Macrothink Institute™

International Journal of Accounting and Financial Reporting
ISSN 2162-3082
2019, Vol. 9, No. 2

The Effect of the Determinants of Accounting Discretion on the Relationship Between Earnings Management and Stock Returns

Sondes Draief

Département Finance et Comptabilité, Université de la Manouba

Institut Supérieur de Comptabilité et d'Administration des Entreprises, Tunisia

Laboratoire «Gouvernance d'Entreprise, Finance Appliquée et Audit»

Université de Tunis

E-mail: draiefsondess@yahoo.fr

Received: May 4, 2019 Accepted: May 25, 2019 Published: May 28, 2019

doi:10.5296/ijafr.v9i2. 14744 URL: https://doi.org/10.5296/ijafr.v9i2. 14744

Abstract

This research investigates the effect of the determinants of accounting discretion (beating last year's earnings, overinvestment problems, growth options, debt, and financial risk) on the relationship between earnings management and stock returns. We use discretionary accruals as a proxy of earnings management.

Based on a sample of 486 American firms for the period 2002-2010, our results show that discretionary accruals are positively priced by the market. This relation is even stronger when firms beat last year's earnings, have higher growth options and increase their debt ratio. Indeed, firms' accounting manipulations are used, in these circumstances, to convey private information about future prospects and signal good financial situation to external investors. However, discretionary accruals are negatively priced by investors in distressed firms and when overinvestment problems are intense. These firms have greater motivation to use opportunistic earnings management to camouflage the fall of firm value.

Keywords: Discretionary accruals, Stock returns, Determinants of earnings management, Type of earnings management

1. Introduction

Accounting earnings are frequently used by investors and financial analysts to measure firm financial performance and assess firm shares (Nahar, Azim, & Anne Jubb, 2016). Consequently, managers tend to use the flexibility in accounting principles and manipulate earnings to satisfy a variety of motivations with potentially significant consequences on the stock market.

Several studies have investigated the relationship between earnings management and stock returns. They use often discretionary accruals as a proxy to evaluate earnings management. Discretionary accruals are adjustments to cash flow based on subjective choice exercised by the management (Dechow, Sloan, & Sweeney, 1995; Healy & Wahlen, 1999).

Empirical evidence, however, is not conclusive. For instance, (Sloan, 1996); Xie (2001) affirm that accruals distort the information in earnings and are detrimental for the investors. They show that the market responds mechanically to reported earnings and fails to fully recognize the negative future earnings in firms with high accruals. According to Fama and French (2015), this outcome is widely due to market inefficiency.

Under efficient market hypothesis, Siregar and Utama (2008) and Nuryaman (2013) support the opportunism perspective of earnings management suggesting that managers use discretion only for their own profits on the expense of the stakeholders. They show that discretionary accruals are negatively priced by rational investors.

Contrary to the conventional wisdom that discretionary accruals represent managerial opportunism, other researchers (Subramanyam, 1996; Farshadfar & Monem, 2011; Robin & Wu, 2015; Kolsi & Attayah, 2017) point out that discretionary accruals improve the informational content of earnings and reduce information asymmetry by allowing managers to convey credible signal about future performance . As a result, they are positively priced by the market and help predict future performance.

More recent studies in the accounting fields (Robin & Wu, 2015; Hosseini, Chalestori, Hi, & Ebrahimi, 2016) assert that the market has to consider the motivation of accounting discretion when it evaluates accruals. On the one hand, earnings management may be informative and managers use their discretion to alleviate information asymmetry and communicate useful information to external investors. In this case, discretionary accruals are positively priced by an efficient market. On the other hand, managers may use opportunistically their discretion to mislead investors and/or maximize their own utility. Therefore, rational investors are more likely to award a negative value to discretionary accruals.

While there has been extensive literature around the motivations of earnings management, restricted research is done to examine the effect of these motivations on the pricing of discretionary accruals. This research attempts to fill this gap by examining the market perception of discretionary accruals considering the underlying motivation of accounting discretion. This issue is very important because the motivation of earnings management influence critically the selection of a particular type of earnings management (informative/opportunistic). Therefore the information content of discretionary accruals may

depend on earnings management motivation as well as how the market interprets this motivation.

Assuming market efficiency, we examine whether investors discriminate between opportunistic and informative earnings management and price discretionary accruals differently considering the motivation of earnings management.

The financial literature enumerates various motivations that push managers towards earnings management. These motivations are generally influenced by the firm's characteristics and may point out the opportunistic or signaling aspect of earnings management. We consider beating last year's earnings, debt level, growth options, overinvestment problem, and financial distress as factors that influence the type of earnings management and that may help investors to assess the informational content of discretionary accruals.

Using a sample of 486 US listed firms from 2002 to 2010, we find significant evidence that the market prices differently discretionary accruals considering the determinants of earnings management. Consequently, investors react as if discretionary accruals have specific information content in each circumstance.

However, pricing differently these accruals is not sufficient to support investors' rationality. Another explanation is possible suggesting that investors do not comprehend the information content of accruals and erroneously respond on reported accruals (functional fixation hypothesis). To strike out this alternative explanation, we examine the association between earnings management and future performance. If discretionary accruals are likely to be correctly priced by investors, they are expected to be negatively (positively) associated with both current - year stock returns and future performance when they are used on opportunistic (informative) reasons.

The remainder of the paper is organized as follows. The second section discusses previous researches and develops testable hypotheses. The third section describes the data and methodology. The fourth section presents the results and sensitivity analysis. The last section provides concluding remarks.

2. Literature Review and Hypothesis Development

The accounting literature develops four possible outlooks to explain market reaction towards earnings management: Under efficient market hypothesis, three scenarios emerge: The informational view suggests that managers use discretionary accruals to convey private information about firm value. Hence, earnings management can add to accounting information by providing a better expectation of future performance and reducing information asymmetry in the market (Arya, Glover, & Sunder, 2003). Such accruals are positively perceived by the market.

As for the opportunism hypothesis, managerial discretion over accruals is a means to delay information and mislead outside investors. For example, managers may manipulate earnings upward to maximize their bonuses, to either avoid adverse contractual consequences or to mask a firm's actual deteriorating performance. Consequently, rational investors price

accruals negatively.

Otherwise, the efficient hypothesis (Christie & Zimmerman, 1994) suggests that earnings management is used to increase the aggregate wealth of contracting parties, namely shareholders, debt holders and managers.

At the opposite, the functional fixation hypothesis states that investors are unsophisticated and, therefore, fail to unscramble the true cash flow implications of accounting data. Indeed, investors become overly optimistic about the future prospects of firms with high accruals and overly pessimistic about the future prospects of firms with low accruals without considering their lower persistence. As a result, investors' expectations of future earnings are biased upward (downward) for firms with high (low) accruals.

The extant empirical evidence in this subject is somewhat ambiguous and conflicting.

In fact, Sloan (1996) argues that total accruals possess less predictive ability with respect to future profitability because of a higher degree of subjectivity resulting from managerial discretion and large one-time adjustments. Accordingly, he finds that the accrual component of current earnings is less persistent than the cash flow component and that investors fail to fully appreciate their differing implications for future profitability.

Xie (2001) and Fama and French (2015) extend Sloan's finding. They attribute the overpricing of total accruals by the market to discretionary accruals that are explained by managerial opportunism and evaluated by an inefficient market.

Likewise, Dayanandan and Sra (2018) and Martins, do Monte, and Machado (2018) confirm the existence of accruals anomaly respectively in India and Brazil and argue that accruals are not correctly priced by the market.

Nevertheless, Subramanyam (1996) points out that the stock market positively prices discretionary accruals. The author suggests that two potential explanations are possible for this result. First, discretionary accruals reduce information asymmetry and enhance the capacity of reported earnings to reflect firm performance. Therefore, they are correctly priced by the market. Second, discretionary accruals are opportunistic and value-irrelevant but priced by an inefficient market. To rule out from the opportunism hypothesis, Subramanyam (1996) investigates if current-period discretionary accruals predict future cash flows, earnings, and dividends. Findings reveal that current discretionary accruals are positively associated with future performance. As a consequence, he argues that discretionary accruals are a superior measure of firm performance than cash flow that enhances the earnings' informational content.

In the same line of thinking, several studies (Jiraporn, Miller, Yoon, & Kim, 2008; Rezaei & Roshani, 2012; Choi, 2016; Kolsi & Attayah, 2017) support the informational perspective of earnings management in different contexts. They indicate that earnings management is a financial communication tool that improves the informational content of earnings. Thus, discretionary accruals positively affect future profitability.

Contrary to the discussion above, Siregar and Utama (2008) and Wu, Lin, and Fang (2012)

find that discretionary accruals are negatively related to stock returns around the earnings announcement date, which means that the market considers discretionary accruals as opportunistic.

Though their importance, these researchers only focus their analysis on the pricing of discretionary accruals without regard to the underlying motivation.

In an attempt to deepen the previous research, limited studies have sought whether the stock market differentiates the circumstances under which earnings management is for informational or opportunistic reasons.

In this context, the Gul, Leung, and Srinidhi (2000) study proves to be revealing in this area. The authors examine whether the perception of discretionary accruals by the market is associated with investment opportunity set and debt levels. They show that the pricing of discretionary accruals is higher for high-growth firms than for firms in maturity. These results confirm that managers use discretionary accruals as a means to signal future growth prospects. However, the effect of debt on the pricing of discretionary accruals is weaker and negative.

Recently, Robin and Wu (2015) extend this research and examine how discretionary accruals are priced in high growth firms. Given the high level of information asymmetry and the increased agency cost, managers of high growth firms should enhance the flow of corporate information to moderate these problems. Thus, discretionary accruals are likely to be used to convey positive private information about future performance. The results based on abnormal returns imply that the signal embedded in the discretionary accruals is deemed credible by the market. Specifically, this informativeness is predominantly in the positive discretionary accruals scenario.

Habib, Uddin Bhuiyan, and Islam (2013) conduct a study on a sample of New Zealand listed firms from 2000 to 2011. They document that financially distressed firms are engaged in income-decreasing earnings management strategies. Moreover, they show that the market positively prices discretionary accruals but such a pricing coefficient significantly reduces during the global financial crisis period. Therefore, the New Zealand market considers discretionary accruals to be informative during the non-crisis period and opportunistic in the crisis period. The authors argue that the significant decrease of the discretionary accruals' information value is the consequence of a loss in investor confidence in the credibility of corporate disclosure, caused by exogenous shocks during the crisis.

On another side, Habib et al. (2013) investigate the stock market price response to earnings smoothness for firms operating in an environment of high uncertainty. They find a positive association between current stock returns and smoothed earnings. It means that smoothed earning is beneficial because it reduces the information asymmetry, and is more informative about future earnings for firms operating in higher environmental uncertainty.

Hosseini et al. (2016) focus on the magnitude of the relationship between earnings management and earnings response coefficient. They predict that this relationship depends on earnings management incentives. They consider three incentives, namely executive compensation plan, debt limit and decline in performance. However, they find that there is no

relationship between these earnings management incentives and earnings response coefficient. In other words, investors do not consider earnings management incentives at the time of earnings response.

Other studies have attempted to look into the informational content of discretionary accruals by linking it to the governance structure. In this context, Krishnan (2003) argued that discretionary accruals in firms audited by BIG 4 are informative. The author explains that reputed auditors, given their expertise, can detect the informational component of accruals from noise. Hence, auditors' reputation increases the credibility of the financial statements and enhances the informative value of discretionary accruals. Janin and Piot (2008) and Rezaei and Roshani (2012) come to the same conclusion respectively in France and Iran.

However, Nuryaman (2013) contests these results in an Indonesian context. First, he shows that earnings management practices are opportunistic and are priced negatively by the capital market. Second, the negative relationship between stock returns and discretionary accruals is stronger for companies audited by a Big 4 Audit Firm, when compared with companies audited by a non-Big 4 Audit Firm

Later, Khalid, Yasser, and Ajmal (2015) point out that the impact of discretionary accruals on stock returns is significantly higher in Pakistani firms with higher proportion of institutional ownership, high quality audit production and higher number of independent board members.

With reference to this field, we examine the pricing of discretionary accruals by considering the alternative motivations of managerial discretion. These motivations are explained by factors that influence the type of earnings management (informative/opportunism). We consider beating last year's earnings, debt level, growth options, overinvestment problems and financial distress as factors that influence the type of earnings management and that affect the informational content of discretionary accruals.

Under market efficiency hypothesis, investors infer the informational content of discretionary accruals, considering the underlying motivation, and act accordingly.

The effects of these factors on the relationship between earnings management and stocks returns are discussed below:

2.1 The Effect of Beating Last Year's Earnings on the Relationship Between Earnings Management and Stock Returns

Burgstahler and Dichev (1997) suggest that firms tend to meet or beat three particular earnings benchmarks (zero earnings, last year's earnings, and analysts' earnings forecasts).

Many reasons incite managers to meet earnings benchmarks; the most important is the maximization of share price. Moreover, meeting earnings benchmark permits to have good relations with partners, avoid implicit claims with stakeholders, enhance the firm's credibility (Matsumoto, 2002), avoid restrictions debt ((Jiang, 2008), and maximize compensation (McVay, Nagar, & Tang, 2006).

The documented pressure exercised on firms to achieve earnings benchmarks motivates

managers to avoid negative earnings surprises through earnings management. However, few studies investigate how beating earnings benchmarks through earnings management are perceived by capital market.

Empirically, Bartov, Givoly, and Hayn (2002) document a market premium (penalty) to meet or beat (failing to meet) analysts' forecasts, even when it is likely that it is achieved through earnings management or expectation management.

Gunny (2010) examines the relationship between earnings management using real activities manipulation (REM) and future performance in the particular case of meeting last year's earnings benchmarks. Her results indicate that firms engaging in real earnings management to meet earnings benchmarks have relatively better subsequent performance than firms that do not manage their earnings and miss the benchmarks. She documents that engaging in real earnings management to meet benchmarks is not opportunistic. Indeed, only managers confident in superior future performance will use the joint signal through REM and meeting last year's earnings as they expect future earnings growth to outweigh the adverse impact of earnings management.

By analogy to Gunny (2010), we think that beating last year's earnings is not a stroke of luck, we expect that managers may use informative discretionary accruals to meet benchmarks in an effort to (a) get benefits that allow the firm to perform better in the future or (b) convey future favorable firm value.

With reference to these reasons, our first hypothesis is stated as follow:

H_1: The effect of discretionary accruals on stock returns is higher when firms beat last year's earnings.

2.2 The Effect of Debt Level on the Relationship Between Earnings Management and Stock Returns

Debt contracts may have an effective role in constraining opportunistic earnings management. Based on agency theory (Jensen & Meckling, 1976), debt reduces agency conflicts between shareholders and managers. For instance, increasing debt will drive a firm to use effectively the cash that can be used to pay debt interest periodically all the more the external monitoring generated by lenders. Therefore, managers should act to maximize firm value otherwise they will be penalized.

Empirically, Jelinek (2007), Moradi, Valipour, and Pahlavan (2012); Omid (2012) approve this proposal and find that increased leverage is associated with reduced opportunistic earnings management confirming the disciplining role of debt in attenuating the agency conflict.

Likewise, Omid (2012) examines the discretionary accruals ability to signal future profitability and focuses on the effect of debt level to strengthen this relationship in companies listed on the Tehran Stock Exchange. He finds a positive and significant relationship between discretionary accruals and future profitability. So, managers of Iranian companies use their discretion to communicate private information about firm profitability,

which is yet to be reflected in the historical cost-based earnings. More interestingly, the results show that this relation is even stronger when the debt ratio increases. Therefore, earnings management is more efficient in firms with high debt ratio than in other firms. This result approves the disciplinary role of debt in constraining managerial opportunism.

However, following an opportunistic scenario, managers of highly leveraged firms are more likely to use opportunistic earnings management to avoid debt covenant default and to camouflage the financial problem that high debt can cause (DeFond & Jiambalvo, 1994; Dichev & Skinner, 2002; Beatty & Weber, 2003).

Moreover, debt exacerbates the expropriation of minority shareholders by majority shareholders and this hurts good governance practices and debtholders value. Consequently, the manager uses opportunistically his discretion to mislead outside investors and debtholders.

In this context, Liu and Jiraporn (2010) document that firms manage earnings upward prior to bond issues. They show that such firms can issue debt at a low cost and bondholders fail to see through the inflated earnings numbers in pricing new debts. This finding is confirmed by Alissa, Bonsall IV, Koharki, and Penn Jr (2013).

Based on the discussion above, earnings management at high debt levels may adversely affect the discretionary accruals -stock returns relationship.

We are looking more towards the efficient suggestion for two reasons:

First, referring to agency theory (Jensen and Meckling, 1976; Jensen, 1986), debt leads to an alignment of interests between outside shareholders and managers that should act to improve firm performance. All the more, debt generates intense external monitoring by debt holders that severely penalize firms in case of falsification or disrespect of debt agreement. Thus, higher debt firms tend to use informative earnings management, and that implies more confidence in financial reports.

Second, considering the signaling theory (Ross, 1977), managers use debt to convey inside information about the firm performance and their capacity to support high debt levels. So that, a high performance firm can uses conjointly debt and accruals as reliable signaling to communicate private information about good financial position.

Consequently, our hypothesis is the following:

H_2: The effect of discretionary accruals on stock returns is higher in high debt firms.

2.3 The Effect of Growth Options on the Relationship Between Earnings Management and Stock Returns

Based on prior research (Core, 2001; Chang, Chen, Hsing, & Huang, 2007; Koussis & Makrominas, 2015), the problem of information asymmetry and agency costs is intense in high-growth firms. Therefore, these firms cannot generate financial support from external sources due to this asymmetric information. These problems could be moderated by increasing the flow of corporate information.

Many researchers (Lee, Li, & Yue, 2006; Bae & Jo, 2007) have proven that managers in high growth firms use discretionary accruals to alleviate the information asymmetry between insiders and externs and to credibly communicate their private value-relevant foresight information to the investors. Such use of discretion is referred to as informational earnings management and is favorably perceived by investors (Gul, Chen, & Tsui, 2003; McNichols & Stubben, 2008; Robin & Wu, 2015).

Nevertheless, the opposite assumption is that firms with more opacity may engage in opportunistic earnings management and send a false signal to mislead market participants. Indeed, a higher level of information asymmetry makes it more difficult for shareholders to monitor managers' discretion. As a result, managers may be better able to abuse their discretion over earnings only to their own benefits (Thomas, 2002).

We are bowing rather the signaling perspective and think that high-growth firms have compelling reasons to convey credible signals about future prospects using discretionary accruals.

On the one hand, managers of growth firms avoid the false signal that may have harmful effects for them such as an increase in the cost of capital (Francis, LaFond, Olsson, & Schipper, 2005). Indeed, high growth firms suffer from liquidity constraints and will be motivated to disclose high quality of accounting information.

On the other hand, managers may alter their reputation in financial markets even beyond the litigation concerns for firms. Thus, opportunistic behavior has costs that may offset benefits.

Hence, our hypothesis is formulated as follows:

H_3: The effect of discretionary accruals on stock returns is higher in high growth firms.

2.4 The Effect of the Overinvestment Problem on the Relationship Between Earnings Management and Stock Returns

Agency theory suggests that managers may make nonvalue-maximizing decisions with regard to internal free cash flow by investing in risky and negative net present value projects for private benefit instead of increasing dividends or investing in projects with low returns (Jensen, 1986). This behavior is known as overinvestment which creates conflicts of interest between shareholders and managers and leads to a decline in firm performance (Cai & Zhang, 2009; Zhang, Cao, Dickinson, & Kutan, 2016).

Several studies (Rusmin, W. Astami, & Hartadi, 2014; Bostan & MohammadiPour, 2016; Nekhili, Amar, Chtioui, & Lakhal, 2016) document that the problem of overinvestment is likely to arise in firms with a high level of free cash flow. Hence, these firms tend to camouflage the impact of investments in inappropriate projects and to meet investors' profit expectations by managing earnings and presenting inflated profits.

We believe, based on theory and prior literature, that the opportunistic earnings management would dominate in an over investment setting to hide poor performance and influence market actors to behave in certain ways. Hence, we expect that this opportunistic behavior is detected

by rational investors, causing a negative reaction and a decrease in stock prices. We hypothesize the following:

H_4: The effect of discretionary accruals on stock returns is lower in firms that overinvest the free cash flow.

2.5 The Effect of Financial Distress on the Relationship Between Earnings Management and Stock Returns

A considerable and persistent decline in a firm's financial performance may eventually cause severe financial problems that create a tendency for firms to do things that are harmful to stakeholders. This is in order to hide a loss that can be very costly impairing access to credit and causing an aggressive decline in share prices.

Many researches have empirically examined earnings management strategy of financially distressed firms. Cheng and Warfield (2005) note that managers of distressed firms inflate earnings to camouflage poor performance. Managers may have such an incentive because their stock-based compensation is affected by the market reacting badly to lower-than-expected earnings for fear to lose their job or alter their reputation.

Other studies (DeAngelo, DeAngelo, & Skinner, 1994; Charitou, Lambertides, & Trigeorgis, 2007; Habib et al., 2013) document that financially distressed firms are enlisted in income-decreasing earnings management strategies. The findings may be attributed to earnings bath choices adopted by management teams during the distress period. In fact, big bath accounting during financial problems allows companies to report positive earnings in the subsequent period since accruals reverse.

Otherwise, Howe and Houston (2015) suggest that distressed firms manage earnings both upward and downward more than other firms. On the one hand, managers have incentives to manage earnings upward as they can expect to have their bonuses cut, be replaced and suffer a loss of reputation. On the other hand, distressed firms are expected to write off assets more frequently than other firms. They are therefore expected to have large negative accruals.

Given that financial distress is considered a significant threat to the firm viability, it is therefore important to analyze investors' response to accounting information in this case. The pricing of discretionary accruals for distressed firms is very limited. Habib et al. (2013) find that investors penalize distressed firms that use income decreasing earnings management. Investors consider that earnings management choice is opportunistic rather than informative and poses a significant risk for them.

We foresee that the investors' confidence in financial reporting quality is weaker for distressed firms. Since we focus on upward earnings management, we judge that investors tend to associate discretionary accruals more with managerial opportunism that aims to move the investors and creditors' financial loss and conceal a deteriorating performance.

The following hypothesis, therefore, is developed:

H_5: The effect of discretionary accruals on stock returns is lower in financially distressed

firms.

3. Research Methodology

In this section, we describe the sample and we present, then, the model used to verify our hypotheses.

3.1 Sample

Our analysis is based on a sample of 486 listed American firms from 2002 to 2010. We excluded financial institutions. Stock prices were extracted from Yahoo Finance. Financial data were collected manually from annual reports, balance sheets and income statements. This information is available on the SEC website.

3.2 Regression Model

Our main test is based on a regression of stock returns on various components of earnings (cash flows, non-discretionary accruals, and discretionary accruals), and the interaction between discretionary accruals and earnings management motivation. We estimate the equation below which extends the basic pricing equation of discretionary accruals used in Subramanyam's study (1996) by incorporating the determinants of earnings management.

$$RET_{it} = a_1 + a_2\, CFO_{it} + a_3\, NDA_{it} + a_4\, DA_{it} + a_5\, DA{*}DET_{it} + a_6\, DET_{it} + \text{Control variables}_{it} + e_{it} \quad (1)$$

i = (1……486); t (2002…….2010)

RET: stock returns calculated over a 12 month window beginning after the third month of fiscal year end and ending on 3 months after the fiscal year end.; $RET_{i\,t} = (P_{it} - P_{it-1} + D_{it}) / P_{it-1}$ where P_{it} is the stock price of firm i at time t, and D_{it} is the dividend of firm i at year t);

DET: The determinants of earnings management;

CFO: cash flows from operating activities;

NDA: non-discretionary accruals;

DA: discretionary accruals.

Those three last variables are deflated by the beginning-of-year total assets.

The coefficient a_4 captures market pricing of DA during the sample period. The coefficient on a_4 will be positive (negative) if DA is perceived as informative (opportunistic) by investors.

The combined coefficient (a_{4+} a_5) captures the market pricing of DA considering the determinants of earnings management.

3.2.1 Earnings Management Measure

We use the Kothari, Leone and Wasley (2005) model to estimate earnings management. Discretionary accruals are estimated as shown in equation (2):

$$TAC_{i,t} = \alpha_0 + \alpha_1 \, 1/TA_{i,t-1} + \alpha_2 \, (\Delta REV_{i,t} - \Delta REC_{i,t}) + \alpha_3 \, PPE_{i,t-1} + \alpha_4 \, ROAi_{,t-1} + e_{i,t} \quad (2)$$

Where:

TAC: Total accruals = the difference between net profit and cash flow from operating activities;

TA: Total Assets;

ΔREV: The change in revenue between t and t-1;

ΔREC: The change in accounts receivable between t and t-1;

PPE: Gross property, plant and equipment;

ROA: Return on Assets (ROA= Net income/Total assets).

ΔREV, ΔREC, PPE and the intercept term are deflated by beginning of period assets. Non-discretionary accruals (NDA) are calculated by incorporating $\hat{\alpha}_1, \hat{\alpha}_2, \hat{\alpha}_3 \; and \; \hat{\alpha}_4$ from the regression equation. Discretionary accruals (DA) denote the residual term.

It's worth noting that we focus only on the information content of income increasing (positive discretionary accruals) without considering negative discretionary accruals. We argue that the information content of earnings management is predominantly in the positive discretionary accruals scenario. Thus, managers are more likely to increase earnings to signal future favorable performance, or to camouflage poor performance or to attend their own interest.

3.2.2 Independent Variables

The independent variables are the interaction term between discretionary accruals and the determinants of earnings management including, beating last year's earnings, debt level, growth options, overinvestment problems and financial distress.

The definition of the above variables is given in Table 1.

Table 1. Definition of variables

Variable	Definition	Measure
BENCH	Beating last year's earnings	Dummy variable equal to 1 if net income change between two consecutive exercises is greater than 0 and 0 otherwise.
DEBT	Debt ratio	total debt /total asset
GROWTH	Growth options	Tobin's q = market value/replacement values of a firm's assets.
FCF	Free cash flow	Operating profit before depreciation - total tax paid -

		interest expense - dividend) / total assets.
DISTRESS	Financial distress	Altman's Z score = 1.2 X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + X5 where X1 is working capital divided by total assets, X2 is retained earnings divided by total assets, X3 is earnings before interest and taxes divided by total assets, X4 is the market value of equity divided by the book value of total debt, and X5 is sales divided by total assets.

3.3 Control Variables

In addition to the main test variables discussed earlier, firm size (SIZE), beating last year's earnings, debt ratio, growth options, free cash flow and financial distress are included as control variables. Firm size is the natural logarithm of the end of year market capitalization. We control for firm size because prior literature shows that size is a proxy for a firm's risk and information environment (Ohlson, 1980).

4. Results

4.1 Descriptive Analysis and Univariate Analysis

Table 2 provides descriptive statistics of stock returns, earnings components and determinants of earnings management.

Table 2. Descriptive statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
RET	0.167	0.079	7.621	-0.158	0.373
CFO	0.063	0.058	0.257	-0.114	0.119
NDA	0.084	0.064	0.206	-0.236	0.274
DA	0.014	0.009	0.504	-0.183	0.146
DEBT	0.338	0.472	0.992	0.011	0.204
GROWTH	2.145	3.472	6.35	0.011	2.853
FCF	0.069	0.286	1.672	-5.484	0.953
DISTRESS	0.113	0.292	1.101	-4.17	0.792
SIZE	20.868	16.118	27.420	2.620	2.057

Variables	Proportion of Dummy =1	Proportion of Dummy=0
BENCH	0.74	0.26

According to the table, returns have an average of 16.7% with a standard deviation of 37.3%. The DA range from a minimum of -18.3% to a maximum of 50.4% of total assets with a mean of 1.4%. The means of NDA and CFO are about 0.084 and 0.0673 respectively and are similar to those reported in other studies such as Subramanyam (1996) and Krishnan (2003). Almost 74% of the firms in the sample beat the previous year's earnings benchmark. The average value of log assets is about 20.868. Sample observations are not highly leveraged. Average growth is higher than 1 indicating that companies have more growth options than assets in place. This result is expected to the extent that our sample belongs to fortune 1000 and therefore has strong investment opportunities.

Table 3. Pearson Correlation matrix

	CFO	NDA	DA	GROWTH	FCF	DEBT	SIZE	BENCH	DISTRESS
CFO	1								
NDA	-0.018*	1							
DA	-0.261**	-0.097*	1						
GROWTH	0.06	-0.043	0.248***	1					
FCF	-0.022	-0.005	0.135**	-0.05	1				
DEBT	-0.114*	0.153*	0.147**	-0.183	0.158**	1			
SIZE	0.167**	-0.002	0.096***	0.054*	0.112	0.203**	1		
BENCH	0.254*	-0.004	0.025	-0.212**	-0.142*	-0.167*	-0.002	1	
DISTRESS	-0.022	0.018	0.187**	0.156*	0.116*	0.361**	-0.05	-0.174*	1
VIF	1.01	1.12	1.04	1.68	1.54	1.12	1.001	1.02	1.58

***Significant at 1%; **significant at 5%; *Significant at 10%.

Table 3 reports the Pearson correlation among the model's independent variables and the variance inflate factor (VIF) values. *DA* is positively correlated with all earnings motivations. Across this table, the pairwise correlations between CFO and DAC are -0.261 and between CFO and NDA are -0.018; which is consistent with the accruals' smoothing nature. All Pearson coefficients correlations among independent variables are relatively low. We include all the independent variables in one regression since no problem of multicolinearity exists.

The VIF confirms these results. The values are around 1 which is far below the critical value of 10. Therefore, the effect of multicolinearity is negligible.

4.2 Regression Results

Before applying regression on data, there are some tests that must be fulfilled when we use a panel data set.

Fisher test: the first step is to check the existence of individual effects in our data. We test the null hypothesis of homogeneity: there is no individual effect. The result is an F-statistic. F=5.75 (Prob>F is <0.001). We reject the null hypothesis and we conclude that there are individual effects.

Hausman test: it is a specification test that determines whether two estimations' coefficients are statistically different. This test is conducted to identify the nature of the individual effects (fixed or random), and consequently, specify which technique is more appropriate to our model. The results reveal that Chi2 = 1441. 47. Prob > Chi2 is < 0.05. The null hypothesis about the existence of random effects (p-value = 0.000 < 0.05) is rejected. So, the model has been estimated as fixed effects.

Heteroscedasticity test: Breush-Pagan test is conducted to test the null hypothesis of homoscedasticity that all coefficients of the regression of squared residuals are equal to zero. In other words, the variance of each individual error is constant. The test shows that Prob>chi2 < 0.01. Thus, we reject the null hypothesis and we can conclude the presence of heteroscedasticity.

Autocorrelation test: In panel data, it is also important to check the presence of correlation between error terms. The Wooldridge test for autocorrelation in panel data checks that the sum of the squares of correlation coefficients between errors is approximately zero. The null hypothesis of this test is the independence of residues between individuals. The test show F(1.420) = 959.127 and p-value < 0.001 leading us to reject the null hypothesis of no autocorrelation.

Taking into account problems detected by the tests above, namely heteroscedasticity and autocorrelation of errors, the Generalized Least Squares method is used to overcome these problems.

Table 4 reports the estimation results for the model specified.

Table 4. GLS regression of stock returns on discretionary accruals conditional on earnings management motivations

Dependent variable: RET

Independent variables	Coefficient	Z	Prob.>Z
CFO	0.368	2.59	0.051

NDA	0.167	0.56	0.424
DA	0.352	8.29	0.000
DA*BENCH	0.286	3.19	0.016
DA*DEBT	0.145	3.21	0.025
DA*GROWTH	0.166	2.85	0.042
DA*FCF	-0.378	-8.46	0.000
DA*DISTRESS	-0.406	-9.24	0.000
Control Variables			
BENCH	0.137	8.15	0.000
DEBT	-0.034	-0.63	0.336
GROWTH	0.426	5.93	0.000
FCF	-0.721	-2.25	0.059
DISTRESS	0.056	0.41	0.531
SIZE	0.263	3.51	0.021
INTERCEPT	0.231	3.69	0.019

Overall, the results corroborate our hypothesis. We show a positive association between stock returns and discretionary accruals. This evidence indicates that earnings management is appreciated by investors that consider it informational to convey useful information about firm performance. This result is consistent with the findings of Subramanyam (1996). More interestingly, we show that the pricing of *DA* depends critically on factors that affect discretionary accounting choices.

Indeed, we show that beating last year's earnings is appreciated by investors and enhances the informative value of discretionary accruals. These findings indicate that the market trusts more in the financial reports of competitive firms. That is why investors associate discretionary accruals more with efficient signaling than managerial opportunism.

As expected, the coefficient on DA*DEBT is positive. This implies that investors believe in

the discipline role of debt in constraining managerial opportunism. Indeed, highly leveraged firms are severely monitored by creditors that drive the firm to use the cash efficiently otherwise they penalize it by increasing interest rate, claiming early payment or requiring additional restriction.

Consistent with many US studies, we show that discretionary accruals are associated with stock returns to a relatively greater extent in high growth firms. Thus, according to investors, accruals are informative in high growth firms. They are used to reduce the high level of information asymmetry, improve the ability of earnings to reflect the economic value and convey credible signals about the firm's future prospects.

Consistent with the free cash flows hypothesis, we show that discretionary accruals are priced negatively when the firms dispose high level of free cash flow. This result confirms that investors penalize opportunistic manipulations. They forestall that firms with excessive free cash flow use opportunistic earnings management more than other firms to hide the fall in firm performance due to the waste of resources through ineffective investments.

As hypothesized (H_5), we find that discretionary accruals are negatively priced by the market in distressed firms. Earnings management reveals, in this case, the managerial opportunism that tends to delay financial problems. As a consequence, discretionary accruals reduce the reliability of financial statements and confidence in financial market.

Lastly, we show that CFO are positively and significantly associated with stock returns. This result appears in line with Subramanyam (1996), which means that firms with high cash flows from operations also have high stock returns. However, the effect of NDA is insignificant.

Our results confirm that investors respond differently to discretionary accruals in different circumstances. Thus, rational investors recognize the signals conveyed by discretionary accruals, considering the underlying motivation and price shares accordingly.

However, this evidence does not imply that investors correctly price discretionary accruals. Under the functional fixation hypothesis, it may be difficult for investors to really comprehend the intention around management discretion and hence to incorporate all relevant information into market prices. Thus, discretionary accruals may be erroneously priced by the market in the current period (Sloan, 1996).

To test whether the market efficiently prices or misprices discretionary accruals, we examine the association between current period discretionary accruals and future performance.

4.3 Robustness Test

As discussed above, the obtained results may be due to the wrong interpretation from investors. To rule out market mispricing, we test whether current discretionary accruals help to predict future performance considering evidently earnings management motivations. We estimate the following model:

$$ROA_{it+1} = \alpha_1 + \alpha_2 CFO_{it} + \alpha_3 NDA_{it} + \alpha_4 DA_{it} + \alpha_5 DA*DET_{it} + \alpha_6 DET_{it} + \text{Control variables}_{it} + e_{it} \quad (3)$$

We measure future performance by return on asset (ROA) on t+1; ROA= Net income/ Total asset.

The independent variables are the same already used in the previous model.

The combined coefficient $(\alpha 4_{+}\ \alpha_5)$ captures the predictive ability of *DA* considering the determinants of earnings management. The higher this coefficient, the more information about future performance is included in the current managerial motivation.

The empirical results are displayed in Table 5. For brevity reasons, we report only the key variables.

Table 5. GLS regression of future performance on discretionary accruals conditional on earnings management motivations

Dependent variable: ROA_{t+1}

Independent variables	Coefficient	Z	Prob.>Z
CFO	0.136	7.16	0.000
NDA	0.068	0.85	0.232
DA	0.266	17.42	0.000
DA*BENCH	-0.001	-5.38	0.000
DA*DEBT	1.69e-05	1.81	0.071
DA*GROWTH	0.095	2.16	0.055
DA*FCF	-0.378	-0.25	0.799
DA*DISTRESS	-0.257	-4.49	0.001

Overall, the results approve our finding that investors adequately predict future performance as they recognize managers' intentions beforehand and price earnings management accordingly.

We find that discretionary accruals are positively and significantly related to future performance. This evidence approves that discretionary accruals enhance the capacity of reported earnings to reflect firm real performance and capture information not reflected by non-discretionary accruals.

As shown in Table 5, the coefficient of DA*GROWTH is significantly positive. This result appears in line with Robin and Whu (2015) confirming that discretionary accruals in high

growth firms enhance the capacity of reported earnings to reveal real performance.

Findings show, also, that discretionary accruals are negatively associated with future performance when firms overinvest the free cash flow. Earnings management is motivated by managerial opportunism in the free cash flow situation and has, therefore, an adverse impact on future performance.

Moreover, our results reveal that future performance is negatively associated with discretionary accruals in case of financial distress. This result supports hypothesis 5 that earnings management by distressed firms reduces earnings quality and weakens future performance.

Nevertheless, it seems that some motivations are ambiguous and not well understood by investors that have sometimes an excess of trust in accounting numbers. In fact, we show that discretionary accruals have an insignificant impact on future performance when firms beat last year's earnings. This evidence supports Sloan's (1996) accrual anomaly proposition. We explain this finding by the fact that the most important challenge to managers is meeting market expectations because announcing reported earnings less than as expected result in to reduce stock value and compromise manager's position. This pressure incites managers to convey false signals that reduce considerably the aptitude of reported earnings to reflect firm real performance.

Moreover, discretionary accruals are weakly related to future performance when debt ratio increases. This result implies that investors overprice discretionary accruals in high debt firms. It appears that discretionary accruals of high-debt firms contain less private information about financial situation than previously expected by investors. This result may have several reasons. Obviously, debt is a disciplinary and signaling mechanism; however, it can constitute a financial stressor that forces managers to manage earnings opportunistically. Indeed, firms with high debt ratio face more pressures from debt holders to respect debt agreement and avoid risk default. Moreover, these firms bear greater underinvestment problems which handicap them to face the competition. These causes add noise to the managed earnings and degrade the accruals' predictive capacity.

5. Conclusion

This research examines the relationship between earnings management and stocks returns and investigates whether the determinants of managerial discretion influence the market pricing of discretionary accruals.

Based on the assumptions of market efficiency, we argue that rational investors are likely to assign a positive (negative) value of discretionary accruals used for informational (opportunistic) reasons**.** We consider beating last year's earnings, debt level, growth options, overinvestment problems and financial distress as determinants of earnings management that may influence the informational content of discretionary accruals.

Findings show that investors assign a positive value to discretionary accruals, which is consistent with Subramanyam (1996). Furthermore, we provide evidence that the association

between discretionary accruals and stock returns depend critically on the determinants of earnings management. This leads to approve investors' rationality when they price discretionary accruals.

Indeed, our results reveal that beating last year's earnings enhances the price of discretionary accruals. Discretionary accruals are informative, in this case, because only confident managers in superior future performance use this signal to communicate their good financial position; otherwise, they will be severely penalized by the market.

In addition, investors positively price discretionary accruals in firms with a high debt ratio. Hence investors believe in the beneficial consequence of debt to constrain the opportunistic behavior of managers due to lenders control.

Moreover, our results reveal that discretionary accruals are positively priced by the market in high growth firms. This implies that managers of growing firms use informative earnings management to reduce high level of asymmetric information and communicate private information about firms' future prospects.

In contrast, earnings management is detrimental and negatively priced by the market in case of excessive free cash flow. We conclude that rational investors are aware of opportunistic manipulations that aim to hide the fall in firm performance due to overinvestment.

Likewise, investors assign a negative value to discretionary accruals in distressed firms. Consequently, investors forestall that managers manipulate earnings upward to conceal poor financial performance and to preserve their stock-based compensation.

We further conduct robustness tests to check whether the current discretionary accruals help to predict future performance and depend critically on the determinants of earnings management. This aims to mitigate the functional fixed hypothesis that the market responds mechanically to total earnings and that discretionary accruals are erroneously priced (Sloan. 1996).

Overall, the results deny the investors inability to comprehend accounting information as suggested by the functional fixation hypotheses. We find that discretionary accruals are positively correlated with future performance confirming the informative perspective of earnings management. This relationship is stronger in high growth firms. Additionally, we notice that discretionary accruals negatively affect future performance in firms with high free cash flow and in distressed firms confirming the opportunistic perspective of earnings management. Those findings are consistent with the argument that the market is sophisticated enough to prevent the persistence of discretionary accruals.

Nevertheless, our results show that the association between discretionary accruals and future performance, in highly leveraged firms, is positive but very weak. Likewise, beating last year's earnings is not well comprehended by investors. It seems that the information content of these discretionary accruals is not so obvious for the market which incorporates in the price a part of information and fails to identify the other part that makes accruals less predictive.

The results of this study are very important for market participants. They can be used as input for them to be aware of factors that influence the motivations of managerial discretion as they make their valuation decisions.

This research can be improved in several ways. First, the relationship between earnings management and stock returns can be extended by adding other determinants of managerial discretion and considering the effect of corporate governance practices. Second, it would be interesting to examine if investors efficiently price or misprice real earnings management. Third, we can examine whether investors sophistication can affect earnings management practices.

References

Alissa, W., Bonsall IV, S. B., Koharki, K., & Penn, M. W. Jr. (2013). Firms' use of accounting discretion to influence their credit ratings. *Journal of Accounting and Economics, 55*(2-3), 129-147. https://doi.org/10.1016/j.jacceco.2013.01.001

Arya, A., Glover, J. C., & Sunder, S. (2003). Are unmanaged earnings always better for shareholders?. *Accounting Horizons, 17*, 111-116.

Bae, S. C., & Jo, H. (2007). Underwriter warrants, underwriter reputation, and growth signaling. *Review of Quantitative Finance and Accounting, 29*(2), 129-154. https://doi.org/10.1007/s11156-007-0030-2

Bartov, E., Givoly, D., & Hayn, C. (2002). The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics, 33*(2), 173-204.

Beatty, A., & Weber, J. (2003). The effects of debt contracting on voluntary accounting method changes. *The Accounting Review, 78*(1), 119-142. https://doi.org/10.2308/accr.2003.78.1.119

Bostan, A., & MohammadiPour, R. (2016). Investigating the Effects of Surplus Free Cash Flow on Earnings Management in Corporations of Accepted in Tehran Stock Exchange. *International Academic Journal of Accounting and Financial Management, 3*, 9-20.

Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics, 24*(1), 99-126.

Cai, J., & Zhang, Z. (2009). Leverage Change, Debt Capacity, and Stock Prices. *SSRN Working Paper Series*.

Chang, S.-C., Chen, S.-S., Hsing, A., & Huang, C. W. (2007). Investment opportunities, free cash flow, and stock valuation effects of secured debt offerings. *Review of Quantitative Finance and Accounting, 28*(2), 123-145.

Charitou, A., Lambertides, N., & Trigeorgis, L. (2007). Managerial discretion in distressed firms. *The British Accounting Review, 39*(4), 323-346. https://doi.org/10.1016/j.bar.2007.08.003

Cheng, Q., & Warfield, T. D. (2005). Equity incentives and earnings management. *The*

Accounting Review, 80(2), 441-476. https://doi.org/10.2308/accr.2005.80.2.441

Choi, M. (2016). *Are Discretionary Accruals Signal for the Bright Future? Evidence from Information Demand and Supply Matrix*. http://dx.doi.org/10.2139/ssrn.2856240

Christie, A. A., & Zimmerman, J. L. (1994). Efficient and Opportunistic Choices of Accounting Procedures: Corporate Control Contests. *The Accounting Review, 69*(4), 539.

Core, J. E. (2001). A review of the empirical disclosure literature: discussion. *Journal of Accounting and Economics, 31*(1-3), 441-456. https://doi.org/10.1016/S0165-4101(01)00036-2

Dayanandan, A., & Sra, J. K. (2018). Accrual management and expected stock returns in India. *Journal of Accounting in Emerging Economies, 8*(4), 426-441. https://doi.org/10.1108/JAEE-08-2016-0073

DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1994). Accounting choice in troubled companies. *Journal of Accounting and Economics, 17*(1-2), 113-143. https://doi.org/10.1016/0165-4101(94)90007-8

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review, 70*(2), 193-225.

DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics, 17*(1-2), 145-176.

Dichev, I. D., & Skinner, D. J. (2002). Large–sample evidence on the debt covenant hypothesis. *Journal of Accounting Research, 40*(4), 1091-1123. https://doi.org/10.1111/1475-679X.00083

Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics, 116*(1), 1-22. https://doi.org/10.1016/j.jfineco.2014.10.010

Farshadfar, S., & Monem, R. (2011). Discretionary accruals and the predictive ability of earnings in the forecast of future cash flows: Evidence from Australia. *Corporate Ownership and Control, 9*(1), 597-608. https://doi.org/10.22495/cocv9i1c6art3

Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics, 39*(2), 295-327. https://doi.org/10.1016/j.jacceco.2004.06.003

Gul, F. A., Chen, C. J., & Tsui, J. S. (2003). Discretionary accounting accruals, managers' incentives, and audit fees. *Contemporary Accounting Research, 20*(3), 441-464. https://doi.org/10.1506/686E-NF2J-73X6-G540

Gul, F. A., Leung, S., & Srinidhi, B. (2000). The Effect of Investment Opportunity Set and Debt Level on Earnings-Returns Relationship and the Pricing of Discretionary Accruals. *SSRN Working Paper Series*. https://doi.org/10.2139/ssrn.236080

Gunny, K. A. (2010). The relation between earnings management using real activities

manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research, 27*(3), 855-888.

Habib, A., Uddin Bhuiyan, B., & Islam, A. (2013). Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Managerial Finance, 39*(2), 155-180. https://doi.org/10.1108/03074351311294007

Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons, 13*(4), 365-383.

Hosseini, M., Chalestori, K. N., Hi, S. R., & Ebrahimi, E. (2016). A study on the relationship between earnings management incentives and earnings response coefficient. *Procedia Economics and Finance, 36*, 232-243. https://doi.org/10.1016/S2212-5671(16)30034-X

Howe, J. S., & Houston, R. (2015). Earnings management, earnings surprises, and distressed firms. *Accounting and Finance Research, 5*(1), 64. https://doi.org/10.5430/afr.v5n1p64

Janin, R., & Piot, C. (2008). L'influence des auditeurs externes et des comités d'audit sur le contenu informatif des manipulations comptables. *La Revue des Sciences de Gestion*, (5), 23-33.

Jelinek, K. (2007). The effect of leverage increases on earnings management. *The Journal of Business and Economic Studies, 13*(2), 24.

Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review, 76*(2), 323-329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Jiang, J. (2008). Beating earnings benchmarks and the cost of debt. *The Accounting Review, 83*(2), 377-416.

Jiraporn, P., Miller, G. A., Yoon, S. S., & Kim, Y. S. (2008). Is earnings management opportunistic or beneficial? An agency theory perspective. *International Review of Financial Analysis, 17*(3), 622-634. https://doi.org/10.1016/j.irfa.2006.10.005

Khalid, Z., Yasser, F., & Ajmal, M. (2015). The Pricing of Discretionary Accruals-Evidence from Pakistan. *Journal of Management and Research, 2*(2), 15-28. Retrieved from https://ssrn.com/abstract=2771543

Kolsi, M. C., & Attayah, O. F. (2017). How are discretionary accruals priced? Evidence from the Canadian stock market. *International Journal of Managerial and Financial Accounting, 9*(3), 283-302.

Koussis, N., & Makrominas, M. (2015). Growth options, option exercise and firms' systematic risk. *Review of Quantitative Finance and Accounting, 44*(2), 243-267. https://doi.org/10.1007/s11156-013-0405-5

Krishnan, G. V. (2003). Audit quality and the pricing of discretionary accruals. *Auditing: A Journal of Practice & Theory*, *22*(1), 109-126. https://doi.org/10.2308/aud.2003.22.1.109

Lee, C.-W. J., Li, L. Y., & Yue, H. (2006). Performance, growth and earnings management. *Review of Accounting Studies*, *11*(2-3), 305-334. http://doi.org/10.1007/s11142-006-9009-9

Liu, Y., & Jiraporn, P. (2010). The effect of CEO power on bond ratings and yields. *Journal of Empirical Finance*, *17*(4), 744-762. https://doi.org/10.1016/j.jempfin.2010.03.003

Martins, V. G., do Monte, P. A., & Machado, M. A. V. (2019). Analysis of Risk and Mispricing Hypotheses of Accruals: Evidence from Brazil. *Revista Brasileira de Gestão de Negócios*, *21*(1), 18.

Matsumoto, D. A. (2002). Management's incentives to avoid negative earnings surprises. *The Accounting Review*, *77*(3), 483-514.

McNichols, M. F., & Stubben, S. R. (2008). Does earnings management affect firms' investment decisions?. *The Accounting Review*, *83*(6), 1571-1603. https://doi.org/10.2308/accr.2008.83.6.1571

McVay, S., Nagar, V., & Tang, V. W. (2006). Trading incentives to meet the analyst forecast. *Review of Accounting Studies*, *11*(4), 575-598.

Moradi, J., Valipour, H., & Pahlavan, Z. (2012). Earnings Management, Board Independence And Audit Fees Considering The Firm's Profitability Level. *Asian Economic and Financial Review*, *2*(2), 358-366.

Nahar, S., Azim, M., & Anne Jubb, C. (2016). Risk disclosure, cost of capital and bank performance. *International Journal of Accounting & Information Management*, *24*(4), 476-494.

Nekhili, M., Amar, I. F. B., Chtioui, T., & Lakhal, F. (2016). Free cash flow and earnings management: The moderating role of governance and ownership. *The Journal of Applied Business Research*, *32*(1), 255-268. http://dx.doi.org/10.2139/ssrn.2546877

Nuryaman. (2013). The Influence of Earnings Management on Stock Return and the Role of Audit Quality as a Moderating Variable. *International Journal of Trade, Economics and Finance*, *4*(2), 73-78. https://doi.org/10.7763/IJTEF.2013.V4.263

Ohlson, J. A. (1980). Financial Ratio and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research*, *18*(1), 109-131. https://doi.org/10.2307/2490395

Omid, A. M. (2012). Type of Earnings Management and the Effects Debt Contracts, Future Earnings Growth Forecast and sales Growth: Evidence From Iran. *School of Doctoral Studies (European Union)*, 7-16.

Rezaei, F., & Roshani, M. (2012). Efficient or opportunistic earnings management with regards to the role of firm size and corporate governance practices. *Interdisciplinary Journal of Contemporary Research in Business*, *3*(9), 1312.

Robin, A., & Wu, Q. (2015). Firm growth and the pricing of discretionary accruals. *Review of Quantitative Finance and Accounting*, *45*(3), 561-590. https://doi.org/10.1007/s11156-014-0447-3

Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signalling Approach. *Bell Journal of Economics*, *8*(1), 23-40. https://doi.org/10.2307/3003485

Rusmin, R., W. Astami, E., & Hartadi, B. (2014). The impact of surplus free cash flow and audit quality on earnings management: The case of growth triangle countries. *Asian Review of Accounting*, *22*(3), 217-232. https://doi.org/10.1108/ARA-10-2013-0062

Siregar, S. V., & Utama, S. (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. *The International Journal of Accounting*, *43*(1), 1-27. https://doi.org/10.1016/j.intacc.2008.01.001

Sloan, R. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings?. *Accounting Review*, *71*(3), 289-315.

Subramanyam, K. (1996). The pricing of discretionary accruals. *Journal of Accounting and Economics*, *22*(1), 249-281. https://doi.org/10.1016/S0165-4101(96)00434-X

Thomas, S. (2002). Firm diversification and asymmetric information: evidence from analysts' forecasts and earnings announcements. *Journal of Financial Economics*, *64*(3), 373-396. https://doi.org/10.1016/S0304-405X(02)00129-0

Wu, S.-W., Lin, F., & Fang, W. (2012). Earnings Management and Investor's Stock Return. *Emerging Markets Finance and Trade*, *48*(sup3), 129-140. https://doi.org/10.2753/REE1540-496X4805S308

Xie, H. (2001). The mispricing of abnormal accruals. *The Accounting Review*, *76*(3), 357-373. https://doi.org/10.2308/accr.2001.76.3.357

Zhang, D., Cao, H., Dickinson, D. G., & Kutan, A. M. (2016). Free cash flows and overinvestment: Further evidence from Chinese energy firms. *Energy Economics*, *58*, 116-124.

Copyright Disclaimer