

Initial Public Offerings, Accounting Choices, and Earnings Management*

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Abstract. This paper investigates whether entrepreneurs manipulate earnings in the periods prior to taking their firms public through the choice of accounting conventions. The preponderance of evidence, using powerful accrual tests that were able to detect earnings management in other contexts, indicates little, if any, manipulation. To the extent that there is earnings management, the results suggest that this phenomenon is more pronounced among small firms and among firms with large financial leverage and is to a lesser degree related to the quality of the underwriters and auditors employed when going public.

Résumé. Les auteurs ont voulu savoir si les entrepreneurs manipulaient les bénéfices dans les exercices précédant un appel public à l'épargne par le truchement du choix des normes et conventions comptables. La prépondérance des preuves recueillies à l'aide des puissantes techniques existantes de sondage des produits et des charges visant à déceler les cas d'« accommodation » des bénéfices dans d'autres contextes, révèle une faible manipulation, sinon aucune. Dans la mesure où il y a accommodation des bénéfices, les résultats obtenus donnent à penser que le phénomène est davantage accentué chez les entreprises de petite taille ou dont le levier financier est élevé, et qu'il est relié de façon plus ténue à la qualité des preneurs fermes et des vérificateurs à qui l'entreprise a recours lorsqu'elle fait appel public à l'épargne.

This study examines whether entrepreneurs systematically select accounting methods to increase reported income in the periods prior to going public. Asymmetry of information between the entrepreneur and outside investors concerning the value of initial public offerings (IPOs) is well recognized (e.g., Leland and Pyle 1977; Hughes 1986; Titman and Trueman 1986; Datar, Feltham, and Hughes

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1991). This asymmetry, along with potential investors' heavy reliance on the firm's prospectus for information, may provide an entrepreneur an opportunity to affect the initial offering price of the firm's securities through accounting choices.

Going public is one of the most important events in a company's life. Selling new issues can raise additional capital to fund growth. It may increase net worth and improve financial structure, which enables the company to borrow money on more favorable terms in the future. Besides improvement of the company's financial position, a public offering may enhance the entrepreneur's personal wealth as well.

This study considers only firm commitment offerings. With this type of offering, underwriters obligate themselves to purchase all of the shares offered at a fixed price, regardless of whether they can resell them to the public at that price. Before any securities are sold, the firm must file a registration statement with the Securities and Exchange Commission (SEC) that includes a preliminary prospectus, known as the red herring. Included in the red herring is an estimated range for the offering price. This range reflects the underwriter's and the firm's expectations of investors' response. During the waiting period, the time between the initial filing with the SEC and the effective date of the offering, the underwriters typically distribute copies of the preliminary prospectus and engage in preliminary marketing activities. On the day before the effective date, the managing underwriters and the company agree on the final offering price, and a pricing amendment is filed with the SEC. The offering price, thus, depends heavily on the preliminary response by investors.¹

The possibility of influencing investor response and the initial offer price through accounting choices may provide the entrepreneur with the incentive to do so. The greater the share price of the initial offering, the greater will be the entrepreneur's cash receipts from sales (of a given number) of existing shares.² Thus, if the entrepreneur were able to manipulate the initial offering price, such manipulation would clearly offer the entrepreneur the opportunity to increase his or her wealth position.

Because a firm's prospectus prominently features accounting performance measures and because the prospectus is both the primary promotional document for the IPO and the main source of public information for investors, entrepreneurs may well believe that their accounting choices can affect the value of the IPO. Whether or not participants in the new issues market can detect and completely adjust for accounting choices is not crucial to the hypothesis that entrepreneurs manipulate accounting income. The income manipulation hypothesis merely depends on the perception of entrepreneurs that they can affect the initial offering price through accounting choices. Anecdotal evidence would seem to indicate that entrepreneurs believe that their accounting choices do matter and act accordingly.

In the periods just before the offering, entrepreneurs have the opportunity to enhance reported performance through "real" choices (e.g., deferral of maintenance activities) and accounting choices (e.g., recognition or deferral of revenues). The possibility that, immediately prior to taking their firms public,

Liberty and Zimmerman (1986) examined manipulation of earnings by managers facing upcoming union negotiations. Like DeAngelo (1986), 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 1985 and June 1987. The sample was drawn from an exhaustive list of 1,162 U.S. firm commitment common shares offerings⁵ presented 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 surviving firms could have responded 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.⁶

From the 681 IPOs for which prospectuses were received, 249 special IPOs were excluded.⁷ An entrepreneur wishing to manipulate income to increase the IPO's initial 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 offerings 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 203 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 203 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.⁸ 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.⁹

entrepreneurs may have both the incentive and opportunity to manipulate income through the choice of accounting conventions provides the motivation for this research.

The present study relies on the approach used by Healy (1985) and DeAngelo (1986, 1988) 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 nondiscretionary 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 nondiscretionary accruals that are not stationary. Therefore, adjustments were made to reduce the chance that the measure of discretionary accruals was due solely to growth.³ 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 examined 229 industrial firms that went public in the period January 1, 1985, to June 30, 1987. Based on the total evidence reported here, it was concluded that the practice of selecting accounting methods to increase reported net income in periods prior to the public offering is not pervasive. The findings further indicate that to the extent that there is any earnings management, the phenomenon is, on the average, more pronounced among small firms and among firms with large financial leverage; it is to a lesser degree related to the quality of the underwriters and auditors employed when going public.

One class of accounting choices available to management may be termed accounting policy choices (e.g., switches from LIFO to FIFO and from accelerated to straight-line depreciation), which must be disclosed in the firm's prospectus. The focus of this analysis is *not* on these accounting policy choices but on accounting choices that are not easily detectable. Therefore, the excess accruals approach was used. Indeed, the sample of 229 firms included only 15 that reported switching accounting policies prior to going public. The analysis showed that the results are not driven by these 15 firms.⁴

The investigation of earnings manipulation in the new issues market is an example of the general issue of accounting choice and earnings management. Recent papers examining this issue have shed light on some widespread beliefs concerning manipulation by providing evidence that earnings management takes place in some economic contexts but not in others. Healy (1985) documents evidence of income manipulation by managers compensated by earnings-based bonus plans. McNichols and Wilson (1988) obtained mixed results when they expanded Healy's income manipulation hypothesis to include implicit as well as explicit contracts. In a study of proxy contests, DeAngelo (1988) found that incumbent managers exercise their accounting discretion to report favorable earnings during election campaigns. In another study, DeAngelo (1986) found no evidence of income manipulation to lower earnings in her analysis of management buyouts of public shareholdings.

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 with the population of similar type IPOs obtained from Registration Offerings Statistics tape indicates that the sample consists of relatively large firms.¹⁰ For example, the median total of assets in the sample is \$20.3 million compared with \$13.2 million for the population. Also, the median total initial offering value of common equity and the median proceeds in the sample are \$54.7 and \$11.2 million, respectively, compared with \$32.4 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 return of 5.5 percent, which is consistent with the findings of other studies.¹¹

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.¹²

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 (1988) define auditor/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 issuer. Hall and Renner (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." Hall and Renner 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

oversubscribed to low quality member of the industry

TABLE 1
Sample characteristics for 229 IPOs (1985-June 1987)

Characteristics	Median	Mean	Standard deviation	Minimum	Maximum
Total assets (\$'000)	26,256	47,854	106,590	648	910,032
Net sales ('000)	27,923	71,898	158,272	171	1,583,796
Net income (\$'000)	1,394	3,080	8,485	-6,215	97,334
Long-term debt as a percentage of total assets	0.139	0.203	0.252	0	2.597 [†]
Total initial offering value of common equity (\$'000) [†]	55,184	100,894	200,122	10,500	1,968,750
Total initial offering value of common equity (\$'000) [†]	54,714	97,325	180,820	10,500	1,750,000
Total proceeds from IPOs (\$'000)	11,250	18,760	34,074	1,470	350,000
First-trading-day returns	0.014	0.055	0.116	-0.120	0.787

[†]All accounting data are from the latest annual report disclosed in the prospectus prior to the IPO. For two companies, the book value of stockholders' equity is negative. [†]First-trading-day bid (or closing) price per share × Total number of common shares outstanding. [†]Offering price per share × Total number of common shares issued.

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 plan 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 offerings will receive increased valuation. On the other hand, such a choice may reduce their ability to manipulate income, which they may believe will result in lower valuation. 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 Healy (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 (AC_t) are defined as the difference between reported net income from continuing operations (NI_t) and operating cash flows (CF_t) in period t :

$$AC_t = NI_t - CF_t \quad (1)$$

CF_t was derived by adjusting the working capital from operations in period t (obtained in the statement of changes in financial position¹³) for the changes in all current operating accounts in period t (i.e., changes in noncash current assets and current liabilities other than notes payable and the current portion of long-term debt).¹⁴

As indicated earlier, one feature associated with IPOs is that these firms have experienced rapid growth so that additional capital is needed to fund the growth. The sample IPOs, on average, experienced a 36 percent growth rate in total assets over the three fiscal periods immediately preceding the public offering. The higher the growth, the greater the accruals expected. Because of this growth, the standardization procedure used to estimate changes in accruals adopted in prior studies on stable growth firms may not be applied in this study without some modification, because it may bias the results in favor of showing an increase in accruals that is actually due only to the growth in total assets. To see this, consider a simple numerical example. Denoting TA_t for total assets as of the end of period t , let $AC_{t-1} = 100$, $AC_t = 110$, $TA_{t-2} = 1,000$, $TA_{t-1} = 1,100$, and $TA_t = 1,210$ to reflect a 10 percent growth rate in both total assets and accruals. If unexpected standardized accruals are calculated as the difference in accruals divided by the difference in total assets, as was done in DeAngelo (1986), then $(AC_t - AC_{t-1}) / (TA_t - TA_{t-1}) = .09$, which shows a bias to finding positive unexpected accruals due only to the firm's growth.

To avoid this problem, first the total accruals in period t , AC_t , were standardized by the average TA for that period, estimated as $(TA_t + TA_{t-1}) / 2$, where TA_t denotes total assets as of the end of period t . The ratio of total accruals to average total assets is assumed to follow a random walk. Accordingly, unexpected standardized total accounting accruals in period t , UAC_t , are calculated as

$$UAC_t = \frac{AC_t}{(TA_t + TA_{t-1}) / 2} - \frac{AC_{t-1}}{TA_{t-1} + TA_{t-2} / 2} \quad (2)$$

Returning to the example, with the measure given in (2), $UAC_t = 110 / [(1,210 + 1,100) / 2] - 100 / [(1,100 + 1,000) / 2] = 0$, 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 discretionary accounting accruals by entrepreneurs prior to going public. This approach implicitly assumes that changes in the proportion of nondiscretionary 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 nondiscretionary 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_t) and unexpected standardized operating cash flows (UCF_t) in period t were also calculated.

The process of going public is relatively long. An entrepreneur may well have made this decision one or two years before the public offering becomes effective. Thus, it is not clear a priori which period should be the "event period" in which income manipulation may have taken place and which period is the appropriate "benchmark period." Given data availability of three annual audited 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 period(s). 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 about one year before the offering.

Cross-sectional average unexpected standardized accruals were used to test 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 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 non-normality in the present data.¹⁵ Thus, for the reasons presented in DeAngelo (1988, 20 and fn. 16), one would expect these nonparametric tests to be more reliable. However, for the sake of completeness, parametric one-tailed t -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 2.7 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

TABLE 2
Unexpected standardized accruals, earnings, and operating cash flows in the two years prior to IPO (random-walk model, 229 firms)*

	One year prior	Two years prior
1. Accruals:		
Mean	.026	.009
t -statistic	(1.53) [†]	(.45)
Median [‡]	.011	-.005
Percent positive	52.6%	48.1%
2. Earnings:		
Mean	.069	.057
t -statistic	(5.85) [‡]	(3.42) [‡]
Median	.027 [‡]	.006 [‡]
Percent positive	72.9%	53.4%
3. Operating cash flows:		
Mean	.043	.048
t -statistic	(2.46) [‡]	(1.80) [‡]
Median	.026 [‡]	.003
Percent positive	57.6%	51.4%

*Only 208 firms are examined two years prior to IPO. Twenty-one firms were excluded due to unavailability of total assets at the end of the fourth year prior to IPO (TA_{t-4}) needed for standardization purposes.

[†]Significant at 10.0 percent level, one-tailed test.

[‡]Wilcoxon signed-ranks test is used to examine the statistical significance level of the median.

[‡]Significant at 1.0 percent level, one-tailed test.

[‡]Significant at 5.0 percent level, one-tailed test.

increase in the ratio of earnings to total assets is an outcome of an increase in the ratios of both operating cash flows and accounting accruals 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 significantly 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 IPO: 149 firms using Big Eight auditors and prestigious underwriters (A) versus 80 other firms (B)* (random-walk model)

	One year prior			Two years prior		
	A	B	DIF [†]	A	B	DIF [†]
1. Accruals:						
Mean	.007	.060	0.053	.011	.006	-.005
t-statistic	(.37)	(1.89) [‡]	(1.43) [§]	(.44)	(.17)	(-.12)
Median*	-.002	.032	.034 [¶]	-.001	-.022	-.021
Percent positive	48.3%	61.3%		49.3%	45.9%	
2. Earnings:						
Mean	.086	.035	-.051	.069	.035	-.034
t-statistic	(5.23) ^{††}	(2.77) ^{††}	(-2.44) ^{††}	(2.99) ^{††}	(1.67) [‡]	(-1.11)
Median	.040 ^{††}	.020 ^{††}	-.020 [‡]	.010 [‡]	.0004	-.0096
Percent positive	75.2%	68.7%		55.2%	50.0%	
3. Operating cash flows:						
Mean	.080	-.024	-.104	.059	.029	-.030
t-statistic	(3.77) ^{††}	(-.80)	(-2.81) ^{††}	(1.66) [‡]	(.73)	(-.56)
Median	.045 ^{††}	-.006	-.051 ^{††}	.0005	.019	.0185
Percent positive	63.1%	47.5%		50.0%	54.1%	

*One hundred thirty-four firms of subgroup A and 74 firms of subgroup B are included in the analysis two years prior to IPO (see Table 2 for details).

[†]Difference between means (medians): subgroup B minus subgroup A.

[‡]Significant at 5.0 percent level, one-tailed test.

[§]Significant at 10.0 percent level, one-tailed test.

[¶]t-statistic for the difference in two population means, assuming unequal population variances.

[•]Wilcoxon signed-ranks test is used to examine the statistical significance level of each subgroup's median.

^{††}Wilcoxon rank sum test (z-statistic) is used to examine the statistical significance level of differences between two medians.

^{†††}Significant at 1.0 percent level, one-tailed test.

lack of evidence of significant unexpected accruals two years prior to the IPO may suggest that the decision to go public had not been made by then, and, hence, managers had less incentive to "cook" accounting numbers.

These results suggest that firms that plan to go public are characterized, on average, by significant growth in reported earnings accompanied by a significant increase in operating cash flows in the two fiscal years preceding the IPO. The marginally significant positive mean of unexpected accruals in the first fiscal year preceding the IPO were the only evidence of accounting manipulation. However, other aspects of the analysis make such a conclusion suspect. In particular, non-normality of the data would argue that much more weight be placed on the nonparametric tests. As observed above, the

Wilcoxon signed-ranks test does not detect even marginally significant positive accruals.

Although the analysis of the entire sample provides, at best, weak evidence of manipulation of accounting earnings, 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.¹⁶ Quality of underwriters is more difficult to measure precisely. Most studies employ a prestige classification scheme first suggested by Hayes (1971, 1979). Accordingly, 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.¹⁷

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 subgroup A) and 80 other firms (denoted as subgroup B).¹⁸ Again, standard tests indicated significant non-normality in the data, and both nonparametric Wilcoxon signed-rank tests of significance of medians and one-tailed t-tests of significance of means are presented. The results are presented in Table 3 and are discussed below.

For both subgroups, the results in the first fiscal year prior to the IPO indicate, on average, significant positive unexpected reported earnings. For subgroup A, the median is 4.0 percent of total assets (a mean of 8.6 percent), and for subgroup B, the median is 2.0 percent of total assets (a mean of 3.5 percent), all estimates being significant at the 1 percent level as measured by either parametric or nonparametric tests. These estimates are larger for subgroup A, with the Wilcoxon rank sum test (z-statistic) revealing that the difference between the medians is significant at the 5 percent level. Also, the difference between the means shows a significantly larger mean for group A.

An examination of the causes for this increase in reported earnings reveals noteworthy differences between the two subgroups. For the firms that employ prestigious underwriters and high-quality auditors (subgroup A), the significant increase in earnings is accompanied, on average, by a significant increase in operating cash flows (a median of 4.5 percent and mean of 8.0 percent of total assets, both significant at the 1 percent level). The median and mean unexpected accruals for this subgroup are very small (-0.2 percent and 0.7 percent of total assets, respectively), and neither is statistically significant.

For the other subgroup (B), the results are reversed. The significant increase in earnings may be attributable, on average, to an increase in accruals (a median of 3.2 percent and mean of 6.0 percent of total assets, the latter being significant at the 5 percent level). On the other hand, the

median and mean unexpected operating cash flows are negative (-0.6 and -2.4 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 10 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.¹⁹ 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 insignificantly 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), without any significant differences between the groups. For subgroup A, there are no significant positive unexpected median operating cash flows, but the *t*-test indicates significant positive unexpected mean operating 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 (\$22.2 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 \$14.5 million versus \$32.8 million and \$7.2 million, respectively). However, the median ratio of long-term debt to total assets is almost 90 percent larger in group B (0.208 versus 0.111). 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 for each of the two years prior to the IPO (years *t* and *t*-1, respectively).

TABLE 4
Sample characteristics for two subgroups of IPOs: 49 firms using Big Eight auditors and prestigious underwriters (A) versus 80 other firms (B)

Characteristics ^a	Group A (49 firms)	Group B (80 firms)
Total assets (\$000)	22,209	14,772
Net sales (\$000)	30,163	20,681
Net income (\$000)	1,607	1,188
Long-term debt as a percentage of total assets	.111	.180
Total initial market value of common equity (\$5000) ^b	71,366	32,756
Total initial offering value of common equity (\$5000) ^c	72,498	30,883
Total proceeds from IPOs (\$5000) ^d	14,500	7,200
First-trading-day returns	.016	.008
Standard deviation		
Mean	58,257	14,772
Standard deviation		
Mean	92,206	20,681
Standard deviation		
Mean	3,885	1,188
Standard deviation		
Mean	172	208
Standard deviation		
Mean	132,573	32,756
Standard deviation		
Mean	127,127	30,883
Standard deviation		
Mean	24,094	7,200
Standard deviation		
Mean	.055	.008
Standard deviation		
Mean	41,062	41,822
Standard deviation		
Mean	122	.055
Standard deviation		
Mean	48,663	47,060
Standard deviation		
Mean	35,511	6,215
Standard deviation		
Mean	2,611	105
Standard deviation		
Mean	43,872	43,872
Standard deviation		
Mean	-.42	-.43,178
Standard deviation		

^a All accounting data are from the latest annual report disclosed in the prospectus prior to the IPO.
^b Offering price per share × Total number of common shares outstanding.
^c First-trading-day bid (or closing) price per share × Total number of common shares outstanding.
^d Offering price per share × Total number of new common shares issued.

TABLE 5
Regression results of equation (3)

(Dep var) = $a_0 + a_1 QLT_j + a_2 \ln(TA_j) + a_3 GTA_j + a_4 LVR_j + a_5$

Dependent variable	a_0	a_1	a_2	a_3	a_4	Adjusted R ²	F
A. One year prior to IPO (229 firms)							
UAC_{t-1}	.011	-.026	-.053	-.022	.364	.17	12.87
UNI_{t-1}	.185	.060	-.018	-.035	.026	.04	3.13
UCF_{t-1}	-.294	.049	.035	.057	-.338	.16	11.68
B. Two years prior to IPO (208 firms)							
UAC_{t-1}	-.104	-.026	.014	.087	-.124	-.00	.98
UNI_{t-1}	.378	.042	-.037	.085	-.094	.05	3.93
UCF_{t-1}	.483	.068	-.052	-.002	.029	.01	1.46

t-values (using White's (1980) heteroskedasticity-consistent covariance matrix estimator in computing standard errors) are in parentheses.
 †Significant at the 10 percent level, one-tailed test.
 ‡Significant at the 5 percent level, one-tailed test.
 §Only 208 firms are examined two years prior to IPO (see Table 2 for details).

The first regression uses UAC_t , the second UNI_t , and the third UCF_t as dependent variables. Each regression has the following form:

$$(Dep. Var.)_{j,t} = a_0 + a_1 \cdot QLT_j + a_2 \cdot \ln(TA_j) + a_3 \cdot GTA_j + a_4 \cdot LVR_j + a_5 \quad (3)$$

where

- QLT_j = Dummy variable equal to 1 if prestigious underwriters and auditors are selected by firm j , and 0 otherwise
- $\ln(TA_j)$ = Natural logarithm of total assets of firm j
- GTA_j = Average annual growth rate (geometric mean) of total assets of firm j between end of year $t-2$ and end of year t
- LVR_j = Ratio of long-term debt to total assets of firm j
- a_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 rapid growth prior to going public (a median geometric mean growth of 36 percent), and growth is a major reason that firms seek to raise additional capital by going public. The growth variable is included as a 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 accruals is the financial structure. It can be suggested (Watts and Zimmerman 1990) 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 is 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 statistics presented in Table 5 are OLS estimates modified by using White's (1980) heteroskedasticity-consistent covariance matrix estimator in computing standard errors.²⁰ Note that the regression coefficients are mechanically related in that the sum of the coefficients obtained by employing UAC and UCF as the dependent variable equals the coefficients obtained by employing UNI 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 nondiscretionary accruals that are proportional to changes in the value of assets, it may be the case that rapid growth causes nondiscretionary 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, 419) makes a compelling case that managers are "faced with the prospect of detailed scrutiny that could engender large personal wealth losses through allegations of fraud and federal 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 process 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 Hofmeister (1987) gives a detailed discussion on the setting of the offer price. She writes (p. 54) that during the waiting period, "the underwriter asks buyers how much stock they want at what price."
- 2 This motivation to cash out underlies the analytical earnings management model of Dye (1988).
- 3 The details of the adjustment are given later in equation (2). A further check that the results are not driven by growth is given in the multivariate analysis section.
- 4 When these 15 firms were dropped from the sample, the results were unaffected. This analysis is available from the authors upon request.
- 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 canceled unless a certain minimum number of shares is sold. Best-effort offerings tend to be small offers (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 but not reported here suggested that the manipulation conclusion is not due to any survivorship bias.
- 7 Special IPOs include closed-end funds, limited partnerships, American Depository, pure secondary offerings, and thrift institutions.

at the 1 percent level). The coefficient of the proxy variable for underwriters' and auditors' quality (*QLT*) was not significant. However, the Spearman correlation coefficient between the size and quality variables was significant at the 1 percent level with a value of .228 and may indicate that the size measure also captures quality of auditor and underwriter. Note that the negative sign of the coefficient of size is consistent with such an interpretation. Moreover, this fits with the univariate analysis in which it was seen that IPOs that engaged prestigious auditors and underwriters were large and had small unexpected accruals. Because the results show that unexpected standardized accruals are (significantly) positively related to financial leverage, one may argue that any manipulation of earnings by entrepreneurs is not motivated by stock price but to relax debt covenant constraints. The fact that the coefficient of total assets' growth rate (*GTA*) was not significantly different from 0 provides some evidence that the definition of unexpected accruals adequately corrected for asset growth.

The results for the period (two year) prior to the IPO (panel B) are weak (in terms of explanatory power and significance) and are consistent with the hypothesis that no manipulation occurs in this period. In summary, the multivariate analysis reveals that for the period one year (but not two years) prior to the IPO, unexpected accruals are negatively related to firm size and positively related to firm financial leverage. The fact that size and quality of auditor and underwriter are positively and significantly correlated may mean that the hypothesis relating auditor / underwriter quality to earnings management cannot be totally dismissed. Furthermore, it appears that growth was not related to unexpected accruals.

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 229 industrial firms that went public between January 1985 and June 1987. The methodology employed was based on the total accounting accruals approach developed in Healy (1985) and DeAngelo (1986). Because firms going public generally experience rapid growth prior to the offering, precautions were taken so that growth in accruals proportionate to growth in assets would not be interpreted as an increase in discretionary accruals and, hence, indicative of earnings management.

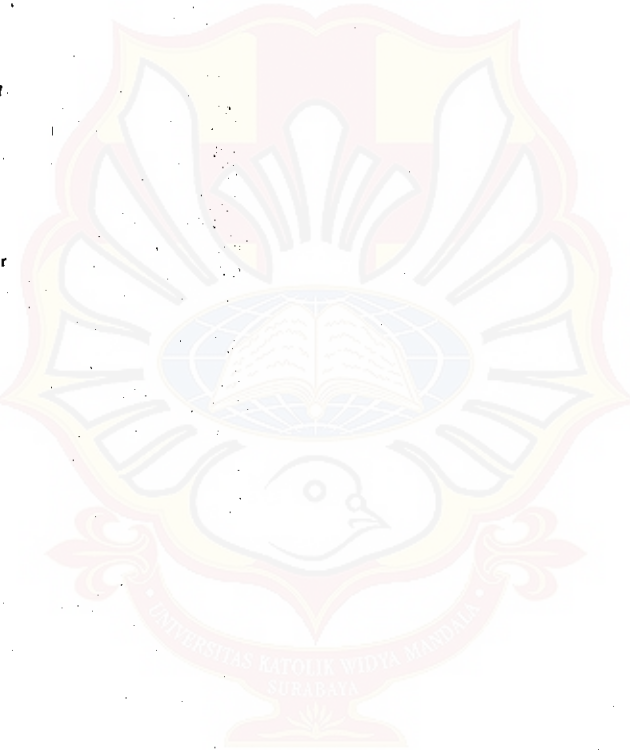
The study found only very weak support for the hypothesis that entrepreneurs choose accounting methods to increase reported net income in the period prior to the public offering. Furthermore, to the extent that earnings

- 14 A similar calculation approach was taken by DeAngelo (1986, 1988). See also Driana and Largay (1985) for details.
- 15 For an extension of the Shapiro-Wilk *W*-test to large samples, see Royston (1982). Similar results were obtained using the Lilliefors test for normality (see Conover 1980, 357-361).
- 16 See DeAngelo (1981) for a discussion of auditor size as a surrogate for audit quality.
- 17 Hayes (1971, 1979) indicated that the Tombstone advertisements placed in the financial magazines and financial sections of newspapers implicitly indicate which underwriters are prestigious. In the present sample, 61 firms employed underwriters from the special bracket, 93 firms employed underwriters from the major bracket, and 5 firms employed underwriters from the submajor bracket.
- 18 Of these 80 firms, 57 employed Big Eight auditors and nonprestigious underwriters, and 10 firms employed prestigious underwriters and non-Big Eight auditors.
- 19 As noted above, the non-normality 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 these outliers, it finds mean unexpected accruals to be positive and significant at the 10 percent level for subgroup B and insignificant for subgroup A. This provides some additional support for the manipulation hypothesis.
- 20 White (1980) also suggested a test for heteroskedasticity by comparing the consistent estimator to the usual OLS covariance matrix estimator. In the absence of heteroskedasticity, both estimators will be about the same. Otherwise, they will generally diverge. The results of this test on the data provided White *t*- and usual OLS *t*-statistics of similar magnitudes for most variables. The significance level of all coefficients remained the same both ways.

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- 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 101 firms that were smaller, the authors could collect cash flow data from only 56, although these 56 appeared to be quite representative of the 101 smaller firms. Given the results presented in the multivariate analysis section of this paper, one might conjecture that inclusion of these smaller 56 firms would strengthen the evidence of management manipulation. The analysis indicated no such strengthening. The authors thus believe that the benefits (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 Friedlan (1992), who also looked at earnings manipulations by IPOs. Friedlan 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 of manipulation. For the sample used in this paper, however, tests for firms using interim data (140 firms) and tests for firms that did not provide interim data (89 firms) show no evidence of manipulation, neither in the most recent interim period prior to the IPO nor in the most recent year or two years prior to the IPO. This is evidenced by the insignificant unexpected standardized total accounting accruals (*UAC*) obtained using the methodology. Deflating *UAC* by net sales instead of total assets did not change the results. This evidence is consistent with the conclusion of only weak evidence of earnings manipulation. The analysis of interim data is available from the authors upon request.
- 10 A total of 848 IPOs, issued during the sample period, was drawn from the Registration Offerings Statistics (ROS) tape issued by the SEC. The ROS tape contains financial and other information reported for new corporate security offerings as required under the Security Exchange Act of 1933.
- 11 For example, Miller and Reilly (1987) reported an average first-day return of 9.87 percent for 510 IPOs that went public during 1982-1983. Their sample contained pure common stock offerings and stocks with an initial offering price of \$1 or more. In a recent study, Balvers, McDonald, and Miller (1988) found a mean initial return of 7.84 percent for a sample of 1,182 firm commitment offerings over 1981-1985. It is not surprising that the present study arrived at lower underpricing given the sample selection requirements. In other words, the firms analyzed here tend to be larger, more established, or more successful IPOs. They are also characterized by the choice of auditors and underwriters: 206 (90 percent) IPOs were audited by a Big Eight auditor, while 159 (70 percent) IPOs were taken public by a prestigious underwriter. Given these sample characteristics, the finding in this study is consistent with that of Balvers et al. (1988) and Beatty (1989) in which they documented that IPOs using prestigious auditors or underwriters experienced much lower underpricing.
- 12 These four cases are (1) 22 firms in computer programming and other software services (SIC Code 737); (2) 11 firms in rental, leasing, consulting, and business services (SIC Code 739); (3) 10 firms in biological and pharmaceutical products (SIC Code 283); and (4) 10 firms in electronic components, semiconductors, and transmitting electronics tubes (SIC Code 367).
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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.

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I. INTRODUCTION

ANALYSIS of earnings management often focuses on management's use of discretionary accruals.¹ 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 nondiscretionary components. There is, however, no systematic evidence bearing 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 second set of firms, for which we have strong priors that earnings have been managed.² 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

¹ See, for example, Healy (1985), DeAngelo (1986) and Jones (1991). Other constructs that have been used to detect earnings management include accounting procedure changes (Healy 1985; Healy and Palepu 1990; Sweeney 1994), specific components of discretionary accruals (McNichols and Wilson 1988; DeAngelo et al. 1994) and components of discretionary cash flows (Dechow and Sloan 1991).

² Schipper (1989) defines earnings management as purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process). In the spirit of Schipper's definition, our procedure assumes that reported earnings in the firm-years targeted by the SEC are higher than they would have been under the neutral application of GAAP.

management at rates exceeding the specified test-levels when applied to samples of firms with extreme financial performance.³ 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:

$$DA_t = \alpha + \beta PART_t + \sum_{k=1}^K \gamma_k X_{kt} + \varepsilon_t \quad (1)$$

where

- DA = discretionary accruals (typically detrended by lagged total assets);
 PART = a dummy variable partitioning the data set into two groups for which earnings management predictions are specified by the researcher;
 X_k = (for $k=1, \dots, K$) other relevant variables influencing discretionary accruals; and
 ε = 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 "event 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_k s), and so excludes them from the model. Similarly, the researcher does not observe DA, and is forced to use a proxy, (DAP), that measures DA with error, (v):

$$DAP_t = DA_t + v_t$$

Thus, the correctly specified model can be expressed in terms of the researcher's proxy for discretionary accruals as⁴:

$$DAP_t = \alpha + \beta PART_t + \sum_{k=1}^K \gamma_k X_{kt} + v_t + \varepsilon_t \quad (1')$$

This model can be summarized as:

$$DAP_t = \alpha + \beta PART_t + \mu_t + \varepsilon_t \quad (1'')$$

³ The excessive rejection rates in the samples with extreme financial performance have two potential causes. First, nondiscretionary accruals (that are not extracted by the models) may be correlated with firm performance. Second, other factors that are correlated with firm performance may cause earnings to be systematically managed. In the first case, the null hypothesis is falsely rejected because of correlated measurement error in the proxy for discretionary accruals. In the second case, the tests are correctly detecting earnings management, but the cause of earnings management is not known. Thus, if a researcher selects a stimuli 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 II.

where μ_t 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,⁴ the OLS estimate of β , ($\hat{\beta}$), from a multiple regression of DAP on PART and μ is the best unbiased estimator of β . Also, the ratio of $(\hat{\beta} - \beta)$ to its standard error, $SE(\hat{\beta})$, has a t -distribution, which can be used to test for earnings management. This framework therefore provides a benchmark for evaluating the case where μ is omitted from the regression.

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

$$DAP_t = \hat{\alpha} + \hat{\beta} PART_t + e_t \quad (2)$$

The researcher's model is misspecified by the omission of the relevant variable μ . Recall that the μ can represent either measurement error in DAP or omitted relevant variables influencing DA. Estimating model (2) using OLS has two undesirable consequences:⁵

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

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

Problem 1: Incorrectly attributing earnings management to PART

If the earnings management that is hypothesized to be caused by PART does not take place (i.e., the true coefficient on PART is zero) and μ is correlated with PART, then the estimated coefficient on 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 PART and/or (ii) other variables that cause earnings management are correlated with 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 PART.

Problem 2: Unintentionally extracting earnings management caused by PART

If the earnings management that is hypothesized to be caused by PART does take place and the correlation between μ and PART is opposite in sign to the true coefficient on PART, then the estimated coefficient on 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., μ) will be

⁴ The required assumptions are (i) ε_t is distributed independent normal with zero mean and common variance, σ_ε^2 ; and (ii) PART and μ_t are distributed independently of ε_t for all t and τ . The assumption that the residuals are normally distributed is not one of the original Gaussian assumptions. It is, however, required (i) for the OLS estimate to be the best of all (linear and nonlinear) unbiased estimators; and (ii) to derive the distribution of the test-statistic. Throughout the remainder of the paper, references to the Gaussian assumptions will therefore include the normality assumption.
⁵ The derivation of these properties is identical to the standard derivation for the properties of OLS estimators in the case of the exclusion of a relevant regressor (e.g., Johnston 1984, 260-261).

negatively correlated with the discretionary accrual proxy, causing the coefficient on PART to be biased toward zero.

Problem 3: Low power test

If μ 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 a 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 downward in the other two groups. Inferences are then made through pairwise comparisons of the mean total accruals in the group where earnings is predicted to be managed upwards to the mean total accruals for each of the groups where earnings is 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:

$$NDA_t = \frac{\sum TA_t}{T} \quad (4)$$

where

- NDA = estimated nondiscretionary accruals;
- TA = total accruals scaled by lagged total assets;
- $t = 1, 2, \dots, T$ is a year subscript for years included in the estimation period; and
- τ = a year subscript indicating a year in the event period.

The DeAngelo Model

DeAngelo (1986) tests for earnings management by computing first differences in total accruals, and by assuming that the first differences have an expected value of zero under the null hypothesis of no earnings management. This model uses last period's total accruals (scaled by lagged total assets) as the measure of nondiscretionary accruals. Thus, the DeAngelo Model for nondiscretionary accruals is:

$$NDA_t = TA_{t-1} \quad (5)$$

The DeAngelo Model can be viewed as a special case of the Healy Model, in which the estimation period for nondiscretionary accruals is restricted to the previous year's observation.

A common feature of the Healy and DeAngelo Models is that they both use total accruals from the estimation period to proxy for expected nondiscretionary accruals. If nondiscretionary accruals are constant over time and discretionary accruals have a mean of zero in the estimation period, then both the Healy and DeAngelo Models will measure nondiscretionary accruals without error. If, however, nondiscretionary accruals change from period to period, then both models will tend to measure nondiscretionary accruals with error. Which of the two models is more appropriate then depends on the nature of the time-series process generating nondiscretionary accruals. If nondiscretionary accruals follow a white noise process around a constant mean, then the Healy model is appropriate. If nondiscretionary accruals follow a random walk, then the DeAngelo model is appropriate. Empirical evidence suggests that total accruals are stationary in the levels and approximate a white noise process (e.g., Dechow 1994).

The assumption that nondiscretionary accruals are constant is unlikely to be empirically descriptive. Kaplan (1985) points out that the nature of the accrual accounting process dictates that the level of nondiscretionary accruals should change in response to changes in economic circumstances. Failure to model the impact of economic circumstances on nondiscretionary accruals will cause inflated standard errors due to the omission of relevant (uncorrelated) variables (problem 3). In addition, if the firms examined are systematically experiencing abnormal economic circumstances, then failure to model the impact of economic circumstances on nondiscretionary accruals will result in biased estimates of the coefficient on PART (problem 1).

The Jones Model

Jones (1991) proposes a model that relaxes the assumption that nondiscretionary accruals are constant. Her model attempts to control for the effect of changes in a firm's economic circumstances on nondiscretionary accruals. The Jones Model for nondiscretionary accruals in the event year is:

$$NDA_\tau = \alpha_1(1/A_{\tau-1}) + \alpha_2(\Delta REV_\tau) + \alpha_3(PPE_\tau) \quad (6)$$

where

- ΔREV_τ = revenues in year τ less revenues in year $\tau-1$ scaled by total assets at $\tau-1$;
- PPE_τ = gross property plant and equipment in year τ scaled by total assets at $\tau-1$;
- $A_{\tau-1}$ = total assets at $\tau-1$; and
- $\alpha_1, \alpha_2, \alpha_3$ = firm-specific parameters.

Estimates of the firm-specific parameters, α_1 , α_2 and α_3 , are generated using the following model in the estimation period:

$$TA_t = a_1(1/A_{t-1}) + a_2(\Delta REV_t) + a_3(PPE_t) + v_t \quad (7)$$

where

a_1 , a_2 , and a_3 denote the OLS estimates of α_1 , α_2 , and α_3 and TA is total accruals scaled by lagged total assets. The results in Jones (1991) indicate that the model is successful at explaining around one quarter of the variation in total accruals.

An assumption implicit in the Jones model is that revenues are nondiscretionary. If earnings are managed through discretionary revenues, then the Jones Model will remove part of the managed 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 conjectured tendency of the Jones Model to measure discretionary accruals with error when discretion is exercised over revenues. In the modified model, nondiscretionary accruals are estimated during the event period (i.e., during periods in which earnings management is hypothesized) as:

$$NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3(PPE_t) \quad (8)$$

where

ΔREC_t = net receivables in year t less net receivables in year $t-1$ scaled by total assets at $t-1$.

The estimates of α_1 , α_2 , α_3 and nondiscretionary accruals during the estimation period (in which no 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 revenues is adjusted for the change in receivables in the event period. The original Jones 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 credit sales 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 nondiscretionary accruals are constant over time. However, instead of attempting to directly model the determinants of nondiscretionary accruals, the Industry Model assumes that variation in the determinants of nondiscretionary accruals are common across firms in the same industry. The Industry Model for nondiscretionary accruals is:

$$NDA_t = \gamma_1 + \gamma_2 \text{median}_i(TA_i) \quad (9)$$

where

$\text{median}_i(TA_i)$ = the median value of total accruals scaled by lagged assets for all non-sample firms in the same 2-digit SIC code.⁶

The firm specific parameters γ_1 and γ_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 critically on two factors. First, the Industry Model only removes variation in nondiscretionary accruals that is common across firms in the same industry. If changes in nondiscretionary accruals largely reflect responses to changes in firm-specific circumstances, then the Industry Model will not extract all nondiscretionary accruals from the discretionary accrual proxy. Second, the Industry Model removes 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) samples of 1000 firm-years that 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 56 firm-years.

Sample (i) is designed to investigate the specification of the test statistics generated by the models when the measurement error in discretionary accruals (μ) 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 I 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 1950 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 nondiscretionary accrual models 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 are correlated with firm performance. For

⁶ The use of two-digit SIC levels represents a trade-off between defining industry groupings narrowly enough that the Industry Model captures the industry specific effects versus having enough firms in each industry grouping so that the model can effectively diversify firm-specific effects.

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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 loosen debt covenant restrictions through their accrual choices (e.g., Defond and Jiambalvo 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., Prouciau 1993; DeAngelo 1988). DeAngelo (1988) points out that poor 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 misspecification.

To investigate the estimates 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.⁷ 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 competing models 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 accruals is more complex than inducing abnormal stock returns for two reasons. First, we have to make explicit assumptions concerning the component(s) of accruals that are managed. This assumption is critical for the Jones Model, because if we introduce earnings management by artificially inflating revenues, then both accruals and revenue increase. The increase in revenue will affect the estimate of nondiscretionary accruals generated by the Jones Model. Second, since accruals must sum to zero over the life of the firm, artificially inducing discretionary accruals requires additional assumptions about the timing of the accrual reversals. Thus, we artificially introduce earnings management into sample (iii), but recognize 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 accruals fully reverse themselves in the next fiscal year. We make three different sets of assumptions regarding the components of accruals that are managed:

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

⁷ We focus on the most extreme deciles of each performance measure to generate powerful tests for possible performance related biases. Our samples are therefore likely to have more extreme performance than that occurring in specific earnings management studies. Thus, we expect the performance related misspecification 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 deciles.

- (2) *Revenue Manipulation* - premature recognition of revenue (assuming all costs are fixed). This approach is implemented by adding the assumed amount of revenue manipulation to total accruals, revenue and accounts receivable. The same amount is subtracted from total accruals, revenue and accounts receivable in the following year; and
- (3) *Margin Manipulation* - premature recognition of revenue (assuming all costs are variable). This approach is implemented by adding the assumed amount of margin manipulation to total accruals and by adding the following to revenue and accounts receivable:

(assumed amount of margin manipulation) / (net income ratio),

where the net income ratio is the ratio of the firm's net income to revenue, estimated using the median value of the ratio from observations in each firm's estimation period. For example, to artificially-introduce earnings management of one percent of lagged assets in a firm with a net income ratio of ten percent, we add one percent of lagged assets to total accruals and ten percent of lagged assets to revenue and accounts receivable. The same amounts are subtracted from total accruals, revenue and accounts receivable in the following year.

The difference between assumptions (2) and (3) relate to the matching of expenses to manipulated revenues. Assumption (2) corresponds to 'pure' revenue manipulation, in which revenues are manipulated upwards, but expenses do not change. Assumption (3) corresponds to premature recognition of a sale in a setting where all costs are variable. Revenues are manipulated upwards, but expenses are matched to the manipulated revenues. The crucial difference between (2) and (3) is that (3) requires much greater revenue manipulation in order to achieve a given increase in earnings. Assumptions (2) and (3) are extremes on a continuum, and in practice, we would expect most revenue-based earnings management to lie between these two extremes.

Interpretation of the type II errors for sample (iii) is contingent on the explicit assumptions that are made concerning how earnings are managed. In order to reinforce the external validity of our conclusions concerning type II errors, we examine a sample of firm-years for which we have strong a priori reasons to expect earnings management of a known sign. Sample (iv) consists of firm-years that are subject to accounting-based enforcement actions by the SEC. The SEC takes enforcement actions against firms and individuals having allegedly violated the financial reporting requirements of the securities laws. Since April 1982, the SEC has published the details of its major enforcement actions in a series of Accounting and Auditing Enforcement Releases (AAERs).⁸

Enforcement actions in which the Commission alleges that a firm has overstated annual earnings in violation of Generally Accepted Accounting Principles (GAAP) are brought pursuant to Section 13(a).⁹ A total of 134 firms are the subject of AAERs brought pursuant to Section 13(a). We further require that (i) each firm has at least ten years of the required financial statement data on the COMPUSTAT industrial files (excluding the years in which the alleged overstatements of earnings occurred); (ii) the AAER alleges that annual earnings have been overstated (many of the AAERs relate to overstatements of quarterly earnings that are reversed before the fiscal year end); and (iii) the AAER does not relate to a financial institution (since the current asset and current liability variables that we use to compute accruals are not available for these firms). These

⁸ Feroz et al. (1991) provide descriptive evidence on the AAERs and their financial and market effects. Pincus et al. (1988) describe the events leading to a formal SEC investigation and the publication of an AAER.

⁹ Section 13(a) requires issuers whose securities are registered with the Commission to file reports (including the annual financial statements on form 10-K) as specified by Commission rules and regulations. The financial statements contained in these filings are required to comply with Regulation S-X, which in turn requires conformity with GAAP.

restrictions result in 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 understating 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 tested 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:¹¹

$$TA_t = (\Delta CA_t - \Delta CL_t - \Delta Cash_t + \Delta STD_t - Dep_t) / (A_{t-1})$$

where

- ΔCA = change in current assets (COMPUSTAT item 4);
- ΔCL = change in current liabilities (COMPUSTAT item 5);
- $\Delta Cash$ = change in cash and cash equivalents (COMPUSTAT item 1);
- ΔSTD = change in debt included in current liabilities (COMPUSTAT item 34);
- $-Dep$ = depreciation and amortization expense (COMPUSTAT item 14); and
- A = 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:

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

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):

$$DAP_t = TA_t - NDAP_t \quad (10)$$

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:

$$DAP_t = \hat{a}_1 + \hat{b}_1 \text{PART}_t + \epsilon_t \quad (11)$$

The coefficient on PART, \hat{b}_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

¹¹ All data required to estimate the nondiscretionary accruals models and conduct the empirical analysis are initially obtained from the COMPUSTAT industrial files. Data for the 36 event-years in the SEC sample are manually checked to hard copies of the sample firms' annual reports. In some of the cases where the SEC requires a firm to restate its earnings, we found that the COMPUSTAT files contained the restated numbers. In these cases, we substitute the original figures reported in the hard copies of the annual reports.

that $b_1 = 0$.¹¹ 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:

$$Z = \frac{1}{\sqrt{N}} \sum_{j=1}^N \frac{t_j}{\sqrt{k_j / (k_j - 2)}} \quad (12)$$

where

t_j = t-statistic for firm j; and

k_j = degrees of freedom for t-statistic of firm j.

The Z-statistic is asymptotically distributed unit normal if the t_j '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 accrual 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, (\hat{b}_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, suggesting that the latter models are more effective at modeling the time-series process generating nondiscretionary 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

¹¹ The computation of the standard error of \hat{b}_1 requires special attention because the measures of discretionary accruals in the event period (estimation period) are prediction errors (fitted residuals) from a first-pass estimation process. An adjustment must therefore be made to reflect the fact that the standard errors of the prediction errors are greater than the standard errors of the fitted residuals. Likewise, the degrees of freedom in the t-test must reflect the degrees of freedom used up in the first-pass estimation. This can be accomplished by either explicitly adjusting the standard error and degrees of freedom of the prediction errors (see Jones 1991) or by estimating a single stage regression that includes both PART and the determinants of nondiscretionary accruals (see Dechow and Sloan 1991). The two approaches are econometrically equivalent and we therefore use the latter approach for its computational ease (see Salkever 1976 for an extended discussion and proof on this issue).

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.

Model	Mean	Standard Deviation	Lower Quartile	Median	Upper Quartile
<i>Healy Model:</i>					
earnings management	0.002	1.241	-0.035	-0.101	0.040
standard error	0.195	4.573	0.039	0.065	0.104
t-statistic	0.012	1.174	-0.583	0.010	0.598
<i>DeAngelo Model:</i>					
earnings management	0.002	0.151	-0.048	0.001	0.052
standard error	0.281	6.799	0.054	0.090	0.143
t-statistic	0.002	1.135	-0.577	0.018	0.637
<i>Jones Model:</i>					
earnings management	0.001	0.118	-0.037	-0.001	0.036
standard error	0.092	0.438	0.036	0.060	0.095
t-statistic	0.013	1.155	-0.647	-0.022	0.644
<i>Modified Jones Model:</i>					
earnings management	0.002	0.119	-0.035	0.001	0.041
standard error	0.092	0.437	0.036	0.060	0.095
t-statistic	0.062	1.204	-0.613	0.027	0.745
<i>Industry Model:</i>					
earnings management	0.002	0.662	-0.032	0.000	0.039
standard error	0.211	5.363	0.038	0.063	0.101
t-statistic	0.026	1.165	-0.555	0.006	0.637

Notes:

Earnings management represents the estimated coefficient on PART, (\hat{b}_1), from firm-specific regressions of $DAP_{it} = \hat{a}_i + \hat{b}_1 PART_{it} + e_{it}$, 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. 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.

TABLE 2
Comparison of the Type I Errors for Tests of Earnings Management Based on Alternative Models to Measure Discretionary Accruals. Percentage of 1000 Randomly Selected Firm-Years for which the Null Hypothesis of No Earnings Management is Rejected (One-Tailed Tests).

Null Hypothesis Test Level:	Earnings management ≤ 0		Earnings management ≥ 0	
	5%	1%	5%	1%
<i>Healy Model:</i>				
t-test	5.0%	1.3%	5.1%	1.4%
<i>DeAngelo Model:</i>				
t-test	4.8	1.0	5.2	1.1
<i>Jones Model:</i>				
t-test	4.9	1.4	5.9	1.5
<i>Modified Jones Model:</i>				
t-test	4.9	1.3	5.9	1.3
<i>Industry Model:</i>				
t-test	4.2	1.4	5.5	1.2

* Significantly different from the specified test level at the 5 percent level using a two-tailed binomial test.

** Significantly different from the specified test level at the 1 percent level using a two-tailed binomial test.

Year 0 represents the year in which the firm-years are selected based on their extreme earnings performance. There are separate plots for total accruals, cash from operations and earnings. Each of the variables is scaled by lagged total assets and the median values for each of the two samples are shown in the plots. The bottom plot is of earnings performance. As expected, the high earnings performance sample gradually increases to a peak in year 0 and then declines thereafter. Similarly, the low earnings performance sample gradually declines to a trough in year 0 and then increases thereafter. The total accruals and cash from operations plots mirror the earnings plots, though the peaks and troughs are less extreme. This reflects the fact that earnings is the sum of cash from operations and accruals. Firms with high earnings tend to have high cash flows and high accruals. Similarly, firms with low earnings tend to have low cash flows and low accruals.

Table 3 reports the rejection frequencies for tests of earnings management in response to the stimulus represented by PART. Since PART is measured by randomly selecting firms with extreme earnings performance, PART is constructed so that it is not itself a causal determinant of earnings management (although it may be imperfectly correlated with causal determinants). Thus, we have constructed a scenario which is analogous to the case where a researcher has selected a stimulus that is correlated with firm performance, but where the stimulus is not itself a causal determinant of earnings management. As such, any rejections of the null hypothesis of no earnings management represent type I errors. However, these results do not permit a direct assessment of the extent of misspecification in existing studies. Such an assessment requires a detailed reexamination of the stimulus in question [e.g., Holthausen et al. 1995].

FIGURE 2

Time Series of Median Annual Total Accruals, Cash from Operations and Earnings all Standardized by Lagged Total Assets. Year 0 is the Year in which Firm-Years are Selected from the Lowest and Highest Decile of Cash from Operations. Sample Consists of 1000 Firm-Years Randomly Selected from Firm-Years in the Lowest and Highest Decile of Cash from Operations.

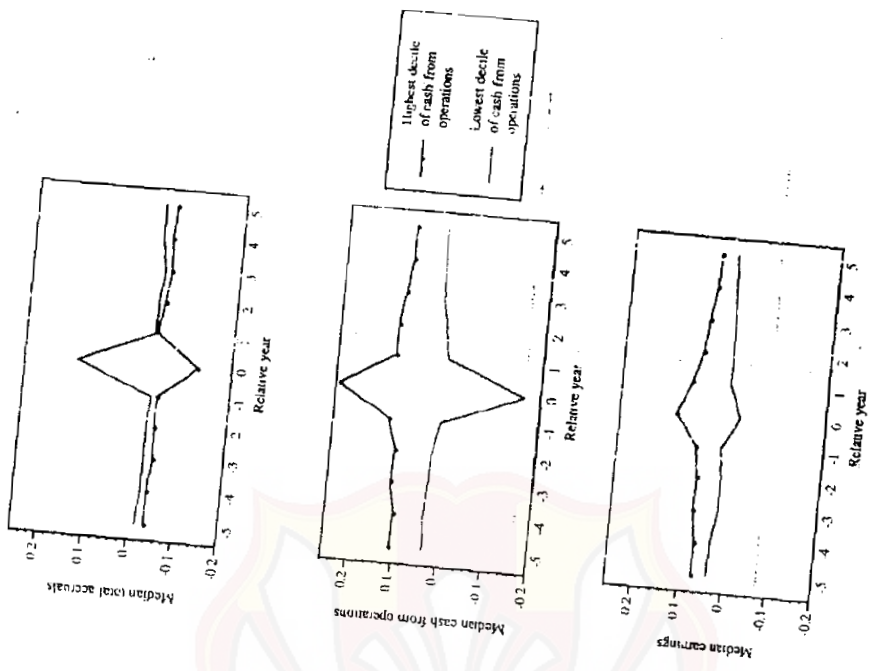
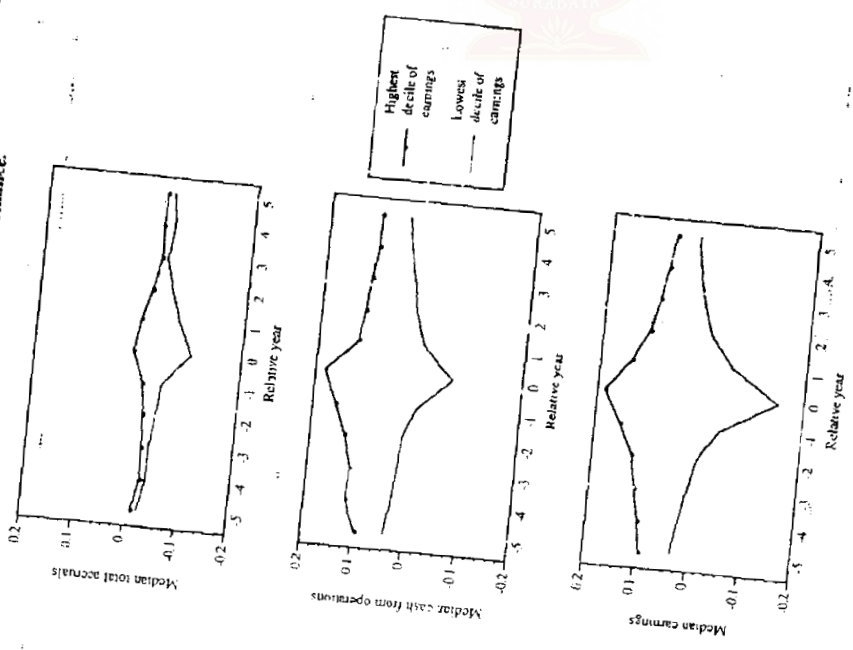


FIGURE 1

Time Series of Median Annual Total Accruals, Cash from Operations and Earnings all Standardized 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 Decile 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 ≥ 0 is rejected at rates similar to those reported for the random sample in table 2. However, the null hypothesis that earnings management ≤ 0 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 Healy 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 misspecifications are less severe for the Jones and Modified Jones models than for the Healy 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 I errors. That is, using the models evaluated here, the researcher will detect low discretionary accruals when earnings are low 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. (1995) illustrate this point in their extension of Healy's (1985) paper on executive bonus plans. They conclude that Healy's lower bound results are induced by the correlation between his partitioning variable and earnings performance and that Healy 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 plot is of cash from operations. As expected, the high cash from operations sample climbs to a peak 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 plot is of earnings, which follow a similar, though less pronounced pattern to cash 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 low cash from operations firms experience a sharp increase in total accruals, while the high 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 (1994), 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 mismatching problems 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 ≤ 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 46.7% 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 . Because total accruals tend to be high, 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 event year 0. 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, 50.0%. These results illustrate the problem faced by Healy (1985) in his upper bound tests. Healy hypothesizes that the executives of firms in which cash from operations exceeds the upper bounds specified in their top executive bonus plans manage earnings downwards. 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 4.¹² 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 upwards. 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 concerning bias in the estimates of earnings management produced by the competing models. For the sake of parsimony, we provide 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 manipu-

¹²In additional tests (not reported) we reestimated the table 4 results using the Gaver et al. (1995) measure of nondiscretionary earnings in place of cash from operations. The results confirm that the low nondiscretionary earnings sample over-rejects the null hypothesis that discretionary accruals are less than or equal to zero in favor of the alternative hypothesis that they are greater than zero. For example, the Jones model (which is used by Gaver et al.) rejects the null hypothesis that earnings management is less than or equal to zero 37.1% (17.4%) of the time using a five percent (one percent) test level.

TABLE 4
Comparison of the Type I Errors for Tests of Earnings Management Based on Alternative Models to Measure Discretionary Accruals. Percentage of 1000 Firm-Years Randomly Selected from Firm-Years in the Lowest and Highest Decile of Cash From Operations Performance for which the Null Hypothesis of No Earnings Management is Rejected (One-Tailed Tests).

Null Hypothesis Test Level:	Earnings management ≤ 0		Earnings management ≥ 0	
	5%	1%	5%	1%
<i>Panel A: Lowest decile of cash from operations performance</i>				
<i>Healy Model:</i>				
t-test	46.7%**	24.1%**	1.2%**	0.3%**
<i>DeAngelo Model:</i>				
t-test	32.9**	12.4**	1.0**	0.2**
<i>Jones Model:</i>				
t-test	42.9**	19.2**	1.2**	0.5
<i>Modified Jones Model:</i>				
t-test	44.5**	21.7**	1.1**	0.5
<i>Industry Model:</i>				
t-test	45.0**	22.4**	1.2**	0.2**
<i>Panel B: Highest decile of cash from operations performance</i>				
<i>Healy Model:</i>				
t-test	0.0%**	0.0%**	50.0%**	23.9%**
<i>DeAngelo Model:</i>				
t-test	0.5**	0.1**	32.6**	12.4**
<i>Jones Model:</i>				
t-test	0.3**	0.1**	46.2**	19.9**
<i>Modified Jones Model:</i>				
t-test	0.3**	0.1**	46.4**	20.3**
<i>Industry Model:</i>				
t-test	0.2**	0.0**	46.7**	21.9**

* Significantly different from the specified test level at the 5 percent level using a two-tailed binomial test.
** Significantly different from the specified test level at the 1 percent level using a two-tailed binomial test.

lation, 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 (i.e., detected earnings management is expected to equal induced earnings management). 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 atop the thin line in all cases, indicating that all models provide unbiased tests of expensed-based earnings management. The second column of graphs provides results for

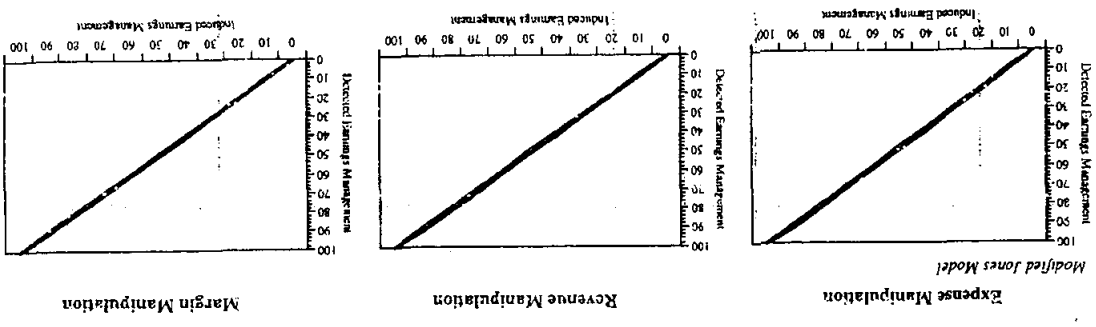


FIGURE 3 (Continued)
 Simulation Results from Tests for Bias in Estimates of Earnings Management Based on Alternative Models for Measuring Discretionary Accruals. Simulations are Conducted for Artificially Induced Amounts of Earnings Management Ranging from Zero Percent to 100 Percent of Total Assets. Each Simulation Uses 1000 Firm-Years. The Thin Line Represents the Hypothetical Results for an Unbiased Estimator. The Thick Line Represents the Simulation Result.

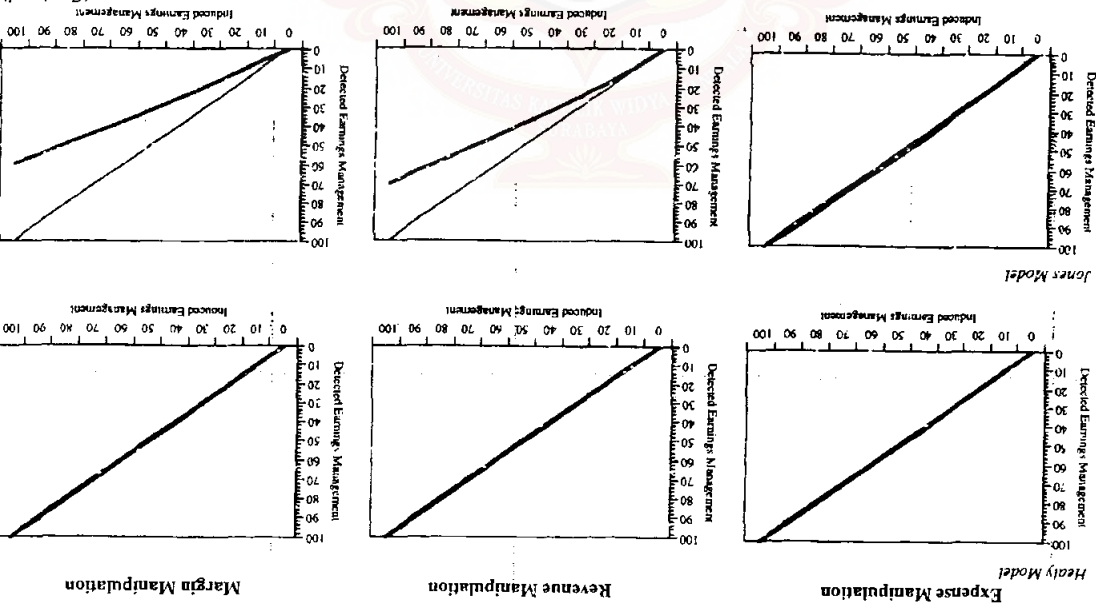


FIGURE 3
 Simulation Results from Tests for Bias in Estimates of Earnings Management Based on Alternative Models for Measuring Discretionary Accruals. Simulations are Conducted for Artificially Induced Amounts of Earnings Management Ranging from Zero Percent to 100 Percent of Total Assets. Each Simulation Uses 1000 Firm-Years. The Thin Line Represents the Hypothetical Results for an Unbiased Estimator. The Thick Line Represents the Simulation Result.

artificially induced revenue manipulation. It is evident that the estimates of earnings management provided by the Jones Model are biased downward. The change in revenue is used as an independent variable to extract nondiscretionary accruals in the Jones Model; thereby extracting part of the revenue-based earnings management. The magnitude of the bias indicates that approximately one-quarter of the induced earnings management is not detected. The Modified Jones Model does not suffer from this bias. The third and final column presents the results for artificially induced margin manipulation. Again, only the Jones Model produces biased estimates of discretionary accruals. The downward bias is approximately one-third of the induced earnings management and is more serious than for the case of revenue manipulation because margin manipulation requires a larger amount of revenue management for a given amount of earnings management.

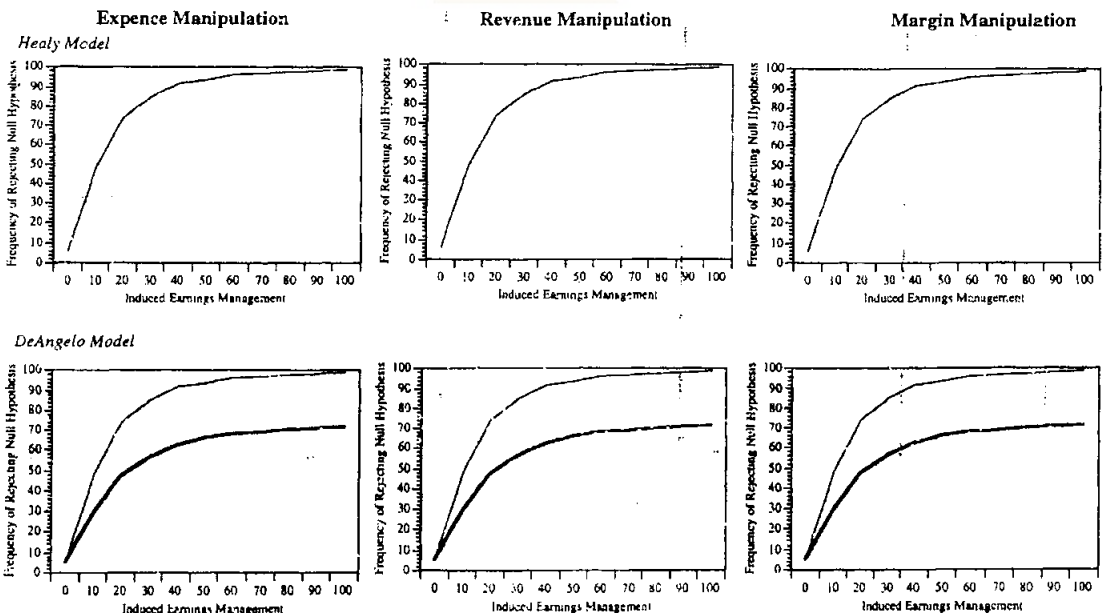
Figure 4 provides information concerning the relative power of the alternative models for detecting earnings management. These graphs plot the frequency with which the null hypothesis of no earnings management is rejected (vertical axis) against the magnitude of the induced earnings management (horizontal axis). A separate graph is provided for each model and for each assumed source of earnings manipulation. All rejection rates are computed at the five percent level using a one-tailed test.¹¹ The first graph reports the power function for the Healy Model (thin line). Healy's power function is also provided in the graphs of the remaining models to provide a benchmark for evaluating their relative power. The power functions for the remaining models are presented using the thicker lines.

The first column of graphs provide the power functions for expense manipulation. The DeAngelo Model lies substantially below the Healy Model because the standard errors of the estimate of earnings management (table 1) tend to be significantly higher for the DeAngelo Model. The Jones, Modified Jones and Industry models are all slightly more powerful than the Healy Model. Again, this arises because they have slightly lower standard errors. Though it is not readily apparent from the graphs, the Jones and Modified Jones models are more powerful than the Healy and Industry models for all levels of induced earnings management. The second column of graphs provides results for revenue-based earnings management. The only significant change from the preceding column is that the power function for the Jones Model now lies below that of the Healy Model, due to the bias results in figure 3. The Jones Model unintentionally extracts some of the revenue-based earnings management leading to a downwardly biased estimate of earnings management and correspondingly reducing the power of the test. The Modified Jones Model continues to dominate the other models. The third and final column provides the results for margin-based earnings management. The only significant change in this column is that the power of the Jones Model drops even further due to the downwardly biased estimate of earnings management. The Modified Jones Model still dominates all the other models, although it only dominates the Industry Model by a small margin. It should, however, be noted that the odds are stacked in favor of the Industry Model. We have implicitly assumed that earnings management is not clustered by industry (i.e., when we induce earnings management in a firm-year, we do not induce earnings management in the industry matched firm-years). To the extent that this assumption is violated, the power of the tests based on the Industry Model are overstated in our simulations.

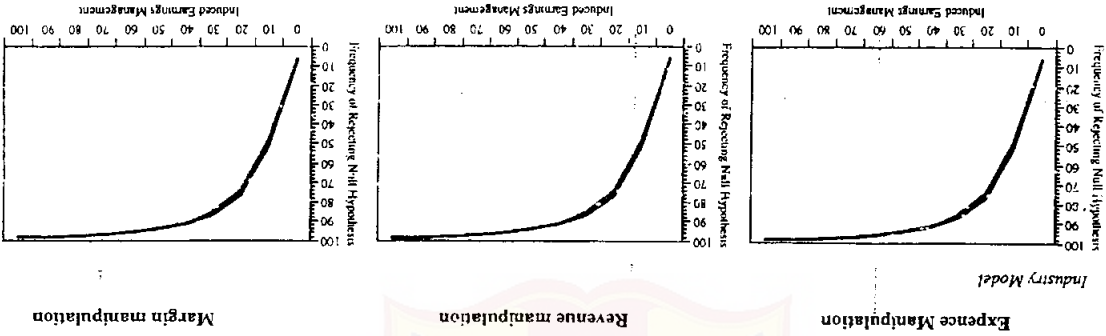
¹¹We replicated the results using a one percent test level. The relative rankings of the models are identical. We also performed identical tests assuming accruals are downwardly managed. The tenor of the bias and power results is unchanged.

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 and use a One-Sided Test Level of Five Percent. Each Simulation uses 1000 Firm-Years. The Thin Line Represents the Power Function for the Healy Model (Benchmark). The Thick Line Represents the Simulation Result for Each of the Other Models.

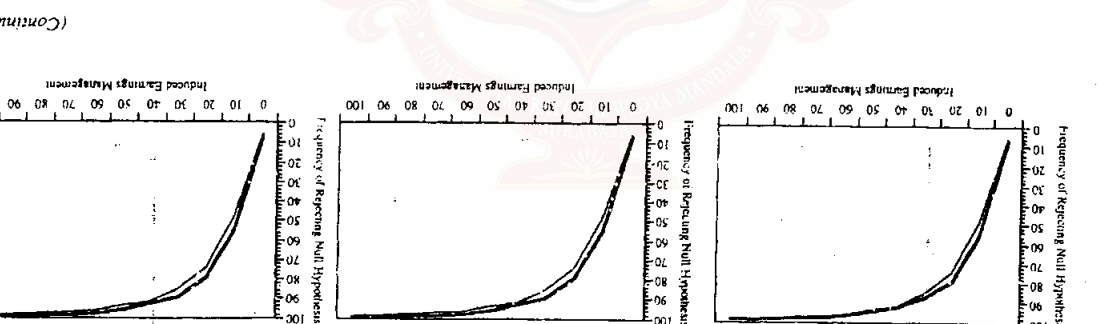


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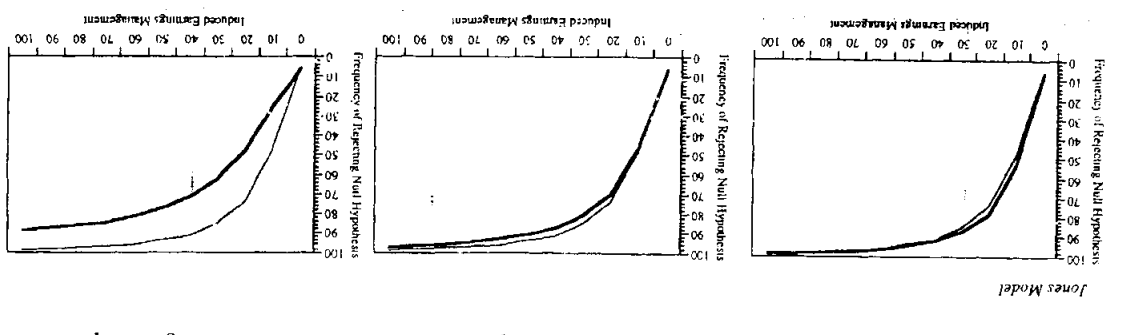
Industry Model

FIGURE 4 (Continued)



Modified Jones Model

FIGURE 4 (Continued)



Jones Model

(Continued)

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 32 firms alleged by the SEC to have overstated earnings. Year 0 represents the year in which the SEC alleges that earnings are overstated.¹⁴ 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 are abnormally low thereafter. The fact that total accruals are higher for the SEC sample relative to the random sample in event-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 and 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-statistics, 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 (5.00), the Healy Model (3.90), the Jones Model (3.69) and the DeAngelo Model (2.88). A comparison of the point estimates of earnings management and their associated standard errors permits 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 variation 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 reason is investigated in more detail in table 6. 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 low standard error relative to the Healy and DeAngelo Models.¹⁵

¹⁴ Some firms are alleged to have overstated earnings for two or more consecutive years. In figure 5, event year 0 pools 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 is coded as one in years when earnings management is alleged and zero otherwise.

¹⁵ Firms subsequently restate earnings in 39 of the 56 firm-years in which earnings overstatement is alleged by the SEC. These 39 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) restatement is 4.6 (2.3)% of assets. The mean (median) detected earnings management as a percent of assets for the Healy Model is 14.7 (5.6); the DeAngelo Model is 14.6 (2.3); the Jones Model is 10.5 (5.3); the Modified Jones Model is 15.9 (7.1); and the Industry Model is 15.4 (8.1). These results are consistent with either (i) the SEC identifying or requiring only a subset of the total earnings management to be restated by the firms; or (ii) the models systematically overstating the magnitude of earnings management in this sample.

FIGURE 5

Time Series of Median Annual Total Accruals, Cash From Operations and Earnings all Standardized by Lagged Total Assets. Year 0 is the Year in which the SEC Alleges that the Firm has Overstated Earnings. The SEC Sample Consists of 32 Firms Identified by the SEC for Overstating Annual Earnings. The Random Sample Consists of 1000 Randomly Selected Firm Years.

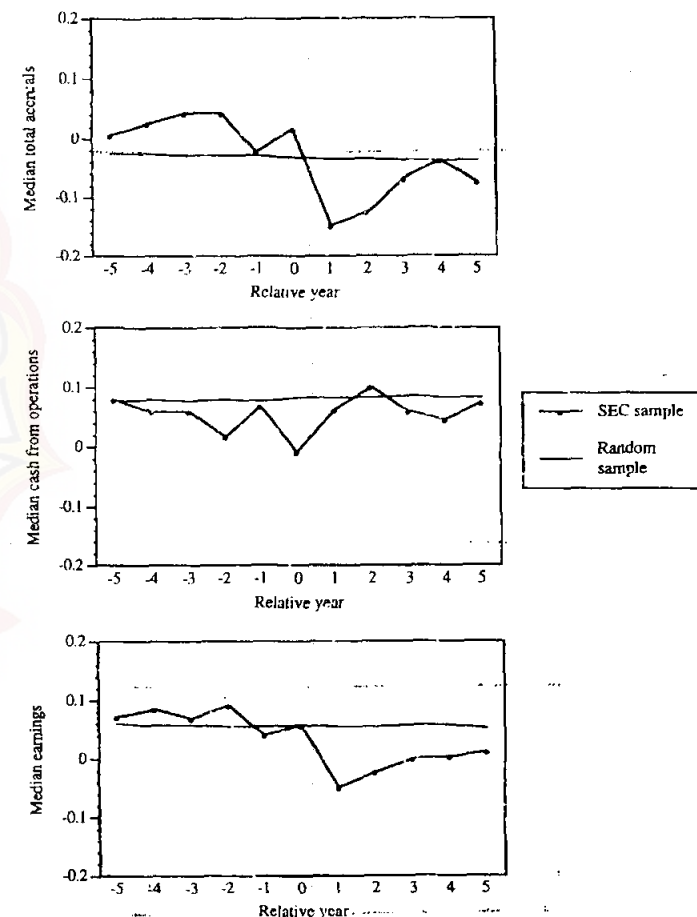


TABLE 5

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 (AAERs) between 1982 and 1992 for Allegedly Overstating Earnings.

Model	Mean	Standard Deviation	Lower Quartile	Median	Upper Quartile
<i>Healy Model:</i>					
earnings management	0.236	0.475	-0.022	0.058	0.258
standard error	0.205	0.255	0.084	0.126	0.201
t-statistic	0.760	1.310	-0.258	0.670	1.606
Z-statistic = 3.90**					
<i>DeAngelo Model:</i>					
earnings management	0.278	0.581	-0.011	0.089	0.310
standard error	0.269	0.277	0.118	0.168	0.279
t-statistic	0.564	0.907	0.088	0.467	1.224
Z-statistic = 2.88**					
<i>Jones Model:</i>					
earnings management	0.138	0.374	-0.023	0.061	0.172
standard error	0.158	0.183	0.075	0.105	0.153
t-statistic	0.754	1.414	-0.165	0.575	1.744
Z-statistic = 3.69**					
<i>Modified Jones Model:</i>					
earnings management	0.171	0.333	0.002	0.083	0.284
standard error	0.136	0.103	0.070	0.106	0.156
t-statistic	1.193	1.991	0.086	0.895	2.020
Z-statistic = 5.76**					
<i>Industry Model:</i>					
earnings management	0.218	0.418	-0.015	0.090	0.280
standard error	0.198	0.257	0.073	0.123	0.227
t-statistic	0.972	1.498	-0.123	1.038	1.488
Z-statistic = 5.00**					

Notes:

Earnings management represents the estimated coefficient on PART, (b_1), from firm-specific regressions of $DAP_{it} = \hat{a}_i + b_1 \text{PART}_{it} + \epsilon_{it}$, 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. 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.

** Significantly different from zero at the 1 percent level using a two-tailed test.

TABLE 6

Results of Tests for Earnings Management Using Alternative Models to Measure Discretionary Accruals. Comparison of the Jones and Modified Jones Models on the SEC Sample Stratified by the Source of the Alleged Earnings Overstatement. Sample of 32 Firms Targeted by the SEC in Accounting and Auditing Enforcement Releases (AAERs) between 1982 and 1992.

Model	Mean	Standard Deviation	Lower Quartile	Median	Upper Quartile
<i>Panel A: Sample consists of 18 firms managing revenues</i>					
<i>Jones Model:</i>					
earnings management	0.005	0.185	-0.030	0.038	0.095
Z-statistic = 1.56					
<i>Modified Jones Model:</i>					
earnings management	0.091	0.288	0.009	0.074	0.183
Z-statistic = 3.88**					
<i>Panel B: Sample consists of 14 firms not managing revenues</i>					
<i>Jones Model:</i>					
earnings management	0.310	0.482	-0.017	0.122	0.513
Z-statistic = 3.80**					
<i>Modified Jones Model:</i>					
earnings management	0.274	0.368	-0.005	0.118	0.515
Z-statistic = 4.31**					
Notes:					
Earnings management represents the estimated coefficient on PART, (b_1), from firm-specific regressions of $DAP_{it} = \hat{a}_i + b_1 \text{PART}_{it} + \epsilon_{it}$, 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 overstatement 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 alleged. The Z-statistics of 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 the 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 the firms 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 managed 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 correspond closely to the rankings 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 considered appear to produce reasonably well specified tests for a random sample of event-years. 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.'s 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.¹⁶

¹⁶Preliminary work in this direction is conducted by Beneish (1994).

TABLE 7

Comparison of Tests for Earnings Management Based on Alternative Models to Measure Discretionary Accruals. Percentage of Firms that are Alleged by the SEC to have Overstated Earnings for which the Null Hypothesis of No Earnings Management is Rejected (One-Tailed Tests). Sample of 32 Firms that are Targeted by the SEC in Accounting and Auditing Enforcement Releases (AAERs) between 1982 and 1992.

Model	Test level of 5%	Test level of 1%
<i>Healy Model:</i> t-test	12.5%*	6.3%**
<i>DeAngelo Model:</i> t-test	9.4	0.0
<i>Jones Model:</i> t-test	18.8**	6.3**
<i>Modified Jones Model:</i> t-test	28.1**	12.5**
<i>Industry Model:</i> t-test	18.8**	9.4**

* Significantly different from the specified test level at the 5 percent level using a two-tailed binomial test.

** Significantly different from the specified test level at the 1 percent level using a two-tailed binomial test.

Second, if the earnings management partitioning variable is correlated with firm performance, then tests for earnings management are potentially misspecified for all of the models considered. Pertinent measures of firm performance include earnings performance and cash from operations performance. Two recommendations can be made when facing this problem. First, the researcher can evaluate the nature of the misspecification and conduct a qualitative assessment of how it affects statistical inferences. For example, the nature of the performance-related bias may be such that the coefficient on the earnings management partitioning variable is negatively biased, while the researcher's hypothesis predicts a positive coefficient. Thus, if the researcher finds a significant positive coefficient, it would be reasonable to conclude that the hypothesis is supported, since the misspecification works against finding the result. Second, the researcher can attempt to directly control for the performance related misspecification. Possible approaches include the use of a control sample (e.g., Healy 1985), inclusion of firm performance in the earnings management regression (e.g., DeAngelo et al. 1994) or some other form of analysis of variance that controls for firm performance (e.g., Holthausen et al. 1995).

Finally, it is important to consider the relation between the context in which earnings management is hypothesized and the model of nondiscretionary accruals that is employed, because the model of nondiscretionary accruals may unintentionally extract the discretionary component of accruals. For example, if the Jones Model is used in a research context where discretion is exercised over revenues, then it is likely to extract the discretionary component of total accruals. Similarly, if the Industry Model is used in a research context where intra-industry correlation in discretionary accruals is expected, then it is likely to extract the discretionary

component of total accruals. Consideration of the sample details should help avoid the use of a model of nondiscretionary accruals that unintentionally extracts discretionary accruals.

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Accounting Choices of Issuers of Initial Public Offerings*

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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 preneurs ferme doivent utiliser l'information relative à l'entreprise n'ayant pas trait au prix pour établir le prix d'émission. Les mesures d'origine comptable sont souvent considérées comme étant particulièrement utiles dans l'évaluation de valeurs mobilières non encore négociées. L'auteur démontre que dans les états financiers qu'elles publient avant l'émission, les entreprises qui procèdent à un premier appel public à l'épargne traitent les charges abonnées 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

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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 1985; 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 accounting information and the pricing 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.¹

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, Dantoh, Richardson, and Sefcik (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 the 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 (Holthausen 1990), and (4) knowledge of the accounting choices made by the comparable firms. 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.²

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 may be aware that issuers can 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 in 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 attributed to preparer 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 $t-1$ of \$10,000 to sales in year t of \$20,000. Assume that total accruals also double from year $t-1$ to year t 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.³ 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,

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

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 accountants.

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 $t-1$ (benchmark period) to year t (test period), the firm grew by a factor of 2 and total accruals also doubled, no incremental discretionary accruals would be observed in year t .

$$\left[\left[\frac{\text{Total accruals}_t}{\text{Sales}_t} - \frac{\text{Total accruals}_{t-1}}{\text{Sales}_{t-1}} \right] = \left[\frac{2,000}{20,000} - \frac{1,000}{10,000} \right] = 0 \right]$$

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 t total accruals increase to \$2,100, then an income-increasing discretionary accrual is observed

$$\left[\left[\frac{2,100}{20,000} - \frac{1,000}{10,000} \right] = 0.005 \right]$$

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 nondiscretionary 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 model of 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.⁴ 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.⁵ 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.⁶ 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 1
Industry representation in the sample*

SIC code	Industry name	Test year = <i>t</i>		Test period = <i>t+1</i>	
		Number	%	Number	%
138	Oil and gas field services	12	.077	8	.075
283	Drugs	11	.071	5	.047
357	Office and computing machines	11	.071	5	.047
366	Communications equipment	14	.091	9	.084
367	Electronic components and accessories	15	.097	13	.121
382	Measuring and controlling devices	17	.110	14	.131
384	Medical instruments and supplies	13	.084	9	.084
451	Certificated air transportation	12	.077	6	.056
508	Machinery, equipment and supplies	12	.077	11	.103
581	Eating and drinking places	11	.071	10	.093
737	Computer and data processing services	15	.097	7	.066
739	Miscellaneous business services	12	.077	10	.093
	Total	155	1.000	107	1.000

* Industry distribution of the firms used in the annual sample and the interim sample tests. 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 2
Comparison of sample firms with the population of IPO firms

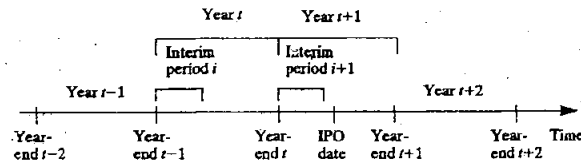
Variable	Mean	Median	Standard deviation	Minimum	Maximum
Sample of IPOs issued between 1981 and 1984 [n = 155]*					
Sales [†]	45,513,000	7,407,000	289,082	45	3,319,535,000
Gross proceeds	12,490,331	6,000,000	19,863,318	750,000	123,750,000
Offering price	9.348	9.000	5.338	0.100	23.000
Number of shares sold	1,486,950	762,860	3,363,518	150,000	34,500,000
Population of IPOs issued between 1981 and 1984 [n = 1,066]‡, §					
Sales [†]	40,829,400	9,665,500	159,316,000	0	3,486,020,000
Gross proceeds	14,421,639	7,150,000	21,047,503	200,000	205,975,000
Offering price	9.553	9.000	5.631	0.010	30.000
Number of shares sold	1,973,251	1,000,000	7,045,185	100,000	152,250,000

*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.

§Population data obtained from the database provided by Professor Jay Ritter.

Figure 1 Time periods in accrual management analysis



Firms go public during year $t+1$. The annual financial statements for the year t are the last set of annual statements before the IPO. The interim period $i+1$ is a portion of year $t+1$ from the year-end t to a date prior to the IPO. Period i is the same period in year t as period $i+1$ is in year $t+1$. Year $t+1$ contains the first year-end as a public company. Year $t+2$ is the first full fiscal year as a public company.

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 year $t+1$, 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 $i+1$ and the benchmark period is i .

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 1.982 times (median 1.439) 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).⁸

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

TABLE 3
Growth of firms in sample by period

$$\text{Growth} = \frac{\text{SALES}_T}{\text{SALES}_{T-1}}$$

where $T = t, t+1, t+2$ and $T-1$ is $t-1, t, t+1$ or $t+2$

(Growth greater than 1 indicates that a firm has increased in size.)

	Mean	Median	Number > 1	Percent > 1	Minimum	Maximum
$t-1$ to t ($n = 155$)	1.982*	1.439†	143	92.3	0.132	9.786
t to $t+1$ ($n = 107$)	1.915*	1.473†	98	91.6	0.363	11.511
t to $t+1$ ($n = 135$)	1.579*	1.383†	121	89.6	0.001	6.671
$t+1$ to $t+2$ ($n = 118$)	1.410*	1.243†	93	78.8	0.060	5.865

* p -value of two-tailed t -test of whether growth between periods is equal to zero = 0.000.

† p -value of Wilcoxon test of whether growth between periods is equal to zero = 0.000.

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 interim 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

test examines the frequency with which discretionary accruals in the test period turned net losses into profits (and profits into losses). In the third test, the combined sample is partitioned on whether cash from operations is positive or negative to determine whether the firms in each subsample exercise accounting discretion differently.

The second set of control tests examines the behaviour 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 behaviour of discretionary accruals of non-IPO firms and to compare discretionary accrual behaviour 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 outlying values are winsorized. Winsorizing restates 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 accrual management 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

TABLE 4
Descriptive statistics*

Variable	Mean	Median	Standard deviation	Minimum	5th percentile	95th percentile	Maximum
Period: Annual (year t) ($n = 15$)							
Net income (\$'000s)	454	337	4,874	-41,804	-1,043	4,175	20,300
Total accruals (\$'000s)	-1,984	10	24,857	-306,522	-3,691	4,483	12,848
Cash flow from operations (\$'000s)	2,418	174	22,550	-21,023	-2,863	6,091	275,693
Sales (\$'000s)	45,513	7,407	289,082	45	564	73,033	3,319,535
Total assets (\$'000s)	34,833	4,883	230,103	76	349	49,622	2,671,396
Period: Interim (period $t+1$) ($n = 107$)							
Net income (\$'000s)	468	238	981	-1,565	-267	2,115	7,880
Total accruals (\$'000s)	320	75	1,211	-5,565	-895	2,860	6,264
Cash flow from operations (\$'000s)	131	16	1,698	-4,847	-2,415	1,795	13,445
Sales (\$'000s)	8,003	3,013	16,800	56	268	34,493	153,229
Total assets (\$'000s)	10,050	5,350	13,657	219	218	39,433	91,562

*Descriptive data for the 155 firms in the sample with annual financial statements in their prospectuses and the 107 firms that include interim financial statements in their prospectuses.

interim financial statements of the 107 firms that include interim financial statements in their prospectuses.

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 t -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 t -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 increases (p -value = .771). The Wilcoxon test does not yield significant results at traditional levels, whereas the t -test on winsorized data yields a p -value of .049, indicating a decrease in cash from operations.

These results show that IPO firms report increased earnings between interim periods t and $t+1$, 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.⁹

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 statements.

Column (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 = .003). The Wilcoxon test yields a one-tailed significance level of .000, and the p -value from the t -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 2.25 percent of sales, and 76.6 percent (82 of 107) of the firms report earnings increases (p -value = .030). Both the Wilcoxon test and the t -test on winsorized data are highly significant.

The results of tests on discretionary accruals in the two subsamples

TABLE 5
Results of tests for discretionary accruals and change in earnings, accruals, and cash flow in periods surrounding the IPO*

	(1) Change in earnings	(2) Discretionary accruals†	(3) Change in total accruals	(4) Change in cash flow
Panel A: Tests for period $t+1$ (interim period before the IPO). Benchmark period = t, test period = $t+1$, $n = 107$				
Median	0.0294	0.2026	0.0164	-0.0025
Mean	0.0026	0.1615	0.0739	-0.0707
Winsorized mean	0.0358	0.0476	0.0448	-0.0508
Wilcoxon test				
p -value‡	0.000	0.028	0.011	0.244
Sign	+	+	+	-
t-test§				
t -statistic	2.706	2.157	2.489	-1.988
p -value‡	0.004	0.017	0.007	0.049
Percent positive	77.6	53.3	56.0	48.6
p -value‡	0.001	0.281	0.123	0.771
Panel B: Tests for year t (the year before the IPO) for firms with no interim financial statements. Benchmark period = $t-1$, test period = t, $n = 48$				
Median	0.0565	-0.0143	0.0175	0.0212
Mean	-0.0310	0.1403	0.1013	-0.1341
Winsorized mean	0.0506	0.1069	0.0805	-0.0155
Wilcoxon test				
p -value‡	0.000	0.046	0.011	0.590
Sign	+	+	+	+
t-test§				
t -statistic	2.386	2.234	2.500	-0.632
p -value‡	0.011	0.015	0.008	0.530
Percent positive	85.4	60.4	64.6	54.2
p -value‡	0.003	0.045	0.010	0.471
Panel C: Tests for year t (the year before the IPO) for firms with interim financial statements. Benchmark period = $t-1$, test period = t, $n = 107$				
Median	0.0225	0.0001	0.0067	0.0152
Mean	-0.0999	0.0232	-0.0432	-0.0592
Winsorized mean	0.0206	0.0337	0.0059	0.0029
Wilcoxon test				
p -value‡	0.000	0.268	0.159	0.241
Sign	+	+	+	+
t-test§				
t -statistic	1.597	1.289	0.335	0.167
p -value‡	0.056	0.100	0.369	0.868
Percent positive	76.6	51.4	54.2	57.9
p -value‡	0.030	0.424	0.220	0.122

Panel D: Tests for year $t+1$ (first year-end after the IPO). Benchmark period $t-1$, test period = $t+1$, $n = 135$

Median	0.0375	0.0321	0.0386	-0.0001
Mean	0.1032	-0.5491	-0.2956	0.4008
Winsorized mean	0.0205	0.0544	0.0599	-0.0331
Wilcoxon test				
p -value#	0.000	0.001	0.000	0.236
Sign	+	+	+	-
t-test‡				
t -statistic	1.685	2.809	4.880	-2.282
p -value#	0.943	0.003	0.000	0.024
Percent positive	73.1	61.5	63.7	50.0
p -value#	0.000	0.005	0.002	1.000

Panel E: Tests for year $t+2$. Benchmark period = $t-1$, test period = $t+2$, $n = 118$

Median	0.0158	0.0131	0.0117	0.0100
Mean	-0.5683	0.0325	0.1110	-0.6780
Winsorized mean	-0.0556	0.0095	0.0091	-0.0512
Wilcoxon test				
p -value#	0.732	0.203	0.180	0.276
Sign	+	+	+	-
t-test‡				
t -statistic	-2.639	0.464	0.516	-2.450
p -value#	0.010	0.323	0.304	0.016
Percent positive	62.7	52.5	52.5	52.5
p -value#	0.007	0.646	0.646	0.646

*The mean and medians reported in the table for earnings, total accruals, and cash flow 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,

$$\frac{\text{Variable}_{\text{test period}} - \text{Variable}_{\text{benchmark period}}}{\text{Sales}_{\text{test period}}}$$

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

$$\text{Discretionary accruals}_t = \frac{\text{Total accruals}_t}{\text{Sales}_t} - \frac{\text{Total accruals}_{t-1}}{\text{Sales}_{t-1}}$$

‡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 (interim period) before going public. Significance levels for tests on cash flow from operations are two tailed.

§ t -tests are performed on winsorized data. The presence of large outliers limits the meaningfulness of the t -tests on the raw data.

#Significance levels for all test on years $t+1$ and $t+2$ are two tailed.

present a striking difference. For firms for which the year t annual financial statements are the most current, there is evidence of income-increasing discretionary accruals—Table 5, panel B, column (2). Median estimated discretionary accruals is 1.43 percent of sales, and 60.4 percent (29 of 48) of the firms report increases (p -value = .045). The Wilcoxon test has a p -value of .046, and the t -test on winsorized data yields a p -value of .015. In contrast, firms that provide interim financial statements—column (2) in panel C—show no evidence of accounting discretion by issuers in their year t annual financial statements. Median discretionary accruals account for only 0.01 percent of sales, and results of both the Wilcoxon test and the t -test on winsorized data are not significant at traditional levels. A test of the hypothesis that the median increase in earnings in year t for the subsample of firms that do not provide interim statements is larger than the median increase in earnings for the subsample of firms that do provide interim statements is significant at the .09 level.¹⁰

The significantly larger median increase in earnings in year t annual statements of firms not providing interim information may be explained by earnings management by these firms. Although the firms in both subsamples demonstrate significant earnings growth before going public, the median increase is significantly larger for firms for which the year t annual financial statements are the most current. This significantly higher median increase in earnings is accompanied by significant discretionary accruals. In addition, a median test indicates that whereas median standardized earnings in $t-1$ is statistically indistinguishable between subsamples, median standardized earnings for firms not providing interim statements are significantly larger (at the 1 percent level) than for firms providing interim statements. These results suggest that the significantly larger increase in earnings for firms that do not provide interim financial statements is the result of the exercise of accounting discretion by issuers. There is no evidence of a significant change in cash flow in either subsample—Table 5, panels B and C, column (4).¹¹

The results of the tests on the annual sample partitioned on whether firms provided interim financial information give some confidence of the exercise of accounting discretion by issuers. If the results of the tests are due to misspecification of the discretionary accrual estimation model rather than to the exercise of accounting discretion, one would expect to observe significant positive discretionary accruals in both subsamples. Additional confidence in the model can be obtained by determining whether the two annual subsamples are drawn from the same distribution. To test whether the two subsamples are drawn from the same distribution, tests of location and dispersion are conducted. Location is tested using the nonparametric Mann-Whitney test, and dispersion is tested using the nonparametric Siegel-Tukey test (nonparametric tests are used because of the presence of large outliers in the data). The two subsamples are compared on sales, total assets, net income, sales growth, net income growth, total

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 .006 level in a one-tailed Wilcoxon signed-ranks test.¹² 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 35 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 0.0903 , p -value .0001). To the extent that cash flow in the most current 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 behaviour of discretionary accruals in the years after the IPO (years $t+1$ and $t+2$). 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 $t-1$ is used as the benchmark year. Using year $t-1$ 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 $t-1$. Thus, the hypothesis being tested is that discretionary accruals in the years after the IPO will be the same as those in year $t-1$. 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 $t+1$ and $t+2$ are reduced (year $t+1$ to 135 firms and year $t+2$ 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 $t-1$ after going public—in year $t+2$. In year $t+1$, discretionary accruals are significantly positive relative to year $t-1$ (see Table 5, panel D), indicating that the income-increasing accruals made before going public do not reverse in year $t+1$. The change in earnings is significantly positive under the Wilcoxon and t -tests. The change in cash flow from operations in $t+1$ relative to $t-1$ is not significant. In year $t+2$, 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 $t-1$ and implies that the income-increasing accruals made before going public reverse in year $t+2$ and return the level of discretionary accruals to a “normal” level. However, because the expected outcome of this test is nonrejection 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 $t+2$ are also examined using year $t+1$ as a benchmark. A test of the hypothesis that discretionary accruals in year $t+2$ are negative using $t+1$ as the benchmark is significant under the Wilcoxon test (p -value = .013).

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 $t+1$ relative to year $t-1$ 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 $t+1$ and $t+2$ provide support for the validity 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 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 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's 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 between 28 and 202 matched firms (median of 103 firms and mean of 90.4 firms).¹⁵ For each industry-year matched group, the median estimated discretionary accruals for year t and median changes in earnings and cash flow from operations between years $t-1$ and t are calculated. The distributions of 46 medians for each variable are 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 is 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 t 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 t 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 t 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).¹⁷

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 $t-1$ and t 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 $t-1$ comparable with total accruals in year $t-1$ of the IPO firms (± 1.645 standard deviations about the mean of the distribution of total accruals in year $t-1$ 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 $t-1$ total accruals is then used to test whether IPO firms make more income-increasing discretionary accruals in year t 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 t 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 t . 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

TABLE 6
Results of control tests performed on non-IPO firms matched on industry and year*

	(1) Change in earnings	(2) Discretionary accruals†	(3) Change in total accruals	(4) Change in cash flow
Panel A: Tests of changes in matched, non-IPO firms. $n = 464$‡				
Median	0.0058	-0.0022	-0.0064	0.0069
Mean	0.0059	-0.0016	-0.0060	0.0098
Wilcoxon test				
<i>p</i> -value#	0.000	0.350	0.003	0.000
Sign	+	-	-	+
<i>t</i>-test				
<i>t</i> -statistic	4.203	-0.585	-2.651	3.902
<i>p</i> -value#	0.000	0.561	0.011	0.000
Percent positive	76.1	37.0	26.1	73.9
<i>p</i> -value#	0.000	0.104	0.003	0.002

from Compustat that are in the same industry (three-digit SIC code) and have similar sales growth between years $t-1$ and t . 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 t and changes in earnings, total accruals, and cash flows between years $t-1$ and t are calculated for the matched firm. 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 8. The results show that estimated discretionary accruals in year t 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 the 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

TABLE 6 (continued)

Panel B: Tests of differences in changes between IPO firms and matched, non-IPO firms.**

Comparison of annual data of non-IPO firms matched on industry year with year t annual data of IPO firms not providing interim statements in their prospectuses. ($n=48$)

Variable	Difference		Wilcoxon test	
	Median	Mean	Sign	p -value
Discretionary accruals	0.017	0.139	+	0.042
Total accruals	0.028	0.106	+	0.006
Earnings	0.049	-0.039	+	0.000
Cash flow	0.010	-0.142	+	0.944

Comparison of annual data of non-IPO firms matched on industry year with year t annual data of IPO firms providing interim statements in their prospectuses. ($n=107$)

Variable	Difference		Wilcoxon test	
	Median	Mean	Sign	p -value
Discretionary accruals	0.003	0.025	+	0.210
Total accruals	0.019	-0.036	+	0.034
Earnings	0.023	-0.105	+	0.000
Cash flow	0.002	-0.067	+	0.817

*Firms from the same industry year are Compustat firms that (1) are in the same industry and (2) have financial statements from the same year as the most current year's annual financial statements in an IPO firm's prospectus (year t).

†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

$$\text{Discretionary accruals}_t = \frac{\text{Total accruals}_t}{\text{Sales}_t} - \frac{\text{Total accruals}_{t-1}}{\text{Sales}_{t-1}}$$

‡The change in earnings, total accruals, and cash flow between the benchmark period and the test period standardized by sales in the test period. That is,

$$\frac{\text{Variable}_t - \text{Variable}_{t-1}}{\text{Sales}_t}$$

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

§ The matched sample contains 46 industry-year groups, with each industry year corresponding to an IPO firm in the sample from that industry and with annual financial statements for that year.

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

**The test is conducted by taking the difference between discretionary accruals, earnings, or cash flow of IPO firms and the median measure from the corresponding industry year of matched firms and testing whether the differences are different from zero. Significance levels for earnings, discretionary accruals, and total accruals are based on one-tailed tests, and the significance levels for cash flow from operations are based on two-tailed tests. Positive differences mean that the observation for IPO firms is greater than for matched firms.

TABLE 7

Results of control test performed on 9473 non-IPO firms matched on sales growth and total accruals in year $t-1$ *

	(1) Change in earnings	(2) Discretionary accruals†	(3) Change in total accruals	(4) Change in cash flow
Panel A: Tests on matched, non-IPO firms‡				
Median	0.0054	0.0011	-0.0034	0.0065
Mean	0.0019	-0.0347	-0.0052	0.0071
Wilcoxon test				
p -value§	0.000	0.602	0.000	0.000
Sign	+	+	-	+
t-test				
t -statistic	0.207	-1.216	-0.217	0.297
p -value§	0.836	0.224	0.828	0.767
Percent positive	59.8	50.9	47.8	54.5
p -value§	0.000	0.080	0.000	0.000

did not include interim statements there is evidence of accrual management in year t whereas for firms that provided interim statements, there was no evidence of accrual management in year t (but there was evidence of accrual management in the interim statements). The differences between the means and medians of the two subgroups of matched firms for all four test variables are not significant.

The tests in this section provide additional assurance that the results presented in Table 5 for IPO firms capture the effects of accounting discretion by issuers, not real earnings growth. If the model developed in this paper effectively partitions discretionary accruals, samples of similar, non-IPO firms should not yield evidence of additional accounting discretion. Three different matched sets of non-IPO firms show no evidence of discretionary accruals. In addition, it is found that when the IPO firms are partitioned on whether they include interim statements in their prospectuses, firms that do not provide interim statements make significantly more discretionary accruals than firms in all three matched sets. In contrast, for IPO firms that provide interim statements, there is no difference in discretionary accruals between the IPO firms and each of two matched samples of firms. These latter results are consistent with the findings reported in Table 5.

Summary

This study examines the accounting decisions made by issuers of IPOs before shares are issued. Issuers of IPOs have incentives to obtain the highest possible offering price for their shares because their wealth is directly affected by the price that is set. IPO prices must be set without

TABLE 7 (continued)

Panel B: Tests of differences between year *t* annual data of IPO firms and matched, non-IPO firms

Comparison of the changes in 9473 matched firms with changes in 107 IPO firms that provided interim financial statements in their prospectuses[†]

Variable	t-stat	P-value	t-stat	p-value
Discretionary accruals	1.88	0.031	0.68	0.247
Accruals	2.73	0.003	1.50	0.067
Earnings	5.83	0.000	4.76	0.000
Cash flow	0.20	0.844	0.36	0.718

*Firms are selected that (1) are on Compustat for any year between 1980 to 1984 inclusive (the years that the IPO firms in the sample issued 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

$$\text{Discretionary accruals}_t = \frac{\text{Total accruals}_t - \text{Total accruals}_{t-1}}{\text{Sales}_t - \text{Sales}_{t-1}}$$

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

$$\text{Variable}_t - \frac{\text{Variable}_{t-1}}{\text{Sales}_t}$$

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.

TABLE 8
Results of control tests performed on non-IPO firms matched on sales growth*

	(1) Change in earnings	(2) Discretionary accruals [†]	(3) Change in total accruals	(4) Change in cash flow
Panel A: Tests on non-IPO firms matched with the 107 IPO firms that provided interim financial statements in their prospectuses[†]				
Median	0.0197	0.0117	0.0055	0.0188
Mean	-0.0564	-0.2747	-0.0377	-0.0452
Wilcoxon test				
p-value [‡]	0.000	0.315	0.286	0.071
Sign	+	+	+	+
Percent positive	75.7	55.1	55.5	60.7
p-value [‡]	0.000	0.334	0.439	0.033
Panel B: Tests on non-IPO firms matched with the 48 IPO firms that did not provide interim financial statements in their prospectuses[‡]				
Median	0.0245	0.0048	0.0154	0.0160
Mean	-0.0152	-0.2079	-0.0363	0.0207
Wilcoxon test				
p-value [‡]	0.021	0.968	0.282	0.968
Sign	+	+	+	+
Percent positive	70.8	52.1	58.3	54.2
p-value [‡]	0.006	0.885	0.312	0.666

*Each IPO firm in the sample is matched with the Compustat firm (1) with sales growth closest to that of the IPO firm, (2) in same industry, and (3) with financial information from the same year as the most current annual statement in the IPO firm's prospectus.

[†]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

$$\text{Discretionary accruals}_t = \frac{\text{Total accruals}_t - \text{Total accruals}_{t-1}}{\text{Sales}_t - \text{Sales}_{t-1}}$$

[‡]The change in earnings, total accruals and cash flow between the benchmark period and the test period standardized by sales in the test period. That is,

$$\text{Variable}_t - \frac{\text{Variable}_{t-1}}{\text{Sales}_t}$$

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.

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 Renner (1988) note that the success of IPOs usually rests on sharply rising sales and earnings trends. Khalaf (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 reaudit the accounts of an IPO firm during the due diligence investigation and importantly, does not examine in depth the accruals 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.

Audits 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 aggres-

sive accounting choices in audited financial statements in prospectuses—see, for example, Khalaf (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:

$$\text{Discretionary} \\ \text{accruals}_t = \frac{\text{Total accruals}_t}{\text{Sales}_t - \text{Sales}_{t-1}} - \frac{\text{Total accruals}_{t-1}}{\text{Sales}_t - \text{Sales}_{t-2}}$$

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 135 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 and 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 1.55 times) with 113 of 127 (89.2 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 issuing firms to provide more than two income statements or one balance sheet for interim periods. As a result, Sales_{t-2} is not available.
10. The results of tests on the partitioned 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 test = .030). In contrast, for firms that do provide interim financial statements in their prospectuses, there is no evidence of earnings management (median discretionary accruals = -0.005, p -value for Wilcoxon test = .197).
11. Abarony, Lin, and Loeb (1993) also investigate the hypothesis of accrual

management by issuers of IPOs. Aharony 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. Aharony 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 Aharony 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 Aharony et al. study).

To test whether the selection bias affected the results of Aharony 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 not 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 Trombley (1989). These results suggest that an explanation for the weak results reported by Aharony 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(a)). 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 issuers have 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.

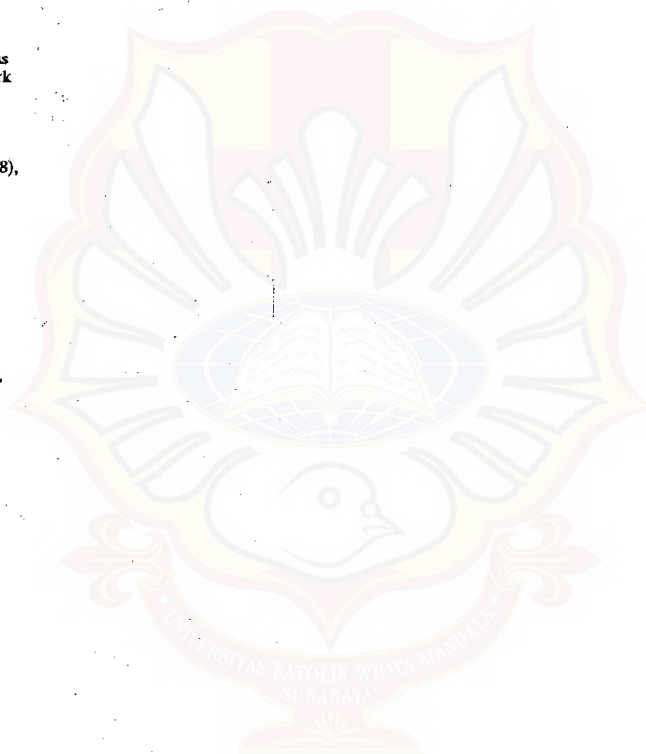
Certain shares held by issuers are restricted under Rule 144 of the Securities Act of 1933. Beginning 90 days after the date of the prospectus, restricted shares may be sold if certain conditions are met. Restricted shares may not be sold unless they have been fully paid for and held for two years. After 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 sample firms. The tests reported use 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.

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Earnings Management and Its Measurement: A Theoretical Perspective

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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 (Rozeff 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 were 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 statement data, specifically net income, are often used to measure their performance. Thus, managers have incentives to select accounting 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 nondiscretionary 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.

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Earnings Management and Its Measurement: A Theoretical Perspective

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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. [PUBLICATION ABSTRACT]

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[Headnote]
 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

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 (Rozeff 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 were 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 statement data, specifically net income, are often used to measure their performance. Thus, managers have incentives to select accounting 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

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 1996). 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 nondiscretionary 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.

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.

$TACC_{it} = \beta_0 + \beta_1 \Delta TA_{it} + \beta_2 \Delta REVEN_{it} + \beta_3 PPE_{it} + \beta_4 TA_{it-1}$
 Where $TACC_{it}$ is the total accruals less income before extraordinary items scaled each firm's total operations in year t for the i th control firm.
 ΔTA_{it} is the change in gross property, plant, and equipment from year $t-1$ to year t for the i th control firm.
 $\Delta REVEN_{it}$ is the change in revenues from year $t-1$ to year t for the i th control firm.
 PPE_{it} is the gross property, plant, and equipment at year $t-1$ for the i th control firm.
 TA_{it-1} is the beginning of year total assets scaled by the beginning of the period total assets.
 The constant coefficients β_0 to β_4 are control firm regressions, as used to estimate the total of managed accruals for each sample firm by subtracting the estimate of unmanaged accruals from total accruals in t for
 $TACC_{it} = TACC_{it} - \beta_0 - \beta_1 \Delta TA_{it} - \beta_2 \Delta REVEN_{it} - \beta_3 PPE_{it} - \beta_4 TA_{it-1}$
 Where $TACC_{it}$ is the unmanaged component of total accruals for sample firm i in year t , which is equal to discretionary total accruals and all other variables are as previously determined.

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 Enlarge 400%

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).

The method to define the discretionary working capital accruals starting. Under this method, only working capital accruals are reported (depreciation and non-discretionary components). The adjusted total accruals are then scaled by the beginning of the period total assets. The discretionary component of working capital accruals may be a discrete proxy to that of total accruals. First, as it controls for the normal working capital accruals, the discretionary component of working capital accruals is defined by total accruals less the normal working capital accruals at the latest available. To ensure consistency between the discretionary and accrual model and the working capital model, the change in revenue is adjusted for the change in receivables. The coefficients for unmanaged accruals are obtained by regressing working capital accruals on changes in revenue, gross property, plant, and equipment for each group of control firms matched with a given sample firm. The control firm regression is
 $WACC_{it} = \beta_0 + \beta_1 \Delta TA_{it} + \beta_2 \Delta REVEN_{it} + \beta_3 PPE_{it} + \beta_4 TA_{it-1}$

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What is $WACC_{it}$ is the working capital accruals less changes in revenue, accounts receivable, and other current assets less the change in accounts payable, inventory, prepaid expenses, and other current liabilities in year t for the i th control firm, and all other variables are as described previously.
 The constant coefficients from the control firm regressions are then used to estimate the level of unmanaged working capital accruals for each sample firm by subtracting the estimate of unmanaged working capital accruals from total working capital accruals in t for
 $WACC_{it} = WACC_{it} - \beta_0 - \beta_1 \Delta TA_{it} - \beta_2 \Delta REVEN_{it} - \beta_3 PPE_{it} - \beta_4 TA_{it-1}$
 Where $WACC_{it}$ is the unmanaged component of working capital accruals for sample firm i in year t , which is equal to discretionary working capital accruals, and all other variables are as previously described.

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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 managed 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 earnings management under most circumstances. Additionally, it provides information on the extent of earnings management, which is of concern to the SEC.

Following Healy's (1985) proposal (1985), the total accruals method defines earnings management as the difference between net income and cash flow from operations. As Wilson (1998) notes, this method is limited to the extent that it is noisy, generally accepted accounting principles (GAAP) provisions, and discretionary reported earnings and accruals are likely to reflect the discretion to produce earnings numbers that provide financial benefits (Gross 2001). Further, researchers that calculate earnings and cash flow from operations to check on the quality of a company's earnings. In addition, when there is a large discrepancy between a firm's reported earnings and cash flow from operations, the firm is likely to engage in earnings management. Thus, an easy way for investors to identify earnings management is to compare the difference between cash flow from operations and reported earnings. To be consistent with the public relations, both reported earnings and cash flow from operations are scaled by beginning-of-period total assets. The earnings management measure is defined as:

$$CFDEA_{it} = NI_{it} - TA_{it} - CF_{it} / TA_{it}$$

where CFDEA_{it} is the scaled component of earnings for company *i* during period *t*, which is equal to total accruals.

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— Janban (4)

It is an optional measure of earnings management. It is a measure of earnings management. It is a measure of earnings management.

Enlarge 200%
Enlarge 400%

— Janban (5)

Although this measure is noisy in detecting the magnitude of earnings management, and can not 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 for investors to evaluate 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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INVESTIGASI MOTIVASI DAN STRATEGI MANAJEMEN LABA
PADA PERUSAHAAN PUBLIK DI INDONESIA¹

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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 earnings management practices explains that bonus plan motivation affect income increasing, not 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 strategy through GAAP violations and intercompany transactions.

Key Words: Earnings management, Motivation, 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 telah diubah untuk tujuan penelitian ini. Kami berapresiasi kepada berbagai pihak yang telah memberi masukan dalam penelitian ini.



I. PENDAHULUAN

Laporan keuangan disusun berdasarkan akuntansi berbasis akrual (*accruals accounting*). Akuntansi akrual mempunyai keunggulan bahwa informasi laba perusahaan dan pengukuran komponennya berdasarkan akuntansi akrual secara umum memberikan indikasi lebih baik tentang kinerja ekonomi perusahaan daripada informasi yang dihasilkan dari aspek penerimaan dan pengeluaran kas terkini (FASB 1978). Akuntansi akrual juga memiliki kelemahan. Wild *et al.* (2003) mengkritik bahwa akuntansi akrual merupakan aturan yang tidak sempurna dan mengaburkan laporan keuangan yang bertujuan memberikan informasi aliran kas dan kapabilitas perusahaan dalam menghasilkan kas. Kekaburan informasi ini diakibatkan akuntansi akrual yang ruwet dan rentan atas manipulasi. Kerentanan ini disebut manajemen laba (*earnings management*).

Kehadiran motivasi dan peluang merupakan insentif bagi manajer untuk mengelola laba. Menurut Scott (2000), motivasi manajemen laba meliputi rencana bonus, *debt covenant*, dan biaya politik. Manajer termotivasi mengelola laba untuk mencapai target kinerja dan kompensasi bonus, meminimalkan kemungkinan pelanggaran perjanjian utang, dan meminimalkan biaya politik karena intervensi pemerintah dan parlemen.

Kelemahan akuntansi akrual menimbulkan peluang bagi manajer untuk mengimplementasikan strategi manajemen laba. Strategi ini dikategorikan menjadi pilihan kebijakan/metode akuntansi dan *discretionary accruals* (kebijakan pengestimasian akuntansi). Zmijewski & Hagerman (1981) mengindikasikan bahwa pilihan kebijakan akuntansi berasosiasi dengan motivasi rencana bonus, *debt covenant*



dan biaya politik. *Discretionary accruals* merupakan strategi yang lebih sulit dideteksi sehingga pendeteksiannya memerlukan penginvestigasian data dan analisis lebih rinci.

Penelitian ini bertujuan mengindikasikan pengaruh motivasi dan strategi terhadap praktik manajemen laba serta mengetahui tipe-tipe motivasi dan strategi manajemen laba secara spesifik yang digunakan beberapa perusahaan publik di Indonesia. Penelitian ini dimotivasi dari studi terdahulu yang menguji pengaruh motivasi terhadap praktik manajemen laba. Studi terdahulu menguji hipotesis untuk mengindikasikan praktik manajemen laba secara umum. Penelitian ini memperluas studi terdahulu dengan menguji pengaruh simultan motivasi dan strategi terhadap praktik manajemen laba. Penelitian juga menginvestigasi motivasi dan strategi secara spesifik dalam praktik-praktik manajemen laba pada beberapa perusahaan publik. Penelitian ini memiliki dua kontribusi. Pertama, penelitian ini secara lebih komprehensif menguji hipotesis untuk pengindikasikan praktik manajemen laba secara umum (bernilai global) dan penginvestigasian praktik manajemen laba secara spesifik (bernilai lokal) pada perusahaan publik di Indonesia. Temuan penelitian ini memberikan manfaat praktis dalam pengetahuan akuntansi. Kedua, penelitian ini menginformasikan tipe-tipe motivasi dan strategi manajemen laba. Informasi ini berguna bagi masyarakat bisnis untuk menilai kualitas laba perusahaan publik serta berguna bagi profesi akuntan dan pemerintah (BAPEPAM) untuk penyusunan standar/pedoman akuntansi keuangan.

H. TELAAH LITERATUR DAN PENGEMBANGAN HIPOTESIS

2.1. TELAAH LITERATUR

Laporan keuangan disusun berdasarkan akuntansi akrual yang mengharuskan pengakuan pendapatan dan beban berdasarkan saat terjadinya hak dan kewajiban, bukan



saat penerimaan dan pengeluaran kas. Laba yang dihasilkan akuntansi berbasis akrual memberikan informasi kinerja ekonomi yang lebih baik daripada laba yang dihasilkan akuntansi berbasis kas (FASB 1978).

Dalam penerapan akuntansi akrual, prinsip akuntansi berterima umum memberikan fleksibilitas dengan mengizinkan manajer untuk memilih kebijakan akuntansi dalam pelaporan laba. Fleksibilitas ini dimaksudkan agar manajer dapat menginformasikan kondisi ekonomi sesuai realitanya. Namun, fleksibilitas prinsip akuntansi menimbulkan peluang bagi manajer untuk mengelola laba. Menurut Fischer dan Rosenzweig (1995), manajemen laba merupakan tindakan manajer untuk meningkatkan (menurunkan) laba yang dilaporkan saat ini dari suatu unit yang menjadi tanggung jawab manajer tanpa mengkaitkan dengan peningkatan (penurunan) profitabilitas ekonomi jangka panjang. Akuntansi akrual terdiri dari *discretionary accruals* (DA) dan *non discretionary accruals* (NDA). DA merupakan akrual yang ditentukan manajemen (*management determined*). Manajer dapat memilih kebijakan dalam hal metoda dan estimasi akuntansi. NDA merupakan akrual yang ditentukan atas kondisi ekonomi (*economically determined*) [Xiong 2006].

Manajemen laba dapat diukur dengan model DA. Model ini menjelaskan bahwa manajer memiliki diskresi untuk menggunakan akuntansi akrual sebagai alat pengelolaan laba (Jones 1991). Model Jones mengasumsikan bahwa perubahan pendapatan dan aktiva tetap bruto merupakan akrual yang ditimbulkan dari transaksi ekonomi perusahaan dan bersifat tidak dapat dikelola (*unmanaged*); dalam hal ini, perubahan pendapatan dan aktiva tetap bruto mencerminkan perubahan modal kerja dan biaya penyusutan. Model Jones meregresikan *total accruals* sebagai fungsi dari



perubahan pendapatan dan aktiva tetap. Koefisien regresi ini digunakan untuk mengestimasi NDA. Residual regresi dianggap sebagai DA.

Dengan asumsi perubahan penjualan kredit merupakan peluang manajemen laba, Dechow *et al.* (1995) memodifikasi model Jones dan membuat penyesuaian bahwa perubahan pendapatan harus dikurangi perubahan piutang. Model Jones modifikasi merupakan model terbaik dalam pendeteksian manajemen laba (Dechow *et al.* 1995). Model Jones modifikasi ini diformulasikan sebagai

$$DA_{it} - \Delta A_{it-1} = TA_{it} - \Delta A_{it-1} - [\beta_0 (1/A_{it-1}) + \beta_1 [(AREV_{it} - AREC_{it})/A_{it-1}] + \beta_2 (PPE_{it}/A_{it-1})]$$

dalam hal ini, DA_{it} = discretionary accruals perusahaan i pada tahun t, A_{it-1} = total aktiva perusahaan i pada tahun t-1, TA_{it} = total akrual perusahaan i pada tahun t, $AREV_{it}$ = perubahan pendapatan perusahaan i dalam tahun t, $AREC_{it}$ = perubahan piutang usaha perusahaan i dalam tahun t, dan PPE_{it} = aktiva tetap bruto perusahaan i pada tahun t.

Tindakan manajemen laba memiliki pola meliputi *taking a bath*, *income minimization*, *income maximization*, dan *income smoothing* (Scott 2000). Manajer menggunakan pola manajemen laba yang bersesuaian dengan motivasinya. Menurut Scott (2000), motivasi manajemen laba meliputi rencana bonus, *debt covenant*, dan biaya politik. Dechow (1994), DeFond & Jambalvo (1994), dan Sweeney (1994) mengindikasikan rencana bonus dan *debt covenant* sebagai motivasi manajemen laba. Frankel & Trezevant (1994), Cloyd *et al.* (1995), dan Maydew (1997) mengindikasikan biaya politik sebagai motivasi manajemen laba. Manajemen laba juga dipengaruhi faktor-faktor lain, misalnya peningkatan nilai saham (Dechow 1994, Teoh *et al.* 1998, dan Gumanti 2000), pelanggaran regulasi anti monopoli (Cahan 1992, Na'im & Hartono 1996, dan Hartono & Na'im 1998), serta meminimalkan pajak (Gruenter 1994, Cloyd *et al.* 1995, dan Maydew 1997).



Pola manajemen laba diaplikasikan menjadi strategi manajemen laba. Strategi ini meliputi kebijakan pengestimasi akuntansi, perubahan metoda akuntansi, dan penggeseran periode pengakuan biaya atau pendapatan (Setiawati & Na'im 2000).

2.2. PENGEMBANGAN HIPOTESIS

Teori akuntansi positif (*contracting theory*) menjelaskan bahwa akuntansi merupakan alat pengawasan dalam pelaksanaan kontrak antara pihak-pihak yang terikat pengelolaan perusahaan. Kontrak ini menggunakan angka-angka akuntansi. Akuntansi menyediakan informasi yang menjadi basis keputusan dalam penentuan alokasi sumberdaya, kompensasi manajemen, dan pengawasan perjanjian utang. Manajemen berusaha mempengaruhi hasil-hasil keputusan ini melalui pilihan metoda akuntansi, estimasi akuntansi, penggeseran periode pengakuan biaya dan pendapatan (Setiawati & Na'im 2000), serta penggeseran biaya dan pendapatan antar perusahaan (Beneish 1997). Zmijewski & Hagerman (1981) mengindikasikan bahwa strategi pilihan metoda akuntansi berasosiasi dengan empat faktor praktik manajemen laba (ukuran perusahaan, kompensasi manajemen, rasio konsentrasi, dan rasio utang terhadap total aktiva).

H₁: Strategi pilihan metoda akuntansi berpengaruh terhadap praktik manajemen laba

Watts & Zimmerman (1986) dan Scott (2000) mengajukan 3 hipotesis motivasi manajemen laba meliputi rencana bonus, *debt covenant*, dan biaya politik. Hipotesis rencana bonus menjelaskan peran pilihan kebijakan akuntansi dalam penentuan rencana kompensasi manajemen. Selain gaji bulanan, manajer menerima kompensasi tambahan sesuai kinerjanya. Angka laba sering digunakan untuk mengukur kinerja manajer. Manajer memiliki insentif untuk memilih metoda akuntansi dan kebijakan estimasi akuntansi untuk memperbaiki kinerjanya. Dechow & Sloan (1991) menyatakan bahwa



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

H₂: Motivasi rencana bonus berpengaruh terhadap praktik manajemen laba.

Hipotesis *debt covenant* menyatakan bahwa manajer termotivasi melakukan manajemen laba untuk menghindari pelanggaran perjanjian utang. Kreditor biasanya membatasi pembayaran dividen, pembelian kembali saham beredar, dan penambahan utang untuk menjunin pembayaran pokok utang dan bunga (Watts & Zimmerman 1986). Pembatasan ini dinyatakan dengan angka atau rasio akuntansi misalnya tingkat modal kerja, *interest coverage*, dan aktiva bersih. Defond & Jambalvo (1994) dan Sweeney (1994) mengindikasikan bahwa perusahaan pelanggar perjanjian utang menggunakan akrual untuk meningkatkan laba tahun sebelumnya.

H₃: Motivasi *debt covenant* berpengaruh terhadap praktik manajemen laba.

Hipotesis biaya politik menguji peranan pilihan kebijakan akuntansi dalam proses politik. Proses politik menimbulkan biaya bagi perusahaan atau industri yang diyakini memperoleh keuntungan dari publik atau memperoleh laba sangat tinggi. Laba sangat tinggi mengakibatkan perusahaan ditekan agar menurunkan harga jual atau pemerintah meregulasi harga. Manajer memiliki insentif dalam pemilihan metoda akuntansi dan penggunaan diskresi untuk menurunkan laba dan risiko politik. Han & Wong (1998) mengindikasikan bahwa perusahaan minyak menggunakan *discretionary accruals* untuk menurunkan laba, saat krisis minyak akibat perang teluk tahun 1990. Studi lain melaporkan bahwa manajer bank mengelola penyisihan kerugian piutang (Collins *et al.* 1995) dan manajer asuransi mengelola cadangan kerugian klaim (Adiel 1996) untuk menghindari tekanan dari regulator.



H₄: Motivasi biaya politik berpengaruh terhadap praktik manajemen laba

III. METODA 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 manufaktur, (3) menerbitkan laporan keuangan secara lengkap dan memiliki saldo ekuitas bernilai positif, serta (4) menggunakan periode laporan keuangan mulai 1 Januari sampai 31 Desember dan Rupiah sebagai mata uang pelaporan.

Data penelitian diperoleh dari laporan keuangan, *Indonesian Capital Market Directory (ICMD)*, dan informasi publikasian perusahaan. Pengklasifikasian sektor manufaktur didasarkan data ICMD. Pengujian hipotesis menggunakan data laporan keuangan 2004 dan 2005. Data laporan keuangan 2003-2005 dan informasi publikasian lainnya digunakan dalam penginvestigasian praktik-praktik manajemen laba.

3.2. DEFINISI OPERASIONAL VARIABEL

Pengujian hipotesis menggunakan variabel praktik manajemen laba, motivasi manajemen laba, dan strategi manajemen laba. Praktik manajemen laba diprosikan dengan nilai *discretionary accruals surprise (DAS)*, yakni selisih *discretionary accruals (DA)* tahun kini dengan DA tahun lalu. DA diukur berdasarkan model Jones modifikasi (Dechow *et al.* 1995). Motivasi manajemen laba meliputi rencana bonus, *debt covenant*, dan biaya politik. Rencana bonus diukur sebagai rasio jumlah kompensasi yang diterima direksi dan komisaris terhadap total ekuitas. *Debt covenant* diukur sebagai rasio total utang terhadap total aktiva. Biaya politik dicerminkan dari ukuran perusahaan, yang diukur sebagai logaritma dari total aktiva.



Strategi manajemen laba diukur berdasarkan skala interval penggunaan metoda akuntansi, yang mengadopsi model Zmijewski & Hagerman (1981). Setiap pilihan metode akuntansi diberikan skor. Skor 0 untuk semua pilihan metode yang menurunkan laba. Skor 1 jika memilih satu pilihan metode yang meningkatkan laba. Skor 2 jika memilih dua pilihan metode yang meningkatkan laba. Skor 3 jika memilih semua pilihan metode yang meningkatkan laba. Pilihan metode akuntansi yang diukur adalah

	Pengaruhnya Pada Laba Akuntansi	
	Menaikkan	Menurunkan
Persediaan	FIFO	Rata-rata
Penyusutan Aktiva Tetap	Garis Lurus	Akselerasi
Amortisasi Aktiva Tidak Berwujud	> 20 tahun	< 20 tahun

3.3. PROSEDUR PENGUJIAN HIPOTESIS

Pengaruh motivasi dan strategi terhadap praktik manajemen laba diuji berdasarkan data lintas sektoral dengan model regresi berikut ini:

$$DAS_{it} = \beta_0 + \beta_1 SML_{it} + \beta_2 BP_{it} + \beta_3 DC_{it} + \beta_4 PC_{it} + E_{it}$$

dalam hal ini, DAS_{it} = praktik manajemen laba perusahaan i tahun t , SML_{it} = strategi manajemen laba perusahaan i tahun t , BP_{it} = rencana bonus perusahaan i tahun t , DC_{it} = perjanjian utang (*debt covenant*) perusahaan i tahun t , dan PC_{it} = biaya politik perusahaan i tahun t . Sebelumnya, dilakukan uji asumsi multikolinieritas dan heteroskedastisitas. Gejala multikolinieritas diindikasikan dari nilai VIF (*variance inflation factor*). Gejala heteroskedastisitas diuji dengan Korelasi Spearman's rho.

3.4. PROSEDUR INVESTIGASI PRAKTIK MANAJEMEN LABA

Objek investigasi adalah sebagian sampel perusahaan dalam pengujian hipotesis. Kriterianya adalah nilai DAS. Prosedurnya meliputi (1) penghilangan beberapa sampel



yang memiliki nilai DAS di sekitar median sampai tersisa dalam angka puluhan terdekat, (2) jumlah subsampel objek investigasi adalah 12,5% dari angka puluhan, dan (3) perusahaan yang diinvestigasi adalah 50% dari jumlah subsampel dengan DAS tertinggi dan 50% dari jumlah subsampel dengan DAS terendah.

Investigasi praktik manajemen laba berdasarkan telaah analitis dan telaah substantif. Telaah analitis berguna sebagai indikasi awal eksistensi motivasi dan strategi manajemen laba. Telaah analitis menggunakan indeks (yang diadopsi dari Beneish 1997) meliputi indeks penjualan, indeks laba kotor, indeks perputaran piutang, indeks perputaran persediaan, indeks beban usaha, indeks kualitas aktiva, indeks depresiasi, dan indeks *leverage*. Selanjutnya, telaah analitis dikembangkan dalam telaah substantif. Telaah substantif ini menganalisis perubahan elemen-elemen laporan keuangan berdasarkan informasi yang tersedia dalam laporan keuangan, laporan auditor, dan laporan lain yang relevan misalnya laporan keuangan pihak-pihak dalam hubungan istimewa (jika tersedia secara publik). Investigasi ini mengungkap motif manajemen laba. Berdasarkan motif tertentu, perusahaan mengembangkan strategi manajemen laba. Strategi ini berpengaruh pada nilai elemen-elemen laporan keuangan. Strategi ini mengakibatkan penyajian laba yang terlalu tinggi atau terlalu rendah.

IV. HASIL PENELITIAN

4.1. HASIL PENGUJIAN HIPOTESIS

Penelitian ini menggunakan sampel sejumlah 83 perusahaan. Tabel 1 menyajikan 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 residual dari regresi *total accruals* (TA). Regresi TA tahun 2005 adalah:

$$TA_{it}/A_{it-1} = 0,048 + 0,030 (AREV_{it}/A_{it-1} - AREC_{it}/A_{it-1}) - 0,180 (PPE_{it}/A_{it-1})$$

1,156 1,962*

Adj R² = 5,1%

Nilai F = 3,201*

* signifikan pada tingkat keyakinan 5%

Persamaan regresi TA tahun 2004 adalah:

$$TA_{it}/A_{it-1} = -0,128 + 0,070 (AREV_{it}/A_{it-1} - AREC_{it}/A_{it-1}) + 0,221 (PPE_{it}/A_{it-1})$$

1,398 9,950**

Adj R² = 85,8%

Nilai F = 248,802*

* signifikan pada tingkat keyakinan 5%

** signifikan pada tingkat keyakinan 1%

Statistik deskriptif data disajikan di tabel 2. Hasil pengujian asumsi klasik disajikan pada tabel 3. Untuk setiap variabel bebas, nilai *tolerance* adalah lebih dari 0,10 (VIF kurang dari 10) dan korelasi Spearman's rho kurang dari 0,7. Jadi, data penelitian ini tidak mengindikasikan gejala multikolinieritas dan heteroskedastisitas yang serius.

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

$$DAS = -0,522 + 0,023 SML + 0,017 BP + 0,211 DC + 0,066 PC$$

1,980* 0,871 1,725* 0,290

Adj. R² = 0,058

Nilai F = 2,266*

* signifikan pada tingkat keyakinan 10%

Koefisien DC dan PC bernilai positif dan signifikan pada tingkat keyakinan 10% sehingga mendukung hipotesis ketiga dan keempat. Hasil ini mengindikasikan bahwa



peningkatan motivasi perjanjian utang dan biaya politik akan meningkatkan praktik manajemen laba. Hasil ini konsisten dengan studi terdahulu bahwa manajer berupaya meningkatkan laba menjelang pelanggaran perjanjian kredit (Sweeney 1994 dan DeFond & Jiambalvo 1994) dan manajer menggunakan *discretionary accruals* yang menurunkan laba untuk menghindari tuntutan penurunan harga jual atau tekanan regulasi dari pemerintah (Han & Wong 1998, Collins *et al.* 1995, dan Adiel 1996). Jadi, perjanjian utang dan biaya politik merupakan motivasi manajemen laba yang berlaku umum (bernilai global) dalam praktik-praktik bisnis pengelolaan perusahaan.

Koefisien BP tidak signifikan sehingga tidak mendukung hipotesis kedua. Penelitian ini gagal mengindikasikan rencana bonus sebagai motivasi manajemen laba. Hasil ini tidak konsisten dengan Dechow & Sloan (1991), DeFond & Jiambalvo (1994), dan Sweeney (1994). Argumen kegagalan hipotesis kedua meliputi (1) manajer menentukan target kisaran bonus; manajer menurunkan laba ketika informasi laba tidak mencapai target bonus minimal atau melewati target bonus maksimal (Healy 1985), (2) perusahaan publik di Indonesia masih terpengaruh krisis ekonomi sehingga manajer tidak berani meningkatkan bonusnya, dan (3) manajer mempertimbangkan bonus saat peningkatan laba namun mengabaikan bonus saat penurunan laba.

Koefisien SML tidak signifikan sehingga tidak mendukung hipotesis pertama. Penelitian ini gagal mengindikasikan pengaruh strategi pilihan metode akuntansi terhadap praktik manajemen laba². Hasil ini tidak konsisten dengan studi Zmijewski & Hagerman (1981). Kegagalan ini menunjukkan bahwa manajer tidak menggunakan strategi pilihan metoda akuntansi dalam pengelolaan laba. Strategi ini sudah kedaluarsa

² Penelitian ini juga gagal mengindikasikan pengaruh motivasi rencana bonus, perjanjian utang, dan biaya politik terhadap pilihan metode akuntansi sebagai strategi manajemen laba.



(*out of date*), karena mudah diketahui pengguna laporan keuangan. Scott (2000) menambahkan bahwa manajer lebih memilih kebijakan estimasi akuntansi dalam manajemen laba. Stolowy dan Breton (2000) mengidentifikasi strategi-strategi manajemen laba meliputi laba (rugi) penjualan sekuritas, dividen dari investasi bukan anak perusahaan, *investment tax credit*, perubahan dari depresiasi akselerasi ke garis lurus, keputusan *purchase* atau *pooling*, perubahan kebijakan akuntansi, keputusan *discretionary accounting*, biaya pensiun, pos luar biasa yaitu *classificatory* atau *intertemporal*, biaya penelitian dan pengembangan, beban operasi atau *ordinary*, *loan loss provision*, dan selisih kurs.

4.2. HASIL INVESTIGASI PRAKTIK-PRAKTIK MANAJEMEN LABA

Perhitungan jumlah sub-sampel investigasi disajikan pada tabel 2. Tabel 4 menyajikan 10 perusahaan dengan skor DAS (sebagai indikasi praktik manajemen laba) ekstrim untuk tahun 2005. Tabel 5 dan 6 menyajikan ringkasan kasus-kasus manajemen peningkatan laba dan penurunan laba secara ekstrim.

4.2.1. MOTIVASI MANAJEMEN LABA

Tabel 7 menyajikan matriks ringkasan motivasi manajemen laba. Tabel ini menjelaskan 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 keterikatan 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 keterikatan perjanjian



utang. Hal ini mengindikasikan eksistensi hipotesis pengaruh kompensasi manajemen (rencana bonus), pembayaran dividen (kesejahteraan pemegang saham), dan keterikatan perjanjian utang (*debt covenant*) terhadap praktik peningkatan laba. Motivasi rencana bonus konsisten dengan Carlson & Bathala (1997), Gaver *et al.* (1995), dan Holthausen *et al.* (1995). Motivasi pembayaran dividen konsisten dengan Wang & Williams (1994) dan Lev & Kunitzky (1974). Motivasi *debt covenant* konsisten dengan DeFond & Jiambalvo (1994), DeAngelo *et al.* (1994) dan Sweeney (1994). Tabel 7 menunjukkan bahwa hanya satu dari lima perusahaan yang menurunkan laba memiliki motivasi kompensasi manajemen dan keterikatan perjanjian utang. Dua dari lima perusahaan yang menurunkan laba memiliki motivasi pembayaran dividen. Hal ini mengindikasikan bahwa kompensasi manajemen, pembayaran dividen, dan keterikatan pada perjanjian utang bukan motivasi utama dalam praktik penurunan laba. Indikasi ini menjustifikasi hasil pengujian hipotesis bahwa rencana bonus berpengaruh tidak signifikan terhadap praktik manajemen laba. Hipotesis rencana bonus hanya berpengaruh untuk peningkatan laba, dan kurang relevan untuk kasus penurunan laba.

Restrukturisasi Utang. Restrukturisasi utang menjadi ekuitas menghasilkan laba. Laba ini merupakan insentif bagi manajer untuk menciptakan laba tambahan, agar pengguna laporan keuangan menginterpretasikan kinerja laba yang bagus dan tidak semata-mata laba dari restrukturisasi utang. Hal ini mengindikasikan bahwa manajer melakukan manajemen laba paska restrukturisasi utang (Sutrisno 2005). Temuan ini merupakan masukan bagi penyusun standar akuntansi untuk mengevaluasi PSAK No 54, yang mengakui laba dari restrukturisasi utang (IAI 1998). Selisih lebih nilai ekuitas dengan nilai tercatat utang lebih baik diakui sebagai tambahan modal disetor.



Pajak. Tabel 7 menunjukkan bahwa pembayaran pajak berasosiasi dengan penurunan laba (konsisten dengan Maydew 1997, Guenther 1994, dan Boynton *et al.* 1992). Eksistensi pajak dapat dibedakan antara pembayaran pajak (pajak kini) dan pajak tangguhan. Pertama, Stolowy dan Breton (2000) mengkategorikan pembayaran pajak sebagai proksi biaya politik. Argumennya bahwa perusahaan besar membayar pajak lebih tinggi sehingga pembayaran pajak adalah motivasi manajemen laba. Kedua, pajak tangguhan timbul dari perbedaan jumlah pajak menurut laba fiskal dan laba akuntansi. Pajak tangguhan menimbulkan pengakuan beban (pendapatan) pajak tangguhan. Pengelolaan beban (pendapatan) pajak tangguhan merupakan strategi manajemen laba.

Penggeseran Kinerja antar Perusahaan. Tabel 7 menunjukkan bahwa penggeseran kinerja (pendapatan dan biaya) antar perusahaan berasosiasi dengan penurunan laba, konsisten dengan Beneish (1997). Penggeseran ini diindikasikan dari ketersediaan menanggung kerugian signifikan, ketiadaan jasa penilai dalam pengalihan aktiva tetap, pengalihan aktiva tetap bersifat kontinjensi, signifikansi dampak transaksi dalam hubungan istimewa, pihak-pihak dalam hubungan istimewa tidak diungkapkan secara memadai, upaya penyesatan dalam pelaporan transaksi untuk mengaburkan substansi ekonomi, dan konsentrasi kepemilikan saham oleh *holding company*. Tipe-tipe penggeseran kinerja melalui penjualan dan pembelian, berutang dan berpiutang (tanpa bunga dan atau tanpa jatuh tempo), menyewa dan menyewakan, dan pengalihan aktiva. Penggeseran ini umumnya merupakan pelanggaran prinsip akuntansi misalnya ketidakcukupan pengungkapan transaksi, penyesatan pelaporan suatu transaksi, mengunggulkan informasi substansi hukum daripada substansi ekonomi, dan penyajian informasi substansi keuangan dengan mengabaikan substansi ekonomi riil. Penggeseran kinerja antar perusahaan hanya terjadi pada perusahaan yang menderita



kerugian atau penurunan laba. Informasi penurunan kinerja ini menjadi argumen untuk meminimumkan upah buruh, penundaan pembayaran utang, penurunan (penghindaran) pembayaran dividen bagi pemegang saham eksternal, meminimumkan pembayaran pajak, atau penghindaran tanggung jawab sosial dan lingkungan. Penggeseran kinerja ini mencerminkan biaya politik bagi perusahaan publik.

Kendala Kesenambungan Usaha. Kendala kesinambungan usaha berimplikasi pada pengakuan kerugian penurunan manfaat ekonomi aktiva. Penurunan laba akibat kendala kesinambungan merupakan upaya akuntansi untuk mengungkapkan substansi ekonomi mengenai kondisi perusahaan di masa depan. Namun, kendala kesinambungan menimbulkan fleksibilitas dalam derajat pengakuan beban atau kerugian di masa kini. Hal ini mencerminkan eksistensi konflik antara akuntansi akrual yang berorientasi pada kinerja jangka panjang (masa depan) dan gejala manajemen laba yang berorientasi pada kinerja jangka pendek (masa kini). Pengaruh kendala kesinambungan usaha terhadap penurunan laba merupakan "motif khusus" dalam manajemen laba.

4.2.2. STRATEGI MANAJEMEN LABA

Strategi manajemen laba dapat dibedakan menjadi manajemen laba artifisial dan manajemen laba transaksional (Stolowy dan Breton 2000). Perusahaan melakukan manajemen laba artifisial melalui pemanfaatan fleksibilitas prinsip akuntansi dan pelanggaran prinsip akuntansi. Pemanfaatan fleksibilitas prinsip akuntansi meliputi praktik-praktik akuntansi yang konservatif, netral, dan agresif (Dechow dan Skinner 2000). Manajemen laba transaksional merupakan praktik-praktik operasional atau penciptaan transaksi yang mempengaruhi laba dengan keterlibatan pihak eksternal, misalnya transaksi akuisisi, transaksi divestasi, dan transaksi dengan pihak-pihak dalam hubungan istimewa. Jadi, praktik manajemen laba dapat dikategorikan menjadi tiga.



meliputi fleksibilitas prinsip akuntansi, pelanggaran prinsip akuntansi, dan manajemen laba transaksional. Tabel 8 menyajikan ketiga jenis strategi ini.

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 Neil *et al.* 1995 dan Michelson *et al.* 1995), dan (4) estimasi masa manfaat biaya tanggungan menimbulkan beban amortisasi biaya tanggungan (konsisten dengan Beneish 1997 dan Moses 1987). Perusahaan memiliki kebebasan untuk memperoleh keyakinan mengenai kewajiban beban-beban estimasian ini. Fleksibilitas pengestimasian penyisihan piutang dan penyisihan persediaan merupakan modus tertinggi dalam strategi manajemen laba. Tabel 8 menunjukkan bahwa manajer perusahaan menggunakan sedikit strategi fleksibilitas prinsip akuntansi (umumnya strategi penyisihan piutang dan persediaan) serta lebih menyukai strategi pelanggaran prinsip akuntansi dan manajemen laba transaksional. Hal menjelaskan bahwa manajer perusahaan “masih kasar” dalam manipulasi laba.

Pelanggaran Prinsip Akuntansi. Tabel 8 panel B menyajikan strategi pelanggaran prinsip akuntansi, meliputi (1) tidak mencatat persediaan dalam proses untuk meningkatkan 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



menaikkan harga pokok penjualan, (5) mencatat investasi kepemilikan saham sebesar 20% (lebih) dengan metode biaya (konsisten dengan Barefield & Comiskey 1972 dan Dascher & Malcolm 1970), (6) melaporkan *goodwill* negatif (selisih lebih nilai buku atas biaya perolehan investasi anak perusahaan) dengan masa amortisasi 20 tahun untuk menurunkan beban amortisasi; dalam hal ini, *goodwill* negatif seharusnya 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 menyesatkan tentang kerugian kehilangan persediaan, dengan tidak mengestimasi pendapatan dari klaim asuransi yang mengurangi kerugian. Kesalahan perhitungan harga pokok penjualan, pelaporan *goodwill* negatif, dan penyesatan pelaporan kerugian kehilangan persediaan merupakan strategi manajemen laba yang berlaku spesifik (bernilai lokal) dan belum teridentifikasi dalam penelitian terdahulu. Temuan ini mengindikasikan bahwa manajer perusahaan publik di Indonesia sangat toleran dalam pelanggaran prinsip akuntansi.

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 (konsisten dengan Brayshawand & 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 pengakuan pendapatan komisi sebagai perantara penjualan, (4) penyesatan pelaporan transaksi antar perusahaan atau antar pihak dalam hubungan istimewa; dalam hal ini, bentuk-bentuk transaksinya antara lain (a) membuat perjanjian pengalihan aktiva di masa depan dan bersifat kontinjensi untuk mengakui keuntungan atau kerugian saat menjelang akhir tahun (konsisten dengan Givoly &



Ronen 1981), (b) bertransaksi dengan perusahaan non publik yang terindikasi sebagai perusahaan afiliasi dalam pengendalian *holding company* (konsisten dengan Beneish 1997, Carlson & Bathala 1997, serta Beattie *et al.* 1994), (c) bertransaksi penjualan dan pembelian, herutang dan berpiutang, serta menyewa dan menyewakan ruang dengan perusahaan lain yang terindikasi sebagai perusahaan afiliasi dalam pengendalian *holding company* (mengindikasikan substansi ekonomi riil sebagai satu kesatuan entitas usaha). Praktik penggeseran pendapatan dan beban antar perusahaan merupakan strategi manajemen laba yang sangat mungkin dilakukan secara luas oleh perusahaan publik di Indonesia. Claessens *et al.* (2000) menyatakan bahwa pengelolaan perusahaan di Indonesia terpengaruh konsentrasi kepemilikan saham keluarga pendiri. Pendapat ini menguatkan dugaan bahwa perusahaan-perusahaan di Indonesia melakukan manajemen laba antar perusahaan dalam satu grup bisnis yang dikendalikan keluarga pendiri.

V. PENUTUP

5.1. KESIMPULAN

Penelitian ini menguji pengaruh motivasi dan strategi terhadap praktik manajemen laba. Hasil pengujian mengindikasikan bahwa peningkatan motivasi *debt covenant* dan motivasi biaya politik akan meningkatkan praktik manajemen laba. Namun, penelitian ini gagal mengindikasikan pengaruh motivasi rencana bonus dan strategi pilihan metode akuntansi terhadap praktik manajemen laba.

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 akibat 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 akuntansi akrual dengan orientasi kinerja masa depan dan studi manajemen laba dengan orientasi kinerja masa kini serta (4) motivasi rencana bonus, pembayaran dividen, dan *debt covenant* yang berasosiasi dengan praktik peningkatan laba dan kurang berasosiasi 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 pengestimasian penyisihan piutang dan persediaan, (2) perusahaan lebih menyukai strategi pelanggaran prinsip akuntansi dan manajemen laba transaksional daripada pemanfaatan fleksibilitas akuntansi akrual, 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 akrual 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. KETERBATASAN

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 masih lemah, khususnya untuk tahun 2005.

Investigasi praktik manajemen laba menghasilkan motivasi dan strategi yang bersifat indikasi dan bukan pembuktian yang dapat dijadikan dasar dalam penilaian kewajaran suatu transaksi secara ekonomi dan hukum. Investigasi ini mengandalkan informasi publikasian sehingga tidak terbebaskan dari kemungkinan kesalahan interpretasi, akibat asimetri informasi antara pengguna dan penerbit informasi.

5.3. SARAN

Penelitian mendatang diharapkan dapat menginvestigasi pengujian pengaruh motivasi rencana bonus terhadap manajemen peningkatan laba dan mengklarifikasi variabel pajak sebagai motivasi dan strategi manajemen laba. Laba restrukturisasi utang merupakan insentif bagi manajer untuk mengelola laba sehingga temuan ini merupakan masukan bagi penyusun standar akuntansi untuk merevisi PSAK No 54. Indikasi pelanggaran prinsip akuntansi dan manajemen laba transaksional merupakan masukan bagi BAPEPAM dalam penyusunan pedoman laporan keuangan publik.



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Tabel 1
Perhitungan Jumlah Sampel Perusahaan

No	Keterangan	Jumlah	Persentase
1	Perusahaan terdaftar di BEJ tahun 2003 - 2005*	333	100%
2	Perusahaan sektor non-manufaktur*	(180)	(54 %)
3	Laporan keuangan tidak bertanggal 31 Desember	(2)	(1 %)
4	Mata uang laporan keuangan bukan Rupiah	(5)	(2 %)
5	Saldo ekuitas pernah mengalami negatif	(56)	(16%)
6	Laporan keuangan yang tersedia tidak lengkap	(7)	(2%)
Jumlah Sampel Pengujian Hipotesis		83	25 %
Jumlah Sub-sampel Investigasi Pendalaman = 12,5% x (83-3)		10	

* Sumber: Indonesian Capital Market Directory 2004

Tabel 2
Statistik Deskriptif

Keterangan	N	Minimum	Maksimum	Rerata	Deviasi Std.
Discretionary Accrual 2004	83	-0,252	0,828	0,006	0,143
Discretionary Accrual 2005	83	-0,970	0,580	-0,006	0,212
Discretionary Acc Surprise	83	0	3	1,580	0,828
Strategi Manajemen Laba Motivasi Bonus Plan	83	0,000	3,733	0,070	0,408
Motivasi Debt Covenant	83	0,105	0,986	0,478	0,217
Motivasi Political Cost	83	4,625	7,672	5,832	0,602

Tabel 3
Hasil Pengujian Multikolinieritas dan Heteroskedastisitas

Variabel Independen	Multikolinieritas		Heteroskedastisitas	
	Tolerance	VIF	Korelasi Spearman's rho	Signifikansi
Motivasi Bonus Plan	0,865	1,156	-0,023	0,839
Motivasi Debt Covenant	0,895	1,117	-0,193	0,080
Motivasi Political Cost	0,911	1,098	-0,108	0,329
Strategi Metoda Akuntansi	0,973	1,028	0,021	0,851

Tabel 4
Skor DAS Sampel Investigasi Praktik Manajemen Laba

Peningkatan Laba			Penurunan Laba		
No	Perusahaan	Skor DAS*	No	Perusahaan	Skor DAS*
1	Perusahaan A	0,579	1	Perusahaan F	(0,970)
2	Perusahaan B	0,317	2	Perusahaan G	(0,834)
3	Perusahaan C	0,278	3	Perusahaan H	(0,347)
4	Perusahaan D	0,274	4	Perusahaan I	(0,285)

5	Perusahaan E	0,260	5	Perusahaan J	(0,261)
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* DAS = discretionary accruals surprise

Tabel 5
Ringkasan Kasus-kasus Manajemen Peningkatan Laba

Perusahaan A. Perusahaan termotivasi meningkatkan kompensasi bagi manajer dan dividen bagi pemegang saham. Informasi ini merupakan sinyal buruk bagi kreditor Perusahaan berupaya menyampaikan sinyal bagus melalui pertumbuhan penjualan yang disumbangkan dari pengakuan penjualan berdasarkan perjanjian tiga pihak yang diklaim perusahaan, sebagai perantara penjualan. Pengakuan ini merupakan pengingkaran konsep substansi ekonomi mengganggu bentuk hukum.

Perusahaan B. Perusahaan termotivasi meningkatkan kesejahteraan manajemen dan pemegang saham. Strateginya meliputi mengakuisisi perusahaan lain yang *profitable*, tidak mencatat penyisihan piutang usaha, tidak mencatat penyisihan persediaan, mencatat persediaan fiktif, dan mencatat investasi saham dengan metode biaya.

Perusahaan C. Perusahaan termotivasi meningkatkan kompensasi manajemen. Motif ini timbul ketika tersedia peluang bagi manajemen untuk mengubah informasi dari menderita kerugian menjadi menghasilkan laba, dan restrukturisasi utang. Manajemen menyadari bahwa kinerja laba restrukturisasi utang adalah tidak terkait kinerja menghasilkan aliran kas sehingga tidak dapat dijadikan argumen untuk meningkatkan kesejahteraannya. Manajemen memilih strategi untuk menciptakan laba tambahan. Strategi ini meliputi tidak mengakui peningkatan penyisihan piutang usaha, tidak membuat penyisihan persediaan, dan tidak mengakui penurunan manfaat ekonomi atas aktiva non operasi.

Perusahaan D. Perusahaan termotivasi meningkatkan laba untuk meningkatkan kesejahteraan manajemen dan pemegang saham serta penyampaian sinyal bagus kepada kreditor. Strateginya meliputi divestasi anak perusahaan yang rugi, tidak membuat penyisihan piutang usaha, dan tidak membuat penyisihan persediaan.

Perusahaan E. Perusahaan termotivasi meningkatkan laba dengan pola *income smoothing* untuk mempertahankan kesejahteraan manajemen dan pemegang saham serta penyampaian sinyal bagus kepada kreditor. Strateginya meliputi penyisihan piutang usaha terlalu rendah dan kebijakan tarif penyusutan aktiva terlalu rendah.



Tabel 6

Ringkasan Kasus-kasus Manajemen Penurunan Laba

Perusahaan F. Perusahaan termotivasi menurunkan laba dengan pola *losses smoothing* untuk mengurangi biaya politik (tekanan dari buruh, kreditur, dan pemegang saham), memperpanjang pinjaman modal kerja dari bank, dan tidak membayar dividen kepada pemegang saham eksternal. Strateginya meliputi transaksi dalam hubungan istimewa (penjualan produk, pembelian, berpiutang, serta berutang tanpa bunga dan jatuh tempo), pembebanan segera biaya tanggungan, pengakuan rugi kehilangan persediaan, terlalu tinggi, tidak mengakui persediaan barang dalam proses, tidak mengungkapkan laba penjualan aktiva tetap, dan pelaporan *goodwill* negatif pada sisi pasiva di neraca.

Perusahaan G. Perusahaan termotivasi menurunkan laba untuk mengurangi pembayaran pajak dan penggeseran kinerja antar perusahaan (cecmintah biaya politik), membunimalkati kompensasi bagi manajemen, dan memaksimalkan dividen bagi pemegang saham. Strateginya adalah penggeseran pendapatan dan beban antar perusahaan (melalui transaksi penjualan dan pembelian, menyewa dan menyewakan, berutang dan berpiutang yang terindikasi antar perusahaan afiliasi dalam satu *holding company*) dan penyisihan piutang terlalu tinggi. Transaksi menyewa dan menyewakan di satu ruangan untuk pabrik, gudang, dan kantor antar perusahaan mengindikasikan bahwa perusahaan-perusahaan yang terlibat transaksi ini memiliki substansi ekonomi "secara riil" sebagai satu kesatuan entitas usaha.

Perusahaan H. Perusahaan memiliki ketergantungan pada pemasok luar negeri yang menimbulkan beban selisih kurs dan kendala kesinambungan usaha. Hal ini berimplikasi pada penerapan konservatisme dalam penilaian piutang, persediaan, dan aktiva non operasi. Perusahaan melaporkan *goodwill* negatif pada sisi pasiva di neraca.

Perusahaan I. Perusahaan termotivasi menurunkan laba untuk mengurangi pembayaran pajak dan menggeser kinerja antar perusahaan (sebagai ceemintah biaya politik). Strateginya melalui pengakuan kerugian dari pengddian aktiva tetap dan transaksi *sale-lease back*. Pengalihan aktiva tetap (meliputi pabrik, persediaan, tanah, dan perlengkapan) berdasarkan perjanjian yang belum disahkan dan dibuat sesaat sebelum tanggal neraca. Pihak-pihak dalam pengalihan aktiva terindikasi dalam hubungan istimewa di bawah kendali *holding company* di luar negeri.

Perusahaan J. Perusahaan termotivasi menurunkan laba untuk menurunkan pembayaran pajak. Strateginya menggunakan nilai persediaan secara neto (setelah dikurangi penyisihan nilai persediaan) dalam perhitungan harga pokok penjualan.

Tabel 7

Ringkasan Motivasi Manajemen Laba

Motivasi Manajemen Laba	PERUSAHAAN									
	A	B	C	D	E	F	G	H	I	J
Kompensasi Manajemen	x	x	x	x	x		x			
Pembayaran Dividen (Kesejahteraan Pemilik)	x	x		x	x	x	x			
Perjanjian Utang (Debt Covenant)	x			x	x	x				
Restrukturisasi Utang			x							
Pembayaran Pajak (Biaya Politik)						x		x	x	
Penggeseran Kinerja (Biaya Politik)						x	x		x	
Kendala Kesinambungan Usaha								x		



Tabel 8

Ringkasan Strategi Manajemen Laba

Strategi Manajemen Laba	PERUSAHAAN									
	A	B	C	D	E	F	G	H	I	J
Panel A: Fleksibilitas Prinsip Akuntansi										
Estimasi penyisihan piutang		x	x	x	x		x	x		
Estimasi penyisihan persediaan		x	x	x				x	x	
Estimasi umur aktiva (tanpa penyusutan)					x					
Estimasi masa manfaat biaya tanggungan						x				
Panel B: Pelanggaran Prinsip Akuntansi										
Tidak mencatat persediaan						x				
Tidak mencatat laba-rugi pengalihan aktiva						x				
Tidak mencatat kerugian penurunan nilai Aktiva non operasi			x					x		
Kesalahan perhitungan harga pokok Penjualan										x
Kesalahan pencatatan investasi saham -metode biaya		x								
Kesalahan pelaporan goodwill negatif							x	x		
Pencatatan persediaan fiktif		x								
Penyesatan pelaporan kerugian kehilangan sediaan						x				
Panel C: Manajemen Laba Transaksional (Transaksi antar Perusahaan)										
Kerugian selisih kurs								x		
Akuisisi atau divestasi perusahaan lain		x		x						
Pencatatan pendapatan dan harga pokok penjualan fiktif (pelanggaran prinsip akuntansi)	x									
Penyesatan pelaporan berbagai transaksi antar perusahaan / dalam hubungan istimewa (pelanggaran prinsip akuntansi)						x	x		x	

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Pengaruh Independensi Auditor Terhadap Manajemen Laba untuk KAP Big 5 dan Non Big 5

INTEN MEUTIA

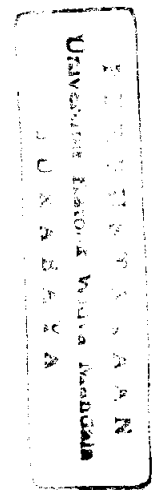
Universitas Sriwijaya

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, sepatutnya laporan keuangan dapat memenuhi keperluan para pengguna terutama berkaitan dengan validitas informasi tersebut. Informasi yang diberikan seharusnya informasi yang dapat dipercaya. Namun demikian pada prakteknya laporan keuangan seringkali disalahgunakan oleh manajer dengan melakukan manajemen laba.



Isu mengenai usaha manajer untuk melakukan manajemen laba sebenarnya bukan merupakan isu baru di bidang akuntansi. Hal ini sudah ada sejak lama, dahulu dikenal sebagai *income smoothings*. Manajemen laba merupakan usaha pihak manajer 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 untuk kepentingan pihak manajer.

Meskipun secara prinsip, praktek manajemen laba ini tidak menyalahi prinsip-prinsip akuntansi yang diterima umum, namun adanya praktek ini dapat mengikis kepercayaan masyarakat terhadap laporan keuangan eksternal dan menghalangi kompetensi aliran modal di pasar modal (Scott *et al.* 2001). Praktek ini juga dapat menurunkan kualitas laporan keuangan suatu perusahaan. Manajemen laba juga merupakan hal yang merugikan investor karena mereka tidak akan mendapat informasi yang benar mengenai posisi keuangan perusahaan.

Adapun audit merupakan suatu proses untuk mengurangi ketidakselarasan informasi yang terdapat antara manajer dan para pemegang saham dengan menggunakan pihak luar untuk memberikan pengesahan terhadap laporan keuangan. Auditor diharapkan dapat membatasi praktek manajemen laba serta membantu menjaga dan meningkatkan kepercayaan masyarakat umum terhadap laporan keuangan. Namun demikian efektifitas dan kemampuan auditor untuk mendeteksi manajemen laba tergantung kepada kualitas auditor tersebut. Beberapa penelitian terdahulu telah membuktikan bahwa terdapat hubungan antara kualitas audit dengan manajemen laba. Kualitas audit ini biasanya dikaitkan dengan ukuran auditor yaitu Big dan non-Big. Auditor Big dianggap memiliki kualitas yang lebih tinggi dibandingkan dengan auditor non-Big. Auditor yang diklasifikasikan sebagai Big juga dianggap akan lebih mampu membatasi praktek manajemen laba dibandingkan dengan auditor non-Big.

Namun demikian kasus Enron yang cukup mengguncang ekonomi Amerika Serikat baru-baru ini serta diikuti dengan kasus-kasus sejenis seperti Xerox Corporation dan WorldCom menunjukkan bahwa kualitas audit yang biasanya diklasifikasikan menjadi Big dan non-Big tidak selamanya menjadi ukuran terhadap kemungkinan timbulnya manipulasi terhadap laporan keuangan. Kasus ini telah membangkitkan isu baru berkaitan dengan kualitas audit. Oleh karena itu, mungkin terdapat faktor lain terkait dengan auditor yang mempengaruhi terjadinya manajemen laba dalam suatu perusahaan yaitu independensi auditor.

Berdasarkan latar belakang di atas, penulis ingin melihat lebih jauh adakah independensi yang dimiliki auditor memberi pengaruh terhadap hubungan antara kualitas auditor dengan manajemen laba.

Sesuai dengan pernyataan masalah di atas, maka penelitian ini memiliki dua objektif yaitu:

1. Untuk menguji hubungan antara kualitas audit dengan manajemen laba
2. Untuk mengidentifikasi pengaruh dua indikator independensi yaitu *non-audit services* dan masa jabatan auditor terhadap hubungan antara kualitas audit dengan 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-akibat perjanjian yang mempunyai kaitan dengan angka-angka yang dilaporkan dalam laporan keuangan.

Dari ketiga definisi di atas dapat dikatakan 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 laporan keuangan. Arthur Levitt (1998), ketua *Securities and Exchange Commission* (SEC) 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 Buyout Offers* (MBOs) dan alasan Peraturan.

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

1. Pendekatan yang mengkaji akrual agregat dan menggunakan model regresi untuk menghitung akrual yang diharapkan dan yang tidak diharapkan.
2. Pendekatan yang menekankan pada akrual spesifik seperti cadangan hutang ragu-ragu, atau akrual pada sektor yang spesifik seperti tuntutan kerugian pada industri asuransi.
3. Pendekatan yang mengkaji ketidaksinambungan 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 akrual 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 akrual memiliki dua komponen. Komponen *non-discretionary* dan *discretionary*. Komponen *discretionary accruals* ini merupakan bagian akrual 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 memanipulasi akrual-akrual tersebut untuk mencapai tingkat pendapatan yang dinginkannya.

2.2. Kualitas Audit

Audit merupakan suatu proses untuk mengurangi ketidakselarasan informasi yang terdapat antara manajer dan para pemegang saham dengan menggunakan pihak luar untuk memberikan

pengesahan terhadap laporan keuangan. Para pengguna laporan keuangan terutama para pemegang saham akan mengambil keputusan berdasarkan pada laporan yang telah dibuat oleh auditor mengenai laporan keuangan suatu perusahaan. Hal ini berarti auditor mempunyai peranan penting dalam pengesahan laporan keuangan suatu perusahaan. Oleh karena itu kualitas audit merupakan hal penting yang harus diperhatikan oleh para auditor dalam proses pengauditan.

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 memberikan tekanan pada auditor untuk menghasilkan laporan yang mungkin tidak sesuai dengan standar profesi. Lebih lanjut hal ini akan mengganggu kualitas audit.

Berkaitan dengan kualitas audit, DeAngelo (1981) mendefinisikan kualitas audit sebagai kemungkinan bahwa auditor akan menemukan dan melaporkan pelanggaran dalam sistem akuntansi klien. Temuan pelanggaran mengukur kualitas audit berkaitan dengan pengetahuan dan kemampuan auditor. Sedangkan pelaporan pelanggaran tergantung kepada dorongan auditor untuk mengungkapkan pelanggaran tersebut. Dorongan ini akan tergantung kepada independensi yang dimiliki oleh auditor tersebut.

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 seringkali diukur dengan menggunakan ukuran kantor akuntan publik.

2.3. Independensi

Independensi auditor merupakan suatu hal penting yang sudah sejak lama menjadi pembicaraan 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.

Berkaitan 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 terganggu 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 mengawasi aktivitas akuntan di Indonesia juga memberikan aturan berkaitan dengan independensi, kejujuran dan objektivitas akuntan dalam melaksanakan aktivitasnya. Dimana dalam menjalankan tugasnya anggota kantor akuntan publik (KAP) harus selalu mempertahankan sikap mental independen di dalam memberikan jasa profesi sebagaimana diatur dalam Standard Profesional Akuntan Publik yang ditetapkan oleh IAI. Sikap mental independen tersebut harus meliputi independen dalam kenyataan (*in facts*) maupun yang kelihatan (*in appearance*).

Berkaitan dengan auditor yang independen, Watt dan Zimmerman (1986) menyatakan bahwa kebolehpercayaan yang diberikan untuk verifikasi auditor terhadap laporan keuangan kliennya cenderung tergantung kepada kompetensi dan independensi. Kompetensi bermakna kelayakan profesional individu yang memiliki kemampuan teknik untuk mengetahui wujudnya pelanggaran dalam suatu sistem akuntansi. Adapun independensi mensyaratkan auditor untuk mempunyai pandangan 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 tidak hanya dianggap memiliki pengetahuan yang mendalam di bidang akuntansi tetapi juga dapat berhubungan dengan audit committee dan dewan direksi yang bertanggung jawab untuk memeriksa dengan teliti para pembuat keputusan di perusahaan.

Dari pelbagai pendapat mengenai independensi di atas, terdapat satu kesepakatan bahwa independensi merupakan hal penting yang mesti dimiliki oleh auditor. Terdapat pelbagai jenis independensi, tetapi dapat disimpulkan bahwa independensi yang dapat dinilai hanyalah 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 ialah 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.

Berkaitan dengan *non-audit services* ini, *Securities Exchange Commission* (SEC) US menerapkan peraturan baru pada tahun 2000 yang mensyaratkan perusahaan yang terdaftar di bursa untuk mengungkapkan informasi berkaitan dengan bayaran *non-audit services* yang diberikan kepada auditor.

Dikaitkan dengan keempat prinsip yang diberikan oleh AICPA dalam menentukan apakah independen auditor terganggu ataupun 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. Antaranya ialah ketergantungan keuangan auditor terhadap kliennya

dan wujudnya hubungan pribadi di antara auditor dan manajer. Selain itu Mautz dan Sharaf mengamati 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 Metcalif yang menganjurkan pertukaran auditor sebagai usaha untuk mengurangi pengaruh dari berkurangnya independensi auditor. Dinyatakan bahwa hubungan yang lama antara auditor dan klien akan menyebabkan sulit bagi auditor untuk benar-benar bebas. Salah satu alternatif yang digalakkan ialah menukar auditor setelah beberapa tahun (Copley & Doucet, 1993).

Mereka yang menyokong adanya pertukaran auditor menyatakan bahwa semakin lama suatu perusahaan audit mempertahankan hubungan dengan kliennya semakin berkurang kemampuannya untuk dapat bertindak objektif. Berkemungkinan mereka tidak dapat mendeteksi kesalahan-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 kalau pun 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 *et al.* 1998). Kualitas auditor yang tinggi, yang diklasifikasikan sebagai Big-5 dianggap akan mengurangi timbulnya praktek manajemen laba sekaligus mengurangi tuntutan terhadap auditor.

Becker *et al.* (1998) menggunakan *cross sectional model* Jones 1991 untuk menghitung *discretionary accruals*. Becker menemukan bahwa *income-increasing discretionary accruals* pada klien KAP non-Big lebih tinggi dari klien KAP Big.

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 bayaran *non-audit services*. Sementara pada perusahaan yang diaudit oleh Big, *discretionary accruals* berhubungan secara negatif dengan rasio bayaran *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 bayaran *non-audit services* secara signifikan lebih tinggi pada non-Big daripada Big.

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

Davis *et al.* (2000) yang melakukan penelitian berkaitan dengan manajemen laba dan masa jabatan auditor menguji hubungan antara lamanya masa jabatan auditor dengan *absolute discretionary accruals* dan *forecasting errors*. Ditemukan bahwa masa jabatan auditor secara positif berhubungan secara signifikan dengan *absolute discretionary accruals*. Temuannya menyatakan perusahaan audit Big 5 secara positif berhubungan dengan *absolute discretionary accruals*.

Selanjutnya Ebrahim (2001) melakukan penelitian berkaitan dengan kualitas audit, masa jabatan auditor, kepentingan klien serta manajemen laba. Ebrahim menemukan bahwa lamanya auditor jabatan berhubungan secara negatif dengan *discretionary accruals*. Hal ini menunjukkan bahwa auditor menjadi semakin serasi dengan aktivitas klien dan lingkungan pelaporan keuangannya.

Terdapatnya perbedaan antara temuan Davis *et al.* (2000) dan Ebrahim (2001) berkemungkinan karena terdapatnya perbedaan ukuran yang digunakan untuk mengukur variabel masa jabatan auditor. Selain itu model yang digunakan untuk menghitung *discretionary accruals* berkemungkinan memberi pengaruh terhadap temuan.

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 kelihatan yang dapat dinilai serta diamati oleh para pengguna laporan keuangan.

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

Gul (1991) juga meneliti pengaruh bayaran 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 bayaran audit, adanya jasa penasihat manajer, iuran kontingensi, kerjasama dengan klien yang diaudit serta tekanan budgeting. Hasil penelitian menunjukkan bahwa responden menganggap kelima ukuran di atas 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 antaranya ialah bayaran audit, adanya *non-audit services*, ukuran KAP dan lama 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

Variabel terikat dalam penelitian ini ialah manajemen laba. Penelitian ini akan menggunakan model Jones (1991) yang dimodifikasi untuk mendeteksi *discretionary accruals*. Menurut model Jones (1991) yang dimodifikasi

$$TA_{it} = \Delta CA_{it} - \Delta Cash_{it} - \Delta CL_{it} + \Delta CPLT_{it} - DEP_{it} \quad \dots (1)$$

$$NDA_{it} = \alpha (1/Ait-1) + \beta 1[(\Delta REV_{it} - \Delta REC_{it}) / Ait-1] + \beta 2 (PPE_{it}/Ait-1) \quad \dots (2)$$

$$DA/Ait-1 = TA_{it} / Ait-1 - (\beta_0(1/Ait-1) + \beta 1[(\Delta REV_{it} - \Delta REC_{it}) / Ait-1] + \beta 2 (PPE_{it}/Ait-1)) \quad \dots (3)$$

Dimana :

- NDA_{it} = *Non-discretionary accruals* pada tahun t
- DA_{it} = *Discretionary accruals / discretionary accruals* pada tahun t
- TA_{it} = Jumlah akrual pada tahun t
- Ait-1 = Jumlah asset pada tahun t-1
- Δ CA_{it} = *Current asset* tahun t dikurang *current asset* tahun t-1
- Δ Cash_{it} = *Cash* pada tahun t dikurang *cash* pada tahun t-1
- Δ CL_{it} = *Current Liability* tahun t dikurang *current liability* tahun t-1
- Δ CPLT_{it} = Bagian hutang jangka panjang yang jatuh tempo pada tahun t dikurang bagian hutang jangka panjang yang jatuh tempo pada tahun t-1.
- DEP_{it} = Penyusutan pada tahun t
- Δ REV_{it} = Penghasilan pada tahun t dikurang penghasilan tahun t-1
- Δ REC_{it} = Piutang pada tahun t dikurang piutang pada tahun t-1

- PPE_{it} = Harta dan peralatan kotor pada tahun t
- i = Indeks perusahaan
- t = 1,...,T [sub I] indeks tahun

β₀, β₁ dan β₂ diperoleh dari persamaan berikut ini :

$$TA_{it}/Ait-1 = \beta_0 (1/Ait-1) + \beta 1[(\Delta REV_{it} - \Delta REC_{it}) / Ait-1] + \beta 2 (PPE_{it}/Ait-1) + \epsilon_{it} \quad \dots (4)$$

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 diukur 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) (325 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

Penelitian ini menggunakan dua jenis data yaitu data sekunder dan data primer. Data sekunder berupa laporan keuangan perusahaan tahun 1998-2001 yang diperoleh dari laporan tahunan perusahaan yang terdaftar di Bursa Efek Jakarta. Adapun data primer diperoleh melalui kuesioner yang diberikan baik kepada kantor akuntan publik yang berkenaan ataupun perusahaan terkait.

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
Klasifikasi Perusahaan Berdasarkan Jenis Industri

Jenis Industri	N	Persentase
Pertanian	3	2.3
Pertambangan	6	4.6
Industri Dasar dan Kimia	35	26.7
Aneka Industri	27	20.6
Industri Barang Konsumsi	22	16.8
Property, Real Estat & Konstruksi Bangunan	10	7.6
Infrastruktur dan Transportasi	7	5.3
Perdagangan, Jasa dan Investasi	21	16
JUMLAH	131	100

Tabel 2 menunjukkan klasifikasi sampel menurut kualitas audit. Karena penelitian ini menggunakan data tahun 1998–2001, maka terdapat 524 tahun perusahaan yang menjadi unit penelitian.

TABEL 2
Klasifikasi Sampel Menurut Kualitas Audit

Kualitas Audit	N	Persentase
Big 5	437	83.4
non-Big 5	87	16.6
Jumlah	524	100

Dari tabel 1 didapati 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
Klasifikasi Sampel Menurut Non-Audit Services

Non-Audit Services	N	Persentase
Ada	149	28.4
Tidak ada	375	71.7
Jumlah	524	100

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

TABEL 4
Klasifikasi Sampel Menurut Masa Jabatan Auditor

Masa Jabatan Auditor	N	Persentase
≤ 3 tahun	186	35.5
> 3 tahun	338	64.5
Jumlah	524	100

4.2. Model *Discretionary Accruals*

Penelitian ini menggunakan *absolute discretionary accruals* (ABSDA) sebagai ukuran *discretionary accruals* serta tidak membedakan antara *income increasing discretionary accruals* maupun *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
Mean, Median, Nilai Maksimum dan Minimum *Discretionary accruals* dan *Absolute discretionary accruals*

	<i>Discretionary Accruals</i>	<i>Absolute discretionary accruals</i>
Mean	0.067	0.464
Median	-0.069	0.300
Minimum	-1.737	0.001
Maksimum	3.575	0.357

4.3. Analisis Hipotesis

TABEL 6
Korelasi antara Kualitas audit dengan ABSDA

Correlations

			absolut DA	AUDNEW
Spearman's rho	absolut DA	Correlation Coefficient	1.000	-.103*
		Sig. (2-tailed)	.	.019
		N	524	524
	AUDNEW	Correlation Coefficient	-.103*	1.000
		Sig. (2-tailed)	.019	.
		N	524	524

*. Correlation is significant at the .05 level (2-tailed).

Dari tabel 6 didapati bahwa terdapat hubungan yang negatif antara kualitas audit (AUDNEW) dengan *absolute discretionary accruals* (ABSDA). Walaupun hubungan ini tidak begitu kuat, hanya sebesar - 0.103 namun secara statistik hubungan ini signifikan 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

Kualitas Audit	N	Persentase	Mean ABSDA	Sig (2 ujung)
Big 5	437	83.4	0.44741	0.069
non-Big 5	87	16.6	0.55131	
Jumlah	524		100	

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. Di mana 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 4.6 menunjukkan hasil analisis tersebut.

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

Kualitas Audit	Non- Audit services	N	Mean ABSDA	Sig (2 ujung)
Big 5	Ada	132	0.92798	0.000*
	Tdk Ada	305	0.23943	
Jumlah		437		

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 terdapat 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

Kualitas Audit	non- Audit - Services	N	Mean ABSDA	Sig (2 ujung)
non-Big 5	Ada	17	1.01106	0.000*
	Tdk Ada	70	0.43966	
Jumlah		87		

Dari tabel 9 didapati bahwa hanya sebanyak 17 tahun perusahaan yang diaudit oleh auditor non-Big 5 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 tahap 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 auditor 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

Kualitas Audit	Masa Jabatan	N	Mean ABSDA	Sig (2 ujung)
Big 5	≤ 3 tahun	114	0.92254	0.000*
	>3 tahun	323	0.27972	
Jumlah		437		

Dari tabel 10 didapati 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 didapati bahwa mean ABSDA untuk tahun perusahaan yang diaudit oleh Big 5 dengan masa jabatan kurang dari sama dengan 3 tahun lebih tinggi dari mean ABSDA tahun perusahaan yang diaudit dengan masa jabatan lebih dari 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 ($p = 0.00$). Walaupun 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

Kualitas Audit	Masa Jabatan	N	Mean ABSDA	Sig (2 ujung)
non-Big 5	≤ 3 tahun	72	0.59693	0.055*
	>3 tahun	15	0.33233	
Jumlah		87		

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 kedua masa jabatan ini signifikan pada tahap 10% ($p = 0.055$).

Temuan ini menunjukkan bahwa lamanya 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) memperbesar *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*

Hasil analisis korelasi yang terdapat pada tabel 5 telah menemukan terdapat hubungan negatif antara kualitas audit dengan *absolute discretionary accruals*. Walaupun hubungan ini tidak begitu kuat iaitu sebesar -0.103 , namun secara statistik hubungan ini signifikan pada tahap 5%. Temuan ini mendukung hipotesis dan konsisten dengan penelitian-penelitian terdahulu berkaitan dengan kualitas audit. Dimana pada penelitian terdahulu selalu ditemukan bahwa KAP Big 5 memiliki kualitas yang lebih tinggi dari KAP non-Big 5. Antaranya ialah penelitian DeAngelo (1981), Palmrose (1988), Burirovich (1997) dan Becker *et al.* (1998).

Temuan ini mendapati 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 dan berkualitas sehingga memungkinkan mereka untuk bekerja dengan lebih baik.

Teori yang menyokong perbedaan kualitas ini diberikan oleh De Angelo (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 keduanya. 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 kliennya.

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 memperhitungkan 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 mengenal pasti sejauh mana independensi yang dimiliki oleh auditor yang mengaudit perusahaan tersebut. Karena independensi yang dimiliki oleh auditor baik Big 5 ataupun non-Big 5 juga berpengaruh secara signifikan 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 jasa audit. Selain itu informasi berkaitan dengan masa jabatan auditor juga perlu untuk diperhatikan dalam menilai laporan keuangan suatu perusahaan.

Sehubungan dengan *non audit services*, aturan yang telah diterapkan oleh *Securities Exchange Commission* (SEC) terhadap perusahaan yang terdaftar di *New York Stock Exchange* baik juga untuk diikuti oleh Badan Penyelenggara Pasar Modal (BAPEPAM) Indonesia. Dengan mewajibkan perusahaan yang terdaftar di Bursa Efek Jakarta untuk mengungkapkan informasi baik berkaitan dengan bayaran audit ataupun bayaran *non audit services* pada laporan keuangan akan memberikan informasi yang lebih berguna kepada para pengguna laporan keuangan.

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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 dipercayakan kepadanya.

