomi jangka panjang. Akuntansi aktual terdiri dari discretionary accruals (DA) dan non discretionary accruals (NDA). DA merupakan aktual yang ditentukan manajemen (management determined), manajer dapat memilih kebijakan dalam hal metode dan estimasi akuntansi. NDA merupakan aktual yang ditentukan atas kondisi ekonomi (economically determined) [Xuong 1994].

Manajemen laba dapat diukur dengan model DA. Model ini menjelaskan bahwa manajer memilih kesetaraan untuk mengukur akuntansi aktual sebagai alat pengelolaan laba [Jones 1991]. Model Jones menegaskan bahwa penurunan pendapatan dan aktiva tetap bruto merupakan aktual yang ditimbulkan dari transaksi ekonomi perusahaan dan bersifat tidak dapat dikelola (unmanaged), dalam hal ini, penurunan pendapatan dan aktiva tetap bruto mencerminkan penurunan modal kerja dan biaya penyusutan. Model Jones meregresikan total accruals sebagai fungsi dari...
Pola manajemen laha diaplikasikan menjadi strategi manajemen laba. Strategi ini meliputi kebijakan pengestimasi akuntansi, perubahan metoda akuntansi, dan penggerakan periodi pengakuan biaya atau pendapatan (Setiawati & Na'im 2009).

2.2. PENGEMBANGAN HIPOTESIS


Zmijewski & Hagaman (1981) mengindikasikan bahwa strategi pilihan metoda akuntasi beraosiasi dengan empat faktor praktik manajemen laba (ukuran perusahaan, kompensasi manajemen, rasio konsentrasi, dan rasio utang terhadap total aktiva).

II): Strategi pilihan metoda akuntansi berpengaruh terhadap praktik manajemen laba

manajer meningkatkan kompensasinya dengan memotong biaya riset. Healy (1985) menambahkan bahwa manajer memilih penurunan laba ketika informasi laba tidak mencapai target bonus minimal atau melewat target bonus maksimal.

H2: Motivasi rencana bonus berpengaruh terhadap praktik manajemen laba.


H3: Motivasi debt covenant berpengaruh terhadap praktik manajemen laba.


III. METODO PENELITIAN

3.1. SAMPEL DAN DATA

Sampel penelitian adalah perusahaan yang memenuhi kriteria meliputi (1) terdaftar di Bursa Efek Jakarta selama tahun 2003-2005, (2) terklasifikasi dalam sektor perusahaan pemanfaatkan, (3) menerbitkan laporan keuangan secara langsung dan memiliki saldo akutitas bernilai positif, serta (4) menggunakan periode laporan keuangan mulai 1 Januari sampai 31 Desember dan Rupiah sebagai mata uang pelaporan.


3.2. DEFINISI OPERASIONAL VARIABEL


<table>
<thead>
<tr>
<th>Persediaan</th>
<th>Pencocokan Aktiva tetap</th>
<th>Amortisasi Aktiva Tidak Berwujud</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFO</td>
<td>Rata-rata</td>
<td>Rata-rata</td>
</tr>
<tr>
<td>Garis Lancar</td>
<td>Akzelerasi</td>
<td>&lt; 20 tahun</td>
</tr>
</tbody>
</table>

3.3. PROSEDUR PENGUJIAN HIPOTESIS

Pengujian motivasi dan strategi terhadap praktik manajemen laba diukur berdasarkan data lintas sektor dengan model regresi berikut:

\[
DAS_t = \beta_0 + \beta_1 SML_t + \beta_2 BP_t + \beta_3 DC_t + \beta_4 PC_t + \epsilon_t
\]

dalam hal ini, \(DAS_t\) = praktik manajemen laba perusahaan i tahun (t), \(SML_t\) = strategi manajemen laba perusahaan i tahun t, \(BP_t\) = bonus bonus perusahaan i tahun t, \(DC_t\) = perjanjian utang (\(\text{debt covenant}\)) perusahaan i tahun t, dan \(PC_t\) = biasa politik perusahaan i tahun t. Sebelumnya, dihakankan uji asumsi multikolinieritas dan heteroskedastisitas. Gejala multikolinieritas dihindarkan dari nilai VIF (variance inflation factor). Gejala heteroskedastisitas diuji dengan Korelasi Spearman's rho.

3.4. PROSEDUR INVESTIGASI PRATIK MANAJEMEN LABA

Objek investigasi adalah seluruh sampel perusahaan dalam pengujian hipotesis. Kriteria kualitas adalah nilai DAS. Prosedurnya meliputi: (1) penghilian beberapa sampel yang memiliki nilai DAS di sekitar median sampai terus dalam angka puluhan terdekat. (2) jumlah subsampel objek investigasi adalah 12.5% dari angka puluhan, dan (3) perusahaan yang diinvestigasi adalah 5% dari jumlah subsampel dengan DAS tertinggi dan 5% dari jumlah subsampel dengan DAS terendah.


IV. HASIL PENGAMBARAN

4.1. HASIL PENGUJIAN HIPOTESIS

Penelitian ini menggunakan sampel sejumlah 83 perusahaan. Tabel 1 menunjukkan perhitungan jumlah sampel penelitian. Data pengujian hipotesis meliputi praktik manajemen laba, strategi manajemen laba, dan motivasi manajemen laba. Praktik manajemen laba diukur dengan skor discretionary accruals surprise (DAS).
Strategi manajemen laba diukur dengan skor pilihan metode akuntansi. Motivasi manajemen laba diukur dengan skor rencana bonus, debt covenant, dan biaya politik.

DAS merupakan selisih discretionary accruals (DA) 2005 dengan DA 2004. DA merupakan residu hasil dari regresi total accruals (TA). Regresi TA tahun 2005 adalah:

\[
\text{TA} = \text{A}_0 + 0.048 + 0.030 (\text{AREV}_t - \text{AREV}_{t-1}) - 0.183 (\text{PPE}_t - \text{A}_0)
\]

\(\text{Adj.} R^2 = 0.156\)

\(\text{Nilai F} = 5.14\)

*Signifikansi pada tingkat kelayakan 5%.

Pembuatan regresi TA tahun 2004 adalah:

\[
\text{TA} = \text{A}_0 - 0.128 + 0.070 (\text{AREV}_t - \text{AREV}_{t-1}) - 0.22 (\text{PPE}_t - \text{A}_0)
\]

\(\text{Adj. R}^2 = 0.086\)

\(\text{Nilai F} = 248.802\)

*Signifikansi pada tingkat kelayakan 5%.

Statistik deskriptif data disajikan di tabel 2. Hasil pengujian asumsi kedua disajikan pada tabel 3. Untuk setiap variabel bebas, nilai tolerance adalah lebih dari 0.10. KVIF kurang dari 10 dan tolerance Spearmen's rho kurang dari 0.7. Jadi, data penelitian ini tidak mengandikan gejala multikolinearitas dan heteroskedastitisitas yang serius.

Pencelitian ini menguji pengaruh strategi pilihan metode akuntansi (SML), rencana bonus (BP), perjanjian utang (DC), dan biaya politik (PC) terhadap praktik manajemen laba (DAS). Hasil pengujian disajikan sebagai persamaan regresi berikut:

\[
\text{DAS} = -0.522 + 0.023 \text{SML} + 0.017 \text{BP} + 0.211 \text{DC} + 0.066 \text{PC}
\]

\(\text{Adj.} R^2 = 0.058\)

\(\text{Nilai F} = 2.266\)

*Signifikansi pada tingkat kelayakan 10%.


2 Penelitian ini juga gagal mengindikasikan pengaruh motivasi neraca bonus, perjanjian utang, dan biaya politik terhadap pilihan metode akuntansi sebagai strategi manajemen laba.
SIMPOSIUM NASIONAL AKUNTANSI X  
Unhas Makassar 26-28 Juli 2007


4.2. Hasil Investigasi Praktik-praktik Manajemen Laba


4.2.1. Motivasi Manajemen Laba

Tabel 7 menunjukkan matriks ringkasan motivasi manajemen laba. Tabel ini menunjukkan motivasi manajemen laba secara spesifik pada 10 perusahaan sub-sampel investigasi.

Kompensasi Manajemen, Dividen, dan Perjanjian Utang. Tabel 7 menunjukkan bahwa peningkatan laba berasosiasi dengan kompensasi manajemen, pembayaran dividen, dan keterkaitan perjanjian utang. Seluruh perusahaan yang meningkatkan laba memiliki motivasi kompensasi manajemen, empat dari lima perusahaan yang meningkatkan laba memiliki motivasi pembayaran dividen. Tiga dari lima perusahaan yang meningkatkan laba memiliki motivasi keterkaitan perjanjian

SIMPOSIUM NASIONAL AKUNTANSI X  
Unhas Makassar 26-28 Juli 2007


Penggenceran Kinerja antar Perusahaan. Tabel 7 menunjukkan bahwa penggenceran kinerja (pendapatan dan biaya) antar perusahaan berasosiasi dengan penurunan laba, konsisten dengan Benisch (1997). Penggenceran ini diindikasikan dari kebersamaan menanggang kerugian signifikan, keadaan jasa penilai dalam pengalteran aktiva tetap, pengalihan aktiva tetap bersifat kontinjensi, signifikan dan dampak transaksi dalam hubungan istimewa, pihak-pihak dalam hubungan istimewa tidak diungkapkan secara meniad, upaya penyesatan dalam pelaporan transaksi untuk mengalirkan substansi ekonomi, dan konsekwensi kepenulikan saham oleh holding company. Tipe-tipe penggenceran kinerja melalui penjualan dan pembelian, berbunyi dan berbunyi (tamu bunga dan atau tamu jatuh tempo), menyewa dan menewaskan, dan pengalihan aktiva. Penggenceran ini umumnya merupakan pelanggaran prinsip akuntansi misalnya keterkaitan pengungkapan transaksi, pernyataan pelaporan suatu transaksi, mengungkakan informasi bersubstansi hukum dan pada substansi ekonomi, dan penyampaian informasi bersubstansi keuangan dengan mengalirkan substansi ekonomi nil.

Penggenceran kinerja antar perusahaan hanya terjadi pada perusahaan yang menderita kerugian atau penurunan laba. Informasi penurunan kinerja ini menjadi argumen untuk meminimalkan upah buruh, penundaan pembayaran utang, penurunan (penghindaran) pembayaran dividen bagi pemegang saham eksternal, meminimalkan pembayaran pajak, atau penghindaran tunggakan pajak sosial dan fungsi kinerja. Penggenceran kinerja ini mencerminkan biaya politik bagi perusahaan publik.


4.2.2. Strategi Manajemen Laba

SIMPONIUM NASIONAL AKUNTANSI X
Unhas Makassar 26-28 Juli 2007

Fleksibilitas Prinsip Akuntansi. Tabel 8 panel A menyajikan strategi fleksibilitas prinsip akuntansi. Fleksibilitas ini meliputi: (1) estimasi penyisihan piutang menimbulkan beban penyisihan piutang (konsisten dengan Beneish 1997 dan Dechow et al. 1995); (2) estimasi penyisihan persediaan menimbulkan beban penyisihan persediaan (konsisten dengan Beneish 1997); (3) estimasi umur aktiva atau tarip penyusutan menimbulkan beban penyusutan (konsisten dengan Neti et al. 1995 dan Mikhelson et al. 1995); dan (4) estimasi masa manfaat biaya tangguhan menimbulkan beban amortisasi biaya tangguhan (konsisten dengan Beneish 1997 dan Moser 1987). Penelitian ini menunjukkan bahwa manajer perusahaan menggunakan sedikit strategi fleksibilitas prinsip akuntansi (sumurnya strategi penyisihan piutang dan persediaan) serta lebih menyukai strategi pelanggaran prinsip akuntansi dan manajemen laba transaksional. Hal ini menunjukkan bahwa manajer perusahaan "masih kasar" dalam peranajikan kasih.

Pelanggaran Prinsip Akuntansi. Tabel 8 panel B menyajikan strategi pelanggaran prinsip akuntansi, meliputi: (1) mencatat persediaan dalam proses untuk membiayai harga pokok penjualan; (2) tidak mencatat laba penjualan aktiva tetap (konsisten dengan Bartov 1993); (3) tidak mencatat kerugian penurunan nilai aktiva non operasi (konsisten dengan Copeland 1968, Schiff 1968, dan Kirchheimer 1968); (4) menggunakan nilai neto persediaan, setelah dikurangi penyisihannya, untuk manufaktur harga pokok penjualan, (5) mencatat investasi kepemilikan saham sebesar 20% (lebih) dengan metode biaya (konsisten dengan Baeckfield & Cornesky 1972 dan Dascher & Malcolm 1970); (6) melaporkan goodwill negatif (selesaui lebih nilai baku atas biaya perolehan investasi anak perusahaan) dengan masa amortisasi 20 tahun untuk menurunkan beban amortisasi; dalam hal ini, goodwill negatif saranannya mengurangi biaya perolehan aktiva non lancar; (7) mencatat persediaan fiktif (konsisten dengan Beneish 1997); dalam hal ini, mencatat persediaan sebesar biaya upah, dan (8) membuat laporan menyatakan tentang kerugian kehilangan persediaan, dengan tidak mengestimasi pendapatan dari klaim asuransi yang mengurangi kerugian. Kesalahan perhitungan harga pokok penjualan, pelaporan goodwill negatif, dan penyestaan pelaporan kerugian kehilangan persediaan merupakan strategi manajemen laba yang berlaku spesifik (berdasarkan lokasi) dan belum teridentifikasi dalam penelitian terdahulu.

Manajemen Laba Transaksional. Tabel 8 panel C menyajikan strategi manajemen laba transaksional. Strategi ini meliputi: (1) kerugian selisih kurs akibat pembelian impor dalam valuta asing (konsistensi dengan Brayshaw & Eldin 1989); (2) akuisisi perusahaan lain yang profitable atau divestasi anak perusahaan yang menderita kerugian (konsisten dengan Beneish 1999); (3) pencatatan pendapatan dan harga pokok penjualan fiktif dalam pengalasan pendapatan komisi sebagai perantara penjualan, (4) penyestaan pelaporan transaksi antar perusahaan atau antar pikah dalam hubungan istimewa, dalam hal ini, bentuk-bentuk transaksinya antara lain (a) membuat penjalinan penggilihan aktiva di masa depan dan bersifat kontinjensi untuk mengalami keuntungan atau kerugian saat menjelang akhir tahun (konsisten dengan Givoly &

V. PENUTUP

5.1. KESIMPULAN


Penelitian ini menjelaskan tipe-tipe motivasi dan strategi manajemen laba pada perusahaan publik di Indonesia. Motivasi manajemen laba secara spesifik meliputi (1) pembayaran pajak dan penggeseran kinerja antar perusahaan (sebagai akiat biaya politik) yang berasosiasi dengan praktik penurunan laba, (2) laba dari restrukturisasi utang yang merupakan insentif bagi manajer untuk meningkatkan laba, (3) kendala kesinambungan usaha yang menimbulkan konflik kepentingan antara manajemen aktual dengan orientasi kinerja masa depan dan staf manajemen laba dengan orientasi kinerja masa lalu serta (4) motivasi rencana bonus, pembayaran dividen, dan debt covenant yang berasosiasi dengan praktik peningkatan laba dan kurang bersosiasi dengan praktik penurunan laba. Temuan ini merupakan penjelasan kegagalan pengujian hipotesis motivasi rencana bonus.

Strategi manajemen laba secara spesifik meliputi (1) perusahaan menggunakan strategi fleksibilitas dalam pengestimasi penyetoran pajak dan persuadian, (2) perusahaan lebih menyakati strategi pelanggaran prinsip akuntansi dan manajemen laba transaksional diapit pemanfaatan fleksibilitas akuntansi aktoral, serta (3) penggeseran pendapatan dan beban antar perusahaan untuk menurunkan laba. Perusahaan tidak menggunakan strategi pilihan metode akuntansi. Temuan ini merupakan penjelasan kegagalan pengujian hipotesis strategi pilihan metode akuntansi.

Penelitian ini mengidentifikasi bahwa motivasi debt covenant, biaya politik, kesejahteraan pemilik (pembayaran dividen), dan strategi fleksibilitas akuntansi aktoral merupakan praktik manajemen laba berlaku umum (bernilai global). Sebaliknya, praktik manajemen laba bersifat spesifik (bernilai lokal) meliputi motivasi dari restrukturisasi utang dan kendala kesinambungan usaha serta strategi yang agresif melalui pelanggaran prinsip akuntansi dan transaksi antar perusahaan.

5.2. KETERBASISAN

Penelitian ini menguji hipotesis dengan beberapa kelemahan. Pertama, sampel perusahaan tidak dikontrol antara perusahaan yang terindikasi melakukan manajemen laba secara ekstrim dengan perusahaan yang tidak mengelola laba. Kedua, penelitian
menggunakan sampel hanya 83 perusahaan sehingga model prediksi discretionary accruals yang dihasilkan relatif matrik lengah, khususnya untuk tahun 2005.

Investigasi praktik manajemen laba menghasilkan motivasi dan strategi yang bersifat inisiatif dan bukan pembelajaran yang dapat dijadikan dasar dalam pemianan kewajaran stut transaksi secara ekonomi dan hukum. Investigasi ini mengandalkan informasi publikan sehingga tidak terbebat dari kemungkinan kesalahan interpretasi, akibat asumsi informasi antara pengguna dan penjrbit informasi.

5.3. 5UKAN

Pendekatan metode yang digunakan dapat menginvestigasi penggunaan penanganan motivasi secara lebih terhadap manajemen peningkatan laba dan mengklarifikasi variabel pajak sebagai motivasi dan strategi manajemen laba. Laba restrukturalis utang merupakan indikasi bagi manajer untuk mengelola laba sehingga tentera ini merupakan masukan bagi penyusun standar akuntansi untuk mecewai PSAK No 54. Indikasi pelanggaran prinsip akuntansi dan manajemen laba transaksional merupakan masukan bagi BAPERAM dalam penyusunan pedoman laporan keuangan publik.

**VI. REFERENSI**


Tabel 1
Perhitungan Jumlah Sampel Perusahaan

<table>
<thead>
<tr>
<th>No</th>
<th>Keterangan</th>
<th>Jumlah</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Penelitian desa BRI tahun 2003 - 2005*</td>
<td>333</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Perusahaan sektor non-manufacturing*</td>
<td>(180)</td>
<td>(54%)</td>
</tr>
<tr>
<td>3</td>
<td>Laporan keuangan tidak bertanggal 31 Desember</td>
<td>(2)</td>
<td>(1%)</td>
</tr>
<tr>
<td>4</td>
<td>Mata uang laporan keuangan bukan Rupiah</td>
<td>(5)</td>
<td>(2%)</td>
</tr>
<tr>
<td>5</td>
<td>Nilai ekuitas perusahaan negatif</td>
<td>(56)</td>
<td>(16%)</td>
</tr>
<tr>
<td>6</td>
<td>Laporan keuangan yang tersedia tidak lengkap</td>
<td>(7)</td>
<td>(2%)</td>
</tr>
<tr>
<td></td>
<td>Jumlah Sampel Pengukuran Hipotesis</td>
<td>85</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>*DAS = discretionary accruals surprise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Sumber: Indonesia Capital Market Directory 2004

Tabel 2
Statistik Deskriptif

<table>
<thead>
<tr>
<th>Keterangan</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Deviasi Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discretionary Accrual 2004</td>
<td>-0.252</td>
<td>0.828</td>
<td>0.006</td>
<td>0.143</td>
</tr>
<tr>
<td>Discretionary Accrual 2005</td>
<td>-0.970</td>
<td>0.590</td>
<td>0.006</td>
<td>0.212</td>
</tr>
<tr>
<td>Discretionary Accrual</td>
<td>0.000</td>
<td>3.733</td>
<td>0.076</td>
<td>1.028</td>
</tr>
<tr>
<td>Surprise</td>
<td>0.105</td>
<td>0.986</td>
<td>0.047</td>
<td>0.217</td>
</tr>
<tr>
<td>Strategi Manajemen Laba</td>
<td>4.625</td>
<td>7.672</td>
<td>5.852</td>
<td>0.602</td>
</tr>
<tr>
<td>Mentransf Bank</td>
<td>0.000</td>
<td>1.156</td>
<td>-0.023</td>
<td>0.830</td>
</tr>
<tr>
<td>Mentransf Debt Covenant</td>
<td>0.895</td>
<td>1.117</td>
<td>-0.193</td>
<td>0.089</td>
</tr>
<tr>
<td>Mentransf Political Cost</td>
<td>0.911</td>
<td>0.918</td>
<td>-0.108</td>
<td>0.329</td>
</tr>
<tr>
<td>Strategi Manfaat Akuntansi</td>
<td>0.973</td>
<td>1.028</td>
<td>0.021</td>
<td>0.815</td>
</tr>
</tbody>
</table>

Tabel 3
Hasil Pengujian Multikolineritas dan Heteroskedastitas

<table>
<thead>
<tr>
<th>Variabel Independen</th>
<th>Multikolineritas</th>
<th>Heteroskedastitas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIP</td>
</tr>
<tr>
<td>Mentransf Bonus Plan</td>
<td>0.865</td>
<td>1.156</td>
</tr>
<tr>
<td>Mentransf Debt Covenant</td>
<td>0.895</td>
<td>1.117</td>
</tr>
<tr>
<td>Mentransf Political Cost</td>
<td>0.911</td>
<td>0.918</td>
</tr>
<tr>
<td>Strategi Manfaat Akuntansi</td>
<td>0.973</td>
<td>1.028</td>
</tr>
</tbody>
</table>

Tabel 4
Skor DAS Sampel Investasi Praktik Manajemen Laba

<table>
<thead>
<tr>
<th>No</th>
<th>Perusahaan</th>
<th>Skor DAS*</th>
<th>No</th>
<th>Perusahaan</th>
<th>Skor DAS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perusahaan A</td>
<td>0.579</td>
<td>1</td>
<td>Perusahaan F</td>
<td>(0.970)</td>
</tr>
<tr>
<td>2</td>
<td>Perusahaan B</td>
<td>0.317</td>
<td>2</td>
<td>Perusahaan G</td>
<td>(0.834)</td>
</tr>
<tr>
<td>3</td>
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<td>0.278</td>
<td>3</td>
<td>Perusahaan H</td>
<td>(0.347)</td>
</tr>
<tr>
<td>4</td>
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<td>0.274</td>
<td>4</td>
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Tabel 6
Riwayat Kasus-Kasus Manajemen Pemantauan Laba

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<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>B</td>
<td>X</td>
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<td>X</td>
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</tr>
<tr>
<td>C</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<td>X</td>
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Tabel 7
Ringkasan Maksimal Manajemen Laba

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<tbody>
<tr>
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<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
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<td>Kemampuan Kecepatan</td>
<td>C</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<tr>
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Tabel 8
Ringkasan Strategi Manajemen Laba

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<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A: Pelaksanaan Pemantauan Laba</td>
<td>A</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Panel B: Pelaksanaan Pemantauan Laba</td>
<td>B</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Panel C: Pelaksanaan Pemantauan Laba</td>
<td>C</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
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</tbody>
</table>
Pengaruh Independensi Auditor Terhadap Manajemen Laba untuk KAP Big 5 dan Non Big 5

INTEN MEUTIA
Universitas Sriwijaya

This research examines the effect of auditor’s independence on the relationship between audit quality and earnings management. This research is different from prior research because it examines whether two auditor’s independence measures: non audit-services and auditor’s tenure affect the relationship between audit quality and earnings management (which is measured by using absolute discretionary accruals). Audit quality is classified as prior research, that is Big sized and non-Big sized firms. A correlation analysis uses to determine the relationship between audit quality and absolute discretionary accruals. Further, auditor’s independence is used as a moderating variable to determine the effect of the relationship between the two other variables. Using a sample of 131 firms listed on the Jakarta Stock Exchange, in Indonesia over the period 1998 to 2001, a significant negative relation between audit quality and absolute discretionary accruals was found. This finding support the hypothesis and is consistent with result from prior research. Independent t-test is used to determine the effect of non audit services and auditor tenure. Both variables give significant effect on the relation between audit quality and absolute discretionary accruals. The existence of non-audit services increases the value of absolute discretionary accruals both for Big and non-Big audit firms. On the other hand, the long tenure decreases the value of absolute discretionary accruals both for Big and non-Big audit firms.

Keywords: Earnings management; Quality Audit; Independence; non-Audit Services

1. Pendahuluan

Laporan keuangan merupakan bentuk pertanggungjawaban manajemen kepada calon investor pada umumnya dan pemegang saham khususnya. Laporan keuangan memberikan informasi yang berguna kepada para pengguna umumnya untuk pembuatan keputusan. Oleh karena itu, patutnya laporan keuangan dapat memenuhi keperluan para pengguna terutama berkaitan dengan audit informasi tersebut. Informasi yang diberikan seharusnya informasi yang dapat dipercaya. Namun demikian pada prakteknya laporan keuangan seringkali disalahgunakan oleh manajer dengan melakukan manajemen laba.
2. Kerangka Teoritis dan Penelitian Terdahulu

2.1. Manajemen Laba

Terdapat beberapa definisi mengenai manajemen laba: misalnya Davidson (1987) dalam
Schipper (1989), menyatakan bahwa manajemen laba adalah proses di mana dilakukan langkah-
langkah yang disengaja dalam batasan prinsip-prinsip akuntansi untuk memperoleh tingkat
pendapatan yang diinginkan.

Menurut Schipper (1989), manajemen laba adalah intervensi dalam proses pelaporan keuangan
eksternal dengan tujuan untuk mendapatkan keuntungan-keuntungan pribadi. Healy & Wahlen
(1999) menyatakan juga bahwa manajemen laba terjadi apabila manajer menggunakan penilaian
dalam pelaporan keuangan dan dalam struktur transaksi untuk mengubah laporan keuangan guna
menyesatkan pemegang saham mengenai prestasi ekonomi perusahaan atau mempengaruhi akibat-
perubahan yang mempunyai kaitan dengan angka-angka yang dilaporkan dalam laporan
keuangan.

Dari ketiga definisi di atas dapat dikerjakan bahwa manajemen laba merupakan usaha pihak
manajemen yang disengaja untuk memanipulasi laporan keuangan dalam batasan yang dibolehkan
oleh prinsip-prinsip akuntansi dengan tujuan untuk memberikan informasi yang menyesatkan para
pengguna laporan keuangan bagi keuntungan pihak manajer.

Selain itu manajemen laba dianggap sebagai tindakan yang dapat menurunkan kualitas
menyatakan bahwa manajemen laba merupakan pengikisan dalam kualitas pendapatan sekaligus
kualitas laporan keuangan. Terdapat beberapa alasan yang mendorong manajer untuk melakukan
manajemen laba yaitu: Alasan Kontrak, alasan Pasaran „Management Buyouts” (MBOs) dan
alasan Peraturan.

Menurut Beneish (2001) terdapat tiga pendekatan yang biasanya digunakan untuk
mendeteksi adanya praktek manajemen laba.

1. Pendekatan yang mengikuti akrual agregat dan menggunakan model regresi untuk menghitung
akrual yang diharapkan dan yang tidak diharapkan.

2. Pendekatan yang menekankan pada akrual khusus seperti cadangan hutang ragu-ragu,
or akrual pada sektor yang spesifik seperti tuntutan kerugian pada industri asuransi.

3. Pendekatan yang mengikuti ketidaksesuaian dalam pendistribusian pendapatan.

Dari ketiga pendekatan ini pendekatan yang pertama lebih banyak digunakan untuk mengetahui
adanya manajemen laba dalam suatu perusahaan. Pendekatan ini juga yang akan penulis gunakan
dalam penelitian ini. Terdapat dua jenis manajemen laba, yaitu income increasing earnings
management dan income decreasing earnings management.

Sistem akuntansi akual sebagaimana yang ada pada prinsip akuntansi yang diterima umum
memberikan kesempatan kepada manajer untuk membuat pertimbangan akuntansi yang akan memberi
pengaruh kepada pendapatan yang dilaporkan. Dalam hal ini pendapatan dapat dimanipulasi
melalui discretionary accruals. DeAngelo (1986) menyatakan konsep model akual memiliki dua
komponen. Komponen non-discretionary dan discretionary. Komponen discretionary accruals
ini merupakan bagian akual yang dapat dimanipulasi oleh manajer. Hal ini disebabkan karena
manajer memiliki kemampuan untuk mengontrolnya dalam jangka pendek. Sebaliknya komponen
non-discretionary ditentukan oleh faktor-faktor luar seperti kondisi ekonomi atau permintaan
terhadap penjualan serta faktor-faktor lain yang tidak dapat dikontrol oleh pihak manajer.
Discretionary accruals ini antaranya penilaian piutang, pengakuan biaya garansi (future warranty
expense) dan asset modal (capitalization assets). Manajer akan melakukan manajemen laba dengan
manipulasi akual-akual tersebut untuk mencapai tingkat pendapatan yang diinginkan.
pendapat yang diberikan oleh auditor berkaitan dengan kepentingan:

Goldman dan Barlev (1974) menyatakan bahwa laporan auditor mengandung kepentingan tiga kelompok yaitu: (1) manajer perusahaan yang diaudit; (2) pemegang saham perusahaan; dan (3) pihak ketiga atau pihak luar seperti calon investor, kreditor dan supplier. Masing-masing kepentingan ini merupakan sumber gangguan yang akan menimbulkan tekanan pada auditor untuk menghasilkan laporan yang mungkin tidak sesuai dengan standar profesi. Lebih lanjut hal ini akan mengganggu kualitas audit.


Kualitas audit bukanlah merupakan suatu yang dapat langsung diamati. Persepsi terhadap kualitas audit selalunya berkaitan dengan nama auditor. Dalam hal ini nama baik perusahaan merupakan gambaran yang paling penting. Baik secara teori ataupun empirik, kualitas auditor sering kali diukur dengan menggunakan ukuran kantor akuntan publik.

2.3. Independensi

Independensi auditor merupakan suatu hal penting yang sudah sejatilama menjadi perbincangan baik di kalangan praktisi, pembuat kebijakan ataupun para akademisi. Hal ini dikarenakan pendapat yang diberikan oleh auditor berkaitan dengan kepentingan banyak pihak. Namun demikian pendapat yang diberikan oleh auditor terhadap laporan keuangan suatu perusahaan tidak akan mempunyai nilai apabila auditor tersebut dianggap tidak memiliki independensi oleh para pengguna laporan keuangan.

Berkenaan dengan independensi, AICPA memberikan prinsip-prinsip berikut sebagai panduan:

1. Auditor dan perusahaan tidak boleh tergantung dalam hal keuangan terhadap klien.
2. Auditor dan perusahaan seharusnya tidak terlibat dalam konflik kepentingan yang akan mengganggu objektivitas mereka berkenaan dengan cara-cara yang mempengaruhi laporan keuangan.
3. Auditor dan perusahaan seharusnya tidak memiliki hubungan dengan klien yang akan mengganggu objektivitas auditor.

Selain definisi yang diberikan oleh AICPA, SEC (Securities Exchange Committee) sebagai badan yang juga berkepentingan terhadap auditor yang independen memberikan definisi lain berkaitan dengan independensi. SEC memberikan empat prinsip dalam menentukan auditor yang independen. Prinsip-prinsip ini menyatakan bahwa independensi dapat tergantung apabila auditor: (1) memiliki konflik kepentingan dengan kliennya; (2) mengaudit pekerjaan mereka sendiri; (3) berfungsi baik sebagai manajer ataupun pekerja dari kliennya; (4) bertindak sebagai penasihat bagi kliennya. Ryan et al (2001).

Ikatan Akuntan Indonesia (IAI) sebagai pihak yang mempunyai kompetensi mengatur dan mengwasi aktivas akuntan di Indonesia juga memberikan aturan berkaitan dengan independensi, yaitu prinsip-prinsip akuntan dalam melaksanakan aktivitasnya. Dimana dalam menjalankan tugasnya, anggota kantor akuntan publik (KAP) harus selalu mempertahankan sikap mental independen dalam memperlihatkan kebenaran yang diaudit. Sikap mental independen tersebut harus meliputi independensi dalam kenyataan (in facts) maupun yang kelihatan (in appearance).

Berkenaan dengan auditor yang independen, Watt dan Zimmerman (1986) menyatakan bahwa kebebasan penentuan yang diberikan untuk verifikasi auditor terhadap laporan keuangan kliennya berkaitan dengan ketergantungan kepada kompetensi dan independensi. Kemampuan keterkaitan profesional individu yang memiliki kemampuan teknik untuk mengetahui wujudnya pelanggaran dalam suatu sistem akuntansi. Adapun independensi menyatakan adanya perilaku yang tidak bias dalam segala hal yang berhubungan dengan hasil auditnya. Pandangan yang tidak bias ini diartikan oleh Watts dan Zimmerman sebagai kebebasan untuk melaporkan pelanggaran yang ditemukannya.

Menurut Scott et al (2000) auditor yang independen seharusnya dapat menjadi pelindung terhadap praktek-praktek akuntansi yang memperdayakan, karena auditor hanya dianggap memiliki pengetahuan yang mendalam di bidang akuntansi tetapi juga dapat berhubungan dengan perusahaan yang diperiksa dan adanya kepentingan yang lain. Dari pelbagai pendapat mengenai independensi dalam hal penting yang mesti dimiliki oleh auditor. Terdapat pelbagai jenis independensi, tetapi ada pendapat bahwa independensi yang dapat dinilai tinggi independensi yang kelihatan. Dan penilaian terhadap independensi yang kelihatan ini selalunya berkaitan dengan hubungan yang dapat dilihat serta diamati antara auditor dan kliennya.

2.3. Non-Audit Services

Salah satu faktor yang banyak dibicarakan berkaitan dengan gangguan terhadap auditor yang independen adalah adanya non-audit services. Terdapat pendapat yang bertentangan berkaitan dengan non-audit services ini. Sebagian menganggap bahwa pemberian jasa selain audit tidak mengganggu independensi auditor. Pendapat yang lain menyatakan bahwa pemberian jasa selain pengauditan dapat mengganggu independensi auditor.


Dikaitkan dengan keempat prinsip yang diberikan oleh AICPA dalam menentukan apakah auditor yang independen tergantung atau tidak, adanya non-audit services tidak sesuai dengan prinsip yang keempat, yang menyatakan bahwa auditor dan perusahaan seharusnya tidak memiliki hubungan dengan klien karena dikhawatirkan akan mengganggu objektivitas auditor tersebut.

2.4. Masa Jabatan Auditor

Pada tahun 1961, Mautz dan Sharaf telah menyatakan bahwa terdapat beberapa ciri yang ada pada praktisi akuntansi yang dapat mengurangi independensi auditor, terutama mengurangi independensi yang kelihatan. Antara lain ketergantungan keuangan auditor terhadap kliennya...
dan wujudnya hubungan pribadi di antara auditor dan manajer. Selain itu Mautz dan Sharaf mengatakan terdapatnya potensi dari hubungan yang lama antara auditor dan manajer yang akan mempengaruhi prestasi auditor (Copley & Doucet 1993).

Hal yang sama diungkapkan juga dalam laporan Metcalf yang mengunjungi perkaraan auditor sebagai usaha untuk mengurangi pengaruh dari berkurangnya independensi auditor. Dinyatakan bahwa hubungan yang lama antara auditor dan klien akan menyebabkan sudut bagi auditor untuk benar-benar bebas. Salah satu alternatif yang digalakkan ialah menekan auditor setelah beberapa tahun (Copley & Doucet, 1993).

Mereka yang menyokong adanya pertukaran auditor menyatakan bahwa semakin lama suatu perusahaan audit mempertahankan hubungan dengan klienya semakin berkurang kemampuannya untuk dapat bertindak objektif. Berkembangnya mereka tidak dapat mendeteksi kesalah-kesalahan yang ada dalam laporan keuangan.

Sebaliknya mereka yang menolak adanya pertukaran auditor, menyatakan bahwa pertukaran auditor akan melibatkan biaya yang lebih tinggi sementara keuntungannya hanya sedikit kalaupun ada.

2.5. Penelitian Terdahulu

2.5.1. Kualitas Audit dan Manajemen Laba

Beberapa penelitian telah membuktikan bahwa tuntutan terhadap auditor dan praktek manajemen laba diantaranya dipengaruhi oleh kualitas auditor yang berkaitan (DeAngelo 1981; Palmrose 1988; Becker & Rein 1998). Kualitas auditor yang tinggi, yang diklasifikasikan sebagai Big 5 dianggap akan mengurangi timbulnya praktek manajemen laba sekali gus mengurangi tuntutan terhadap auditor.


Gore et al (2001) yang juga melakukan penelitian berkaitan dengan non-audit services, independensi auditor dan manajemen laba menggunakan model Jones (1991) untuk mengukur discretionary accruals. Ditemukan bahwa pada perusahaan yang diaudit oleh non-Big, discretionary accruals berhubungan secara positif dan signifikan dengan rasio laba non-audit services. Sementara pada perusahaan yang diaudit oleh Big, discretionary accruals berhubungan secara negatif dengan rasio laba non-audit services dan secara statistik tidak signifikan.

Manakala dilakukan tes untuk kedua kelompok baik Big ataupun non-Big hubungan antara discretionary accruals dan rasio laba non-audit services secara signifikan lebih tinggi pada non-Big daripada Big.

Saat penelitian baru-baru ini dilakukan oleh Frankel et al (2002) berkaitan dengan non-audit services dan kualitas pendapatan. Penelitian ini antara lain bertujuan untuk menghubungkan antara pemberian non-audit services dan manajemen laba. Hasil penelitian menunjukkan bahwa perusahaan yang memperoleh lebih banyak non-audit services berkembang dengan melaporkan absolute discretionary accruals yang lebih besar.


2.5.2. Independensi

Beberapa penelitian mengenai independensi, selalu berkaitan dengan persepsi para pengguna laporan keuangan mengenai independensi yang dimiliki auditor (Shockley 1981; Gull 1991; Bartlett 1993). Hal ini adalah karena hanya independensi yang kehilangan yang dapat dinilai secara diamati oleh para pengguna laporan keuangan.

Shockley (1981) yang mengkaji mengenai persepsi terhadap auditor yang independen menyatakan bahwa terdapat empat hal yang mungkin berkaitan erat dan dapat mempengaruhi auditor yang independen yaitu: persaingan, non-audit services, ukuran KAP dan masa jabatan auditor.

Gul (1991) juga meneliti pengaruh layanan audit, jasa penasihat manajer, ukuran perusahaan audit serta persaingan terhadap persepsi terhadap auditor yang independen. Hasil temuan Gul menunjukkan bahwa persepsi terhadap auditor yang independen dipengaruhi keempat variabel secara signifikan.

Dalam penelitiannya mengenai persepsi terhadap auditor yang independen, Bartlett (1993) menggunakan 5 ukuran yang digunakan untuk menilai auditor yang independen. Yaitu layanan audit, adanya jasa penasihat manajer, sukses kontingen, kerjasama dengan klien yang diaudit serta kebijakan budgeting. Hasil penelitian menunjukkan bahwa responden menganggap selama kurang dari 10 tahun dapat mengurangi independensi auditor.

Walaupun tidak terdapat kesimpulan yang sama dari penelitian-penelitian tersebut, namun terdapat kesepakatan bahwa faktor-faktor yang dianggap dapat mengganggu independensi auditor antara lain layanan audit, adanya non-audit services, ukuran KAP dan masa jabatan sebagai auditor.

2.5.3. Hipotesis

Penelitian-penelitian terdahulu telah menemukan adanya hubungan antara kualitas auditor dengan discretionary accruals. Berdasarkan hal tersebut di atas, penulis menyatakan hipotesis dalam penelitian ini bahwa:

H1: Kualitas audit berhubungan secara negatif dengan discretionary accruals.

H2: Bagi perusahaan yang diaudit oleh KAP Big 5, discretionary accruals di kalangan perusahaan yang menerima non-audit services adalah lebih tinggi daripada discretionary accruals perusahaan yang tidak menerima non-audit services.
H3: Bagi perusahaan yang diaudit oleh KAP non-Big 5, discretionary accruals di kalangan perusahaan yang menerima non audit services adalah lebih tinggi daripada discretionary accruals perusahaan yang tidak menerima non audit services.

H4: Discretionary accruals perusahaan yang diaudit oleh KAP Big 5 dengan masa jabatan > 3 tahun lebih tinggi daripada perusahaan yang diaudit KAP Big 5 dengan masa jabatan ≤ 3 tahun.

H5: Discretionary accruals perusahaan yang diaudit oleh KAP non-Big 5 dengan masa jabatan > 3 tahun lebih tinggi daripada perusahaan yang diaudit oleh KAP non-Big 5 dengan masa jabatan ≤ 3 tahun.

3. Metodologi Penelitian

3.1. Variabel Bebas

Kualitas audit merupakan variabel bebas yang digunakan dalam penelitian ini. Kualitas audit akan diukur dengan mengklasifikasikan atas audit yang dilakukan oleh KAP Big-5 dan audit yang dilakukan oleh KAP non-Big 5. KAP Big-5 digunakan untuk mengukur kualitas audit yang tinggi, sedangkan KAP non-Big 5 untuk mengukur kualitas audit yang rendah.

3.2. Variabel Terikat


\[ \text{TA it} = \Delta \text{CA it} - \Delta \text{Cash it} - \Delta \text{CL it} + \Delta \text{CPLT it} - \text{DEP it} \]

\[ \text{NDA it} = \alpha \text{(1/Ait-1)} + \beta_1(\Delta \text{REV it} - \Delta \text{REC it})/\text{Ait-1} + \beta_2 (\text{PPE it}/\text{Ait-1}) \]

\[ \text{DA/Ait-1} = \text{TA it}/\text{Ait-1} - (\beta_0(1/\text{Ait-1}) + \beta_1(\Delta \text{REV it} - \Delta \text{REC it})/\text{Ait-1}) \]

\[ \partial \text{ACC it}/\partial \text{LAT it} \]

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Eksplanasi</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE it</td>
<td>Harta dan peralatan kotor pada tahun t</td>
</tr>
<tr>
<td>i</td>
<td>Indeks perusahaan</td>
</tr>
<tr>
<td>t</td>
<td>1, ..., T [sub 1] indeks tahun</td>
</tr>
</tbody>
</table>

\[ \beta_0, \beta_1 \text{ dan } \beta_2 \text{ diperoleh dari persamaan berikut ini:} \]

\[ \text{TA it}/\text{Ait-1} = \beta_0 (1/\text{Ait-1}) + \beta_1 (\Delta \text{REV it} - \Delta \text{REC it})/\text{Ait-1} + \beta_2 (\text{PPE it}/\text{Ait-1}) \]

\[ \text{...................}(4) \]

3.3. Variabel Moderating

Untuk mengukur independensi auditor, digunakan dua ukuran yaitu non-audit services serta masa jabatan sebagai auditor. Non-audit services diukur dengan ada atau tidaknya non-audit services yang diberikan. Masa jabatan ditukur dengan masa jabatan kurang atau sama dengan 3 tahun serta yang lebih dari 3 tahun.

3.4. Populasi dan Sampel

Populasi dalam penelitian ini ialah semua perusahaan yang terdaftar di Bursa Efek Jakarta (BEJ) (225 perusahaan). Sampel dalam penelitian dipilih dari semua industri kecuali industri keuangan yang berbeda dengan industri yang lain dalam hal perhitungan discretionary accruals. Dengan menggunakan pemilihan sampel berstrata, berasaskan yang diaudit oleh KAP Big dan non-Big dipilih 131 perusahaan sebagai sampel.

3.5. Data


3.6. Analisis Data

Tahap pertama akan dilakukan penghitungan absolute discretionary accruals dengan menggunakan model Jones (1991) yang dimodifikasi. Guna melihat hubungan antara kualitas audit dengan manajemen laba akan digunakan analisis korelasi dengan menggunakan non-parametric test. Selain itu sebagai pendukung, absolute discretionary accruals antara perusahaan yang diaudit oleh Big-5 dan yang diaudit oleh non-Big 5 akan dibandingkan. Selanjutnya untuk menguji hipotesis 2.3.4 dan 5 akan dilakukan perbandingan mean dengan menggunakan independent t-test.
4. Analisis Data

4.1. Data

Tabel 1 menunjukkan klasifikasi perusahaan yang menjadi sampel berdasarkan jenis industri.

**TABEL 1**

<table>
<thead>
<tr>
<th>Jenis Industri</th>
<th>N</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pertanian</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>Pertambangan</td>
<td>6</td>
<td>4.6</td>
</tr>
<tr>
<td>Industri Dasar dan Kimia</td>
<td>35</td>
<td>26.7</td>
</tr>
<tr>
<td>Aneka Industri</td>
<td>27</td>
<td>20.6</td>
</tr>
<tr>
<td>Industi Barang Konsumsi</td>
<td>22</td>
<td>16.8</td>
</tr>
<tr>
<td>Property, Real Estate &amp; Konstruksi Bangunan</td>
<td>10</td>
<td>7.6</td>
</tr>
<tr>
<td>Infrastruktur dan Transportasi</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td>Perdagangan, Jasa dan Investasi</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td><strong>JUMLAH</strong></td>
<td>131</td>
<td>100</td>
</tr>
</tbody>
</table>


**TABEL 2**

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>N</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big 5</td>
<td>437</td>
<td>83.4</td>
</tr>
<tr>
<td>non-Big 5</td>
<td>87</td>
<td>16.6</td>
</tr>
<tr>
<td><strong>JUMLAH</strong></td>
<td>524</td>
<td>100</td>
</tr>
</tbody>
</table>

Dari tabel 1 didapatkan bahwa sebagian besar perusahaan yang menjadi sampel dalam penelitian ini merupakan perusahaan yang diaudit oleh KAP Big 5, yaitu sebanyak 437 (83.4%), sedangkan yang diaudit oleh KAP non-Big 5 sebanyak 87 (16.6%).

Selanjutnya, tabel 3 menunjukkan banyaknya perusahaan yang memperoleh non-audit services. Sebagian besar perusahaan ternyata tidak mendapatkan non-audit services jenis apapun dari auditornya, yaitu sebanyak 375 tahun perusahaan atau 71.7%. Adapun yang mendapatkan non-audit services, baik jasa manajemen, pajak ataupun yang lainnya sebanyak 149 tahun perusahaan atau 28.4%.

**TABEL 3**

<table>
<thead>
<tr>
<th>Non-Audit Services</th>
<th>N</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ada</td>
<td>149</td>
<td>28.4</td>
</tr>
<tr>
<td>Tidak ada</td>
<td>375</td>
<td>71.7</td>
</tr>
<tr>
<td><strong>JUMLAH</strong></td>
<td>524</td>
<td>100</td>
</tr>
</tbody>
</table>

Tabel 4 menunjukkan lamanya perusahaan menjadi klien auditor. Sebanyak 338 atau 64.5% sampel dah diaudit oleh auditor dengan selama lebih dari 3 tahun. Selebihnya, sebanyak 186 atau 35.5% menjadi klien auditor dalam masa kurang atau sama dengan 3 tahun.

**TABEL 4**

<table>
<thead>
<tr>
<th>Masa Jabatan Auditor</th>
<th>N</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 3 tahun</td>
<td>186</td>
<td>35.5</td>
</tr>
<tr>
<td>&gt; 3 tahun</td>
<td>338</td>
<td>64.5</td>
</tr>
<tr>
<td><strong>JUMLAH</strong></td>
<td>524</td>
<td>100</td>
</tr>
</tbody>
</table>

1.2. Model Discretionary Accruals

Penelitian ini menggunakan absolute discretionary accruals (ABSDA) sebagai ukuran discretionary accruals serta tidak membedakan antara income increasing discretionary accruals ataupun income decreasing discretionary accruals dalam setiap analisisnya. Tabel berikut menunjukkan mean, median, nilai maksimum dan nilai minimum dari discretionary accruals dan absolute discretionary accruals.

**TABEL 5**

<table>
<thead>
<tr>
<th>Discretionary Accruals</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maksimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.067</td>
<td>-0.069</td>
<td>-1.737</td>
<td>3.575</td>
</tr>
<tr>
<td>Absolute discretionary accruals</td>
<td>0.464</td>
<td>0.300</td>
<td>0.001</td>
<td>0.357</td>
</tr>
</tbody>
</table>
4.3. Analisis Hipotesis

TABEL 6
Korelasi antara Kualitas audit dengan ABSDA

<table>
<thead>
<tr>
<th>Spearmann's rho</th>
<th>absolut DA</th>
<th>Correlation Coefficient</th>
<th>absolut DA</th>
<th>AUDNEW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>-0.103*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>524</td>
<td>524</td>
<td></td>
</tr>
</tbody>
</table>

AUDNEW

<table>
<thead>
<tr>
<th>Correlation Coefficient</th>
<th>absolut DA</th>
<th>AUDNEW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.103*</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.019</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>524</td>
<td>524</td>
</tr>
</tbody>
</table>

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

Dari tabel 6 didapat bahwa terdapat hubungan yang negatif antara kualitas audit (AUDNEW) dengan absolute discretionary accruals (ABSDA). Walauupun hubungan ini tidak begitu kuat, hanya sebesar -0.103 namun secara statistik hubungan ini signifkan pada tahap 5% (p<0.05). Dengan demikian dapat dikatakan bahwa temuan ini memberikan dukungan terhadap hipotesis 1.

Selanjutnya untuk membandingkan absolute discretionary accruals antara kedua jenis kualitas audit, dilakukan analisis dengan melakukan perbandingan mean ABSDA kedua jenis kualitas audit, dengan menggunakan t-test. Tabel 7 menunjukkan perbandingan mean antara keduanya.

TABEL 7
Perbandingan Mean ABSDA Menurut Kualitas Audit

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>N</th>
<th>Persentase</th>
<th>Mean ABSDA</th>
<th>Sig (2 ujung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big 5</td>
<td>437</td>
<td>83.4</td>
<td>0.44741</td>
<td>0.069</td>
</tr>
<tr>
<td>non-Big 5</td>
<td>87</td>
<td>16.6</td>
<td>0.55131</td>
<td></td>
</tr>
<tr>
<td>Jumlah</td>
<td>524</td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Hasil perbandingan mean menunjukkan bahwa mean ABSDA perusahaan yang diaudit oleh KAP Big 5 lebih rendah dari mean ABSDA perusahaan yang diaudit oleh KAP non-Big 5. Dinamakan mean ABSDA perusahaan yang diaudit oleh KAP Big 5 sebesar 0.44741, adapun mean ABSDA perusahaan yang diaudit oleh KAP non-Big 5 sebesar 0.55131. Temuan ini menyokong analisis sebelumnya yang menyatakan bahwa terdapat hubungan yang negatif antara kualitas audit dengan absolute discretionary accruals. Hasil analisis ini secara statistik signifikan pada tahap 10% (p<0.1).

Selanjutnya guna melakukan test terhadap hipotesis 2 dilakukan independent t-test untuk mengidentifikasi apakah terdapat perbedaan mean ABSDA bagi perusahaan yang diaudit oleh KAP Big 5 yang menerima ataupun tidak menerima non audit services. Tabel 8.6 menunjukkan hasil analisis tersebut.

TABEL 8
Perbandingan Mean ABSDA Perusahaan yang Diaudit oleh Big 5 Menurut Non-Audit Services

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>Non-Audit services</th>
<th>N</th>
<th>Mean ABSDA</th>
<th>Sig (2 ujung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big 5</td>
<td>Ada</td>
<td>132</td>
<td>0.92798</td>
<td>0.000*</td>
</tr>
<tr>
<td>non-Big 5</td>
<td>Tdk Ada</td>
<td>305</td>
<td>0.23943</td>
<td></td>
</tr>
<tr>
<td>Jumlah</td>
<td></td>
<td>437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dari tabel 8 didapati bahwa sebanyak 132 tahun perusahaan yang diaudit oleh KAP Big 5 menerima non audit services. Sementara dari 437 tahun perusahaan yang diaudit oleh KAP Big 5 yang tidak menerima non audit services sebanyak 305 tahun perusahaan. Selanjutnya mean absolute discretionary accruals (ABSDA) perusahaan yang diaudit oleh KAP Big 5 dan menerima non audit services lebih tinggi dari perusahaan yang tidak menerima non audit services yaitu sebesar 0.92798 dan 0.23943. Secara statistik perbedaan ini sangat signifikan (p = 0.00). Penemuan ini mendukung apa yang dinyatakan dalam hipotesis 2.

Sama seperti pada hipotesis 2, untuk melakukan test terhadap hipotesis 3 juga dilakukan independent t-test guna mengidentifikasi apakah perbedaan mean ABSDA bagi perusahaan yang diaudit oleh KAP non-Big 5 baik yang menerima ataupun tidak menerima non audit services. Tabel 9 menunjukkan hasil analisis tersebut.

TABEL 9
Perbandingan Mean ABSDA Perusahaan yang Diaudit Oleh Non-Big 5 Menurut Non-Audit Services

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>non-Audit services</th>
<th>N</th>
<th>Mean ABSDA</th>
<th>Sig (2 ujung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-Big 5</td>
<td>Ada</td>
<td>17</td>
<td>1.01106</td>
<td>0.000*</td>
</tr>
<tr>
<td>non-Big 5</td>
<td>Tdk Ada</td>
<td>70</td>
<td>0.43966</td>
<td></td>
</tr>
<tr>
<td>Jumlah</td>
<td></td>
<td>87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dari tabel 9 didapati bahwa hanya sebanyak 17 tahun perusahaan yang diaudit oleh auditor non-Big 5 yang menerima non audit services. Selebihnya, yaitu 70 tahun perusahaan tidak menerima non audit services. Pada kelompok ini mean ABSDA perusahaan yang menerima non audit services besarnya 1.01106, sedangkan pada kelompok yang tidak menerima non audit services mean
ABSDA-nya hanya 0.43966. Perbedaan ini secara statistik signifikan pada taraf 5% (p = 0.00). Apa yang diperoleh dari analisis ini menyokong hipotesis 3.

Kedua analisis baik pada tabel 8 ataupun 9 menunjukkan bahwa adanya non audit services baik bagi perusahaan yang diaudit oleh Big 5 ataupun non-Big 5 memberi pengaruh terhadap besarnya ABSDA yang terjadi di perusahaan tersebut. Hal ini ditunjukkan dengan lebih tingginya mean absolute discretionary accruals pada tahun perusahaan yang menerima non audit services.

Untuk melakukan test terhadap hipotesis 4, berkaitan dengan masa jabatan auditor dilakukan independent t-test. Analisis ini dilakukan untuk melihat perbandingan mean ABSDA bagi tahun perusahaan yang diaudit oleh Big 5 dengan masa jabatan selama ≤3 tahun dan yang > 3 tahun. Hasil analisis terdapat di tabel 10.

**TABEL 10**
Perbandingan Mean ABSDA Perusahaan yang Diaudit oleh Big 5 Menurut Masa Jabatan Auditor

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>Masa Jabatan</th>
<th>N</th>
<th>Mean ABSDA</th>
<th>Sig (2 ujung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big 5</td>
<td>≤3 tahun</td>
<td>114</td>
<td>0.92254</td>
<td>0.000*</td>
</tr>
<tr>
<td></td>
<td>&gt;3 tahun</td>
<td>323</td>
<td>0.27972</td>
<td></td>
</tr>
<tr>
<td>Jumlah</td>
<td></td>
<td>437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dari tabel 10 didapat bahwa pada kelompok Big 5 lebih banyak tahun perusahaan yang diaudit oleh KAP dengan masa lebih dari 3 tahun, yaitu sebanyak 323 tahun perusahaan dibandingkan dengan yang diaudit oleh KAP dengan masa kurang atau sama dengan 3 tahun, yaitu sebanyak 114 tahun perusahaan. Selanjutnya didapat bahwa mean ABSDA untuk tahun perusahaan yang diaudit oleh Big 5 dengan masa jabatan kurang dari 3 tahun lebih tinggi dari mean ABSDA tahun perusahaan yang diaudit dengan masa jabatan > 3 tahun. Untuk tahun perusahaan yang diaudit oleh Big 5 dengan masa jabatan ≤ 3 tahun mean ABSDA nya 0.92254. Perbedaan mean ini secara statistik sangat signifikan (p = 0.00). Walauup demikian temuan ini tidak menyokong hipotesis 4.

Selanjutnya untuk melakukan test terhadap hipotesis 5 berkaitan dengan masa jabatan auditor juga dilakukan independent t-test. Analisis dilakukan untuk melihat perbandingan mean ABSDA perusahaan yang diaudit oleh auditor non-Big 5 dengan masa jabatan selama ≤3 tahun dan yang lebih dari 3 tahun. Hasil analisis terdapat di tabel 11.

**TABEL 11**
Perbandingan Mean ABSDA Perusahaan yang Diaudit oleh non-Big 5 Menurut Masa Jabatan Auditor

<table>
<thead>
<tr>
<th>Kualitas Audit</th>
<th>Masa Jabatan</th>
<th>N</th>
<th>Mean ABSDA</th>
<th>Sig (2 ujung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-Big 5</td>
<td>≤3 tahun</td>
<td>72</td>
<td>0.59693</td>
<td>0.055*</td>
</tr>
<tr>
<td></td>
<td>&gt;3 tahun</td>
<td>15</td>
<td>0.33233</td>
<td></td>
</tr>
<tr>
<td>Jumlah</td>
<td></td>
<td>87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sebanyak 72 tahun perusahaan yang diaudit oleh auditor non-Big 5 telah diaudit dengan masa jabatan kurang atau sama dengan 3 tahun. Sementara hanya 15 tahun perusahaan yang telah diaudit oleh auditor dengan masa jabatan lebih dari 3 tahun. Bagi perusahaan yang diaudit oleh non-Big 5 dengan masa jabatan ≤ 3 tahun, mean ABSDA-nya 0.59693 dibandingkan dengan masa jabatan > 3 tahun mean ABSDA nya 0.33233. Secara statistik perbedaan mean kualasi masa jabatan ini signifikan pada taraf 10% (p = 0.055).

Temuan ini menunjukkan bahwa lama masa jabatan auditor mempengaruhi besarnya absolute discretionary accruals (ABSDA) yang terjadi di suatu perusahaan. Masa jabatan yang lebih lama memperkecil absolute discretionary accruals yang terjadi di suatu perusahaan. Sebaliknya masa jabatan yang singkat (kurang atau sama dengan 3 tahun) memperbessar absolute discretionary accruals yang terjadi. Dengan demikian analisis ini juga tidak menyokong hipotesis 5.

5. Pembahasan dan Kesimpulan

5.1. Kualitas Audit dan Absolute Discretionary Accruals


Temuan ini mendapat bahwa perusahaan yang diaudit oleh KAP Big 5 memiliki absolute discretionary accruals yang lebih rendah, dibandingkan dengan perusahaan yang diaudit oleh KAP non-Big 5. Hal ini menunjukkan bahwa KAP Big 5 lebih berkualitas dalam mendeteksi berlakunya manajemen laba di dalam suatu perusahaan. Penjelasan yang mungkin untuk hal ini adalah bahwa KAP Big 5 mempunyai auditor yang berpengalaman dalam berbagai hal sehingga memungkinkan mereka untuk bekerja dengan lebih baik.

Teori yang menyokong perbedaan kualitas ini diberikan oleh DeAngelo (1981) yang menyatakan bahwa kantor akuntan publik yang lebih besar memiliki dorongan yang lebih besar untuk mendeteksi dan mengungkapkan kesalahan pelaporan oleh pihak manajer. Karena KAP Big...
5 lebih besar dari pesaingnya, De Angelo menyatakan bahwa mereka memiliki kualitas yang lebih tinggi.

5.2. Pengaruh Independensi

5.2.1. Non-audit services

Test terhadap hipotesis dua dan tiga menunjukkan bahwa adanya non audit services telah memberi pengaruh terhadap hubungan antara kualitas audit dengan absolute discretionary accruals. Hal ini ditunjukkan dengan meningkatnya mean absolute discretionary accruals pada tahun perusahaan yang mendapatkan non-audit services baik yang diaudit oleh Big 5 ataupun non-Big 5.

Walaupun menggunakan ukuran yang berbeda berkaitan dengan non audit services, namun hasil penelitian ini konsisten dengan penelitian Gore et al (2001) dan Frankel et al (2001) yang juga menyatakan bahwa terdapat hubungan positif antara bayaran yang diterima auditor yang bersumber dari non audit services dengan besarnya discretionary accruals yang terjadi di suatu perusahaan.

5.2.2. Masa Jabatan Auditor

Satu lagi ukuran independensi yang diteliti ialah masa jabatan auditor. Berkaitan dengan apakah lamanya masa jabatan auditor dapat mengganggu independensi auditor, penelitian ini justru mendapati bahwa semakin lama auditor mengaudit suatu perusahaan semakin kecil absolute discretionary accruals yang terjadi di perusahaan tersebut. Sebaliknya semakin singkat masa jabatan auditor semakin tinggi absolute discretionary accruals yang wujud di perusahaan tersebut. Temuan ini menunjukkan bahwa masa jabatan auditor memberi pengaruh terhadap hubungan antara kualitas audit dengan manajemen laba.

5.3. Kesimpulan

Penelitian ini menguji hubungan antara kualitas audit dengan manajemen laba, sekaligus melihat pengaruh independensi yang diukur dengan non-audit services dan masa jabatan auditor terhadap hubungan antara keduaanya. Penelitian ini menemukan bahwa semakin tinggi kualitas audit akan semakin rendah absolute discretionary accruals yang terjadi di suatu perusahaan.

Berkaitan dengan pengaruh non-audit services ditemukan bahwa adanya non audit services memberi pengaruh terhadap hubungan antara kualitas audit dengan manajemen laba melalui meningkatnya absolute discretionary accruals pada tahun perusahaan yang menerima non audit services. Selain itu berkaitan dengan masa jabatan auditor, hasil temuan ini menyokong pendapat yang menyatakan bahwa semakin lama masa jabatan auditor akan lebih meningkatkan kualitas audit karena memberikan kesempatan pada auditor untuk lebih mengenali transaksi klienya.

6. Limitasi dan Implikasi Penelitian

6.1. Limitasi

Penelitian ini memiliki beberapa limitasi antaranya ialah hanya menguji dua ukuran untuk melihat pengaruh independensi, yaitu ada ataupun tidak non audit services dan masa jabatan auditor. Sehingga hasil penelitian tidak dapat digunakan sebagai generalisasi terhadap independensi secara keseluruhan. Selanjutnya dalam mengukur non audit services ukuran yang digunakan ialah ada atau tidaknya non audit services. Penulis tidak menggunakan ukuran yang telah banyak digunakan dalam penelitian terdahulu yaitu bayaran yang diterima. Hal ini disebabkan data ini merupakan data yang bersifat rahasia baik bagi perusahaan ataupun auditor. Selain itu belum ada peraturan bagi perusahaan yang terdaftar di Bursa Efek Jakarta untuk mengungkapkan data ini pada laporan keuangan.

Berkaitan dengan non audit services ini penulis tidak mempertimbangkan jenis jasa yang diberikan baik jasa konsultan pajak, manajemen ataupun jasa lain. Hal ini didasari dengan asumsi bahwa semua non-audit services merupakan gangguan terhadap independensi auditor.

6.2. Implikasi

Berdasarkan keputusan yang menunjukkan bahwa kualitas audit berhubungan secara negatif dengan manajemen laba yang diukur dengan absolute discretionary accruals, menunjukkan bahwa kualitas audit yang biasanya diklasifikasikan terhadap Big 5 dan non-Big 5 merupakan satu ukuran yang cukup penting dalam menilai validitas informasi yang disajikan dalam laporan keuangan. Namun demikian hal lain yang tidak kurang pentingnya ialah penggunaan kualitas audit yang dimiliki oleh auditor yang mengaudit perusahaan tersebut. Karena independensi yang dimiliki oleh auditor baik Big 5 atau non-Big 5 juga berpengaruh terhadap validitas informasi yang disajikan dalam laporan keuangan. Implikasi dari temuan ini ialah para pengguna laporan keuangan perlu mempertimbangkan informasi mengenai jasa yang diterima oleh suatu perusahaan selain saja audit. Selain itu informasi berkaitan dengan masa jabatan auditor juga perlu untuk diperhatikan dalam menilai laporan keuangan suatu perusahaan.


REFERENSI


Faktor-faktor yang Mempengaruhi Kelengkapan Pengungkapan Laporan Keuangan pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Jakarta

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The aim of this research is to find the factors that influence financial statement disclosure comprehensiveness. This research used 34 manufacturing companies listed at Jakarta Stock Exchange in the period of 2002. The tools analysis used in this research are multiple-linear regression analysis and t-test. The independent variables i.e. leverage, liquidity, profitability, the portion of stock owned by public investors and company age are predicted to influence financial statement disclosure comprehensiveness. The results of this research show that leverage variable which proxied by debt to equity ratio, profitability, the portion of stock owned by public investors are significantly and positively associated with financial statement disclosure comprehensiveness. Hopefully, in the next research, other variables should be tested. This is important because there are a lot of other variables influencing financial statement disclosure comprehensiveness, such as firm size, securities issuance in the subsequent year and firm status.

Keywords: Financial statement disclosure; Leverage; Liquidity; Profitability; The portion of stocks owned by public investors; Company ages.

1. Pendahuluan

Penelitian mengenai kelengkapan pengungkapan (disclosure) dalam laporan tahunan dan faktor-faktor yang mempengaruhinya merupakan hal yang penting untuk dilakukan. Penelitian semacam ini akan memberikan gambaran mengenai kondisi suatu perusahaan, serta memberikan gambaran tentang sifat perbedaan kelengkapan ungkapan antarperusahaan dan faktor-faktor yang mempengaruhinya. Laporan tahunan pada dasarnya merupakan sumber informasi bagi investor sebagai salah satu dasar pertimbangan dalam pengambilan keputusan investasi di pasar modal dan juga sebagai sarana pertanggungjawaban manajemen atas sumber daya yang diperckayakan kepadanya.