

## **Insider trading and earnings management's influence on seasoned equity offerings (SEOs)?**

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### **ABSTRACT**

The seasoned equity offering (SEO) event is characterized by information asymmetry between firms and investors. Insider trading (overt signal) and managed earnings (covert signal) are important inputs to the price of the SEO firm's shares. The interaction between earnings management and insider trading around the SEO was examined. It was found that firms that have insiders selling shares manage earnings more aggressively than firms that have insiders purchasing. Insiders' selling strategy was profitable. Notably, the market did not discount earnings management although it was unable to perfectly infer it from accounting earnings; it weakly rewarded unobservable, inflated earnings.

Keywords: Earnings management, insider trading, SEOs

## INTRODUCTION

This study examined the relationship between earnings management and insider trading around Seasoned Equity Offerings (SEOs). Insider trading is a valuable signal on firm's value since the SEO situation is characterized by a high level of information asymmetry between insiders and investors. There is ambiguity regarding what the firm plans to do with the SEO proceeds. De facto, not all firms raise capital to finance growth that increase the value of the shares of the new shareholders; some raise capital to relax a liquidity squeeze and the SEO's cash inflows saves the wealth of the incumbent shareholders (see e.g., Jindra, 2000; DeAngelo et al., 2009). Another source of information asymmetry is that some firms manage earnings in order to boost the issuance price (see the literature review in Ronen and Yaari, 2008). SEO takes place after a long process that involves underwriters, analysts, auditors and even organization changes. This provides management with an opportunity to engineer the accounting earnings in order to present increasing earnings trends to investors and achieve higher valuation.

To the extent that SEO is a game between firms and investors, the rational market knows that firms have incentives to issue shares when the values of their shares are overvalued (Myers and Majluf, 1984; Farinos et al., 2007, and others). Hence, it is likely to discount firm's accounting performance. But because of the aforementioned information asymmetry, it may fail to assign the correct discount to the specific SEO firm. Consequently, the discount may be too large for some firms and too little for others even when the average discount is accurate. The party that knows whether the discount is excessive is the insiders, because insiders possess superior information on the intended use of SEO proceeds and the level of earnings management. Hence, if the price is overvalued, profits can be made by selling shares and if the price is undervalued, it is better buying shares and selling them when the truth filters into the market price. An examination of the association between insider trading and the market returns indicates how fast the market corrects its valuation of the SEO firm.

The observation of insider trading can also provide an insight into earnings management around SEO. As the literature on insider trading *cum* earnings management has shown, insiders correctly anticipate earnings management (e.g., Beneish and Vargus, 2002; Huddart and Louis, 2010; Akbulut, 2007). Since the suspicion that earnings are managed fuels the discount of the performance of the SEO firm, it stands to reason that insiders who anticipate aggressive and undetected earnings management will sell their shares and insiders of firms that are less aggressive and hence the share price is over-discounted, will purchase shares. On the whole, it is expected that there will be a profile of profitable insider trading, earnings management, and market's response that is consistent with the information asymmetry environment that characterizes the SEO setting.

The relationship between market return, managed earnings, and insider trading behavior of a sample of non-regulated, non-financial firms that conducted SEOs in the 1989-2005 period and whose insiders traded the firms' shares was studied. Substantial differences in the profile of earnings management and market returns for firms whose insiders sell shares before the SEO vis-à-vis the earnings management intensity and market returns for firms with insiders' purchase was found. There was a price run-up before the SEO which implied that only selling was profitable. Furthermore, the higher the selling activity the more aggressive was earnings management. The market paid attention to both insider trading and earnings management. It rewarded firms whose insiders sold shares and discounted earnings that were likely to be driven by earnings management.

The study answered a question that prevailed the research on insider trading and earnings management regarding what came first (see e.g., Beneish, Press, and Vargus 2004). The analysis indicated that the dynamics was not that simple in an SEO setting. Findings suggested that insiders that sold shares react to anticipated earnings management while insiders that purchased shares forwent profitable trading to provide a value-enhancing signal to reduce the discount to the SEO event.

Results also contributed to the earnings management literature. The seminal study that established that firms inflate earnings in the year preceding the SEO event and in the SEO year was Teoh et al. 1998. Teoh et al. found that the percentage of median (mean) discretionary current accruals of calibrated total assets in the year preceding the SEO and the SEO year were 2.05 and 2.50 (5.37 and 5.59) respectively. Taking advantage of the improvements in the methodology of detecting earnings management, it was found that the magnitude of earnings management in the 1989-2005 period was smaller: the median (mean) discretionary current accruals in the year preceding the SEO was 0.03 and 0.057 and the SEO year of (0.183 and 0.366)<sup>1</sup>. Results seemed to support Antony et al. (2006)'s conclusion that there was a decline in the magnitude of earnings management, but because Antony et al.'s cover the 1970-2003 period, it may well be the case that the lower intensity of the median (mean) discretionary accruals under performance matching of 1.54% (2.00%) could be attributed to averaging over an earlier period and the difficulty of finding matched firms. In addition, Antony et al. did not find significant results in the year preceding the SEO event, which was puzzling since it was inconsistent with the greed hypothesis.

This study proceeds as follows; section 2 develops the hypotheses. Section 3 presents sample selection and procedures, section 4 presents the methodology, section 5 presents results and section 6 presents summary and conclusions.

## HYPOTHESES

Prior studies on earnings management found that firms that manage earnings before the SEO event employed methodologies that have since been improved and focused mainly on the phenomenon in the 20<sup>th</sup> century. See (Loughran and Ritter 1995, Teoh et al., 1998, Rangan, 1998, Shivakumar, 2000, Marquardt and Wiedman, 2004, Farinos et al., 2007, Kim and Park, 2005, and Anthony et al., 2006). Methodologies have improved both in the measurement of accruals and in the models of estimation of the normal accruals. Hence, it may well be the case that the test for earnings management yields different results. Furthermore, once this phenomenon becomes public knowledge, the game between investors and the SEO firms may change. There are many examples where a phenomenon exposed to the public in a research paper diminished in scope. For example, after Jaffe (1974)'s study on the profits of insider trading, researchers could not replicate the same profits. The study on accruals mispricing (Sloan, 1996), taught analysts to evaluate accruals differently than cash flows (Greene 2009)<sup>2</sup>. For more examples, consult Dutta, (1999). It is hypothesized that:

H1: Firms inflate reported earnings before the SEO event.

<sup>1</sup> Teoh et al., 1998, cover the 1976-1989 period; Shivakumar covers the 1983-1992 period, Rangan covers 1987-1990, Marquardt and Wiedman cover 1984-1991, Kim and Park cover 1989-2000.

<sup>2</sup> Greene, J., Hand, J. R. M. and Soliman, Mark T. ; The Demise of the Accruals Anomaly

Earnings management is costly. In essence, the reason investors are willing to invest capital in the firm is that they anticipate that the firm will use the proceeds to produce returns for them. If the firm underperforms after the SEO event, it might be sued by its investors (Jones and Weingram, 1996) and be subject to further actions by the SEC (Ronen and Yaari, 2008, Ch. 4). Furthermore, since the SEO event requires monitoring mechanisms, such as underwriters and analysts, that risk reputation in endorsing the firm, it is expected that firms' will exhibit strong performance after the SEO event too. This dynamics imply that firms have incentives to manage earnings after the SEO event as well as before it.

H2: Firms inflate reported earnings after the SEO event.

Since the SEO is characterized by information asymmetry, insiders can trade profitably. In general, prior research has found insiders to be contrarian investors.<sup>3</sup> They sell when performance is strong and other investors buy and buy when performance is poor and other investors sell. Given that they have the correct expectations on firm's value, this strategy earns abnormal returns (Seyhun, 1986, Jenter, 2005, Sawicki, 2005, Lakonishok and Lee, 2001, and others).<sup>4</sup>

Since insiders are aware of the earnings management strategy of firms, the prior literature that found evidence of earnings inflation when insiders sell (Beneish and Vargus, 2002; Beneish, Press and Vargus, 2005; Akbulut, 2007; Huddart and Louis, 2010 and Jaggi and Tsui, 2007) suggests a link between the insider trading strategy and the firm's earnings management strategy. The higher the managed earnings, the higher the price and, consequently, the higher the overvaluation of the stock.

H3: The higher the selling intensity of insiders, the higher the earnings management level.

One of the tenets of capital markets is rationality. Given the behavior of firms and insiders regarding the earnings management strategy and the insider trading choices, the market returns should reflect these decisions.

H4a: Returns before SEOs are positively associated with insiders' purchases.

H4b: Returns before SEOs are positively associated with earnings management.

## SAMPLE SELECTION

The initial sample contains 10,787 firms issuing seasoned equity offerings between 1988 to 2005, which is obtained from the Thomson SDC Platinum new issues database. The cut-off of 1989 was dictated by the using of the statement of cash flows to estimate accruals and one year of data before the event being needed. As Hribar and Collins, 2002, have demonstrated, estimating accruals from the statement of cash flows rather than from the balance sheet yields cleaner data. The cut-off of 2005 ensured that the impact of the recent financial crisis on the SEO market was avoided.

Financial institutions (SIC codes 6000-6999), regulated industries (SIC codes 4000-4999) and firms which do not have sufficient data on Compustat were deleted, resulting in a sample of

<sup>3</sup> A contrarian investor is one who attempts to profit by investing in a way that is different from conventional wisdom.

<sup>4</sup> There is evidence that insiders and corporate decision makers have private information about upcoming return reversals. Insiders and corporate decision makers buy (sell) when the stock price reaches a 12 month low (high) especially for idiosyncratic firms; (Ben-David and Roulstone 2007). Insiders are more likely to sell (purchase) shares following periods of price appreciation (declines) in anticipation of subsequent price reversals; (Seyhun 1992).

1,535 firms. For each SEO, all non-issuing firms sharing the same three-digit SIC code as the issuing firm in the year prior to the SEO<sup>5</sup> were identified. Since some firms had multiple issues, only the first firms were selected. These filters yield 1131 firms.

Table 1 presents the characteristics of the SEO firms. The mean (median) total assets are \$1,284.91 (\$175.03) million. Mean (median) book value were \$462.76 (\$101.92) million, and mean (median) sales were \$847.43 (\$131.84) million. See Table 1 in the Appendix.

Insider trading data from the Thompson Financial (TFN insider Filing Data), which contained information on all publicly traded U.S. companies were also collected. Corporate insiders were defined by the Act of 1934 as those that had access to non-public, material, and insider information. These individuals were required to file SEC forms 3, 4, and 5 when they traded in their company stocks.

## METHODOLOGY

### Insider Trading

To analyze the pattern of insider trading of SEO firms, the insider purchase ratio used by (Piotroski and Roulstone, 2005 and Sawicki, 2005) was followed. The insider purchase ratio (IPR) was calculated as follows:

$$IPR_t = \frac{BUY_t}{BUY_t + SELL_t} \quad (1)$$

Where  $BUY_t$  and  $SELL_t$  were (respectively) the number of shares purchased (sold) in open market transactions by registered insiders of a firm during one year prior to the SEO. Observe that the IPR was zero when no purchases take place and one when only purchases takes place.

### Earnings Management

The extent of earnings management was measured using the cross-sectional variant of the (Jones 1991) methodology developed in Teoh, Welch, and Wong (1998) and Kothari, Leone, and Wasley (2005). These approaches separated accruals into two components; normal, or non-discretionary, accruals that are a consequence of business structure and operations typical to the industry (i.e. credit policy, business conditions, etc...) and abnormal, or discretionary, accruals that arise from earnings management. Abnormal accruals (our proxy for earnings management) was identified using a two-step process. Following (Hribar and Collins 2002), Total Accruals was identified as the difference between Net Income (Compustat item IBC) and Cash flows from operations (Compustat item OANCF). Current Accruals (CA), was identified as the total accruals corrected for the long term accruals of Depreciation expense (Compustat DPACT) and loss/gain on Sale of Property Plant and Equipment (Compustat item SPPIV). Current accruals was decomposed into discretionary and non-discretionary components using a two-stage procedure as follows. In the first stage, accruals was regressed on the change in sales (Compustat item SALE) less change in accounts receivables (Compustat item RECCH) and lagged return on assets

<sup>5</sup> While some prior studies matched on 2-digit SIC codes (e.g. Teoh et. al, 1998), this methodology resulted in SEO firms being matched with firms in widely varying industries. Using 4-digit SIC codes provided a closer match, but shrunk the sample size considerably. A 3-digit SIC code as a compromise between increased accuracy and sample size was therefore employed.

following Kothari et al. To alleviate heteroscedasticity, all variables were deflated by lagged total assets (Compustat item AT),  $A_{t-1}$ , thereby yielding the following regression:

$$\frac{CA_t}{A_{t-1}} = \hat{\beta}_0 \frac{1}{A_{t-1}} + \hat{\beta}_1 \frac{\Delta Sales_t - \Delta AR}{A_{t-1}} + \hat{\beta}_2 ROA_{t-1} + \varepsilon_t \quad (2)$$

For each SEO firm, the regression in Equ. (2) was estimated using all non-SEO firms in the same 3-digit SIC code as the SEO firm in the year prior to the announcement of the SEO. All observations with fewer than 20 matched firms were deleted. To take care of outliers the top and bottom one percent of accruals were deleted. In the second stage of the estimation, the coefficients from the regression in Equ. (2) were used to calculate Discretionary Current Accruals (DCA) as follows:

$$\frac{DCA_{it}}{A_{i,t-1}} = \frac{CA_{it}}{A_{i,t-1}} - \left[ \hat{\beta}_0 \frac{1}{A_{i,t-1}} + \hat{\beta}_1 \frac{\Delta Sales_{it} - \Delta AR}{A_{i,t-1}} + \hat{\beta}_2 ROA_{i,t-1} \right] \quad (3)$$

In Equ. (3), Discretionary Current Accruals, deflated by lagged total assets, (henceforth referred to as DCA) was defined as the difference between total current accruals and “non-discretionary” or “normal” accruals (the bracketed term on the right hand side of this equation) represented the “abnormal,” or managed, component of current accruals which proxied for earnings management. A similar procedure in calculating Discretionary (i.e. abnormal) Long-Term Accruals was followed. Total accruals (TA) was defined as net income before extraordinary items and discontinued operations less cash flow from operating activities (i.e. Compustat items IBC - OANF). The following regression for total accruals was estimated (the additional regressor, PPE was defined as property, plant, and equipment (Compustat item PPENT)).

$$\frac{TA_{it}}{A_{i,t-1}} = \hat{\beta}_0 \frac{1}{A_{i,t-1}} + \hat{\beta}_1 \frac{\Delta Sales_{it} - \Delta AR}{A_{i,t-1}} + \hat{\beta}_2 \frac{PPE_t}{A_{i,t-1}} + \hat{\beta}_3 ROA_{i,t-1} + \varepsilon_t \quad (4)$$

As in the estimation of Discretionary Current Accruals, the coefficients from regression (4) were used to calculate Discretionary Total Accruals (DTA) as follows:

$$\frac{DTA_i}{A_{t-1}} = \frac{TA_i}{A_{t-1}} - \left[ \hat{\beta}_0 \frac{1}{A_{t-1}} + \hat{\beta}_1 \frac{\Delta Sales_t - \Delta AR}{A_{t-1}} + \hat{\beta}_2 \frac{PPE_t}{A_{t-1}} + \hat{\beta}_3 ROA_{t-1} \right] \quad (5)$$

Finally, Discretionary Long-term Accruals (henceforth DLA) was defined as the difference between Discretionary Total Accruals and Discretionary Current Accruals:

$$\frac{DLA_t}{A_{t-1}} = \frac{DTA_t}{A_{t-1}} - \frac{DCA_t}{A_{t-1}} \quad (6)$$

## Performance

Post-SEO accounting performance was measured using three net income-based metrics. In the first measurement (henceforth denoted NI1), annual net income was scaled by lagged total

assets. This measure, however, may be biased by unobserved industry-specific differences. Hence, industry-adjusted net income (henceforth denoted NI2) was calculated as the difference between the SEO firms' annual asset-scaled net income and the industry-median asset-scaled net income calculated using all firms in the same 3-digit SIC code as the SEO firm. While this measure controls for industry effects, it does not control for time-varying patterns in profitability such as mean reversions in net incomes. Therefore, performance-matched net income (henceforth NI3) was calculated as the difference between the SEO firm's asset-scaled net income and the asset-scaled net income of the firm with the closest asset-scaled net income in the year prior to the SEO. Issuers by non-issuers were matched in the same three-digit SIC code and by the criterion of total assets. Firms which have the closest absolute total assets within that year were found. The same three methods were used to calculate cash flows.

The financial performance of firms conducting SEOs by abnormal returns were measured. A market model regression was estimated using the market index and a two hundred and fifty day estimation period; following Brown and Warner (1985). Returns ( $R$ ), were defined as

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt} \quad (7)$$

$R_{jt}$  was the return on the common stock of the  $j$ th firm on day  $t$ .  $R_{mt}$  was the return of the market index (equally weighted) on day  $t$ .

## RESULTS

To test hypotheses H1 and H2, Table 2 segregated accruals into its components. Both median and mean Discretionary Current Accruals (DCA) were higher in the years before the SEO than the years after that. Median and mean DCA were 0.048 and 0.362 respectively in year -3 as compared to 0.024 and 0.141 respectively in year 3. The median (mean) DCA were significantly positive in the year preceding the SEO event and in the SEO year<sup>6</sup>, 0.03 and 0.057 (0.183 and 0.366), respectively. The behavior of Discretionary Current Accruals supported the notion of earnings management before SEOs as found by prior studies (e.g., Teoh et al., 1998; Rangan, 1998; and others) although the magnitude was lower, and also supported H1 and H2 (as indicated in Table 2, Appendix).

Discretionary and Non- Discretionary Long Term Accruals were negative and higher in the years after the SEO than in the preceding years. Median Non- Discretionary current accruals peaked in year -1, 0.129; while mean was highest in year -3, 0.16.

Table 3 presents the patterns of net income, NI1, NI2, and NI3 for the seven year window around the SEO year. The mean NI, median NI2, and mean NI3 further supported hypothesis H1. Consistent with prior studies, (e.g., Teoh et al. 1998), the median net income (NI1) ("raw" or unadjusted Net Income) increased from 0.004 in year -3 and peaked at 0.02 in year 0 and decreased thereafter. Mean NI1 increased from 0.322 in year -2 to 0.333 in year -1, declined slightly to 0.200 in year 0 and increased to 0.298 in year 3. This supported H1. Median industry-adjusted Net Income, NI2 peaked at 0.035 in year -1 which supported H1. Mean NI2 decreased from 0.641 in year -3 to 0.272 in year 0, increased in year 2 and decreased to 0.345 in year 3.

<sup>6</sup> Year 0 results are published after the SEO event

Median performance matched Net Income, NI3, peaked in year-2, at 0.007. Mean NI3 peaked in year -1, at 0.783 which also supported H1. NI3 however declined and increased again at year 3. The median NI3 conflicted with the other findings, since it showed positive earnings management in every year besides years -1 and 0. However, the statistics at year 0 were not significant, which suggests that the negative income in this year was not reliable.

Table 4 presents the cash flows from operations over the seven-year window around the SEO event. All statistics indicated high cash flows from operations in the year preceding the SEO event, a decrease in the SEO year, and high cash flows again in the years after the SEO. The median CF1 increased from 0.02 in year -3 to 0.028 in year -1 declined to 0.023 in year 0 and increased to 0.042 in year 3. Mean CF1 declined from 1.4 in year -3 to 0.508 in year 0 and then increased again to 0.835 in year 2 and then declined to 0.695 in year 3. Unlike median NI1, median CF1 was higher in the years after the SEO than the years before, which reflected the infusion of cash in the wake of the SEO. Median CF2 was lowest at 0.016 in year 0. Mean CF2 declined from 1.44 in year -3 to 0.487 in year 0, increased and declined to 0.655 in year 3. Median and mean CF3 also decreased till year 0, (-0.009) 0.356 and increased after that.

On the whole, results indicated that earnings were driven by discretionary accruals rather than cash flows. This result is important because while earnings management is hidden from investors, accounting earnings are not. Hence, high earnings should be regarded by the market as evidence that earnings are managed (as indicated in Table 3 and 4, Appendix).

Tables 5 linked insider-trading to earnings management and returns a year before the SEO. Table 5 indicated that for the sales group, the mean returns a year before the SEO was positive, 1.241 which was statistically significant. Furthermore, firms with insiders' sales exhibited income increasing earnings management; 0.354 which was significantly positive. This supported H3. The purchase group also showed mean returns a year before the SEO to be significantly positive, 1.828. There was a price run-up before the SEO event and purchases as a trading strategy was not profitable in this time window. Mean discretionary accruals though positive; 0.166, was insignificant, which when compared to the sales group, supported H3 (as indicated in Table 5, Appendix).

Table 6 provided the regression results for the market returns before the SEO (the dependant variable) on Discretionary Current Accruals, Insider Trading and Market Returns after the SEO for the Full Sample in the Year before the SEO. It was found that the coefficient on insider trading a year after the SEO was 3.76; which was positively associated with market returns before SEO. This provided evidence that the market was positively affected by insider trading and supported H4a. Returns were associated to size, had a coefficient of -0.0001 and negatively associated to return on assets, had a coefficient -2.81. There was no evidence of the market being influenced by covert earnings management. However, the weak positive sign on earnings management and the significant discount on return on asset, seemed to indicate that the market discounted earnings management and a firm has to be quite aggressive in order to boost the share price. This weakly supported H4b (as indicated in Table 6, Appendix).



## SUMMARY AND CONCLUSIONS

The pattern of earnings management and insider trading was investigated using a sample of 1,131 non-regulated, non-financial firms that conducted SEOs in the 1989-2005 period. It was examined if firms still manage earnings upwards and whether insiders respond by selling shares. The association between insider trading behavior, the magnitude of earnings management, and market returns was also examined.

Differences in the profile of earnings management and market returns for firms whose insiders sell shares in the year preceding the SEO vis-à-vis the earnings management intensity and market returns for firms with insider purchases was found. There was a price run-up before the SEO event which turned insider selling only into a profitable strategy. The finding that price runs-up characterizes firms whose insiders purchased shares raises the question of the role of insider purchases. Consistent with insider selling to make profits, it was found that firms with insider sales engage in more aggressive earnings management than firms with insider purchases.

In conclusion the study contributed to two strands of literature: earnings management around SEO and insider trading. It was corroborated that firms still manage earnings before the SEO even after the publication of Teoh et al. 1998's, influential paper, albeit the magnitude was much reduced. It was shown that the market did not discount earnings management although it was unable to perfectly infer it from accounting earnings. The insider trading literature was augmented by exposing asymmetry in the economic outcome of purchases vis-a-vis selling by insiders in the year preceding the SEO event. Specifically, firms with insiders' sales made profitable trade since the returns before the SEO were positive and sales preceded aggressive earnings management.

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## APPENDIX

**Table 1: Characteristics of SEO Firms**

SEO	Mean	Median	Std. Dev
Total Assets (millions)	1,284.91	175.03	4,822.
Book Value (millions)	462.76	101.92	1,872
Sales (millions)	847.43	131.84	2,736

**Table 2: Discretionary and Non- Discretionary Accruals**

Year	-3	-2	-1	0	1	2	3
<b>Panel A : Discretionary Total Accruals</b>							
<b>DCA: Discretionary Current Accruals</b>							
Median	0.048 <sup>a</sup>	0.049 <sup>a</sup>	0.030 <sup>a</sup>	0.057 <sup>a</sup>	0.021 <sup>a</sup>	0.023 <sup>a</sup>	0.024 <sup>a</sup>
Mean	0.362 <sup>b</sup>	0.399 <sup>a</sup>	0.183 <sup>c</sup>	0.366 <sup>a</sup>	0.076 <sup>a</sup>	0.135 <sup>a</sup>	0.141 <sup>a</sup>
N	575	701	901	1,131	1,074	1,031	942
<b>DLA: Discretionary Long Term Accruals</b>							
Median	-0.048 <sup>a</sup>	-0.070 <sup>a</sup>	-0.060 <sup>a</sup>	-0.061 <sup>a</sup>	-0.028 <sup>a</sup>	-0.026 <sup>a</sup>	-0.029 <sup>a</sup>
Mean	-0.532 <sup>a</sup>	-0.387 <sup>a</sup>	-0.344 <sup>a</sup>	-0.413 <sup>a</sup>	-0.122 <sup>a</sup>	-0.112 <sup>a</sup>	-0.140 <sup>b</sup>
N	575	701	901	1,131	1,074	1,031	942
<b>Panel B : Non- Discretionary Accruals</b>							
<b>NDCA: Non- Discretionary Current Accruals</b>							
Median	0.0016 <sup>a</sup>	0.0008 <sup>c</sup>	0.129 <sup>c</sup>	0.003 <sup>a</sup>	0.032 <sup>b</sup>	0.001 <sup>a</sup>	0.001 <sup>b</sup>
Mean	0.160 <sup>c</sup>	0.032 <sup>c</sup>	0.0037 <sup>a</sup>	0.0028	0.003 <sup>a</sup>	0.0003	-0.0001 <sup>c</sup>
N	575	701	901	1,131	1,074	1031	942
<b>NDLA :Non- Discretionary Long Term Accruals</b>							
Median	-0.015 <sup>a</sup>	-0.013 <sup>a</sup>	-0.019 <sup>a</sup>	-0.016 <sup>a</sup>	-0.008 <sup>a</sup>	-0.012 <sup>a</sup>	-0.009 <sup>a</sup>
Mean	-0.286 <sup>a</sup>	-0.230 <sup>a</sup>	-0.265 <sup>a</sup>	-0.106 <sup>c</sup>	-0.033 <sup>a</sup>	-0.073	-0.065 <sup>a</sup>
N	575	701	901	1,131	1,074	1,031	942

<sup>a</sup> represents statistical significance level 1% for t-test for means and Wilcoxon p-value for median.

<sup>b</sup> represents statistical significance level 5% for t-test for means and Wilcoxon p-value for median.

<sup>c</sup> represents statistical significance level 10% for t-test for means and Wilcoxon p-value for median.

**Table 3: Raw, Industry-Adjusted and Performance- Matched Net Income**

Year	-3	-2	-1	0	1	2	3
NI1: raw or unadjusted net income							
Median	0.004 <sup>a</sup>	0.008 <sup>a</sup>	0.013 <sup>a</sup>	0.020 <sup>a</sup>	0.013 <sup>a</sup>	0.011 <sup>a</sup>	0.013 <sup>a</sup>
Mean	0.463 <sup>a</sup>	0.322 <sup>a</sup>	0.333 <sup>a</sup>	0.200 <sup>a</sup>	0.253 <sup>a</sup>	0.276 <sup>a</sup>	0.298 <sup>a</sup>
N	811	1036	1440	1552	1437	1335	1237
NI2: industry-adjusted Net Income							
Median	0.034	0.018 <sup>a</sup>	0.035 <sup>a</sup>	0.019 <sup>a</sup>	0.023 <sup>a</sup>	0.021 <sup>a</sup>	0.013 <sup>a</sup>
Mean	0.641 <sup>a</sup>	0.417 <sup>a</sup>	0.407 <sup>a</sup>	0.272 <sup>a</sup>	0.311 <sup>a</sup>	0.381 <sup>a</sup>	0.345 <sup>a</sup>
N	811	1036	1440	1552	1437	1335	1237
NI3: performance matched Net Income							
Median	0.003 <sup>a</sup>	0.007 <sup>a</sup>	-.002 <sup>a</sup>	-0.016	0.002 <sup>a</sup>	0.005 <sup>a</sup>	0.004 <sup>a</sup>
Mean	-1.863	-0.417	0.783	0.187	-1.336	0.756 <sup>c</sup>	2.261
N	811	1036	1440	1552	1437	1335	1237

<sup>a</sup> represents statistical significance level 1% for t-test for means and Wilcoxon p-value for median.

<sup>b</sup> represents statistical significance level 5% for t-test for means and Wilcoxon p-value for median.

<sup>c</sup> represents statistical significance level 10% for t-test for means and Wilcoxon p-value for median.

**Table 4: The Raw, Industry-adjusted and Performance-Matched Cash Flows from Operations**

Year	-3	-2	-1	0	1	2	3
CF1: raw or unadjusted cash flow							
Median	0.020 <sup>a</sup>	0.022 <sup>a</sup>	0.028 <sup>a</sup>	0.023 <sup>a</sup>	0.028 <sup>a</sup>	0.034 <sup>a</sup>	0.042 <sup>a</sup>
Mean	1.400 <sup>a</sup>	0.951 <sup>a</sup>	0.852 <sup>a</sup>	0.508 <sup>a</sup>	0.778 <sup>a</sup>	0.835 <sup>a</sup>	0.695 <sup>a</sup>
N	811	1036	1440	1552	1437	1335	1237
CF2: industry-adjusted cash flow							
Median	0.062 <sup>a</sup>	0.039 <sup>a</sup>	0.044 <sup>a</sup>	0.016 <sup>a</sup>	0.028 <sup>a</sup>	0.041 <sup>a</sup>	0.035 <sup>a</sup>
Mean	1.442 <sup>a</sup>	1.022 <sup>a</sup>	0.836 <sup>a</sup>	0.487 <sup>a</sup>	0.768 <sup>a</sup>	0.807 <sup>a</sup>	0.655 <sup>a</sup>
N	811	1036	1440	1552	1437	1335	1237
CF3: performance-matched cash flow							
Median	0.012 <sup>a</sup>	0.017 <sup>a</sup>	0.002 <sup>a</sup>	-0.009 <sup>c</sup>	0.011 <sup>a</sup>	0.011 <sup>a</sup>	0.008 <sup>a</sup>
Mean	1.220 <sup>a</sup>	0.971 <sup>a</sup>	0.567 <sup>a</sup>	0.356 <sup>a</sup>	0.821 <sup>a</sup>	0.699 <sup>a</sup>	0.891 <sup>a</sup>
N	811	1,036	1,440	1,552	1,437	1,335	1,237

<sup>a</sup> represents statistical significance level 1% for t-test for means and Wilcoxon p-value for median.

<sup>b</sup> represents statistical significance level 5% for t-test for means and Wilcoxon p-value for median.

<sup>c</sup> represents statistical significance level 10% for t-test for means and Wilcoxon p-value for median.

**Table 5: Discretionary Accruals and Returns for purchases and sales before SEO**

Group	Variable	N	Mean	Std Dev	t-value
Sales	DCAn1t	104	0.354	1.145	3.15
	returnb_365	185	1.241	3.142	5.37
Purchase	DCAn1t	134	0.166	1.380	1.39
	returnb_365	181	1.828	7.113	3.46

DCAn1t : Discretionary Current accruals in the year before the SEO

Returnb\_365: Returns a year before SEO.

**Table 6: Regression for the Market Returns before SEO to Discretionary Current Accruals, Insider Trading and Market Returns after the SEO for the Full Sample in the Year before the SEO**Ret<sub>-3,-365</sub> = f (EM,IT ,CAR, ReturnA, Control)

Independent Variables N=161	Coefficient (t-statistic)				
	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1.268 (6.77)	0.796 (3.88)	1.284 (6.95)	1.211 (6.27)	0.779 (3.64)***
EM	0.016 (0.11)				0.023 (0.16)
IT		3.763 (4.36)***			3.772 (4.36)***
ReturnA			-0.242 (-1.20)		-0.237 (-1.21)
TA	-0.0001 (-1.41)	-0.0001 (-1.81)	-0.0001 (-1.42)	-0.0001 (-1.40)	-0.0001 (1.81)*
MV	-0.002 (-0.47)	-0.0005 (-0.10)	-0.002 (-0.47)	-0.002 (-0.41)	-0.0002 (-0.05)
ROA	-2.89 (-4.16)	-2.761 (-4.38)	-2.84 (-4.27)	-2.942 (-4.4)	-2.81 (-4.22)***
R <sup>2</sup>	0.131	0.26	0.139	0.26	0.237
Adj R <sup>2</sup>	0.1093	0.206	0.117	0.206	0.202

EM =DTA<sub>t-1</sub>: Discretionary total accruals in the year before the SEOIT: Insider trading as measured by IPR,  $IPR_t = \frac{BUY_t}{BUY_t + SELL_t}$ 

Returnb\_365: Returns a year before SEO.

ReturnA\_365: Returns a year after SEO.

TA: Total Assets

MV: Market value

ROA: Return on Assets