

The Relationship Between Managerial Over-Confidence, Internal Financing, And Investment Efficiency In Companies Listed On Tehran Stock Exchange

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Abstract

The purpose of the current study was examining the relationship between managerial over-confidence, internal financing, and investment efficiency in the companies listed on Tehran Stock Exchange. A sample of the companies listed on Tehran Stock Exchange over 146 firms in a year was studied over a 5-year period (2013-2017) to test the hypotheses after initial data collection and screening. Excel software was used to calculate and classify the variables. Then multivariate regression analysis in Eviews software was used to test the research hypotheses. The results showed a positive relationship between managerial over-confidence and internal financing. Moreover, there were no positive relationships between internal financing and commercial capital. There were no positive relationships between internal financing and investment efficiency and no negative relationships was observed between internal financing and under-investment. The over-confidence of the managers who tend to expand their investment, needs an increase in their internal budget. However, this tendency does not cause under- or over-investment.

Keywords: Managerial over-confidence, Internal financing, Investment efficiency

1. Introduction

Investment efficiency is an interesting topic in accounting studies that was initiated with the research by Jensen (1986). Using the agency theory framework, he dealt with the issue of investment efficiency. Prior to him, Narayanan (1988) and Malmendier and Tate (2005) had examined this issue in terms of information asymmetry and managerial over-confidence, respectively. Three major causes of over-investment by the firms are agency problems, information asymmetry, and managerial over-confidence. Consequently, other scholars further made other in-depth examinations of this issue separately from other perspectives. These studies were mainly conducted on the aspects like funding constraints, management incentives, cash dividends, and remuneration [managers], and management backgrounds and according to the theories of agency stress and information asymmetry. On the other hand, self-confidence or confidence in one's abilities has widely been accepted as a prerequisite for success. Moreover, self-confidence makes the people happier and more satisfied with their lives. Self-confidence can help in convincing potential employers, business partners, or life partners that the person in question has many positive traits and abilities. It strengthens the incentive to assume new projects or to continue old projects despite the hurdles, failures, or lack of willpower. At the same time, the individual can be overconfident with many negative effects for hypersensitivity on the record. One can assume that the beneficial effects of self-confidence can be offset by its detrimental effects, so there is an optimal degree of confidence in any particular context. In a transcendent world that Modigliani and Miller (1958) described, corporate investment relies on the net present value of the project without any relation to other factors. In the real world, financial researchers have understood that Modigliani and Miller's supreme market theory does not effectively describe real investment activity. Indeed, some companies invest in projects with negative net present value (NPV). Some researchers stress that the factors like agency problems, information asymmetry, and management over-confidence affect corporate investment decisions. The main idea states that agency problems affect the level of corporate investment spending and lead to over- or under-investments. The separation of ownership from management has

led managers and shareholders to disagree, thus managers decide to divert shareholders from their original purpose of maximizing value for their own benefit. In most cases, the result will be an over-investment. In contrast, the resources controlled by managers mostly increase with the free cash flow maintained in the company, which results in greater personal interest and reputation. Thus, managers are motivated to build an empire that leads to over-investments. From another perspective, information asymmetry scholars state that over-investment happens when the people within the company have more information than shareholders, especially about the value of the company's current assets or the cash flows of invested projects where funding for a company's securities is probably either overvalued or undervalued. The theory of managerial over-confidence states that over-investment can be due to managerial over-confidence in their ability or the competitiveness of a company, even if managers are loyal to the goal of investors to maximize firm value. Any investment is obtained from internal and external financing of the firm. The increase in investment in every field of the company's activities, prioritize financing methods over financing. There is a debt in funding gap, and the risk of a business unit first decreases and then increases. Thus, studying the relationship between managerial over-confidence, internal financing, and investment efficiency may be so helpful. A key feature of the companies in the market is the growing business units of sustainable innovation; thus, this relationship may turn more prominent in these companies. In the process of investing the efficiency of growing business units, inappropriate fundraising and irrational spending of capital will end in financial risks and thus damage the business reputation and loss of market share and even survival crisis. In this study, investigating managerial over-confidence, internal financing, and investment efficiency may contribute to avoid the problems of financial risk and thus benefit from sustainable innovation. These problems are due to the mismatches in internal financing and capacity expenditure.

2. Discussion and Investigation

Psychological literature perceives over-confidence as the tendency of the individuals to perceive themselves as "above average" in positive traits like capability, judgment, and the hope for successful outcomes (Alick & Gavran, 2005; Kruger, 1999). The reason for this "better than average" effect is a psychological attribution bias, a self-serving desire that attributes successes to personal tendencies but failures to external forces, causes an "illusion of control" that shows one can manage the environment (Miller & Ross, 1975). The scholars have consistently expanded on this key concept and stated that over-confidence has affected individual behaviors in three ways: overestimating individual abilities and the likelihood of success, overestimating individual knowledge and beliefs, and overestimating individual performance over that of others (Picon et al., 2014). In the next step, how these three over-confidence-based practices affect internal financing, and investment efficiency in general, and then their implications for investment decisions have been discussed. First, CEOs are overconfident in their ability to exaggerate the results and natural resources of the companies under their control (Melmandir & Tate, 2005). Lack of understanding of the resource status of CEOs force them to select imaginative investment opportunities that include substantial fixed investments and are not necessarily cost effective (Campbell et al., 2011). Over-confidence also causes an exaggeration in one's ability in controlling events; thus, CEOs affected by their own pride, are interested in challenging assignments as they believe they have control over all possible events and can extract the best results from uncertain environments (Tong, Lee, & Young, 2015). Then, over-confidence forces people have higher confidence about their judgments (obsessive accuracy). A firm belief in the correctness and precision of one's ideas makes CEOs feel as there is no need to collect more comprehensive information to determine the best choice (Hiller & Hamerick, 2005). Thus, CEOs affected by extreme accuracy are usually efficient decision makers that prefer quick strategic decision-making processes. Finally, over-confidence makes managers believe in their superiority over others, which ends in overestimation (Picon et al., 2014). Believing "being better than average" exaggerates their performance and reduces the value of others' abilities and assistance (Alick & Gavran, 2005). As CEOs believe in the superiority of their problem-solving abilities, they usually prefer centralized decision-making structures and are willing to keep others out of the strategic process (Heinz, Heath, & Campbell, 2015). Furthermore, CEOs who are confident about their relatively superior abilities hope that the stakeholders and competitors recognize their achievements with no delay. Thus, they are attracted towards the challenges that can greatly enhance their esteem and personal status and improve their personal perception of themselves in the short term (Chatterjee & Hambrick, 2007). According to this view that states competition in the product market is

a market force that reduces agency problems (Hart, 1983; Schmidt, 1997; Begz and Betigeniz 2007), previous studies have generally discovered that opportunism competition restricts the managers in reporting firm performance (Balakrishnan and Cohen, 2011; Markicaritite and Park, 2009; Laxmana and Yang, 2012). On the other hand, Behavioral Agency Theory (BAT), which was suggested by Weisman and Gomez Mejia (1998) for the first time, has been widely used in explaining CEOs' risk preferences and affiliated organizations' outcomes. According to the principles of this theory, CEOs' risk preferences differ drastically according to the specific context of their monitoring and observation. Against the classical agency theory reasoning, BAT reasoning describes executive decision makers according to the perspectives derived from risk-averse and risk-taker theory predictions. This theory pointed out that the firm's performance history has a significant effect on the organizational problem statement (i.e., stating the problem), which in turn affects risk-taking behavior while explicitly expressing problems that make it less risky. However, the negative expression of problems causes more aggressive risk-taking. Basically, BAT generalizes the predictions of classical representation theory. According to this theory, executive managers are considered as risk-takers in the negative statement of organizational problems and risk-averse managers with high perceptions of losses when organizational problems are stated explicitly.

3. Literature Review

He et al. (2019) studied managerial over-confidence, internal financing, and investment efficiency. They concluded that internal financing could reduce business opportunities and diminish investment shortages, but may have led to over-investment, especially in companies with over-confident management. The problem is the relationship of over-investment with more managerial over-confidence among state-owned companies rather than non-state-owned companies. Hollie et al. (2016) examined the effect of CEO over-confidence on the ownership selection in the decision to enter foreign markets. The results showed that CEOs tendency towards having a higher degree of over-confidence in the desire for full co-ownership, where their positive relationship is more pronounced when firms face more asymmetric information or environmental uncertainty over the cultural and institutional distances of the host country, increases the risks of the host country and the inexperience in the local markets. A strong board of directors have weakened this positive relationship; however, it does not completely eliminate the stated effect. Wang et al. (2016) studied the relationships between financing sources, investment in research and development, and business unit risk. The empirical results showed that the relationship between internal financing rate and research and development investment is significantly positive and the asset-debt rate has a significant negative effect on the research and development investment in Iran. Asadi Ravari (2018), examined the effect of management over-confidences on the tax planning of top 50 listed companies listed on the Tehran Stock Exchange. The results showed a significant relationship between management over-confidences and tax planning in the top 50 listed companies in Tehran Stock Exchange. Moreover, Mirza Mohammadi et al. (2018) examined the effect of board independence on the relationship between managerial over-confidence and social responsibility. The results showed a positive and significant relationship between managerial over-confidence and social responsibility with the independence of the board of directors having a positive and significant effect on the relationship between managerial over-confidence and social responsibility. Talati Sabegh, et al. (2018) studied the relationship between managerial over-confidence and over-investment with a focus on board independence. The results showed that managerial over-confidence does not increase over-investment, but the interaction of over-confidence of managers and board independence has a significant negative effect on over-investment. Hemmatzadeh, and Nekouiehzadeh, (2017) examined the relationship between managerial over-confidence and audit fees, with an emphasis on the role of board independence. The results showed a significant relationship between the managerial over-confidence and audit fees using the virtual variable over-investment method. Moreover, the independence of the board of directors and the relationship between managerial over-confidence and audit fees has a significant effect using the virtual variable method of over-investing. Evidence showed that an independent board of directors diminishes managerial fraud and enhances report health.

4. Research hypotheses

1. There is a positive relationship between managerial over-confidence and internal financing.
2. There is a positive relationship between internal financing and commercial capital.
3. There is a positive relationship between internal financing and investment efficiency.
4. There is a negative relationship between internal financing and under-investment.
5. The over-confidence of the managers who want to expand their investment requires increasing their internal budget. However, this tendency leads to the lack of investment as well as over-investment.

5. Research model

In this study, the model proposed by He et al. (2019) has been used as follows:

$$\begin{aligned} \text{Internal financing}_{i,t} = & \alpha_0 + \beta_1 \text{Managerial. overconfidence}_{i,t} + \beta_2 \text{Company size}_{i,t} \\ & + \beta_3 \text{Investment opportunities}_{i,t} + \beta_4 \text{Financial leverage}_{i,t} \\ & + \beta_5 \text{Operating results}_{i,t} + \beta_6 \text{Profitability}_{i,t} + \beta_7 \text{Cash holdings}_{i,t} \\ & + \beta_8 \text{Ownership concentration}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Investment}_{i,t} = & \alpha_0 + \beta_1 \text{Internal financing}_{i,t} + \beta_2 \text{Company size}_{i,t} \\ & + \beta_3 \text{Investment opportunities}_{i,t} + \beta_4 \text{Financial leverage}_{i,t} \\ & + \beta_5 \text{Operating results}_{i,t} + \beta_6 \text{Profitability}_{i,t} + \beta_7 \text{Cash holdings}_{i,t} \\ & + \beta_8 \text{Ownership concentration}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Overinvestment}_{i,t} = & \alpha_0 + \beta_1 \text{Internal financing}_{i,t} + \beta_2 \text{Company size}_{i,t} \\ & + \beta_3 \text{Investment opportunities}_{i,t} + \beta_4 \text{Financial leverage}_{i,t} \\ & + \beta_5 \text{Operating results}_{i,t} + \beta_6 \text{Profitability}_{i,t} + \beta_7 \text{Cash holdings}_{i,t} \\ & + \beta_8 \text{Ownership concentration}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (3)$$

$$\begin{aligned} \text{Underinvestment}_{i,t} = & \alpha_0 + \beta_1 \text{Internal financing}_{i,t} + \beta_2 \text{Company size}_{i,t} \\ & + \beta_3 \text{Investment opportunities}_{i,t} + \beta_4 \text{Financial leverage}_{i,t} \\ & + \beta_5 \text{Operating results}_{i,t} + \beta_6 \text{Profitability}_{i,t} + \beta_7 \text{Cash holdings}_{i,t} \\ & + \beta_8 \text{Ownership concentration}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (4)$$

$$\begin{aligned} \text{Overinvestment}_{i,t} = & \alpha_0 + \beta_1 \text{Managerial. overconfidence}_{i,t} \\ & + \beta_2 \text{Managerial. overconfidence} * \text{Internal financing}_{i,t} \\ & + \beta_3 \text{Company size}_{i,t} + \beta_4 \text{Investment opportunities}_{i,t} \\ & + \beta_5 \text{Financial leverage}_{i,t} + \beta_6 \text{Operating results}_{i,t} \\ & + \beta_7 \text{Profitability}_{i,t} + \beta_8 \text{Cash holdings}_{i,t} \\ & + \beta_9 \text{Ownership concentration}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (5)$$

The variables in the above equation were as follows:

6. Research variables

6.1. Dependent variables

- Investment: Investment is measured through the sum of the company's investments.
- Over-investment: Over-investment is measured by the positive residuals of the difference between investment and capital expenditure.

- Under-investment: It is the investment less than the limit through the absolute value of negative residuals and the difference between total investment and capital expenditure

6.2. Independent variables

- Internal financing: Internal financing is calculated by dividing the accumulated dividend on total assets.
- Managerial over-confidence through earnings` forecasts: An imaginary (dummy) variable equals one if earnings` forecasts are positive next year, otherwise, it equals zero.

6.3. Controlling variables

- Company size: The size of the company through the natural logarithm of the total assets of the company
- Investment opportunities: Investment opportunities are measured using Tobin's Q ratio.
- Financial leverage: The financial leverage is measured through the debt ratio.
- Operating results: Return on assets
- Profitability: Earnings per share
- Cash holdings: holding cash
- Ownership concentration: major shareholders

7. Population

Population: The companies listed on Tehran Stock Exchange

Sample: A sample of companies listed on the Stock Exchange from 2013 to March 21, 2018 was selected according to the following criteria:

1. The information needed about the companies should be available from 2013 to 2017.
 2. The end of the fiscal year of the companies should be March 21 and not change during the years from 2013 to 2017.
 3. Companies` stocks should be traded on the stock exchange during each year of the research period and they should be available at the end of the period.
 4. They should not be among investment and financial intermediation companies.
- Considering these criteria, 146 companies were selected using random sampling method.

8. Hypothesis testing method

8.1. Testing the validity of research models

Multivariate linear regression model was used to test the hypotheses. To determine whether the panel data would be more efficient for estimating the desired function, the hypothesis was tested where all fixed estimation terms were equal. The null hypothesis of this test, known as Restricted F or Chav test, was as follows:

$$\begin{cases} H_0 : \alpha_i = \alpha \\ H_1 : \alpha_i \neq \alpha \end{cases}$$

Hausman test was used to determine which method (fixed effects or random effects) was more appropriate to estimate (to determine cross-sectional units' differences being fixed or random). The statistical method used in this study was panel data method. Accordingly, first, the panel data method and its related tests have been described. Then the tests for the significance of the whole model and the significance of the independent variables were explained. Finally, the decision-making process for rejecting or accepting research hypotheses was explained after describing tests of classical regression assumptions. It has to be noted that Eviews software was used for data analysis in this study.

9. Results

Descriptive statistics of the variables for sample companies have been presented in Table (1).

Table 1.

	Investment	Over-investment	Under-investment	Internal financing	Managerial over-confidence	Company size
Median	2304519.	1027223.	1149529.	0.032374	0.868493	14.15081
Mean	71222.50	0.000000	55920.39	0.029012	1.000000	13.97305
Max.	1.40E+08	1.07E+08	1.47E+08	0.491731	1.000000	19.39502
Mean.	0.000000	-706427.0	0.000000	-0.056336	0.000000	9.993237
SD	10943969	6976003.	8188116.	0.036962	0.338186	1.591817
Number of observations	730	730	730	730	730	730

Table 2.

	Investment opportunities	Financial leverage	Return on assets	Earnings per share	Cash holding	Major shareholders
Median	0.458529	0.592594	0.099359	687.7007	0.030966	72.14932
Mean	0.414459	0.591871	0.076751	329.9322	0.024757	79.71500
Max.	7.024722	1.804797	1.996393	9276.455	0.358720	99.80000
Mean.	-0.804797	0.046905	-0.370215	-2516.279	8.59E-05	0.000000
SD	0.517005	0.229364	0.156719	1168.580	0.032720	24.88743
Number of observations	730	730	730	730	730	730

H1. There is a positive relationship between managerial over-confidence and internal financing.

Table 3. Dependent Variable: INTERNAL_FINANCING

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANAGERIALOVERCONFIDENCE	0.116958	0.010510	11.12771	0.0000
COMPANY_SIZE	-0.116181	0.018902	-6.146511	0.0000
INVESTMENT_OPPORTUNITIES	0.054600	0.069602	0.784459	0.4331
FINANCIAL_LEVERAGE	-0.069020	0.068228	-1.011610	0.3121
OPERATING_RESULTS	0.182487	0.027112	6.730940	0.0000
PROFITABILITY	5.53E-05	3.90E-06	14.18000	0.0000
CASH_HOLDINGS	-0.130068	0.093867	-1.385663	0.1664
OWNERSHIP_CONCENTRATION	-0.000738	0.000431	-1.710321	0.0877
C	1.744382	0.287539	6.066593	0.0000
R-squared	0.906251	Mean dependent var		0.682185
Adjusted R-squared	0.881349	S.D. dependent var		1.252259
S.E. of regression	0.416430	Sum squared resid		99.88625
F-statistic	36.39262	Durbin-Watson stat		1.565036
Prob(F-statistic)	0.000000			

Hypothesis test results showed a positive relationship between managerial over-confidence and internal financing.

H2. There is a positive relationship between internal financing and commercial capital.

Table 4. Dependent Variable: OVER-INVESTMENT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTERNAL FINANCING	0.000284	0.004896	0.057948	0.9538
COMPANY_SIZE	0.005486	0.005450	1.006648	0.3145
INVESTMENT_OPPORTUNITIES	1.762474	0.539092	3.269338	0.0011
FINANCIAL_LEVERAGE	1.754440	0.539056	3.254656	0.0012
OPERATING_RESULTS	-0.016647	0.018429	-0.903315	0.3667
PROFITABILITY	1.04E-06	1.63E-06	0.636387	0.5248
CASH_HOLDINGS	-0.008140	0.030631	-0.265740	0.7905
OWNERSHIP_CONCENTRATION	-0.000524	0.000352	-1.488408	0.1372
C	2.125817	0.544331	3.905378	0.0001
R-squared	0.999712	Mean dependent var	6.698072	
Adjusted R-squared	0.999635	S.D. dependent var	15.98825	
S.E. of regression	0.330115	Sum squared resid	62.77013	
F-statistic	13048.89	Durbin-Watson stat	1.635876	
Prob(F-statistic)	0.000000			

The results of the hypothesis testing showed no positive relationships between internal financing and commercial capital.

H3. There is a positive relationship between internal financing and investment efficiency.

Table 5. Dependent Variable: INVESTMENT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTERNAL FINANCING	-0.001297	0.009850	-0.131632	0.8953
COMPANY_SIZE	0.012073	0.020563	0.587110	0.5574
INVESTMENT_OPPORTUNITIES	0.725155	0.535023	1.355371	0.1758
FINANCIAL_LEVERAGE	0.620135	0.534018	1.161261	0.2460
OPERATING_RESULTS	-0.035231	0.084045	-0.419191	0.6752
PROFITABILITY	-3.88E-06	1.43E-05	-0.271637	0.7860
CASH_HOLDINGS	-0.139914	0.180436	-0.775422	0.4384
OWNERSHIP_CONCENTRATION	0.000767	0.000764	1.003946	0.3158
C	10.01907	0.627058	15.97788	0.0000
R-squared	0.999359	Mean dependent var	51.82735	
Adjusted R-squared	0.999188	S.D. dependent var	98.80648	
S.E. of regression	1.070629	Sum squared resid	660.2385	
F-statistic	5865.732	Durbin-Watson stat	1.737291	
Prob(F-statistic)	0.000000			

The results of hypothesis testing showed no positive relationships between internal financing and commercial capital.

H4. There is a negative relationship between internal financing and under-investment.

Table 6. Dependent Variable: UNDER-INVESTMENT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTERNAL_FINANCING	-0.002667	0.009431	-0.282763	0.7775
COMPANY_SIZE	0.061135	0.012655	4.830940	0.0000
INVESTMENT_OPPORTUNITIES	0.009186	0.039448	0.232858	0.8160
FINANCIAL_LEVERAGE	-0.008424	0.037591	-0.224086	0.8228
OPERATING_RESULTS	0.037729	0.034606	1.090263	0.2761
PROFITABILITY	-1.36E-05	7.77E-06	-1.747616	0.0811
CASH_HOLDINGS	-0.011121	0.056824	-0.195706	0.8449
OWNERSHIP_CONCENTRATION	0.000218	0.000220	0.989283	0.3229
C	7.215026	0.187806	38.41734	0.0000
R-squared	0.999842	Mean dependent var	15.90152	
Adjusted R-squared	0.999801	S.D. dependent var	19.66894	
S.E. of regression	0.342144	Sum squared resid	67.42784	
F-statistic	23885.90	Durbin-Watson stat	1.587532	
Prob(F-statistic)	0.000000			

The results of hypothesis testing showed no negative relationships between internal financing and underinvestment.

H5. Managerial over-confidence of the managers who want to expand their investment is in need of increasing the internal budget. However, this tendency leads to the lack of investment and over-investment.

Table 7. Dependent Variable: OVER-INVESTMENT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANAGERIAL.OVERCONFIDENC	0.000392	0.004039	0.097044	0.9227
MANAGERIAL.OVERCONFID01	0.000228	0.005050	0.045138	0.9640
COMPANY_SIZE	0.005243	0.005473	0.957986	0.3385
INVESTMENT_OPPORTUNITIES	1.759158	0.538688	3.265633	0.0012
FINANCIAL_LEVERAGE	1.751224	0.538654	3.251114	0.0012
OPERATING_RESULTS	-0.016959	0.019316	-0.877982	0.3803
PROFITABILITY	1.01E-06	1.63E-06	0.622705	0.5337
CASH_HOLDINGS	-0.008130	0.031238	-0.260273	0.7947
OWNERSHIP_CONCENTRATION	-0.000531	0.000354	-1.500598	0.1340
C	2.132728	0.543955	3.920781	0.0001
R-squared	0.999713	Mean dependent var	6.713122	
Adjusted R-squared	0.999636	S.D. dependent var	16.04158	
S.E. of regression	0.330550	Sum squared resid	62.82641	
F-statistic	13012.36	Durbin-Watson stat	1.637112	
Prob(F-statistic)	0.000000			

The results of hypothesis testing showed that managerial over-confidence of the managers who want to expand the investment needed the increase of the internal budget. However, this tendency led to an increase in the investment and over-investment.

10. Conclusion

In spite of the evidence stating the increase in the studies on the relationship between managerial over-confidence and internal financing, their role in shaping the firm's investment efficiency program

has not been well-explored by the researchers. Examining the relationship between managerial over-confidence, internal financing, and investment efficiency is important for several reasons: First, managerial over-confidence has a sensitive structural position at the top of the organization and has a significant role in shaping strategic decisions. Second, given the many studies conducted on the effect of government at company and country level in other countries as well as the more importance of variables in the company and the limited number of domestic studies in this field, the researcher examined the relationship between managerial over-confidence, internal financing, and investment efficiency in the companies listed on Tehran Stock Exchange.

The results showed a positive relationship between the managerial over-confidence and internal financing. Moreover, there were no positive relationships between internal financing and commercial capital. There were no positive relationships between internal financing and investment efficiency. There were no negative relationships between internal financing and under-investment. Managerial over-confidence of the managers who want to expand their investment called for an increase in their internal budget. However, this tendency did not lead to the lack of investment and over-investment.

According to the results, the investors and other stakeholders are suggested to pay more attention to the internal financing of the company in monthly and quarterly financial statements among high / low value companies. The analysts can re-test this hypothesis for various industries. Users are advised to pay more attention to foreign and domestic business investments in their financial statements and accompanying notes. Furthermore, they are suggested to pay more attention to the efficiency of investment by foreign and domestic companies in financial statements and accompanying notes. Analysts and researchers can classify financing into internal and external financings, and re-test them. The results could prove helpful to senior corporate decision makers in determining the relationship between managerial over-confidence, internal financing, and investment efficiency and in better understanding the significance of the relationship between managerial over-confidence, internal financing, and company investment efficiency in present and future policies and the effects of economic policies and practices on various activity spheres.

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