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Original Research

Evaluating the Impacts of Social Trust and Managers Over Self-Confidence on Investment Efficiency

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ABSTRACT

Social trust is considered as an important type of social capital and in fact an informal institution in any country. The purpose of the present study is to evaluate the impacts of social trust and managers' over self-confidence on the investment efficiency. The general method used in this study had been an applied one in terms of purpose and a correlational and fundamental experimental method type in nature. To achieve this purpose, financial information of 130 companies in the years 2012 to 2021 has been extracted and analysed as the research statistical sample. A linear regression method has been used to test the hypotheses. The research findings showed that social trust has positive, significant positive and negative impacts on the investment efficiency, over-investment and under-investment, respectively. In addition, managers' over self-confidence has positive, significant positive and negative impacts on the investment efficiency, over-investment and under-investment, respectively.

1 Introduction

In recent studies, the company's intellectual capital, which is in fact the investment in research and development, has received special attention. These studies not only paid attention to the companies' decisions to invest in research and development, but also considered the output of innovation resulting from such investments. However, in comparison with the extensive studies that have been carried out in the field of tangible, human and intellectual investment, another type of capital as social capital, which is equivalent to productive resources, has also attracted lots of attention. Investment plays an important role in ensuring the sustainable development of companies in order to be competitive in the market and create new value for shareholders. Corporate investment policies are determined based on a wide range of factors, including the economic conditions, macroeconomic policies, capital market conditions and companies' operations. In addition to the mentioned financial and economic factors, especially in inefficient financial markets and in firms with poor corporate management, managerial factors such as managers' frustration are also important [27].

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A review of the research literature on the findings of the previous studies shows contradictory findings on the effect of managers' confidence levels on debt maturity. Based on the results of their study, Ben-David et al showed that: companies with managers who have too much self-confidence are more inclined to invest and consequently use more debt and invest in long-term and short-term projects [8]. In a similar study, Xiao et al showed that: in companies with overconfident managers, investment costs are higher and the long-term debt ratio is higher than similar companies [29]. Contrary to the above-mentioned studies, Landier and Tasmer showed that: managers who have excessive or over self-confidence, have chosen short-term debt contracts, while rational managers prefer long-term debt contracts [17]. In their study, Yu et al. examined managerial overconfidence and extreme corporate responsibility behaviors among 1,281 companies in the Chinese Shenzhen A stock market from 2001 to 2004. The results of this study showed that managerial trust is significantly associated with the debt-to-asset ratio, especially short-term debt ratio, and with debt composition and maturity [30]. Therefore, overconfident managers tend to over-investment due to their specific behavioral aspects from one hand and due to the deficiencies in capital markets resulted from issues such as information asymmetry and agency costs that make it difficult for companies to access external financial resources on the other hand. In making investments, they excessively use the internal financial resources of the company, which also leads to the waste of the company's financial resources. Therefore, considering the importance of the subject in this dissertation, the effects of social trust, managers' over self-confidence on investment efficiency in companies listed on Tehran Stock Exchange have been studied.

2 Theoretical Fundamentals and Research Background

A comprehensive and integrated theory is a theory which can explain all experimental phenomena, otherwise it needs a specific theory in relation to each category of experimental phenomena. It is more interesting to use an integrated theory when the combined theories can study "different and sometimes contradictory and inconsistent assumptions about the system" [27]. Managerial optimism and managerial over self-confidence is one of the integrated theories in the financial affairs of the companies under study. The theory of managerial optimism was developed by Frank and Goyal and examined two salient features of corporate financial behaviours: 1) over-investment and 2) hierarchical or prioritization theory. Without management optimism theory, instead of one theory, different theories such as agency costs and information asymmetry are needed to explain the relevant issues [9]. In addition, the two mentioned theories combine contradictory assumptions about: managerial loyalty on the one hand and maximizing the shareholder value or wealth on the other hand. Accordingly, the managers' distrust in the theory of agency costs and loyal managers in the theory of information asymmetry can be considered as two contradictory hypotheses. Management optimism has also proven to be a more consistent theory than alternative theories. It is a theory that offers predictions based on much simpler models. The assumptions of managerial optimism theory also rely on better empirical evidence. These assumptions are: 1) well-established psychological bias in countless experiments, not merely relying on perceived and uncontrollable agency costs, and 2) information asymmetry. In this part of the research literature, the development of managerial optimism as a combined theory of agency cost theory and asymmetric information theory has been studied. The agency cost theory and asymmetric information theory can also be used as active research paradigms. Three reasons can be stated for the continuation of these theories [13].Researchers sometimes seek to study a problem that requires support for such hypotheses, although some believe that this is a minor reason for the survival of these theories. There is a persistent resistance to behavioural practices in some areas due to the lack of financial success to advance a greater understanding of asset pricing and probably the most important reason is that the finance of academic

corporations, like any other field, suffers from a kind of dependence on the path where it is not necessary to abandon old theories that have already been adopted and accepted. Can they explain the observed facts and answer the question of whether theories are in contradiction with these phenomena or not? And to what extent do they perfectly support their hypotheses? In this part of the research literature, it is recommended that researchers focus on indescribable but attractive interaction of optimism and risk aversion. Some researchers such as He et al., Have extended this interaction with a simple change approach from measurement. The interaction of optimism and risk aversion is an interesting explanation of risky behaviour, unsecured buying and unfair risk, which can be compared to buying lottery tickets at an unfair price, which is attributed to Fredman-Savage actions or can be usually relied on the preferences of landscape theory [13]. According to He et al., risk-taking and at the same time risk-seeking naturally arise in an instrumental framework of utility-expectation with concave utility functions and optimistic beliefs based on expectations. He examines this feature of optimism for managerial decisions. When managers are overly optimistic, they make decisions or actions [13]. Managerial optimism combines two different theories about corporate finance: agency cost theory and asymmetric information theory. Agency cost theory has evolved based on the basic issues such as the assumption of maximizing the profits in neoclassical economics. Various economists, including the most prominent one, Myers, have stated without any real empirical evidence: by making the most use of the tools at hand, managers deliberately ignore the value of participating in the capital market and pursue their own interests by paying attention to the profit maximization [22]. From the mid to late 1970s, however, financial scientists largely rejected this idea, believing the assumption that managers were maximizing the current market values. Based on the results and evidence obtained from his research, they stated that: "Despite years of controversy, it has not been proven that the law of market value leads to the predictions that contradict the observed managerial behaviour and it can be rejected as the first approximation. "The first step towards the agency theory in finance was taken. Myers provides a general economic analysis of the agency theory with a suggestion for its application for directors and shareholders:

"Another area of interest is that in a world of real uncertainty where there are not enough potential markets, the CEO is essentially a representative of various stakeholders, especially shareholders and creditors. So it can be expected that understanding the agency relationships help this difficult issue be understood"[22]. Three years later, Jensen and Meckling followed Ross's proposal. They claimed that "the relationship between the stakeholders and the company manager is consistent with determining the relationship of a pure agency. Of course, this is a false legal issue. Shareholders are not the most important stakeholders of a parent company and top managers, the managing director and the members of the board of directors are not the representative law or the agent of the shareholders. Companies have their own assets and shareholders have their own shares [15]. As managers have understood for hundreds of years, a particular integrity is precisely not to allow separation: the division of a set of assets is locked by shareholders, in which case they cannot be taken out, while the company's assets are separate from the claims of creditors and shareholders. Otherwise, they may disband the company to collect their claims. The assumption that shareholders are the principal or the agent and that the top directors and the board of directors are their representatives is of less importance. However, the idea that the beneficiaries, especially the shareholders and CEOs, may have different goals is not far-fetched [15]. The costs of controlling the actions of managers due to the conflict between the goals of stakeholders and senior managers in companies are referred to as "agency costs" which are defined as the “sum of:

1) Costs of stakeholder oversight of the company's top management

2) Bond costs defined by representatives, and 3) residual losses" [15].

The strength of agency cost theory lies in the theoretical flexibility that this tripartite concept allows. As Jensen and Mackling have stated:

"The range of the agency costs will vary depending on the type, size and conditions of the company under review and from company to company. This range depends on the tastes of managers, ease of use compared to maximizing the value in decision-making, cost Monitoring, communication activities, agency costs, as well as the cost of measuring and evaluating the performance of the manager (representative), the cost of designing and using an indicator to compensate for management services related to the welfare of the owner (manager), and it also includes the cost of developing and enforcing specific behavioural laws or policies. "[15]. Of course, based on this statement, it seems that the agency cost paradigm is very flexible and has a very high degree of freedom, so it has the ability to explain any issue in relationship between management and stakeholders. The result seems to be able to provide solutions to the problems related to the costs of running the company; the result seems to be the least possible limit and can be explained by the remaining losses from agency costs which are uncontrollable. For example, managers use free cash flows to take over other companies and can waste such cash flows as builders of the empire and not distribute shareholder funds, while managers who do not expand their business, can be carefree by enjoying a "quiet and stress-free life"[13]. Apart from the problems that the agency cost theory faces and for example lacks any limitations, there are two other serious problems associated with this theory: First, neither Jensen nor Meckling [15] nor subsequent researchers have been sufficiently confronted with the fact that real-world managers face fierce business competition. Competition that limits their ability to shake and deviate. Jensen and Meckling acknowledge this in a footnote: "While there are numerous competitors and it is easy to enter the arena of competition, the constant departure from maximizing the profits in the most impossible behaviour leads to the destruction of the company ."In this way, natural economic choice leads management to decision-making." But by accepting this possibility, they claim:

"Competition in the market of products and production resources does not eliminate the agency costs due to the often-claimed management control problems. If my competitors face the same or more costs than me, their competition will not eliminate me. The assumption is that the agency costs exist despite the existence of competition, because the agency costs are ubiquitous and inevitable"[15].

Second: The problems of managers or representatives can be easily controlled by the existing law of companies. The empirical evidence shows that investigations and punishments eliminate the most likely managerial evils of the type claimed by Jensen and Meckling. The importance of this, is due to the fact that "the corporate constitution refers to a set of constitutions and procedures that aim to control misbehaviours and management misconduct while maintaining sufficient authority to conduct business effectively [16]. Simple and legal restrictions have been too powerful for corporations to take much action on debt, majority shareholders and corporate ownership, and in controlling deliberate managerial distrust among large American corporations. Despite the thousands of articles that use the agency theory, there is no evidence that it does not maximize the value of current shareholders due to the managerial distrust [13]. The development of information asymmetry theory is based on a more plausible basis than the agency cost theory. Furthermore, there is nothing controversial about the claim that corporate managers have information that foreign investors do not. Proof of this claim is displayed on a specific day with a profit declaration. Instead, the question is whether these information asymmetries about corporate financing activities predict interesting things. The examination of practical facts shows that the answer to these questions, without a significant exception, is often no. The agency cost theory is motivated by the notion that managers may pursue their own goals rather than the goals of various stake-

holders such as shareholders, such as maximizing shareholder value or wealth and maximizing the corporate profits. Asymmetric information theory, on the other hand, is rooted in George Akerlof's pathway. According to his model, the work is about "finding the orange-seller" and that implies that information asymmetry can produce interesting results in the capital market.

The theory of asymmetric information in finance, like the theory of agency representation costs in finance, begins with the initial idea of Stephen Ross. For the first time, he developed the idea of information asymmetry theory and created a basis to justify the selection of managers, motivations and capital structure and can show the value of the company. The next work done on information asymmetry has largely addressed the issue of explaining the existence of financial intermediaries, which seems to need to be argued [14]. When there is information asymmetry between the companies and markets, a conflict of interest can naturally arise between senior management and other stakeholders. Other studies have been conducted in the field of information disclosure theories by businesses and in the field of information that did not exist in the markets. Of course, none of the previous studies that have been done in this field have made strong empirical predictions and have remained at the level of proposing a theory [17]. One of the promising empirical prediction of asymmetric information theory was that firms could use dividends as a measure of future profitability. Contrary to many predictions of asymmetric information theory, which were untestable and defined mainly for information asymmetry to produce hypothetical behaviour, signalling theory could be tested by changing the amount of dividends. But today, a lot of empirical evidence obtained from previous studies shows that the increase in dividends is not a sign of the future performance of the company [16].

The only empirical success associated with the theory of asymmetric information in finance was the theory of hierarchical structure by Myers [22]. In this theory, based on the asymmetric information and in other words the relative information advantage relying on future returns which is more than market expectations, managers prefer to issue performance-sensitive securities to act in favour of current shareholders. In case of the issuance of new shares, the value of shares in the capital market will decrease. Theory of Management Optimism is based on Roll [25] hypothesis of recklessness and is in line with the integration of the two previous theories in the field of: 1) information asymmetry and 2) agency cost. The first irrational managerial misconduct in finance related to modern scientific companies appears in the theory of Richard Roll [25]. Although Roll [25] never uses terms such as "optimism," "optimistically," or "overconfidence" in his writing, he did refer to an article published in the 1965 issue of the literature on psychology. This article on psychology, which has the term "over self-confidence" in its title, is one of the three articles that Roll [25] uses in developing his theory. Because economists tended to ignore the results of psychological studies, even when they were exceptionally prepared to own companies. "Psychologists are constantly bombarding economists with criticism, seeking to provide empirical evidence that people do not always make rational decisions under conditions of uncertainty. Among psychologists, economists are known as arrogant because they ignore empirical evidence. But psychologists seem to be known for the notion that economists do not disregard the evidence that usually have little predictive content for market behaviour and are reflected in individual behaviour. I think corporate ownership is one of the areas of research that should usually be abandoned by economists, because corporate ownership reflects individual decisions. The view that corporate ownership reflects the individual behaviour was a very important claim because it raises the possibility that in the short term, at least, irrational managerial behaviour may not be affected by "arbitrage," circumstances in which actors rely on rational behaviour to eliminate the reason for its irrationality (for example: Friedman [10]).

Roll's view suggested that such a protest could not be easily made about the behaviour of corporate managers. In my opinion, Roll was the first to examine these important observations, and on this basis presented a work that is a far better justification for behavioural approaches in corporate finance than asset pricing [13].Roll's [25] thesis was that "recklessness" is a term that seems to have its roots in the psychological literature, but is more concerned with the notion of overconfidence and optimism. Over self-confidence prevents companies from taking over in a win-win situation. As a result, if business managers fail to properly evaluate the value of the assets (for example, a company they have targeted to acquire or invest in a project) and make a mistake based on over self-confidence, they pay more for the target company and impose more costs on their stakeholders. This theory is more compatible with empirical facts [13]. Unfortunately, the financial profession in the late 1980s and early 1990s largely rejected the Roll [25] hypothesis of recklessness, despite the fact that it was fully supported in experimental experiments. Roll [25] hypothesis has attracted more audiences among some legal experts. However, in this study, the over optimism and self-confidence of management as a result of combining the two theories of agency cost and information symmetry has been used as one of the factors affecting the investment efficiency. A review of the research literature shows that part of the research literature related to the study of managers' rational behaviour goes back to evaluating the investors' efficiency. Previous studies on the effect of self-confidence on the investment efficiency in companies have shown that: managers who have over self-confidence, in other words, excessive self-confidence, engage in irrational behaviour of over-investing in the company. Researchers have done a lot of research on the relationship between the management confidence levels and financing decisions, but a review of the research literature shows that the relationship between managers' confidence levels and in-house financing as the lowest cost financing approach, has not been sufficiently studied [19]. Although researchers have done some empirical research on the level of managerial trust and investment efficiency, there is not still enough study to examine the relationship between the managers' level of trust and financing from the organization's internal resources. Another important question that needs to be examined in this regard is what effect the ownership structure and especially the percentage of state ownership has on the relationship between the level of management confidence and the use of internal resources [6]. In countries such as China and Iran, where the institutional ownership structure, especially the ownership of government organizations and institutions, is severe, the main problem of the agency related to the conflict between managers and other stakeholders, such as shareholders or creditors, is not due to the dispersal of ownership, but the conflict between the majority shareholders is intense compared to the moderately owned or minority shareholders. Based on the intensity of institutional ownership influence among listed companies in China and similar countries such as Iran, in many companies the selection of a board of directors and a managing director has a political aspect and such managers are appointed by officials, government agencies or major and institutional shareholders [31]. Therefore, when the firm's decision-making power is in the hands of overconfident or extreme self-confident managers, the manager is appointed by the controlling shareholders and such a manager is reluctant to finance it by raising capital and issuing new shares. This is because such directors, as agents under the institutional shareholders, believe that the issuance of new shares lowers the market value or the day value of the company's stock. In such circumstances, the return on investment of the company under review is more sensitive to obtaining funds from internal sources such as changes in the structure of assets and liquidation of the stagnant assets. Goel and Thakor examined the relationship between the managers' level of self-confidence behaviour and investment efficiency: Managers who have over self-confidence or overconfidence may constantly have the illusion of extreme control of their business, because such managers, influenced by over self-confidence, overestimate the future return of the project

and its risk, and justify the over-investment in this field [11]. Based on the processing of data used in their study, He et al. Showed: Even without regard to information asymmetry and agency costs, managers' overconfidence in investment cash flow issues exists at different levels of free cash flow, and ultimately overconfidence can lead to poor investment and mostly over-investment [13]. Based on their analysis of research findings, Goel and Thakor showed that self-confidence can reduce the lack of previous investment to some extent. In this regard, the researchers selected a sample of 895 Chinese companies randomly from listed companies and based on the processing of their performance data in the period 2002 to 2004, to analyse the relationship between the managers' level of trust and the investment level efficiency in these companies [11]. Zhang et al., also investigated the relationship between the managers' level of trust and their investment behaviour. Findings obtained from this study showed that there was a positive and in other words a direct correlation between the level of management overconfidence and investment efficiency (overinvestment) in the companies under study [31]. Based on the performance data of the companies accepted in the Chinese capital market, Liu and Lei also analysed the relationship between the managers' level of confidence and the rationality of their behaviour in investing in companies. The results of this study showed:

When managers are overconfident, they overestimate the favourable investment opportunities and subconsciously increase the company's profits, but on the other hand, underestimate the likelihood of adverse events. The irrationality of managers' behaviour in this field is affected by excessive optimism so that managers ignore the market factors. This, in turn, affects the accuracy of their expectations for estimating the future risk and return, and leads to continued investment in unjustified projects or the purchase of unnecessary assets [18]. Taghizadeh Khaneghah and Badavar Nahandi conducted a study entitled the relationship between the management overconfidence, internal financing and investment efficiency. The findings showed that internal financing has a positive effect on the relationship between the management overconfidence and investment level and the interactive effect of internal financing on the relationship between the management overconfidence and investment is more positive and significant, while this relationship is not significant for low-investment companies. The existence of internal resources increases the motivation of managers to be more confident in using resources for the personal gain and leads to the non-optimal investment behaviours. This process is done by increasing the levels of investment [34]. Bagheri Jafari and Pourzanjani studied the effect of social capital on collective financing. To this end, first, the various dimensions of social capital and aspects of each dimension are explained. Then, the effect of each aspect of structural, communication and cognitive social capital on collective financing is examined and based on that, a conceptual research model is presented to explain how social capital affects the virtual groups and the performance of collective financing. According to this model, different dimensions of social capital affect the success of the collective financial supply platform, and virtual groups also play an effective role [5]. Kabiri examined the role of overconfidence in management and internal financing on investment efficiency. The results of using ordinary least squares regression showed that management overconfidence has an inverse effect on the investment efficiency and internal financing has a positive and significant effect on the investment efficiency [35]. Bagheri and Ramezani conducted a study entitled External and Internal Financial Testing of the model to influence the actual total return on stocks. The results showed a positive and significant relationship of all independent and control variables of the research (capital cost, accumulated profit, financial leverage, profitability capacity and company size) and the dependent variable (real total stock rate of return) of the companies under study so that all research hypothesis were accepted. Finally, suggestions based on research results along with suggestions for future studies are provided [4]. Fallah et al.,'s research titled "Evaluating the Impacts of Social Trust and Managers' Over self-confidence on Investment

Efficiency" aimed at investigating the impact of CEOs' perceptual biases on investment efficiency and financing limitations of companies listed on the Tehran Stock Exchange during the period of 2011-2013 was done.

The results show that both profit forecast error and overconfidence biases have a negative effect on investment efficiency, while they have a positive effect on firm financing constraints. These results show that the CEO's perceptual biases create a constraint on financing and, on the other hand, reduce the efficiency of corporate investments. In this situation, the trust and confidence of investors and shareholders towards the company decreases and the company faces negative features such as the risk of financial crisis [33]. Arab et al., in a research entitled "The Mediating Effect of Information Asymmetry and Agency Costs on the Relationship between CSR and Investment Efficiency" investigated the relationship between corporate social responsibility and investment efficiency with special emphasis on the mediating role of agency cost and information asymmetry. In a sample consisting of 121 companies admitted to the Tehran Stock Exchange during the period of 2010 to 2015, the results showed that corporate social responsibility has a negative correlation with investment inefficiency. In other words, corporate social responsibility leads to the reduction of investment inefficiency. Also, information asymmetry plays a mediating role in the relationship between corporate social responsibility disclosure and underinvestment, while the agency cost variable mediates the relationship between corporate social responsibility disclosure and overinvestment [32].

Other findings suggest that cost stickiness has a positive impact on the relationship between institutional investors and passive institutional investors with conservatism [36]. The findings of some researchers showed that there is a significant relation between the stock market uncertainty changes in an economic boom and the investment risk in general, which is not significant in terms of the economic turndown. The Investment risk during both economic boom and recession is decreased by the unexpected increase in profit of each share and propagation of positive news. Although the risk is increased by the spread of negative forecasts in relation to shares [37]. Javaheri and zanjirdar showed that there was a significant relationship between the profit management and companies' performance. The profit management is also effective in forecasting future cash fund, in forcing solidarity between running and future yield [38]. According to the findings of some researchers, to increase creativity and innovation in medical universities, attention should be paid to all individual and organizational factors, and more attention should be paid to individual factors that play a more important role [39].

3 Research Methodology

In terms of correlation and research methodology, this study is of quasi-experimental and post-event type in the field of accounting research which is done using the real information and since it can be applied in the process of using information, therefore, it is a kind of applied research (this research is applied in terms of nature and goals). The purpose of the present study is to evaluate the effects of managers' social trust and over self-confidence on the investment efficiency in companies listed on the Tehran Stock Exchange during the period 2012 to 2019. Thus, the research hypotheses are presented as follows:

Hypothesis 1: Social trust has a significant impact on the investment efficiency.

Hypothesis 2: managers' over self-confidence has a significant impact on the investment efficiency.

The statistical population of the study consists of all companies active in the stock market of the country. The research period includes 10 years and the interval between 2012 and 2022. An exclusive sampling method was used for sampling. The sample selection process is presented in Table (1).

Table 1: Sample selection process

Total number of listed companies at the end of 2022	613
Criteria:	
Number of companies that were not active in the stock market in the period of 2012-2019	185
Number of companies have been listed on the stock exchange since 2018	77
Number of companies that have been included in holding, investments, financial intermediation, banking or leasing	92
Number of companies that have changed their fiscal year in the realm of research	83
Number of companies for which information about the investigation is not available (audit fee)	46
Number of sample companies	130

3.1 Research Variables:

3.1.1 Managers' over Self-Confidence

It is very difficult to measure the prejudice or psychological bias in managers, especially direct measurement. Accordingly, in the past studies, many efforts have been made to use the managers' decisions and actions as a measure of their self-confidence. For example, an overly determined (overconfident) manager is believed to have gained more ownership of the company, more external financing through more loans and facilities, have exaggerated about the future returns and benefits of the company's activities, have delayed the implementation of options to increase the ordinary shares and issue new ordinary shares, and have bought more shares of the company's capital [20]. Past studies have used the following criteria to measure the over self-confidence, over optimism, and in other words, managers' overconfidence:

1) Percentage of CEO shares
2) The number of acquisitions and mergers of the company
3) Footnotes and public comments on social media about managers
4) Forecasting the companies' profits.
5) Remuneration and benefits (compensation of services) of senior managers
6) Managers' characteristics (age, gender, education, tenure, work experience, etc.).
7) Capital expenditures.

Due to all these criteria and the limited availability and reliability of the data needed to measure these criteria in Iran and following Ahmad and Dolman' study [2], the capital expenditure criterion has been used. This criterion is based on the findings of Ben-David et al [8] which suggest that overconfident firms have higher capital expenditures. In their study, Ahmed and Dolman used the investment spending model to measure managers' overconfidence. To do so, if the capital expenditures divided by the total assets in a given year is more than the average level of capital expenditures on the total assets of the industry in that year, this variable is equivalent to number one, otherwise number Zero. Capital expenditures used in this criterion are calculated by using the following equation [2]:

$$CE_{it} = \frac{(FA_{it} - FA_{it-1}) + DEP_{it} + (INT_{it} - INT_{it-1}) + AMO_{it}}{ASSET_{it-1}} \quad (1)$$

In this equation, CE_{it} is the Capital Expenditures of the current Year, Fait is Fixed Assets of the current Year, FA_{it-1} is Fixed Assets of Last Year, DEP_{it} is the Cost Of Tangible Assets, INT_{it} is the Intangible Assets of the Year, INT_{it-1} is the Intangible Assets of the Last Year, AMO_{it} is the Depreciation of intangible assets, $ASSET_{it-1}$ is the assets of the last year [34].

3.1.2 Investment Efficiency

In financial discussions, measuring the investment efficiency based on the net present value of investment projects and in fact their justification has been judged that in experimental studies, the accounting data related to the company performance and regression estimation have been used due to the lack of access to information about these projects [13]. In this study, following similar studies to measure the investment efficiency, a regression model based on the experimental observations has been used.

There are two different models for measuring the investment efficiency based on the empirical data. The first model used to measure the investment efficiency was proposed by Wang et al, which is defined based on the interrelationships of operating cash flows and investment opportunities (Q-Tobin ratio)[28]. A second model for measuring the investment efficiency was proposed by Richardson [24] who divided the actual amount of total firm investment (the sum of the increase in capital assets during the fiscal year) into expected investment and unexpected investment. In estimating the expected investment, the determinants of the investment or explanatory variables are: growth opportunities (daily value of the company to the book value of each share at the end of the period or the ratio of Q-Tobin), leverage or financial structure (long-term facilities to the book value of stocks at the end of the period), age of the company (natural logarithm of the company's age since its establishment), size of the company (natural logarithm of the company's total assets at the end of the period), liquidity (rate or percentage of cash and quasi-cash assets to total assets), Stock returns in the previous year (percentage change in the stock price compared to the beginning of the period plus earnings per share to the daily price per share at the beginning of the period in percent), fixed industrial effects and annual fixed effects[28].

After determining the actual values corresponding to the dependent variable and the explanatory variables based on the experimental data in the period under study, using composite linear regression based on panel data, the parameters of the equation are estimated and for the actual values of the expected variables will be. Richardson's model in estimating the expected investment is defined as the following equation:

$$INV_{it} = \alpha_0 + \alpha_1 TOBQ_{it} + \alpha_2 Cash_{it} + \alpha_3 Age_{it} + \alpha_4 Size_{it} + \alpha_5 Lev_{it} + \alpha_6 Return_{it} + \alpha_7 INV_{it-1} + \varepsilon_{it} \quad (2)$$

In this equation:

INV_{it}: dependent variable and real investment in current year (as a sum of increases in tangible assets including the land and housing, equipment and machinery and furniture and intangible assets and long-term investments);

INV_{it-1}: Delayed structure of growth opportunities or growth opportunities in the last year, which is calculated based on the ratio of Q-Tobin and divides the value of the company's day (stock value at the end of the period plus book value of debts) to the book value at the end the period.

$Cash_{it}$: as a criterion for liquidity or liquidity of assets, which is calculated by dividing the sum of cash and bank, commercial debtors and short-term investments on the total assets;

Age_{it}: The age of the company is based on the natural logarithm.

$Size_{it}$: The size of the company, which is calculated at the beginning of the year based on the natural logarithm of the company's total assets;

Lev_{it}: The leverage or financial structure of the company in the last year is based on the sum of debts (long-term facilities or loans) to the sum of assets.

$Return_{it}$: Stock return rate for the year before the investment year, which is determined in terms of the percentage change in the daily stock price compared to the beginning of the period and the percentage of earnings per share to the daily price per share compared to the first period.

ε_{it}: As disturbances or residuals of the pattern or fixed effects of the year and industry that have not been estimated in the regression pattern

After estimating the Richardson [24] model, the remainder of the model or the difference between the amount of actual investment and the expected investment is defined as an unexpected or inefficient investment. If the residual value in this model is positive, there is too much investment and if the residual value is negative, there is too little investment. In this regard, investment efficiency is the inverse of the absolute residual value obtained from the regression model.

3.1.3 Social Trust

In order to measure the capital or social trust, the international EVS and EVS indices have been used in which the basis of measuring social trust is the management attitude towards people. In this study, the top and middle managers of the company are asked the question how much do you trust others? Finally, the average answers of the managers of each company are defined as the criterion for measuring the social trust.

Following models are designed based on theoretical foundations and theoretical literature presented in the research.

The first research hypothesis model:

$$INV_{it} = \alpha_0 + \alpha_1 TRUST_{it} + \alpha_2 TOBQ_{it} + \alpha_3 Cash_{it} + \alpha_4 Age_{it} + \alpha_5 Size_{it} + \alpha_6 Lev_{it} + \alpha_7 Return_{it} + \varepsilon_{it}$$

The second research hypothesis model:

$$INV_{it} = \alpha_0 + \alpha_1 OCON_{it} + \alpha_2 TOBQ_{it} + \alpha_3 Cash_{it} + \alpha_4 Age_{it} + \alpha_5 Size_{it} + \alpha_6 Lev_{it} + \alpha_7 Return_{it} + \varepsilon_{it}$$

3.1.4 The Dependent Variable

INV_{it} = investment efficiency of company i in year t

3.1.5 Independent variable

$TRUST_{it}$ = social trust of company i in year t; (It is obtained as the percentage of positive answers of the managers of the company under investigation to the question whether all people are trustworthy or should be avoided in trusting them?).

$OCON_{it}$= overconfidence of managers of company i in year t; (which is measured through the average share price in the second six months. (Actual profit per share - predicted profit per share)).

3.1.6 Control variables

$TOBQ_{it}$ = the growth opportunities of company i in year t (measured through the daily value of the company (the daily value of the stock plus the book value) divided by the book value of the stock).

$Cash_{it}$= liquidity of company i in year t (measured by the sum of cash and bank, trade debtors and short-term investments on sum of assets).

Age_{it} = the life of company i in year t (measured by the difference between the year t and the number of years the company has been listed on the stock exchange).

$Size_{it}$ = the size of company i in year t (measured through the natural logarithm of the company's assets).

Lev_{it}= the financial structure of company i in the year t (measured through the ratio of debt to assets).

$Return_{it}$ = rate of return of shares of company i in the year t (measured through changes in stock prices).

i= company

t= time (year)
ε_{it}= model error
α_0= Intercept
$\alpha_1 - \alpha_7$ = Coefficients of variables in regression

4 Findings

In the present study, the hypotheses were tested using the multivariate linear regression models in EViews software. The regression model used includes the independent and dependent variables and control and the statistical method used is the panel data. In order to detect the use of fixed effects method or random effects for more appropriate estimation, first the F-Limer test is performed (if the hypothesis based on the fixed effects model is confirmed), then the Hausman test is performed. To evaluate the significance of the regression model, F statistic is used and the significance of the coefficient of independent variables in each model is examined using t - statistic. Then, the tests specific to the classical assumptions of the linear regression model, including the assumptions of residual normality (Jarque-Bera test) and no correlation between independent variables (Pearson correlation) are performed, and finally the obtained results show the acceptance or rejection of hypotheses. The descriptive analysis related to the research variables is given in Table (2). According to Table (1), among the research variables, debt cost had the smallest standard deviation. This indicates that the data on variable liquidity of assets were less variable than the others. On the other hand, the year had the highest dispersion among the research variables. According to Table (2), the total number of observations in this research is equal to 1040 years of participation (130 companies) during the years 2012 to 2019.

Table 2: Descriptive analysis of variables

Variable name	Symbol	Observations	Average	Mean	Standard deviation	Maximum	Minimum	skewness	Elongation
investment	**INV**	650	0.005	0.001	0.04	0.15	-0.15	1.7	1.9
Social trust	**TRUST**	650	14.31	14	2.61	21	9	0.13	1.93
Managers extreme self-confidence	**OCON**	650	0.03	0.01	0.22	0.06	0.005	0.42	1.3
Growth opportunities	**TOBQ**	650	1.1	0.85	0.766	4.236	0.1	0.92	1.94
Liquidity	**CASH**	650	0.074	0.039	0.105	1.585	0.001	0.44	0.5
Company age	**AGE**	650	18.55	17	6.11	37	7	0.17	0.25
Company size	**SIZE**	650	15.25	15.01	1.74	20.68	10.5	0.65	0.57
Financial structure	**LEV**	650	0.55	0.57	0.19	0.88	0.1	-0.42	2.35
Stock rate of return	**RETURN**	650	0.264	0.05	0.896	1.559	-0.5	0.17	0.53

The average financial leverage of the sample companies is equal to 0.588 and shows that the sample companies have provided about 58.8% of the financial resources of their assets through external sources. The average rate of return on assets is 12.5 percent and shows that the sample companies have earned an average return of about 12.5 percent for each amount of investment in assets. The median of the debt cost variable is 0.057, which indicates that half of the data is less than this amount and the other half is more than this amount. Dispersion parameters are generally a measure to determine the data dispersion from each other or their dispersion relative to the mean. After estimating the Richardson [24] model, the remainder of the model or the difference between the amount of actual investment and the expected investment is defined as an unexpected or inefficient investment. If the residual value in this model is positive, there is too much investment and if the residual value is negative, there is too little investment. In this regard, the investment efficiency is the inverse of the absolute residual value obtained from the regression model. The estimation results based on the output of EViews statistical software are summarized in Table (3):

Table 3: The results of the analysis of the partial coefficients of the first research model

$INV_{it} = \alpha_0 + \alpha_1 TRUST_{it} + \alpha_2 TOBQ_{it} + \alpha_3 Cash_{it} + \alpha_4 Age_{it} + \alpha_5 Size_{it} + \alpha_6 Lev_{it} + \alpha_7 Return_{it} + \varepsilon_{it}$					
Variable name	**Symbol**	**Coefficient**	**Standard Deviation**	**Statistics t**	**Prob**
Constant value	**C**	0.04	0.008	7.87	0.000
Social trust	**TRUST**	0.008	0.001	8.25	0.000
Growth opportunities	**TOBQ**	0.004	0.001	4.77	0.000
Liquidity	**Cash**	0.029	0.005	5.12	0.000
Company age	**Age**	-0.21	0.06	-3.17	0.001
Company size	**SIZE**	0.54	0.031	17.26	0.000
Financial structure	**LEV**	0.17	0.03	5.6	0.000
Stock rate of return	**Return**	-0.17	0.03	-5.73	0.000
The whole regression model	**F**	**p-value**	**Durbin-Watson Test (D-W)**	**R-squared**	**adjusted R-squared**
	26.6	0.000	2.15	0.47	0.46

For the second hypothesis, the H0 and H1 hypotheses will be as follows:
H0: Social trust does not have a significant effect on the investment efficiency.
H1: Social trust has a significant effect on the investment efficiency.

In Table 3, according to the significance level of social trust variable, which is equal to prob=0.0015 and is less than 0.05, therefore, H0 is rejected and H1, which indicates a positive and significant relationship between social trust and investment efficiency, is confirmed. In other words, there is a significant relationship between social trust and investment efficiency. That is, for one unit increase in social trust, the efficiency of investment increases by 0.28 units. Among control variables, the growth opportunities variable has a significance level of prob=0.000, which has a positive and significant relationship

with the level of investment efficiency. The liquidity variable has a significance level of prob = 0.000, which has a positive and significant relationship with the level of investment efficiency. The company's age variable has a significance level of prob=0.026, which has a positive and significant relationship with investment efficiency. The company size variable has a significance level of prob = 0.000, which has a positive and significant relationship with the level of investment efficiency. The financial structure variable has a significance level of prob = 0.000, which has a negative and significant relationship with the level of investment efficiency. The variable of stock return rate has a significance level of prob = 0.000, which has a positive and significant relationship with the level of investment efficiency.

Table 4: The results of the analysis of the partial coefficients of the second research model

$INV_{it} = \alpha_0 + \alpha_1 OCON_{it} + \alpha_2 TOBQ_{it} + \alpha_3 Cash_{it} + \alpha_4 Age_{it} + \alpha_5 Size_{it} + \alpha_6 Lev_{it} + \alpha_7 Return_{it} + \varepsilon_{it}$					
Variable name	**Symbol**	**Coefficient**	**Standard deviation**	**Statistics t**	**Prob**
Constant value	**C**	0.06	0.009	7.2	0.000
Managers extreme self-confidence	**OCON**	0.012	0.001	8.72	0.000
Growth opportunities	**TOBQ**	0.007	0.0009	8.21	0.000
Liquidity	**Cash**	0.023	0.003	6.84	0.000
Company age	**Age**	0.004	0.001	4.37	0.000
Company size	**SIZE**	0.03	0.003	9.84	0.000
Financial structure	**LEV**	-0.85	0.02	-41.12	0.000
Stock rate of return	**Return**	2.58	0.18	14.17	0.000
The whole regression model	**F Statistics**	**p-value**	**Durbin-Watson Test (D-W)**	**R-squared**	**adjusted R-squared**
	41.58	0.000	2.05	0.41	0.40

The fourth hypothesis of the research: extreme self-confidence of managers has a significant effect on the efficiency of investment.
For the fourth hypothesis, the hypotheses H0 and H1 will be as follows:
H0: Managers' extreme self-confidence does not have a significant effect on investment efficiency (claim violation)
H1: Managers' extreme self-confidence has a significant effect on the investment efficiency. (Claim)

In Table 4, according to the significance level of the variable of extreme self-confidence of managers, which is equal to prob=0.000 and is less than 0.05, therefore, H0 is rejected and H1, which indicates a positive and significant relationship between the managers extreme self-confidence and the amount of the efficiency of the investment is confirmed. In other words, there is a significant relationship between the managers' extreme self-confidence and the investment efficiency. That is, for one unit increase in managers' extreme self-confidence, the investment efficiency increases by 0.85 units.

5 Discussion and Conclusions

Social trust is considered as an important type of social capital and in fact an informal institution in any country. The level of trust can be an important factor that affects a company's financial costs. There are two types of trusts involved in discussing the cost of capital. The first is the personal confidence, which is a set of beliefs of a particular company or individual that is effective in its formation and is interpreted as self-confidence. The second dimension is social trust, which can be considered as a set of beliefs of a group of companies or individuals [21]. While both personal and social trust are important in the monetary and financial markets, this study has placed more emphasis on social trust. Over self-confidence is usually a cognitive bias that reflects the likelihood of assessing a person's ability to perform tasks and reducing the likelihood of losing a job. This bias affects the company's financial and investment decisions. A review of the research literature shows that in previous studies, it was assumed that the company managers are completely rational and behave rationally in making decisions. Therefore, they analyzed the relationship between the investment and financial decisions due to an incomplete market resulting from a conflict of interest between managers and other stakeholders as problems arising from agency costs and information asymmetry. In real decision-making processes, however, managers often exhibit irrational traits or irrational behavior such as over-optimism and over self-confidence, which can have a significant impact on the type and cost of financing a company and the choice of investment strategies and ultimately the efficiency or inefficiency of investment in the company [6]; [16]. Given the changes that have taken place in the world today, especially in developing countries that face many threats, in order to solve the economic problems, these countries need appropriate solutions to better use facilities and wealth. In this regard, one of the important strategies is to expand investment and pay attention to financing. In financing theory, it influences the investment decisions in situations where there are incomplete markets due to the transfer costs and asymmetric markets. Due to the limited resources, in addition to the issue of investment development, increasing the investment efficiency is one of the most important issues. Investment efficiency requires, on the one hand, to prevent the consumption of resources in activities in which the investment has been made more than desirable (to prevent overinvestment) and, on the other hand, resources should be used for activities which need more investment (preventing the low investment) [26]. Financing for the implementation of profitable projects plays a very important role in the growth of the company. Companies use different methods of financing including the internal financing and external financing [3]. Another dimension that goes back to the spiritual personality of individuals is self-confidence. Over trust is a common irrational behavior, and corporate managers rely too much on trust when seeking to defend their decisions. The findings of some previous studies indicate that managers who have made capital decisions based on overconfidence, this overconfidence has led to the over-investment or under-investment. A review of the research literature shows that the part of the research literature related to the study of managers' rational behavior goes back to evaluating the investors' efficiency). Previous studies on the effect of self-confidence on the investment efficiency in companies have shown that: managers who have over self-confidence, in other words, excessive self-confidence, engage in irrational behavior of over-investing in the company. Bates who examined the relationship between the manager's level of self-confidence behavior and investment efficiency showed that: Managers who have over self-confidence or overconfidence may constantly have the illusion of extreme control of their business, because such managers, influenced by over self-confidence, overestimate the future return of the project and its risk, and justify the over-investment in this field [7]. Based on the processing of data used in their study, He et al showed: Even without regard to information asymmetry and agency costs, managers' overconfi-

dence in investment cash flow issues exists at different levels of free cash flow, and ultimately overconfidence can lead to poor investment and mostly over-investment [13]. Considering that social trust is a factor to reduce the opportunistic behavior of managers regarding abuse and financing of the company, so it is suggested to the board of directors of listed companies to consider the necessary contexts to maintain and strengthen the trust and confidence building in the company and improve the level of manager's social trust by formulating an appropriate policy. In addition, according to the results of the research, it is suggested to auditing firms to consider the level of social trust in assessing the financing risk in the employer company and planning audit operations, among other factors.In addition, according to the results of the research, it is suggested to auditing firms to consider the level of social trust in assessing the financing risk in the employer company and planning audit operations, among other factors. Investors and capital market analysts are also advised to pay attention to the level of social trust of the company in addition to the financial variables while making investment decisions. They should consider it as an effective factor in financing and debt costs of companies. One of the implicit consequences of overconfidence is the lack of real foresight; therefore, managers and decision makers need to protect themselves against overconfidence and help financial advisors in this area. Overconfident managers and investors, as a result of believing that they have special information, also make large trades. Doing too many trades often leads to the poor returns in the long run. The best advice is to ask them to review their trading history and calculate their returns. Auditors are also advised to consider management overconfidence as one of the most important personality traits of managers in their audit planning. Companies are advised to establish regulatory mechanisms for how and where to use internal resources, including the accumulated profits, because internal resources are less risky for the company and managers choose internal resources of the company as the first option to expand the investment. Investors, analysts and other users of financial statements are also advised to consider the factors affecting the efficient investment (last year's investment, returns) in their reviews and analysis of investment performance and corporate resource management. Previous year, growth and liquidity opportunities), because as the findings of this study show, the mentioned factors have a significant impact on the investment expansion. Finally, credit institutions are advised to examine the company's debts in order to assess the credit of companies, because, according to the results, the factor that causes less investment is the company limitation in financing due to the increased debts which can lead to an intensification of over-investment. The results of this study show that the amount of cash flows of any company has a direct impact on the sensitivity of investments and if the managers of the companies have too much self-confidence, there is a great desire to invest more than the company's free cash flows. Based on the aforementioned results, it can be concluded that if the senior managers of the companies have too much self-confidence, the sensitivity of cash flow investment will increase. This is consistent with the theory of free cash flow.Special features of quasi-empirical research based on the lack of control over some factors affect the research results, including the impact of variables such as economic factors, political conditions and the state of the global economy, which is beyond the reach of the researcher and is one of the limitations of the research. These limitations may affect the results of the research. The inefficiency of the Tehran Stock Exchange is another possible factor affecting the research results and may cast doubt on the generalizability of the results [3, 12].

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