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Evaluating the Relationship between Overconfidence of Senior Managers and Abnormal Cash Fluctuations with respect to Financial Flexibility in Companies Listed in Tehran Stock Exchange

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Abstract. Executives can maximize profits by recognizing the factors that effects investment and using them to obtain the optimal level of investment,) Inefficient markets have shortcomings that can impact the optimal level of investment leading to the process of over- investment or under- investment. In the present study, the relationship between overconfidence of senior managers and abnormal cash fluctuations with respect to financial flexibility in companies listed in Tehran stock exchange" from 2009 to 2013 were evaluated. In this study, the sample consists of 84 companies selected by systematic elimination method and 420 year-companies in total. In this research, EVIEWS software was used to test the research hypotheses by linear regression and correlation coefficient and after designing and testing the research hypothesis. After designing and testing research hypotheses that have been used to each hypothesis, it was concluded that there was a significant relationship between overconfidence of senior managers and abnormal cash fluctuations, and this relationship was not significant at any level of financial flexibility. Moreover, the findings of research showed that there was a significant relationship between senior manager's overconfidence and positive abnormal cash flow fluctuations in firm and this relationship is significant only at the level of companies with high financial flexibility. Finally, the results indicate that there is no significant relationship between senior managers 'overconfidence and negative cash flow abnormalities, and the relationship between senior managers' overconfidence and negative cash flow fluctuations at the level of companies with high financial flexibility was confirmed.

Keywords. abnormal cash fluctuations, overconfidence of senior managers, financial flexibility

1. Introduction

Today, cash flows play a vital role in different financial decisions, securities evaluation models, methods of evaluating capital plans, and some traditional and new analyzes of financial management. Today, increasing growth in cash flow between companies, create the cost of the unjustified opportunities. These opportunity costs are due to the low return on investment of cash. Company cash flows due to lower capital cost have a major impact on the amount of investment a firm has in relation to external financing, as well as manager's greater control over it. Recently, many researches have been performed to indicate that managers have not always acted rationally and, under the effect of overconfidence and over-optimism may make irrational



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decisions that have a significant impact on their financial activities. Cash is one of the vital resources in any for-profit unit, and balancing available cash and cash needs is the most important factor in the economic health of any for-profit firms. Firm's holdings insufficient cash as well as firm's holdings large cash face many problems. Cash is important in that it allows the firm to look for opportunities that increase stock value.

In the era of firm growth, as increase cash reserves, do managers decide whether to distribute cash to shareholders? Spend on internal expenses? Used or maintained for foreign study? How profit managers manage to choose between consuming or holding cash reserves is a mystery. In the other word, overconfidence is a personality property that can be defined as behavioral bias and having unrealistic (positive) beliefs about any aspect of an event under uncertainty condition. Managers who have high self-esteem are often optimistic about their decisions and results, especially in investment decisions. These managers, because of their overconfidence, believe that the market for their firm is undervalued and makes external financing costly, for this reason, they are more willing to invest more. But if the financing of projects requires external resources, there may be less investment (Tehrani & Hesarzadeh, 2009). Given the subject of the present study, which assesses the relationship between senior managers' overconfidence and normal cash fluctuations with respect to financial flexibility, the overall purpose of this study is to answer the question whether there is a significant relationship between overconfidence of senior managers and abnormal cash flow fluctuations in firm.

2. Theoretical basics and research background

2-1 Overconfidence of senior managers

Overconfidence is one of the hottest topics in the study, pointing to an area where individuals overestimate their knowledge and ability to recognize. Overall, people with overconfidence are optimistic and underestimate the likelihood of making any mistake. People with overconfidence tend to boast themselves, just like people who are successful at doing or predicting the truth. As with all cases of misconduct, the extent and nature of false overconfidence varies considerably. Whereas previous documentation linked high overconfidence to the abundance of firm goals, ownership size and risk taking.

2-2 Cash

Understanding the cash flows of a firm is important for making the decisions of investors, managers, and other stakeholders. Every firm must have sufficient liquidity to sustain its life and repay its debt and interest. In the long term, cash flows from operations should be appropriate to cover cash needs. If net cash flows from a firm's negative operations, it usually faces numerous financial problems. In the short term, the firm may also be able to obtain the cash required by borrowing or selling assets, but by applying these methods in the long term, it will not be able to succeed in the competition arena and stay on the scene. Creditors and creditors refuse to lend to a firm that cannot positively net cash flow from operations. Accordingly, net cash flows from negative operations, together with net cash flows from positive investment activities (through the sale of assets) and net cash flows from positive financing activities (through borrowing), are negative symptoms (Bahrami, 2013, 30).

3-2 Anomalous cash fluctuations

In accrual accounting system, accounting profit consists of two components: cash and accrual. Free cash flow, which is the cash surplus from operations after deducting the cash required for investing, can be considered as an indicator of the cash component of profit (Ali Ahmadi et al., 2013, 9). The net cash flows are divided into normal (projected) and abnormal (residual)



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components, namely positive and negative. Unlike positive cash flows that drive the firm to its optimum cash holding level, positive anomalous fluctuations drive the firm toward cash surpluses, which invests in projects with a net present value of negative cash flow. Or it will have an unsecured income. One of the most important financial decisions of managers is determining the level of cash holdings. This optimal level is the point at which the final benefit of the surplus cash equals its final cost (Dastgir et al., 2013, 9).

4-2 Financial flexibility

The value of financial flexibility increases as the difference in external and internal financing costs. Therefore, firms with less financial flexibility are more likely to face financial constraints, which may force the firm to adjust its fixed investments and convert them into cash in cash flow flows. Here, real flexibility refers to the actual resources of the firms, which improves the firm's ability to perform future operations, investment needs and growth opportunities (Mighani, 2010, 55). Financial flexibility is defined by Byoun (2009), a degree of capacity and speed, and the firm can provide the resources needed for defensive (debt) and offensive (investment) responses to increase firm value.

5-2 Research Background

In a study titled "investigating the effect of senior managers 'overconfidence on cash flow investment sensitivity" by Kazemi et al. (2014), it has been shown that over time, senior managers' overconfidence increases the sensitivity of cash flows investments. In an article entitled "the influence of senior managers' overconfidence on profit sharing policy" by Mirkey et al. (2014), the effect of overconfidence of senior executives on firm dividend policy has been investigated. The results of this study show that the dividend ratio of companies with overconfident managers is significantly lower than the dividend ratio of companies whose directors do not have overconfidence. In an article titled "assessing the impact of anomalous cash fluctuations on earnings sustainability and performance of Tehran stock exchange in determining the stability characteristics of earnings components" by Ali Ahmadi et al. (2013), examine the sustainability of ordinary fluctuations in cash and compare it with sustainability of abnormal accruals. The findings of this research show that there is no difference between the persistence of negative and positive anomalous fluctuations in cash.

Anomalous accruals are also more stable than positive and negative anomalies in cash.

Kramer & Liao (2012), in a study using the criteria of measuring overconfidence of Malmendier

& Tate in relation to the timing of the exercise of bargaining power under management, examines the effect of managers' overconfidence on analysts perspective paid.

The results show that analysts are optimistic about the profits of companies that have high-confidence managers.

Huang et al. (2011), in a study examined the effect of managers' overconfidence on cash flow investment sensitivity as well as the impact of agency costs on the relationship. The results of this study showed that, on average, overconfidence of managers increases the sensitivity of cash flow investments, and in firms with higher agency costs, this effect is significantly greater.

Clark (2010) examines the impact of financial flexibility on capital structure decisions. The findings of this study show that when evaluating the ultimate value of flexibility in relation to capital structure decisions, other variables affecting capital structure lose their importance to a great extent, and in other words, flexibility is the most important factor affects the capital structure.

Louis (2009) used Pearson's correlation coefficient to test his hypotheses in his research, "held-value cash and accounting conservatism". The findings of this study evaluated the relationship



between accounting conservatism and held- value cash with abnormal firm returns. Fairchild (2009), in a study entitled "managing overconfidence, agency problems, financial decisions and firm performance" states that a manager with overconfidence overestimates his abilities. It considers reality and financial constraints to be less than real.

Ekholm & Pastemake (2007), in a study entitled "overconfidence and investment volume", examined the relationship between investor behavior and their investment capacity in Finland. The findings of this study showed that smaller investors with more confident are more likely to be harmed by their investment behaviors.

3. Research Method

The present study is an applied research in terms of goal. The study population and statistical sample are listed companies in Tehran Stock Exchange at the end of 2013 which equals 618 firms. Considering the availability of information on research variables and cost and time constraints, the time period of this study is 5 years from the beginning of 2009 to the end of 2013. The method of data collection in this research is library method.

The information was collected using the primary information of the firms, i.e. the information and data required for the research were entirely from the library method, using the Rahavardnowin software and by referring to the Tehran Stock Exchange Organization as well as studying the basic financial statements of the listed companies. The Tehran Stock Exchange was acquired during the years 2009-2013. In addition to reading the basic financial statements, the financial statement information from the Stock Exchange website has been used. Data analysis is divided into descriptive statistics and inferential statistics.

4. Data analysis

4-1 Descriptive Statistics

Data analysis in the descriptive statistics section has started by calculating central indices including mean and median and scatter indices of skewness and elongation. These indices are calculated separately. The following section describes the research variables and summarizes them in Tables (1), (2), (3), (4), (5), (6), (7), (8) and (9) will be considered.

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	-0.008044	0.509524	13.76821	0.599523	3.047747
Middle	-0.011289	1.000000	13.64038	0.623072	2.370083
Maximum	0.054695	1.000000	18.45456	1.027400	20.14407
Minimum	-0.075579	0.000000	10.03122	0.145987	-18.99167
Standard deviation	0.026949	0.500505	1.326659	0.173455	0.840796
Skewness	0.267788	-0.038102	0.642666	-0.299639	0.921749
Elongation	2.789815	1.001452	4.459094	2.456862	17.45298
Jack Bra test	5.792834	70.00004	66.16809	11.44734	3715.026
Significance level	0.055221	0.000000	0.000000	0.003268	0.000000
Observations	420	420	420	420	420

Table 1: Descriptive statistics of the variables surveyed for all firms



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	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	-0.012266	0.641304	13.48844	0.348486	2.788838
Middle	0.014878	1.000000	13.39575	0.360415	2.263779
Maximum	0.053753	1.000000	17.58593	0.459502	8.911892
Minimum	-0.083325	0.000000	11.31436	0.145987	0.536318
Standard deviation	0.028440	0.482246	1.281977	0.074198	1.686184
Skewness	0.271104	-0.589237	0.911084	-0.735954	1.278693
Elongation	3.037232	1.347201	4.224363	3.001423	4.320129
Jack Bra test	1.132276	15.79544	18.47421	8.304971	31.75135
Significance level	0.567714	0.000372	0.000097	0.015725	0.000000
Observations	92	92	92	92	92

Table 2: Descrip	tive statistics of	f variables	studied by	firms with	high financia	l flexibility
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 Table 3: Descriptive statistics of variables studied by firms with low financial flexibility

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	-0.005826	0.439560	13.38260	0.548515	2.922671
Middle	-0.009353	0.000000	13.41480	0.542374	2.426326
Maximum	0.050671	1.000000	16.92543	0.733008	11.89092
Minimum	-0.046972	0.000000	11.33729	0.466130	0.381511
Standard deviation	-0.046972	0.499083	1.074960	0.058964	2.043660
Skewness	0.348435	0.243544	0.812481	0.714968	1.895421
Elongation	2.268086	1.059314	4.912824	2.896937	7.587385
Jack Bra test	3.872529	15.18001	23.88523	7.793166	134.6286
Significance level	0.144242	0.000505	0.000007	0.020311	0.00000
Observations	91	91	91	91	91

Table 4: Descriptive statistics of variables studied by firms with positive abnormal cash fluctuations

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	0.024230	0.496183	13.78681	0.607687	2.973888
Middle	0.021366	0.000000	13.61816	0.635424	2.424827
Maximum	0.054695	1.000000	18.32115	1.027400	20.14407
Minimum	0.000228	0.000000	10.03122	0.145987	-18.99167
Standard deviation	0.015479	0.501905	1.388009	0.179377	3.360395
Skewness	0.266413	0.015268	0.710337	-0.363088	-0.266881



Elongation	1.821371	1.000233	4.030097	2.771265	22.71407
Jack Bra test	5.132176	21.83333	16.80848	3.163922	2122.907
Significance level	0.060399	0.000018	0.000224	0.205572	0.000000
Observations	131	131	131	131	131

 Table 5: Descriptive statistics of variables studied by firms with positive abnormal cash fluctuations with high financial flexibility

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	0.044563	0.625000	13.60720	0.324473	2.842576
Middle	0.033449	1.000000	13.63927	0.347814	2.431061
Maximum	0.180672	1.000000	17.23194	0.449084	6.381917
Minimum	0.000934	0.000000	11.43491	0.145987	0.536318
Standard deviation	0.045453	0.494535	1.379210	0.082883	1.653913
Skewness	1.413535	-0.516398	0.740132	-0.503691	0.588294
Elongation	4.552427	1.266667	3.580174	2.382031	2.434877
Jack Bra test	5.040235	4.071111	2.527785	1.396704	1.703725
Significance level	0.055510	0.130608	0.282552	0.497404	0.426620
Observations	24	24	24	24	24

Table 6: Descriptive statistics of variables studied by firms with positive abnormal cash fluctuations with low flexibility

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	0.020542	0.424242	13.33397	0.548165	3.049743
Middle	0.017606	0.000000	13.40378	0.547067	2.504591
Maximum	0.050671	1.000000	16.92543	0.664673	8.872423
Minimum	0.000174	0.000000	11.64125	0.461443	0.381511
Standard deviation	0.011950	0.501890	1.114117	0.063187	1.996549
Skewness	0.602185	0.306570	0.716252	0.349416	1.368805
Elongation	2.980837	1.093985	4.391778	1.857374	4.775578
Jack Bra test	1.994952	5.512146	5.485033	2.466697	14.63988
Significance level	0.368809	0.063541	0.064408	0.291315	0.000662
Observations	33	33	33	33	33



Table 7: Descriptive statistics of variables studied by companies with negative abnormal cash fluctuations

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	-0.022179	0.534392	13.85037	0.600254	2.843543
Middle	-0.022213	1.000000	13.66521	0.616029	2.285181
Maximum	-0.001170	1.000000	18.45456	0.935492	11.44845
Minimum	-0.048013	0.000000	11.31436	0.221190	0.420023
Standard deviation	0.010785	0.500141	1.206437	0.166161	2.056946
Skewness	-0.132585	-0.137893	0.979784	-0.160949	1.891011
Elongation	2.338005	1.1019014	5.580280	2.129244	7.249074
Jack Bra test	4.004847	31.50285	82.66977	6.786950	254.8218
Significance level	0.135008	0.000000	0.000000	0.033592	0.000000
Observations	189	189	189	189	189

Table 8: Descriptive statistics of variables studied by firms with negative abnormal cash fluctuations with high financial flexibility

	Abnormal cash fluctuations	Overconfidence senior executives	Company size	Financial Leverage	Growth Opportunity
Mean	-0.026000	0.647059	13.44652	0.356961	2.769872
Middle	-0.024747	1.000000	13.27788	0.369286	2.230713
Maximum	-0.005071	1.000000	17.58593	0.459502	8.911892
Minimum	-0.058193	0.000000	11.31436	0.147029	0.604558
Standard deviation	0.012057	0.481438	1.253927	0.069568	1.709168
Skewness	-0.485531	-0.615457	0.973373	-0.773586	1.493361
Elongation	2.821841	1.378788	4.517583	3.222467	4.908358
Jack Bra test	2.761655	11.73986	17.26316	6.922493	35.59331
Significance level	0.251370	0.002823	0.000178	0.031391	0.000000
Observations	68	68	68	68	68

 Table 9: Descriptive statistics of variables studied by firms with negative abnormal cash fluctuations with low financial flexibility

Growth Opportunity	Financial Leverage	Company size	Overconfidence senior executives	Abnormal cash fluctuations	
2.819239	0.547235	13.38117	0.440678	-0.020708	Mean
2.366073	0.538385	13.41480	0.000000	-0.020622	Middle
11.89092	0.733008	16.75509	1.000000	-0.001992	Maximum
0.444790	0.471374	11.33729	0.0000000	-0.046972	Minimum



2.079503	0.057629	1.075200	0.500730	0.012070	Standard deviation
2.179319	0.958968	0.844825	0.238976	-0.264149	Skewness
9.114652	3.675727	5.090736	1.057110	1.914870	Elongation
138.6173	10.16542	17.76515	9.841351	3.580823	Jack Bra test
0.000000	0.006203	0.000139	0.007294	0.166891	Significance level
59	59	59	59	59	Observations

4-2 Introducing Models and Variables

 $NDCASH_{it} = \alpha + \beta_1 Confidence_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_i GA + \varepsilon_{it}$

Dependent variables

NDCASH₄: abnormal cash fluctuations

Independent variable

Confidence: senior executive's overconfidence Control variables: Size: company size LEV: financial leverage GA: growth opportunity

4-3 F Limer test and Hausman test

To determine the estimation method, the one-liner and Hausman tests were performed for the first main model. The results of the Liner and Hausman tests for the first model are performed. The test results are as follows:

Table 10: Results of the F Limer and Hausman test

Hypothesises	Model	Type of test	Statistics value	p-value	Result
First main hypothesis	Model NDCASH _{it}	F Limer	1.114730	0.2526	Integrated method
		Hausman	•••••		

As Table 10 shows, the probability of the F- Limer test for the first main hypothesis is more than 5%; therefore, the H_a hypothesis is confirmed, in other words, based on the absence of individual and group effects.

4-4 Hypotheses analysis

Main first hypothesis: based on this hypothesis, it is expected that there is a significant relationship between senior executive's overconfidence and normal cash fluctuations in firm.

H0: There is no significant relationship between senior executive's overconfidence and abnormal cash fluctuations in firm.

H1: There is a significant relationship between senior executive's overconfidence and abnormal cash fluctuations in firm.



$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$						
Variables		Estimated Standard 1		t test	Probability of	
		coefficient	error	statistic	t test	
Width of origin	β _°	0.000762	0.014272	0.053413	0.9574	
Managers overconfidence	Confidence _{i,t}	0.006223	0.002665	2.335036	0.0200	
Firm size	Size _{i,t}	-0.000904	0.001036	- 0.872384	0.3835	
Financial Leverage	$LEV_{i,t}$	0.006047	0.007926	0.762849	0.4460	
Growth opportunity	GA _{i,t}	-0.001036	0.000475	- 2.178858	0.0299	
Determination coefficient		0.421768	F statistics	2.308687	Durbin- Watson	
Adjusted coefficient		0.416126	F probability	0.047329	1.953227	

Table	11:	Results	of the	first	main	hypothesis
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Table 11 shows that the probability of t statistic for coefficients of senior executive's overconfidence and growth opportunities for abnormal cash fluctuations in firm is less than 5%. Therefore, the estimation coefficient of the above variable is statistically significant and the probability of t test, for variables of firm size and financial leverage to abnormal cash fluctuations in firm is more than 5%, so the coefficient of estimation of these variables is not statistically significant. Thus, with 95% confidence, the first hypothesis for this variable is rejected.

The adjusted coefficient indicates the explanatory power of the independent variables that are able to explain the dependent variable 42%.

The probability of F statistic indicates that the whole model is statistically significant and, according to the hypothesis, because the senior managers' overconfidence variables and growth opportunities are associated with abnormal cash flows of firms in the model, so H0 hypothesis is rejected; that is, there is a significant relationship between overconfidence of senior executives and abnormal cash fluctuations in firm. The regression equation is as follows: NDCASH_{in} = 0/000762+0/002223Confidence_{int} = -0/000904Size_{int} +0/00647Lev_{int} = -0/00066GA_{int}

Table 12:	Results	of the	first	sub-hypothesis
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$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$							
Variables		Estimated	Standard	t test	Probability of		
		coefficient	error	statistic	t test		
Width of origin	β _°	0.023760	0.037566	0.632489	0.5287		
Managers overconfidence	Confidence	0.002747	0.006234	0.440614	0.6606		
Firm size	Size _{i,t}	-0.000493	0.002381	-0.207187	0.8363		
Financial Leverage	$\text{LEV}_{i,t}$	-0.079752	0.040706	-1.959218	0.0533		
Growth opportunity	GA _{i,t}	-0.001199	0.001799	-0.666403	0.5069		
Determination coefficient		0.047990	F statistics	1.096398	Durbin- Watson		



In Table 12, the results of the estimation show that the probability of t-statistic for coefficients of senior executives overconfidence, firm size, financial leverage and growth opportunities to cash fluctuations of firms with high financial flexibility is greater than 5 %, so the coefficient of estimation of the above variables is not statistically significant. Therefore, with 95% confidence, the first hypothesis for these variables is rejected. Therefore, H0 hypothesis is accepted, that is, there is no significant relationship between senior executive's overconfidence and abnormal cash flows of firms with high financial flexibility.

$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$						
Variables	Variables		Standard	t test	Probability of	
		coefficient	error	statistic	t test	
Width of origin		-0.009848	0.034863	-0.282489	0.7782	
Managers overconfidence	Confidence	-0.000936	0.004858	-0.192733	0.8476	
Firm size	Size	0.000823	0.002259	0.364291	0.7165	
Financial Leverage	LEV	-0.028315	0.044063	-0.642616	0.5222	
Growth opportunity	GA _{i,t}	0.003062	0.002253	1.359076	0.2166	
Determination coefficient		0.068284	F statistics	1.575695	Durbin- Watson	
Adjusted coefficient		0.024948	F probability	0.188051	2.166694	

Table 13: Results from the second sub-hypothesis

In Table 13, the results of the estimation show that the probability of t statistic for coefficients of senior executive's overconfidence, firm size, financial leverage, and growth opportunities for firms abnormal cash fluctuations with low financial flexibility is greater than 5, so coefficient of estimation of the above variables is not statistically significant. Hence, with 95% confidence, the first hypothesis for these variables is rejected.

Therefore, H0 hypothesis is accepted, that is, there is no significant relationship between senior executive's overconfidence and abnormal cash flows of firms with low financial flexibility.

Tuble 11. Results from the second sub hypothesis							
$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$							
Variables		Estimated	Standard	t test	Probability		
		coefficient	error	statistic	of t test		
Width of origin	β	0.045749	0.011097	4.122835	0.0001		
Managers overconfidence	$Confidence_{i,t}$	0.019139	0.002164	8.844503	0.0000		
Firm size	Size	-0.002102	0.000800	-2.626833	0.0097		
Financial Leverage	LEV	0.000570	0.006131	0.092973	0.9261		

Table 14: Results from the second sub-hypothesis



Growth opportunity	$\operatorname{GA}_{_{i,t}}$	-0.000803	0.000324	-2.477497	0.0146
Determination coeffici	ent	0.400896	F statistics	21.07849	Durbin- Watson
Adjusted coefficient		0.381877	F probability	0.000000	1.619589

In Table 14, the findings of the estimation show that the probability of t statistic for firm coefficient and coefficients of senior executives overconfidence, firm size and growth opportunities for positive abnormal cash fluctuations in firm is less than 5%, therefore, the estimation coefficient of the above variables is statistically significant and the probability of t-test for the firm positive leverage cash is more than 5%; therefore, the estimation coefficient of the above variable is not statistically significant. Thus, with 95% confidence, the first hypothesis for this variable is rejected. The adjusted coefficient of determination shows the explanatory power of the independent variables that can explain 38% of the dependent variable fluctuations. The probability of F statistic show that the whole model is statistically significant and, according to the hypothesis, the variables such as senior managers overconfidence, firm size, and growth opportunities are positively correlated with positive cash flows in the model, the H0 hypothesis is therefore rejected, that is there is a significant relationship between senior managers overconfidence and positive abnormal cash fluctuations in firm. The regression equation is as follows:

NDCASH_{it} = 0/045749 + 0/019139Confidence_{i,t} - 0/002102Size_{it} + 0/000570Lev_{it} - 0/00803GA_{it}

$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$							
Variables		Estimated	Standard	t test	Probability		
		coefficient	error	statistic	of t test		
Width of origin	$oldsymbol{eta}_{_\circ}$	0.350292	0.091196	3.841101	0.0011		
Managers	Confidence	-0.035422	0.015634	-2.265656	0.0353		
overconfidence	-,-						
Firm size	Size	-0.014869	0.005781	-2.571941	0.0187		
Financial Leverage	$\text{LEV}_{i,t}$	-0.286176	0.093352	-3.065902	0.0064		
Growth opportunity	$\operatorname{GA}_{_{i,t}}$	0.004078	0.004802	0.849259	0.4063		
Determination coefficient		0 497625	F statistics	4 520560	Durbin-		
Determination coefficient		0.407025	1 statistics	4.520500	Watson		
Adjusted coefficient		0.379757	F probability	0.009812	2.187793		

Table 15: Results from the second sub-hypothesis
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In Table 15, the findings of the estimation show that the probability of t statistic for fixed coefficient and coefficients of variables including senior managers overconfidence, firm size and financial leverage to positive abnormal cash fluctuations in firms with high financial flexibility is less than 5%, therefore, the estimation coefficient of the above variables is statistically significant, and the probability of t-test for the variable of growth opportunities to positive abnormal cash fluctuations in firms with high financial flexibility is more than 5%, thus, with 95% confidence the first hypothesis for this variable is rejected. The adjusted coefficient shows the explanatory power of the independent variables that can explain 38% of the dependent variable fluctuations. The probability of F statistic show that the whole model is statistically significant and, according to the hypothesis of the senior executives



overconfidence, firm size, and financial leverage, positive fluctuations in the firms cash flow with high financial flexibility. In the model, it is significant, so the H0 hypothesis is rejected, that is, there is a significant relationship between senior executive's overconfidence and positive abnormal cash flows of firms with high financial flexibility. The regression equation is as follows:

NDCASH_{it} = 0/350292 + 0/0/35422Confidence_{i,t} -0/0/014869 Size_{it} +0/286176Lev_{it} -0/004078GA_{it}

$NDCASH_{it} = \beta_{0} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$							
Variables		Estimated	Standard	t test	Probability		
		coefficient	error	statistic	of t test		
Width of origin	β_{\circ}	0.054853	0.032688	1.678100	0.1045		
Managers overconfidence	$Confidence_{i,t}$	0.002579	0.004423	0.583065	0.5645		
Firm size	Size	-0.002187	0.001985	-1.101947	0.2799		
Financial Leverage	$\text{LEV}_{i,t}$	-0.001453	0.037033	0.039238-	0.9690		
Growth opportunity	$GA_{i,t}$	-0.001785	0.001168	-1.528412	0.1376		
Determination coefficient		0.144369	F statistics	1.181101	Durbin- Watson		
Adjusted coefficient		0.022136	F probability	0.340552	2.226102		

Table 16: Results from the second sub-hypothesis

In Table 16, the findings of the estimation show that the probability of t statistic for coefficients of senior executive's overconfidence, size of financial leverage firm, and growth opportunities for positive abnormal cash fluctuations in firms with low financial flexibility is more than 5%. Therefore, the estimation coefficient of the above variables is not statistically significant, thus, with 95% confidence; the first hypothesis for these variables is rejected. The H0 hypothesis is accepted, so, there is no significant relationship between senior manager's overconfidence and positive abnormal cash fluctuations in firms with low financial flexibility.

$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$					
Variables		Estimated	Standard	t test	Probability
		coefficient	error	statistic	of t test
Width of origin	β_{\circ}	-0.019101	0.009463	-2.018477	0.0450
Managers overconfidence	Confidence _{i,t}	0.001887	0.001618	1.166483	0.2449
Firm size	Size _{i,t}	-0.000364	0.000737	-0.494204	0.6218
Financial Leverage	$\text{LEV}_{i,t}$	0.004259	0.005449	0.781654	0.4354
Growth opportunity	$GA_{i,t}$	-0.000563	0.000391	-1.438088	0.1521
Determination coefficient		0.117254	F statistics	0.807613	Durbin- Watson
Adjusted coefficient		0.098008	F probability	0.521747	1.963599

Table 17: Results from the second sub-hypothesis

In Table 17, the findings of the estimation show that the probability of t statistic for fixed



coefficients and coefficients of variables including senior managers overconfidence, firm size, financial leverage and growth opportunities to positive abnormal cash fluctuations in firm is greater than 5, therefore estimation coefficient of the above variables is not statistically significant, so with the 95% confidence the first hypothesis for this variable is rejected. H0 hypothesis is accepted, so, there is no significant relationship between senior executive's overconfidence and negative abnormal cash fluctuations in firm.

$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$						
Variables		Estimated	Standard	t test	Probability	
		coefficient	error	statistic	of t test	
Width of origin	β_{\circ}	-0.038201	0.017657	-2.163428	0.0343	
Managers overconfidence	Confidence _{i,t}	0.006965	0.002903	2.398819	0.0194	
Firm size	Size	-0.000438	0.001124	-0.389779	0.6980	
Financial Leverage	$\text{LEV}_{i,t}$	0.043090	0.020154	2.138033	0.0364	
Growth opportunity	$\operatorname{GA}_{i,t}$	-0.000649	0.000823	-0.788940	4331	
Determination coefficient		0.465676	F statistics	3.127553	Durbin- Watson	
Adjusted coefficient		0.431669	F probability	0.020690	1.558923	

Table 18: Results from the second sub-hypothesis

In the Table 18, the findings of the estimation show that the probability of t statistic for fixed coefficient and coefficients of variables such as senior managers overconfidence and financial leverage on negative abnormal cash fluctuations of firms with high financial flexibility is less than 5%, therefore, estimation coefficient of the above variable is statistically significant, and the probability of t-test for the variable of firm size growth opportunities to negative abnormal cash fluctuations of firms with high financial flexibility is more than 5%, therefore, estimation coefficient of the above variable is not statistically significant. Thus, with 95% confidence, the first hypothesis for this variable is rejected. The adjusted coefficient of determination shows the explanatory power of the independent variables that are capable of 43%, explain the dependent variable fluctuations. Therefore, the hypothesis is rejected, that is there is a significant relationship between senior executive's overconfidence and negative abnormal cash fluctuations of firms with high financial flexibility. The regression equation is as follows:

NDCASH_{it} = 0/038201 + 0/006965Confidence_{it} - 0/000438 size_{it} + 0/043090LEV_{it} - 0/000649GA_{it}

Table 19: Results from the second sub-hypothesis

$NDCASH_{it} = \beta_{\circ} + \beta_{1}Confidence_{i,t} + \beta_{2}Size_{it} + \beta_{3}Lev_{it} + \beta_{4}GA_{it} + \varepsilon_{it}$					
Variables		Estimated	Standard	t test	Probability
		coefficient	error	statistic	of t test
Width of origin	β_{\circ}	-0.09402.	0.023016	0.408486-	0.6845
Managers overconfidence	Confidence	0.000144	0.003681	0.039165	0.9689
Firm size	Size	-0.000387	0.001624	-0.238081	0.8127
Financial Leverage	$LEV_{i,t}$	-0.009753	0.031570	-0.308920	0.7586
Growth opportunity	GA _{i,t}	-0.000305	0.000933	-0.326924	0.7450



Determination coefficient	0.107875	F statistics	0.107151	Durbin- Watson
Adjusted coefficient	0.040851	F probability	0.979535	1.705800

The results of the estimation in Table 19 show that the probability of t statistic for fixed coefficients and coefficients of variables such as senior managers overconfidence, firm size, financial leverage and growth opportunities leads to abnormal cash fluctuations in firms with low financial flexibility more than 5%, so the estimation coefficient of the above variables is not statistically significant, thus, with 95% confidence the first hypothesis for this variable is rejected. So, H0 hypothesis is accepted, that is, there is no significant relationship between senior executives overconfidence and firms abnormal cash flows with low financial flexibility.

5. Discussion and Conclusion

The purpose of the present research was to examine the relationship between senior manager's overconfidence and abnormal cash fluctuations and also the role of flexibility in the relationship between senior executive's overconfidence and abnormal cash fluctuations of companies accepted to Tehran Stock Exchange has been active during 2009- 2013.

The findings of the first main hypothesis show that there is a significant direct relationship between senior manager's overconfidence and firm cash abnormal fluctuations. The adjusted coefficient of determination also was 0.41, it show that approximately 40% of the firm's cash fluctuations are modeled, covered and explained. In literature, Malmendier et al (2005) found that manager's overconfidence prefers debt financing to equity issuance that is consistent with the findings of the present research.

The findings of the first sub hypothesis show that there is no significant relationship between senior executive's overconfidence and abnormal cash flows of firms with financial flexibility. In abnormal research, there is no significant relationship between cash flows of firms with high financial flexibility. In literature, Fairchild (2009) states that with regard to the agent problem factor in management underperformance, there is a positive relationship between managerial self-confidence and firm debt leverage, which is not consistent with the findings of the present research. The reason for the incompatibility may be various in the capital markets of the two countries.

The findings of the second sub-hypothesis show that there is no significant relationship between senior executive's overconfidence and firm's abnormal cash fluctuations with low financial flexibility. In a study titled "investigating the effect of senior managers 'overconfidence on cash flow investment sensitivity" by Kazemi et al. (2014), the findings show that over the period of time, senior managers' overconfidence has increased the sensitivity of cash flow investments, which is inconsistent with the findings of the present research. The most important reason for differences in findings is the statistical sample of the two studies.

The findings of the second main hypothesis show that there is a direct significant relationship between senior manager's overconfidence and positive abnormal cash fluctuations. The adjusted coefficient was 0.38, which show that approximately 38% of the positive abnormal fluctuations in the firm's cash by the model covered and explained. Research by Malmendier et al. (2005), in examining managers' behavior showed that managers with overconfidence suggest debt financing to equity issuance that is consistent with the findings of the present research.

The findings of the first sub- hypothesis show that there is a significant inverse relationship between senior executive's overconfidence and firms' positive cash flow fluctuations with high financial flexibility. The adjusted coefficient was 0.37 that show approximately 37% of the positive abnormal cash fluctuations in firm by the model covered and explained. In literature, Ekholm & Pasternake (2007) show that smaller investors with overconfidence are more likely



to be harmed by their investment behaviors.

The findings of the second sub-hypothesis suggest that there is no significant relationship between senior executive's overconfidence and positive abnormal cash fluctuations in firms with low financial flexibility. Kazemi et al. (2014) show that over time, senior manager's overconfidence has increased the sensitivity of cash flow investments, which is inconsistent with the findings of the present research. The most important reason is the difference in the results of the statistical sample of the two studies.

The results of the third main hypothesis show that there is no significant relationship between senior manager's overconfidence and negative abnormal cash fluctuations. Kramer and Liu (2012) showed that analysts optimistic about the profits of firms with managers overconfidence that are not consistent with the results of the present study, the most important reason for inconsistency can be the difference in time period and statistical population of the two studies. The results of the first sub-hypothesis show that there is a direct significant relationship between senior executive's overconfidence and negative abnormal cash flows of firms with high financial flexibility.

The adjusted coefficient was 0.43, which show that approximately 43% of the negative abnormality of the firm's cash flows by the model covered and explained.

The results of Huang et al. (2011) showed that the average of managers overconfidence increases the sensitivity of cash flow investments, and in firms with higher agency costs, this effect is significantly greater which is consistent with the results of the present research.

The results of the second sub-hypothesis show that there is no significant relationship between senior manager's overconfidence and negative abnormal cash fluctuations in firms with low financial flexibility. In a study titled "investigating the impact of senior managers 'overconfidence on cash flow investment sensitivity" by Kazemi et al. (2014), the findings show that over the time period studied, senior managers' overconfidence increasing the sensitivity of cash flow investments, which is inconsistent with the findings of the present research, it is the most important reason for the differences in the statistical results of the two studies. Finally, the findings show that there is no significant relationship between senior managers' overconfidence and negative cash flow abnormality, and the relationship between senior managers' overconfidence and negative cash flow fluctuations at firm level with high financial flexibility confirmed.

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