# Do Polluters Manage Earnings Downwards? A case of Indonesian Listed Companies

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# Do Polluters Manage Earnings Downwards? A case of Indonesian Listed Companies

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ABSTRACT

This paper examines whether polluting firms manage earnings downwards to reduce the political costs expected to arise from poor environmental performance ratings issued by a government agency. Using a sample of listed Indonesian firms from 2002 through 2010, discretionary accruals estimates are regressed against subsequent negative versus positive ratings issued by the Indonesian Ministry of Environment, while controlling for firm size, auditor choice, and industry sensitivity to the environment. The results are consistent with the predictions based on political cost hypothesis, with a significant relation between earnings management and subsequent environmental performance.
**Keywords:** environmental peformance rating, discretionary accruals, earningsmanagement, political cost.

## 1. INTRODUCTION

Poor environmental performance is expected to increase a firm's political costs. Watts and Zimmerman (1978) note that a firm might reduce its political costs by choosing accounting procedures that reduce reported earnings. This paper tests this proposition by examining the relation between earnings management and environmental performance ratings for listed Indonesian firms that are subject to published environmental performance ratings by a government agency. Essentially, this paper argues that firms perceived as poor environmental performers have an incentive to manage earnings downwards to reduce public or political pressure for them to internalise environmental costs.

Previous studies provide evidence of firms' earnings management in response to potential political costs under relatively strict environmental regulatory regimes (e.g. Cahan et al. 1997; Hall and Stammerjohan 1997; Han and Wang 1998; Elbannan 2003; Patten and Trompeter 2003;Yip et al. 2008; Francoeur 2010) but do not address whether poor environmental performance motivates firms to manage earnings downwards to reduce potential political costs.

Indonesia's introduction of the Program for Pollution Control Evaluation and Ratings (PROPER) made it the first Asian country to issue corporate environmental performance ratings[1]. Due to limited resources, the PROPER scheme is focused on operations expected to have the greatest impacts on the Indonesian environment. The rated sites mostly belong to large firms in environmentally sensitive industries, such as mining, manufacturing, chemicals, and pulp and paper. The number of facilities included in the program has grown from 85 in 2002 to 690 in 2010; most additions are of privately held companies, as described in Table 1.[2] While most studies select sample firms from industry sectors that are particularly affected by environmental regulations, this study evaluates earning management behaviour across all sectors containing PROPER rated firms.

We classified PROPER implementation into four different periods:

a. Pilot project period (1995-1996); the program was first initiated and funded by the World Bank.
b. Vacuumed period (1997-2001); the program was postponed due to the Asian financial crisis.
c. Revival period (2002-2010); the program was restarted and funded by the Indonesian government. The implementation was not smooth as it was postponed in 2004, 2006 and 2008 due to corporate lobbying.
d. Maturity period (2011-present); the program has been steadily established and conducted regularly.

We removed pilot project period because it was very short, involved insignificant number of firms, and the government had not imposed any penalties on poor performer which means there was no political pressures for firms participating in the program. Vacuumed period was not used as there was no single firms were being evaluated during the period. We only use revival period because during this period the government had imposed penalties for firms with poor environmental performance. We assume that such situation would have increase

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[1]Under the PROPER program, the Indonesian Ministry of Environment annually evaluates the environmental performance of major industrial water users. The environmental performance of individual facilities is rated using five color-coded grades, and the results are publicly released. The program was introduced in 1995 as a pilot project but was postponed during the Asian Crisis (1997-2001). It was revived in 2002 to be conducted annually and to include a larger number of companies each year. Other developing countries in the region that had comparable programs include India, China, Thailand and the Philippines (Blackman et al. 2004).

[2]The Ministry is aiming to increase the coverage of the PROPER program to 1,000 companies during 2011-2012. While currently rated companies are large in the Indonesian context, most are not publicly listed.

political costs derived from the pressures for the participating companies to clean their production and improve environmental performance, we excluded maturity period considering that selected evival period (2002-2010) as the observation period for the following reasons:

(TABLE 1 HERE)

It is intended that ratings are announced to the public in the year following the rating period but, as reported in Table 1, release of ratings for 2006 and 2007 were substantially delayed. According to the Ministry, such a delay was due to PROPER revitalisation in order to improve the environmental management performance by the participating companies. If rated firms attribute significant political costs to poor ratings, arising from public or political pressure to internalize of the costs of their environmental impacts, then it is expected that low (high) rated firms are more (less) likely to understate their financial capacity to bear these potential financial costs (Cahan, 1992; Patten and Trompeter 2003; Mitra and Crumbley 2003; Han and Wang 1998; Hall and Stammerjohan 1997; Cahan et al. 1997; Johnston and Rock 2005).This study investigates this proposition by examining whether firms with poor PROPER ratings manage earnings downwards.

This paper contributes to this literature by investigating whether firms' strategies to manage earnings are associated with publicly revealed poor environmental performance.

## 2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Political costs as an incentive for earnings manipulation is reasonably established in the literature. The accounting literature includes studies that report how companies manipulate discretionary accruals in periods of heightened political scrutiny associated with anti-trust, monopoly, capital requirements and import relief issues (Jones 1991; Cahan *et al*. 1997; Han & Wang 1998) and, more saliently, in periods of heightened political interest

in environmental regulatory sanctions (Cahan et al. 1997; Hall and Stammerjohan 1997; Han and Wang 1998; Mitra and Crumbley 2003; Patten and Trompeter 2003; Elbannan 2003; Johnston and Rock 2005).

The attention to environmental concerns follows the increasingly evident potential for environmental issues to affect corporate wealth, in light of growing public awareness of environmental issues and demands for political action. Potential political actions include emission taxes, penalties for breaches of emission restrictions, and stricter regulations pertaining to environmental accidents or other corporate activities that have caused significant environmental impacts. The potential for increased political costs following environmental accidents dominates prior studies concerned with environmental issues as political costs; in particular, these use two high profile environmental accidents to proxy for increased political costs: the *Exxon-Valdez* oil spill (Walden 1993; Campbell et al. 2003; Patten 1992) and Union Carbide's chemical leaks (Blacconiere and Patten 1994; Patten and Trompeter 2003). Other proxies for environment-related political pressures used in prior studies include: (1) a company's status as a potentially responsible party (PRP) for hazardous sites by the the Superfund[3] (Johnson 1995; Leary 2003; Chen 1997; Mitchell 1994; Cahan et al. 1997; Freedman and Stagliano 2002; Barth et al. 1997); (2) environmental accidents, such as oil spill and chemical leaks (Blacconiere and Patten 1994; Patten 1992; Campbell et al. 2003; Johnson and Rock 1995; Walden, 1993); (3) firms subject to successful environmental prosecutions (Deegan and Rankin 1996; Cahan 1992); and (4) firms subject to litigation for environmental damage (Barth et al. 1997; Hall and Stammerjohan 1997).

The results of these studies generally confirm there is a relation between the expected political costs of environmental issues and earnings management. For example, Hall and Stammerjohan (1997) found that oil firms facing potentially large damage awards choose income decreasing non-working capital accruals relative to other firms. Cahan *et al*. (1997) report evidence that chemical firms had income decreasing accruals at the height of the Superfund debate in 1979. Han and Wang (1998) analysed oil companies in a period of rapid oil price increases during the 1990 Persian Gulf crisis and found that the oil companies expected to profit from the

[3]Superfund is the name given to the environmental program established to address abandoned hazardous waste sites. The Superfund program operates on the principle that polluters should pay for the clean-ups, rather than passing the costs to taxpayers. Companies placed on the Superfund list are considered by the EPA as parties responsible for the contamination and holds them accountable for the costs of investigations and clean-ups.

crisis used accruals to reduce their reported earnings during the crisis. Patten and Trompeter (2003) find that oil companies facing potentially large damage awards are more likely to use income decreasing capital accruals relative to other oil companies. They also report that U.S. chemical firms under regulatory threat following the Bhopal chemical leak in India in December 1984 exhibited significant negative discretionary accruals.[4] Elbanan (2003) suggests that polluting firms manage their earnings in the years before and during which material environmental remedial expense is recognized. This paper draws on the arguments and results of the prior studies to posit that publicly listed Indonesian companies identified under PROPER as poor environmental performers will manage earnings downwards.

## 3. RESEARCH METHOD

### 1.1 Research Model

Based on the argument that poor environmental performing firms face political pressures to clean up their operations and therefore have the incentive to manage reported earnings downward, a model was developed to test the association between poor environmental ratings and negative discretionary accruals of the sample firms. This includes firm size, auditor size, and environmental sensitivity - measured by industry sensitivity to the environment - in the model to control for other factors affecting earnings management as used in previous literature (Mitra and Crumbley 2003; Cahan et al. 1997). The model is formulated as follows:

$$DAcc_{ti} = \beta_0 + \beta_1 Poor_{ti} + \beta_2 Size_{ti} + \beta_3 BigN_{ti} + \beta_{0i} IndSen_{ti} + \varepsilon \quad (1)$$

where

DAcc = discretionary accruals estimated using modified Jones model(Jones, 1991):

$$TA_{it}/A_{it-1} = \alpha_0/A_{it-1} + \beta_1(\Delta REV_{it} - dREC_{it})/A_{it-1} + \beta_2 PPE_{it}/A_{it-1} + \varepsilon_{it}$$

where

TA = total accruals as net income minusnet cashfrom operations for year *t*.

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[4]Mitra and Crumbley(2003) did not find evidence that oil and gas firms engage in earnings management to reduce political costs in periods of high political scrutiny. This study replicates the work by Patten and Trompeter (2003) and uses a sample of oil firms facing political costs following the *Exxon-Valdez* oil spill in March 1989.

ΔREV = changes in sales calculated as $REV_t$ - $REV_{t-1}$.

ΔREC = changes in receivables calculated as $REC_t$-$REC_{t-1}$.

PPE = total plant, property and equipmentat time *t*.

A = total assets at time*t*.

Poor = environmental performance ratings, 1, if the firm rated poor, 0 otherwise

Size = natural logarithm of total assets

BigN = 1 if the firm uses a non-big N auditors, 0 otherwise

IndSen = sensitivity of industry sector of the company to the environment, 1 to 3 from the least to the most sensitive.

## 1.2 Test Variable: Poor Ratings

Under the PROPER program, each year the Indonesian Ministry of Environment assigns an environmental performance rating, to each inspected facility, using five color-coded grades. Gold and Green ratings are given to facilities whose compliance is beyond the environmental regulations/ standards. Blue is given to those complying with the existing regulations. Red is given to those making insufficient environmental impact management efforts. Black is given to those with no environmental impact management efforts or whose activities cause serious environmental degradation. For each company in each year, the variable *Poor* = 1 if the company has an overall (average) red or black rating, and 0 if it has a gold, blue or red rating.[5]

## 1.3 Control Variables

### *1.3.1 Auditor*

Auditing reduces asymmetries between managers and shareholders by allowing outsiders to verify the validity of financial statements. As such, it is a valuable method of monitoring used by firms to reduce agency costs (Watts and Zimmerman 1983). DeAngelo (1981) defines a quality audit as the joint probability of detecting

[5]PROPER gives ratings to individual facilities ,rather than the company as a whole. This means that companies with more than one facilities may receive more than one ratings from the ministry; this study used a simple average of facility scores to determine an overall rating. Additional tests were also conducted to assess whether firms manage earnings when received both types (mixed) of ratings in the same period.

and reporting financial statement errors. A high quality audit is more likely to detect and report errors and irregularities. Thus, it is an effective barrier to earnings manipulations.

DeAngelo (1981) also suggests that large audit firms have incentives to detect and reveal management misreporting. In support of this suggestion, Jiambalvo (1996) reported that auditor-client disagreements resulting from incentives to manage earnings are more likely to occur when firms have Big Six auditors. Lenard and Yu (2012) and Becker *et al.* (1998) found that firms with non-Big Six auditors report significantly greater discretionary accruals and have larger variations in discretionary accruals than firms with Big Six auditors.

In this study, 'Big N auditor' is used to represent audit quality as a control variable for firm incentives to engage in earnings management. 'N' represents a number of top international audit firms being affiliated with Indonesian auditors. Following international circumstances, the number of Big N auditors reduced from five to four during the period of this study—2002 to 2010.

### *1.3.2 Firm Size*

The relationship between firm size and earnings management is debatable. Size is known as a good proxy for political visibility. Therefore, large firms are more likely to engage in earnings management due to their higher exposure to political costs (Richardson 1997; Watts and Zimmerman 1978). Furthermore, large firms typically have more complex activities, which provides more opportunities to manage earnings. Therefore, larger firms have higher incentives to manage earnings.

By contrast, larger firms are also sensitive to critical monitoring and, thus, are less likely to manage earnings (Albrecht and Richardson 1990; Lee and Choi 2002). Small firms are able to retain private information more successfully than larger companies, suggesting a reverse size effect (Lee & Choi 2002). Therefore, the effect of size on earnings management is also expected to be in one of two directions. This paper uses the natural logarithm of a firm's total assets to measure firm size.

### *1.3.3 Industry Type*

The industry classification used in this study originally comes from the Indonesian Capital Market Directory, or ICMD (Institute for Economic and Financial Research 2006). It classifies industry into 12 sectors. There are 20 sub-sectors for the *manufacturing* sector and five sub-sectors in another sector called *banking*,

*credit agencies other than bank, securities, insurance and real estate*. The industry groups in this study were reclassified further to reveal the sensitivity of the industry to the environment into three industry categories: (1) least sensitive, (2) moderately sensitive and (3) most sensitive. The first group consisted of *IT, Communication, Media & Transportation,* and*Wholesale and Retail*. Included in the second group are *Manufacturing-Consumer Goods, Manufacturing–Miscellaneous*and*Construction, Real Estate & Hotels*. The third group includes *Basic Industry & Chemicals*and*Resources Based Industry*. The establishment of such a ranking means that the variable 'industry' in this study is not a category (nominal) variable; it is an ordinal measure of the level of a firm's environmental visibility. Most studies have used an industry dummy variable in the analysis (Patten 1992; Blacconiere and Patten 1994; Milne and Patten 2002; Patten and Trompeter 2003; Walden and Schwartz 1997). The classificatory approach used in this study is new.

## 1.4 Sample Selection and Data Collection

This study intially selects all 331 to 398 publicly listed companies that received a PROPER rating during 2002-2010. Table 1 shows the industry profiles of rated companies and all listed companies. Financial information was obtained from OSIRIS. Environmental ratings (PROPER) were obtained from the website of the Indonesian Ministry of Environment. Sufficient data was obtained for a final sample of 1143 firm-year observations, which reduces to 577 observations when the previous year's discretionary accruals is regressed against the current year's poor environmental rating. Three major industry sectors (Basic Industry & Chemicals, Construction, Real Estate & Hotels, and Manufacturing – Miscellaneous) each account for around 20% of the observations, and about 12% are Manufacturing-Consumer Goods. The others sectors account for less than 10%, with financial sector having less than 1%. Due to differences in capital structure, firms from financial sector are excluded from the analysis. To test for missing data bias, a series of *t*-tests were performed to examine the differences in firm size (total assets) and firm age between the sample and the population. The *t*-tests do not reveal any bias.

(INSERT TABLE 1 ABOUT HERE)

## 4. RESULT AND ANALISYS

### 1.5 Descriptive Statistics

Table 2 describes the unbalanced panel data for the samples of rated and unrated listed companies from 2002 through 2010. For the sample of rated companies, about 2 percent are rated poor (black and red). About 54 percent of sample companies are audited by large auditors. In nominal terms, total assets range from 25 to 117 billion rupiahs, with a mean of 400 million rupiahs.

(INSERT TABLE 2 ABOUT HERE)

A Breusch-Pagan test (Chen et al. 2006; Gujarati 2003; Wooldridge 2006) indicates heteroscedasticity, ( significant at $p = 0.02$), Following Long and Ervin (2000), a robust Huber-White heteroscedasticity correction suitable for small samples was used when estimating the regressions. To test for the degree of multicollinearity, the variance inflation factor (VIF) and condition index tests were run (see, for example, Chen et al. 2003; Gujarati 2003). Variance inflation factor tests do not indicate collinearity, with the largest VIF value at 1.05. Condition Index were less than 21, again not indicating multicollinearity concerns (Gujarati 2003).

### 1.6 Regression Results

To test the hypothesis the model was run by regressing discretionary accruals against poor ratings of the previous year, that is the year before they were published. It is assumed that rated firms would have expected the poor ratings as they were aware of their own environmental performance. To reduce political costs and anticipated pressures from the public, they have the incentive to manage earnings downward to show financial incapability of cleaning up the facilities. To control for heteroscedasticity, the robust analysis (HC3) available in Stata was utilized.

(INSERT TABLE 3 ABOUT HERE)

Table 3 shows that the values of $R^2$ is very small (0.87%) which confirms the Link test and Ovtest mentioned above, that many variables have been omitted from the model. The *F* ratio is very significant ($p =$

0.0274). The intercepts (CONSTANT) are not significant in the observations, which probably is due to the unstable specification of the model.

The table also shows a significant relationship between poor environmental ratings and discretionary accruals (p = 0.0570 for two tailed test or 0.0285 for one tailed test). This result shows that sample firms used income decreasing accruals to anticipate negative ratings they expected to receive in the following year.

Large audit firms, however, are found to be significantly associated with income increasing accruals at p value of 0.0920 for two tailed test or 0.0460 at one tailed test. There are two possible reasons for this result to occur. First, large audit firms may be more capable in helping their clients manage reported earnings while still complying to accounting standards as compare to small audit firms. Second, in testing the effect of audit firm to discretionary accruals, the values should have been transformed in absolute terms (see for example, Becker *et al.*, 1998).

Firm size and industry sensitivity were not found to be significantly associated with discretionary accruals, with the p value of 0.30900 and 0.09200, respectively. This may be due to the fact that most rated companies are large and belong to sensitive industries, because PROPER program focuses on firms that have larger impact to the environment. While variations in environmental performance ratings and discretionary accruals are high (from the best to the worst), in terms of size and industry sensitivity such variations are relatively low.

Link tests and Ovtests (Chen et al. 2006) were run for model specification biases. They indicated a specification error in the model, which means that some important variables have been omitted from the model. However, considering the sample size is relatively large, it is expected that the model will still have good estimates despite of the normality problem (Gujarati, 2003).

## 1.7 Additional Tests

The Ministry of Environment publishes the PROPER ratings one year after its evaluation and administration. For this reason, an additional test was run by regressing discretionary accruals against the current year's environmental ratings (i.e., the year in which ratings were made public). The result indicates *F* value was not significant (p= 0.1236) as shown in Table 4.

(INSERT TABLE 4 ABOUT HERE)

As noted in the Introduction, a rated firm may have more than one facilities and received more than one ratings respectively and it is possible that one firm receive poor and good ratings in the same period (e.g., a firm recieved 2 reds and 3 blues for 5 facilities). This paper refers such ratings as mixed. To test whether or not firms with mixed ratings will also manage earnings, two additional tests were also run; one for next year's ratings and the other using the current year's ratings. As shown in Table 5 and 6, both tests show insignificant results, which imply that mixed rated firms are not motivated to manage earnings downwards, most probably because they are able to reduce political cost by compensating good ratinsg for the poor ones.

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(INSERT TABLE 5 ABOUT HERE)

(INSERT TABLE 6 ABOUT HERE)

## 5. CONCLUSION, IMPLICATION AND LIMITATION

The results show that, consistent with the hypothesis of this study, firms receiving poor environmental ratings used negative discretionary accruals to avoid the political costs of cleaning up their operations due to poor environmental performance. Such earnings management behavior occurred in the year of PROPER administration and evaluation, that is one year before the ratings were published. It is also revealed that firms receiving mixed (poor and good) ratings at the same period are not engaged in such income decreasing behavior through discretionary accruals.

Further, in contrast to the previous literature that large audit firms have incentive to detect and reveal earnings management, this study indicates that such earnings management behavior was positively associated with the choice of auditor. Previous studies hypothesize that big audit firm may help reduce the opportunity behavior of managing discretionary accruals in both negative and positive directions.

Other explanatory variables, firm size and industry sensitivity, were not found to be significantly associated with the estimates of discretionary accruals. It is assumed that this is due to the limitations of which the data suffered from normality and heteroscedasticity issues. Further study may consider such limitations by using more sophisticated statistical tools or improve data selection method.

This study has implications for how environmentally poor performing companies respond to political costs, which is reflected in the way they manage reported earnings. The evidence that companies manage earnings downward before receiving poor environmental ratings may be useful to investors, market analysts, and in particular, the capital market regulators. By understanding that firms use income-decreasing accruals to avoid political costs arising from their poor environmental performance, they may anticipate similar behaviors during the introduction or implementation of new government initiatives or policies.

This study also provides a significant contribution to the literature. It improves our understanding of corporate reporting behaviors related to environmental performance by providing significant empirical findings of the relationship between environmental performance and earnings management.

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**Table 1. Proper Implementation (2002-2010)**

| PROPER REPORT | Evaluation Period | Result Announced | No. of rated companies | No. of listed companies | No. of listed companies rated | Percentage of listed firms rated |
|---|---|---|---|---|---|---|
| 2002-2003 | 2002 | Mid 2003 | 85 | 331 | 15 | 18% |
| 2003-2004 | 2003 | Mid 2004 | 270 | 333 | 26 | 10% |
| 2004-2005 | 2004 | Mid 2005 | 466 | 331 | 30 | 6% |
| 2006-2007 | 2006-2007 | Mid 2008 | 516 | 344 | 47 | 9% |
| 2008-2009 | 2008 | End of 2009 | 627 | 396 | 53 | 8% |
| 2009-2010 | 2009 | End of 2010 | 690 | 398 | 52 | 8% |

Source: modified from Indonesian Ministry of Environment

**Table 2. Description of variables**

| Variable | N | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| dacc | 577 | 0.0008 | 0.1280 | -1.2280 | 1.6551 |
| poor | 577 | 0.0198 | 0.1394 | 0.0000 | 1.0000 |
| size | 577 | 19.8020 | 2.6135 | 10.1419 | 25.4846 |
| indsen | 577 | 1.7320 | 0.7885 | 1.0000 | 3.0000 |
| BigN | 577 | 0.5360 | 0.4992 | 0.0000 | 1.0000 |

n = 577; $R^2$ = 0.0087; = 2.75 (p= 0.0274). dacc are discretionary accruals estimated using modified Jones model; posize = natural log of total assets.bign = 1 if auditor is a BigN auditor, and 0 otherwise;

**Table 3. Regression Results using poor rating as predictor variable (next year's ratings)**

| dacc | Coef. | Std. Err. | t | p |
|---|---|---|---|---|
| poor | -0.04214 | 0.02206 | -1.91000 | 0.05700 |
| lnasst | -0.00024 | 0.00190 | -0.12000 | 0.90100 |
| indsen | -0.00812 | 0.00798 | -1.02000 | 0.30900 |
| bign | 0.01671 | 0.00989 | 1.69000 | 0.09200 |
| constant | 0.01359 | 0.03369 | 0.40000 | 0.68200 |

n = 577; $R^2$ = 0.0087; F = 2.75 (p= 0.0274). dacc: discretionary accruals estimated using modified Jones model; bign = 1 if auditor is a BigN auditor, and 0 otherwise; size = natural log of total assets.

**Table 4. Regression results using poor rating as predictor variable (current's ratings)**

| dacc | Coef. | Std. Error | t | p |
|---|---|---|---|---|
| poor | 0.0015 | 0.0206 | 0.0700 | 0.9430 |
| lnasst | 0.0040 | 0.0015 | 2.6900 | 0.0070 |
| Indsen | 0.0018 | 0.0070 | 0.2500 | 0.8010 |
| Bign | 0.0011 | 0.0104 | 0.1100 | 0.9140 |
| Constant | -0.0839 | 0.0326 | -2.5700 | 0.0100 |

Notes: n = 1,143; $R^2$ = 0.0044 F = 1.81 (p= 0.1236);
dacc: discretionary accrual, poor: poor rating, BigN: auditor choice, lnasst: natural log of firm's total assets.

**Table 5. Regression Results using mixed rating as the predictor variable (next year's ratings)**

| Dacc | Coef. | Std. Error | t | p |
|---|---|---|---|---|
| Mixed | -0.0085 | 0.0132 | -0.6400 | 0.5220 |
| Lnasst | 0.0000 | 0.0019 | 0.0000 | 0.9990 |
| Indsen | -0.0088 | 0.0081 | -1.0800 | 0.2790 |
| Bign | 0.0164 | 0.0099 | 1.6600 | 0.0980 |
| Constant | 0.0095 | 0.0334 | 0.2800 | 0.7760 |

Notes: n = 577; $R^2$ = 0.0064 F = 1.66 (p= 0.1578);
dacc: discretionary accrual, mixed: mixed rating; bign:auditor choice, lnasst: nat log of total assets.

**Table 6. Regression Results using mixed rating as the predictor variable (current ratings)**

| Dacc | Coef. | Std. Error | t | p |
|---|---|---|---|---|
| Mixed | 0.0015 | 0.0206 | 0.0700 | 0.9430 |
| Lnasst | 0.0040 | 0.0015 | 2.6900 | 0.0070 |
| Indsen | 0.0018 | 0.0070 | 0.2500 | 0.8010 |
| Bign | 0.0011 | 0.0104 | 0.1100 | 0.9140 |
| Constant | -0.0839 | 0.0326 | -2.5700 | 0.0100 |

Notes: n = 1,143; $R^2$ = 0.0044 ;F = 1.85 (p= 0.1175 )
dacc: discretionary accrual, mixed: mixed rating;bign: auditor choice, lnasst: natural log of firm's total assets.

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