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The Effect of Firm Size and Growth Opportunity on Accounting Discretion and its Relationship with Future Stock Return (Management Opportunism Test)

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Abstract

Accounting flexibility has raised concern about management opportunism among owners. Accounting discretion, as an information system controlled by directors, intensifies opportunism and agency problem. Regarding the firm situation, however, directors are likely to employ accounting discretion so that its consequences are compatible with shareholders' interests, or at least do not oppose them. Firm size and growth opportunity are of great importance for its management, depending on the way it uses accounting discretion. The present study aims to offer a model indicating the relationship between firm size and growth opportunity and accounting discretion, and its effect on stock return as a distinctive characteristic of firm performance and consequently, test the management opportunism. This research employs an applied and correlational method. The results respectively point to a positively and negatively significant relationship between firm size and firm's growth opportunity, and accounting discretion while the relationship between accounting discretion resulting from recent variables and stock return does not point to the opportunism of the directors. In general, the results indicated that there is no significant difference between predicted accounting discretion and projected future stock returns which indicate that there is mismanagement in creating opportunities among the firms under study.

Keywords: firm size, firm's growth opportunity, accounting discretion, stock return, management opportunism

Introduction

Todays, the story of bankrupt firms such as Enron and WorldCom due to some accounting irregularities has created a negative feeling among shareholders and publics that management opportunism is unavoidable. According to "opportunistic behavior" theory, company's directors interfere with the process of calculating earnings to achieve special functions and maintain their interest (Rahmani, 2009). Freedoms of action, distinct procedures, flexibility in accounting standards and explaining and enjoying these procedures have raised concern about the agency problem in the society. Therefore, these abilities in accounting discretion enable the directors of enterprises to take advantage of accounting discretion to apply their own judgment in conducting, recording and classifying financial transactions and eventually, preparing financial statements. However, the use of earning management is in the best interest of shareholders (Jiraporn et al., 2008). Incentive pay to directors as well as accounting discretion enhances the sensitivity and reaction of stock return towards their reports so that earnings management may increase director's current period payoff. It is noteworthy that when having a better reputation dominates the benefit of increasing the current period payoff, the director does less earnings management since concern

about integrity and trustworthiness in earning manipulation may raise cost and therefore, moderate earnings management (Pinheiro, 2013). The above ambiguity is one of the long-term challenges and issues in positive accounting (Watts and Zimmerman, 1978; Christie and Zimmerman, 1994). The purposeful intervention by management in the earnings determination process is affected by various factors, some of which rooted in the prevailing economic conditions governing the firm. Regarding the Generally Accepted Accounting Principles (GAAP), capabilities of accounting discretion enable directors to transfer and report earnings among various financial periods to report desirable and purposeful earnings using accounting adjustments (Healy and Wahlen, 1999). The empirical evidence indicates that real earnings management activities around certain financial events are of great importance (Cohen and Zarowin, 2010). Regarding the importance of adhering to professional and ethical issues in some societies and cultural and economical distinctions, one may expect that directors employ accounting discretion more efficiently through maximizing shareholder value in long-term period and creating value for shareholders. Directors whose incentives are consistent with those of owners are more likely to make accounting decisions to transfer private information (Fields et al., 2001). Generally speaking, the goal of this study is to present a model to clarify the role of firm size and growth opportunity on using accounting discretion. Eventually, the effect of this model on management future performance is examined to test the degree of alignment and non-alignment between directors and shareholders. Bowen et al. (2008) studied the vulnerability of accounting discretion to economic pressure on directors and its effect on firm value to identify the opportunism and contract efficiency. By the way, the social, economic and cultural distinctions between Iranian directors and foreign directors result in different findings (Namazi and Shamsoldinii, 2007).

This study follows two general objectives. First, it seeks to determine the relationship between firm size and opportunity growth and accounting discretion and then it intends to determine the relationship between accounting discretion resulting from firm size and growth opportunity and stock return to reveal whether directors tend to follow opportunism or try for contract efficiency and management performance in their own professional ethics framework.

Theoretical framework and review of literature

Directors pay a lot of attention to the possible content of information accounting and its effects on users and society prior to its publication. Firm's situation has different effects on the sensitivity of directors towards accounting numbers reported. Skinner and Sloan (2002) believe that market may extremely penalize growth firms due to the negative earnings surprise. Thus, growth firms are strongly motivated to confront earnings benchmarks to avoid increasing capital cost or maintain access to capital. Additionally, growth firms are interested in earning smoothing through accruals since earnings volatility may increase the examined firm risk (Beaver et al., 1970). This may have negative effects on the necessary capital cost for financing new projects (Minton and Schrand, 1999). Meanwhile, directors of non-growth firms require less cash for financing new projects and consequently, they are more independent. Accordingly, a positive relationship is expected between firm's growth opportunity and accounting discretion. Fama and French firstly introduced book-to-market value ratio as one of the factors affecting stock success. They indicated that this ratio can explain deviations of stock return (Fama and French, 1993). This study also enjoys book-to-market value ratio as a growth index.

Firm size is another economic factor affecting directors' decisions on the way of using accounting discretion. Empirical evidence indicates that firm size is capable of explaining measured earnings management through accruals (Lusi and Swastika, 2013). Firm size means the amount of firm activities.

The effect of firm size on earnings management has been a controversial issue for ages (Kouki et al., 2011). Two different points of view are presented: first, there is a negative relationship between firm size and earnings management and accounting discretion. According to Lennox (1999), Gore et al. (2001), Klein (2002), Xie et al. (2003) and Abdul Rahman and Ali (2006), as cited in Lusi and Swastika (2013), large firms with strong internal controls and highly qualified auditors are more famous and more capable of avoiding earnings management. The above supports suggest that lack of control by authorities can be apparently found in smaller firms and therefore, directors show more tendencies toward earning management (Abed et al., 2012). However, the proponents of the second point of view (Moses, 1987; Myers and Skinner, 2000; Nelson et al., 2002) suggest that there is a positive relationship between firm size and earning management. Larger firms are under the pressure of capital market and enjoy more bargaining power and show more tendency towards earnings management than their counterparts from small firms (Lusi and Swastika, 2013). Watts and Zimmerman (1990) suggested that larger firms face higher political costs and consequently, are motivated to apply accounting discretion to reduce unwanted political view. Shoorvarzi and Pahlevan pointed to the greater intensity of earnings smoothing in large firms than small firms and directors in small firms are more likely to smooth earnings (Shoorvarzi and Pahlevan, 2010). The larger the firm is , the more it is under the lens of politics . Microsoft Corporation in the United States is a good example of this case facing many problems with Legal Associations (Nowravesh et al., 2006). Therefore, one can expect that directors in large firms are under greater pressure than their counterparts in small firms to employ accounting discretion to escape political costs. On the other hand, opponents of this theory argue that larger firms are exposed to more public safety and are less motivated to smooth and use accounting discretion due to being under the focus of most financial analysts and environmental impact (Moses, 1978).

The most controversial issue about accounting discretion is its usefulness and uselessness for firms' owners. Earnings management is likely to be in tune with shareholders' interests (Jiraporn et al., 2008) or to present a favorable and purposeful earnings report by directors (Healy and Wahlen, 1999). Most of the studies have found that the way in which accounting discretion is applied depends on the status of corporate governance and accounting discretion resulted from corporate governance variables are believed to stimulate management opportunism (Hssas Yegane and Yazdanian, 2007; Moradzadeh fard et al., 2009; Aghayi and Chalaki, 2009; Liu And Lu, 2007, Ali shah et al., 2009; Chung et al., 2002; Menon and Williams, 2004). One cannot immediately judge on directors' opportunism unless it results in a weak performance (Bowen et al., 2008). In the second step, it is assumed that directors use accounting discretion to improve firm performance. Therefore, a positive relationship is expected between expected accounting discretion and stock return

Research hypotheses

To achieve the goals of the study, the following hypotheses are suggested:

Hypothesis 1: there is a positive relationship between firm's growth opportunity and accounting discretion

Hypothesis 2: there is a positive relationship between firm size and accounting discretion.

Hypothesis 3 (lack of director's opportunism is assumed): there is a positive relationship between expected accounting discretion resulted from firm size and growth opportunity and stock return.

Methodology

The data are collected from the firms listed in Tehran Stock Exchange. Firms with the following conditions are included in the study and those without these conditions are randomly

excluded. According to Tehran Stock Exchange Web Site, 445 firms are listed in this exchange. 155 of these firms listed between 2002 and 2012 are excluded from the study. 13 firms are excluded due to investment activities and 84 firms are also discarded because of discrepancy in reporting date and non-compliance with fiscal year ended 12/29 to remove seasonal effects and increase the comparability of information. Finally, 68 firms are also omitted due to the lack of access to some examined data. Therefore, our population is eventually reduced to 125 firms.

To collect data, library method is employed and audited financial statements of the firms such as Rahavard-e Novin's database and some famous websites, i.e. development research management and Islamic studies founded by Stock Exchange are also used to gather data necessary for research variables. Since the research method is correlational and ex post facto, Regression Analysis is used to determine the relationship between dependent and independent variables.

Research variables and measuring them

The flexibility of the accounting rules and procedures implies the concept of accounting discretion allowing earning management in the firms. Adopting Bowen et al. and his colleagues' work, accounting discretion index is calculated through combining earning smoothing measure and abnormal accruals absolute value. To calculate the abnormal accruals, adjusted-Jones model is used as follow:

$$\frac{Normal\ accruals_t}{Total\ assets_{t-1}} = \alpha_1\left(\frac{1}{Total\ assets_{t-1}}\right) + \alpha_2\left(\frac{\Delta Revenue_t - \Delta Receivables_t}{Total\ assets_{t-1}}\right) + \alpha_3\left(\frac{Property, plant\ and\ equipment_t}{Total\ assets_{t-1}}\right) + \alpha_4\left(\frac{\Delta Cash\ from\ operation_t}{Total\ assets_{t-1}}\right)$$

To test the third hypothesis, the general index of expected accounting discretion, i.e determining the degree of the effect of firm size and growth opportunity on accounting discretion, the model derived in the first stage is employed. The expected number is used as an independent variable in the following stage.

Operational definitions for variables
growth opportunity (GO) = firm's book value ÷ firm's market value
firm size (FS) = Log(sales)
performance (return on assets) = earnings before extraordinary items ÷ Total assets
abnormal accruals absolute value(AAAV) =|total accruals - normal accruals|
earnings smoothing measure(ESM) = SD of operation cash flow ÷ SD of earnings
Accounting discretion index (ADI)= (AAAV rate + ESM rate) ÷ 2
$stock\ return = \frac{[(p_1 - p_0) + DPS + Benefits\ Other]}{p_0}$

The mathematical pattern of the examined variables are as follow:

Accounting Discretion = β_0+ β_1Growth Opportunity +β_2 Firm's Size + β_3 Firm's Performance + β_4Industry + β_5Time + e

Future Stock Return = β_0+ β_1Predicted Excess Accounting Discretion +β_2 Stock Return + β_3 Ln Sales + e

The conceptual model of the examined variables is presented as figure 1:

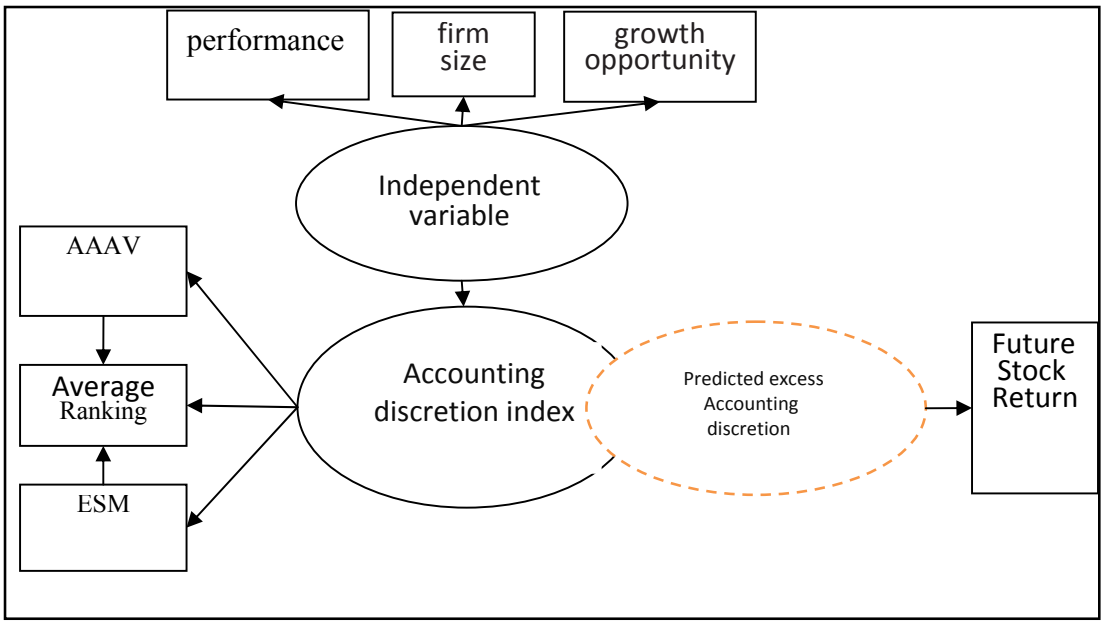

Figure1: The conceptual model of the study

Findings

Table 1 presents the descriptive statistics including Mean, Maximum, Minimum and Standard Deviation of the research variables as follow:

Table 1. Descriptive statistics of economic attributes of the firm, accounting discretion and future stock return

Variable	Symbol	Min	Max	M	SD
Growth opportunity	GO	-3.6	15.4	-0.42595	0.903997
Firm size	FS	1	45,039	1,025	4,073
performance	P	-0.31	0.62	0.13368	0.129896
Abnormal Accruals Absolute Value	AAAV	-3.91	0.31	-2.48885	0.723827
Earning Smoothing Measure	ESM	-3.91	3.04	0.75808	1.101569
Accounting discretion Index	ADI	0.036	0.968	0.503984	0.2004
Future Stock Return	FSR	-67.25	351.47	12.41	54.91
Future Stock Return Average	AFSR	-42.89	156.03	17.13	31.77

The minimum and maximum value of growth opportunity of the firms (market-to-book negative value ratio) is between -3.60 and 15.40. The positive maximum number is for Plascokar company in the first and second period with negative book ratio. The rest of the firms are between -3.60 and 0. For growth opportunity index, the mean is equal to -0.43. The value of this index is exactly the same as the opportunity index presented in Bown et al. (0.439). The minimum and maximum value of the firm size (sale logarithm) is between 1 billion rials and 45 billion Rials. It is also noteworthy that the maximum and minimum value of the firm performance (ROA) is between -

31% and +62%. Averagely, the studied firms performance indicates +13% positive return. Firm Stock Return is distributed from -67% to +351%. The mean of firms stock return is + 12.41% and mean of firms stock return for their next three years is +17.13%. However, stock return is 25% in Bowen et al. and his colleagues.

Testing research hypotheses

Table 2 presents the results of testing the relationships between firm size and growth opportunity and accounting discretion.

Table 2. Results of the model of the relationship between firm size and growth opportunity and accounting discretion

Model	R	R-sq	Adj- R-sq	D-W	F	Sig
ADI	0.452	0.204	0.2	1.39	47.76	0.000
AAAV	0.447	0.200	0.196	1.56	46.53	0.000
ESM	0.28	0.078	0.073	1.65	15.77	0.000

F- test is used to examine the significance of the regression model. According to the result of F-test and 0.000 level of significance, one may conclude that regression model is significant at 99% level of significance for accounting discretion and its components. The value of Adj-R^2 for abnormal accruals absolute value, standard model of earning smoothing and general model of accounting discretion reveals that 19.6%, 7.3% and 20% of changes in dependent variables are explained by independent variable. The value of D-W test in absolute value of abnormal accruals model and standard model of earning smoothing is between 1.5 and 2.5 indicating lack of correlation between errors. However, the value of D-W test for general model of accounting discretion is less than 1.5 pointing to a relative independence. The value of VIF in regression model suggests that all variables of the study in all models are distributed between 1 and 1.5 showing lack of multicollinearity in regression and appropriate estimate of coefficients in regression.

Table 3 uses multivariate regression model to examine the relationship between firm size and growth opportunity and accounting discretion. Accordingly, the level of significance for firm growth opportunity is smaller than level of error (sig < 0.01). Therefore, H_0 is rejected. However, a negative coefficient was found for this variable pointing to a negatively significant relationship between firm growth opportunity and accounting discretion, i.e. as firm growth opportunity increases, accounting discretion decreases. Thus, the research hypothesis is accepted at 99% level of significance and a negative relationship was found between firm growth opportunity and accounting discretion.

Table 3. The result of fitting regression of the model of firm size and growth opportunity with accounting discretion index

Independent variables	Dependent variable-ADI						
	B	Beta	T	Sig.	H1	part	sign
Constant	-519.69	-	-7.03	0.000	accepted	0.00	-
GO	-11.43	-0.13	-2.84	0.005	accepted	-0.13	negative
Firm size	26.65	0.44	9.54	0.000	accepted	0.44	positive
P	-	-0.06	-1.31	0.192	rejected	-	No relationship

Table 3 also indicates that level of significance for firm size is smaller than error level (Sig<0.01) and H_0 is rejected. This positive coefficient suggests a positively significant relationship between firm size and accounting discretion, i.e. firms with large size use accounting discretion more than others. Therefore, the research hypothesis is approved at 99% level of significance and there is a positive relationship between firm size and accounting discretion.

In Table 3, correlations-part indicates the effect of a particular variable on dependent variable and firm size has the most effect on accounting discretion.

Adopting STATA software and random-effects GLS regression model, the effect of two virtual variables of time and type of industry in the firm size and growth opportunity model and accounting discretion is presented in table 4.

Table 4. The result of fitting regression of the model of firm size and growth opportunity with accounting discretion index with control of time and type of industry

ADI	Coef.	Std. Err.	Z	P>|z|
GO	-2.4206	1.2313	-1.97	0.049
FS	5.86581	0.9120	6.43	0.000
P	2.64316	12.0760	0.22	0.827
time1	1.40994	2.3245	0.61	0.544
time2	0.60194	2.2734	0.26	0.791
time3	0	removed		
Cons	-95.992	24.0770	-3.99	0.000

(P>|z|) reveals that the level of significance for time and type of industry, except industry 4, (automobile industry) is bigger than 5% and thus, time and type of industry have no effect on accounting discretion. The level of significance for type of industry is not shown due to summarizing the results.

Table 5 shows that level of significance for firm size is smaller than error level (Sig<0.01) and H_0 is rejected. This positive coefficient suggests a positively significant relationship between firm size and Abnormal Accruals Absolute Value. However, level of significance for growth opportunity is smaller than error level (Sig>0.05) and H_0 is accepted. Therefore, a significant relationship was found between firm size and abnormal accruals absolute value. Of course, growth opportunity shows significant relationship at 90% level of significance.

Table 5. The result of fitting regression of the model of firm size and growth opportunity with abnormal accruals absolute value

Independent variables	Dependent variable-AAAV						
	B	Beta	T	Sig.	H1	part	sign
Constant	9.18	-	5.82	0.000	Accepted	0.00	-
GO	-	-0.09	-1.90	0.058	Rejected	-	No relationship
FS	0.55	0.43	9.10	0.000	Accepted	0.42	positive
P	1.22	0.09	2.02	0.044	Accepted	0.09	positive

In Table 6, level of significance for firm size is smaller than error level (Sig<0.01) and H_0 is rejected at 99% level of significance. As expected in the hypothesis, the coefficient of the firm size is positive. Eventually, level of significance for growth opportunity is bigger than error level (Sig>0.05) and H_0 is accepted. Therefore, a significant relationship was not found between firm growth opportunity and earnings smoothing measure.

Table 6. The result of fitting regression of the model of firm size and growth opportunity with earning smoothing measure

Independent variables	Dependent variable-ESM						
	B	Beta	T	Sig.	H1	part	sign
Constant	-4.33	-	-3.89	0.000	accepted	0.00	-
GO	-	-0.08	-1.61	0.109	rejected	-	No relationship
FS	0.20	0.24	4.73	0.000	accepted	0.24	positive
P	-1.53	-0.18	-3.60	0.000	accepted	-0.18	negative

According to the second hypothesis, due to the firm size and growth opportunity, a significant relationship is expected between expected accounting discretion and firm's stock return.

Table 7. The result of fitting regression of the model of expected accounting discretion and stock return

Independent and control variable	symbols	Future stock return			
		Short-term		Mid-term	
		Sig	H1	Sig	H1
Constant	Cons	0	-	0	-
Expected accounting discretion	PEADI	0.579	rejected	0.945	rejected
Sale logarithm	lnsale	0.878	rejected	0.269	rejected
Stock return	SR	0.471	rejected	0.000	Accepted
Correlation coefficient	R	0.048		0.601	
Coefficient of determination	R-sq	0.002		0.361	
Adjusted Coefficient of determination	Adj- R-sq	-0.006		0.360	
Durbin-Watson	D-W	2.118		1.932	
F-statistic	F	0.29		211.132	
Level of sig	Sig.	0.833		0.000	

According to the F-statistic and level of significance for future stock return, one may conclude that there is no significant relationship between expected accounting discretion and firm's stock return at 95% level of significance in the short-term and mid-term horizon. However, the regression model is accepted in the mid-term horizon at sig. <0.00 due to the significant relationship between average stock return and average future stock return. Therefore, there is no significant relationship between expected accounting discretion related to firm size and growth opportunity and firm's stock return

Results and discussion

Adopting three measurement indices (accounting discretion index, Abnormal Accruals Absolute Value Index and earning smoothing index), the results of the study indicate that there is a positively significant relationship between firm size and degree of using accounting discretion at 99% level of significance. Therefore, one can expect that directors in large firms are under greater pressure than their counterparts in small firms to employ accounting discretion to a great extent to escape political costs. The findings of the study are in tune with the argument offered by Watts and Zimmerman (1990) according to which, larger firms are unintentionally motivated to apply accounting discretion to reduce political view. Also, Shoorvarzi and Pahlevan pointed to the greater intensity of earnings smoothing in large firms than small firms and said that mangers in small firms are more likely to smooth earnings (Shoorvarzi and Pahlevan, 2010). This finding confront neither to that of Lusi and Swastika (2013), in which a negatively significant relationship was found and nor to that of Moses (1987), based on which larger firms are less motivated to smooth earnings due to their fame in analysts' view. The results of the present study do not conform to an opinion, according to which large firms with strong internal controls and highly qualified auditors are very famous and do less earning management.

Growth opportunity has significant relationship with accounting discretion index at 99% level of significance. However, it has negatively significant relationship with abnormal accruals absolute value at 90% level of significance. Firms with high growth opportunity do less manipulation in accounting items. Firms with higher growth opportunity use less accounting discretion. This evidence does not conform to the argument made by Beaver et al. (1970) and theoretical principles of earning management, based on which growth firms are highly motivated for earning smoothing through accruals.

The question raised here is whether directors look for opportunism during using accounting discretion or not. The findings of the study do not show any evidence on management opportunism. Accounting discretion resulted from firm size and growth opportunity has no negative effects on firm's stock return as determinant of future management performance. Due to adhering to professional and cultural ethics, therefore, directors do not look for opportunism and try to improve contract efficiency.

According to the findings of research suggesting a significant relationship between firm size and growth opportunity index and accounting discretion, institutions, organizations, regulatory agencies and supervisory companies such as auditing firm, Stock Exchange and accounting body are required to pay more attention to economic characteristics of the firm (firm size and growth opportunity index) during formulation and adoption of standards and regulations monitoring the directors' behavior in using accounting discretion. Financial analysts and capital actors are also suggested to consider economic characteristics of the firm during analyzing and making decision on the degree of using accounting discretion. To do further research, the following issues are suggested:

First, the relationship between firm size and growth opportunity and accounting discretion and its effect on return indices of the firm including return on assets, return on owner's equity and return on invested capital.

Second, the relationship between firm size and growth opportunity and accounting discretion, and its effect on the economic indices such as economic value added, market value added, etc.

Third. the relationship between other economic characteristics including risk, cash situation, etc. with accounting discretion.

Finally, the relationship between macroeconomic variables such as inflation, guaranteed interest rate, etc. and accounting discretion.

Conclusion

The result of this study shows that there was a significant positive relationship between firm size and accounting discretion. The larger the company, the more the amount of discretionary accounting application. In fact, larger firms, in comparison to smaller ones, have played more significant role in the application of discretionary accruals and income smoothing and in general, in the application of accounting discretion. Regarding the second hypothesis, the results indicated that there was a significant negative relationship between growth opportunities with accounting discretion index. Firms with higher growth opportunities, in comparison to firms with low growth opportunities, have used accounting discretion in a smaller scale. Increased levels of growth opportunities among the firms have not increased accounting discretion practices while it has limited it . Regarding the last hypothesis, the results indicated that the managers have not made use of the opportunities although there was an increase in the amount of using accounting discretion with a change in firm size and growth opportunity.

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