The effect of management ability, political relations and financial crises on the fall in the stock prices of banks admitted to the Tehran Stock Exchange

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Abstract

The change in stock prices in the capital market is considered a normal thing, but due to the importance that investors attach to their stock returns, the phenomenon of falling stock prices, which leads to a sharp decrease in returns, has been the focus of attention and has led to several studies to identify Factors related to it can be done. In this study, by selecting a sample of active banks in the Tehran Stock Exchange Organization for the years 1393-1400, which data envelopment analysis (DEA) model was also used in collecting part of its data, with panel data regression analysis and with fixed effects, it was tried to investigate the factors of falling stock prices of these banks. The results of this study showed that all three variables of management ability, political relations and financial crises along with other control variables such as size, amount of loss and profit changes have a positive and statistically significant effect and other control variables such as the life of banks, growth rate of facilities and the growth rate of deposits has a statistically significant and negative relationship with the fall in bank stock prices.

Keywords: management ability, political relations, financial crises, falling stock prices, banking system, Tehran Stock Exchange Organization
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1 Introduction

Banks, due to their important functions in the financial system, such as: providing access to payment and liquidity systems, asset conversion, risk management and information processing, and monitoring borrowers, are considered important components of the financial system of any country, which Iran, due to its special conditions, is considered as the most important channel of communication between the monetary and real sectors [15], which is the main source of capital supply due to the high risk of the capital market and stock market in Iran. They are for companies and businesses that need financial resources. In addition, due to the functional importance of this sector, for any country to progress economically, its financial sector must be stable. Global financial stability was directly threatened by several economic crises such as the crises of 2008-2009. The performance of the banking industry may be affected by internal and external threats such as weak regulations, economic issues and especially mismanagement.

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It is natural that in such an atmosphere, managers, as the main decision-makers of organizations, show different reactions that show their optimal behaviour. Therefore, increasing the wealth of companies and institutions will be significantly based on the resources and competencies of its managers. Therefore, the abilities of employees, especially managers in organizations, are vital and paying attention to them can lead to their competitive advantage. Managers with higher ability often invest in projects with higher value, and with higher ability, more knowledge and information than their employees, they manage the company in such a way that the employees operate at a high level of efficiency. Also, when the managers are faced with a decrease in sales, the ability of the managers makes them make the right decision regarding maintaining or reducing the resources needed to carry out operational activities.

In recent years, due to many accounting scandals, managerial incompetence, and financial and political crises that have occurred globally, shareholders' trust in financial reports has been damaged and has led to criticism of companies' performance. During financial crises, companies with limited resources experience a lack of investment. This condition is sometimes due to the lack of available resources for investment opportunities [8], which can be solved by establishing political connections in most cases. It has been widely stated in the theoretical literature that political connections increase the value of companies. One of the advantages of political connections of companies is the re-access to loans from the government or financial institutions such as politically affiliated banks. However, these studies have mainly focused on the perspective of borrowers, and it is unclear whether government ties can increase the value of banks that lend to politically affiliated firms [12].

The results of some research have shown that powerful political companies can borrow from the state bank by applying pressure, and these politically affiliated companies will benefit from these loans, while banks are under pressure. In addition, banks tend to give preference to creditors instead of bank shareholders to ensure bank security. As a result, instead of trying to maximize the value of the shares, the board of directors of politically connected banks may act in the interest of the government due to pressure from the authorities. Such agency problems can also arise in the form of political loans for political purposes, which can harm the bank's performance. But compared to a bank with no political connection, a bank connected to the government is more able to identify and interpret the political issues related to the bank and take appropriate actions in response to them, thus achieving better performance. According to this argument, a politically connected bank may also benefit from government relations. Political connections may have a positive or negative effect on the bank's performance as well as its value, which requires a strong empirical analysis to detect its effect [12].

Today, according to the majority of financial experts, the stock price is one of the topics discussed in the national markets. Some experts look for the reasons for the fall of stocks inside the companies and some outside them. In a general classification of three categories of factors: the state of macroeconomics and policies (environmental factors), the state of various stock market industries; Factors related to industries (factors related to industries) and finally the internal situation of listed companies (internal factors) affect stock prices, which have been examined and confirmed in various domestic and foreign studies. With the intensification of changes and declines in the stock prices of financial institutions, this hypothesis has been strengthened that the global financial flow has moved towards less risky and more stable positions. This confusion in the world situation seems to have penetrated the world of economy and investment in banks, and now the most important question is, what combination of factors will affect the decline in bank stock prices?

Therefore, identifying the factors that determine the fall in stock prices, which leads to the reduction of the added value share of this sector in the GDP and also the negative capital formation rate, is one of the essential issues in investment, which draws the attention of many researchers in the field of financial institutions has attracted Since the fall in the share price of financial institutions leads to the loss of shareholders, the outflow of capital, as well as the decline of the capital market, and finally the weakening of capital supply, the reduction of production and economic growth, therefore, paying attention to the positive or negative factors of this phenomenon is of importance to He has been punished. Therefore, investigating the simultaneous effect of the three main components of managers' ability, financial crises and political relations on the fall in the stock prices of banks listed on the Tehran Stock Exchange will be the main goal of this research.

2 Theoretical frameworks

2.1 Stock price drop and affecting factors

Changes in stock prices in the market are considered a normal thing, but an issue that always worries investors is the issue of sudden changes in stock prices. In recent years, especially after the financial crisis of 2008, many academics and people have paid attention to this issue. It has attracted a professional. These changes mainly occur

in the form of a fall and a jump in stock prices. According to the importance that investors attach to their stock returns, the phenomenon of a fall in stock prices that leads to a sharp decrease in returns, compared to the more jumps that researchers are interested in. is placed Managers have different motivations to hide the unfavourable results of operations. If managers keep and accumulate bad news inside the company for a long period, a big gap (stock price bubble) will be created between the inherent price of the company's stock and the value set for it by investors, when the mass of negative news accumulates to a point. The explosion will enter the market at once and lead to the bursting of price bubbles and the fall of stock prices. Researchers and investors always try to investigate the factors that lead to the occurrence of this phenomenon and the factors that lead to its prevention. One of the things that can affect this phenomenon is the existence of managers who have high ability and skill. The more capable the managers are, the better they can accumulate the company's bad news to achieve their own interests. However, the managers in a boundary cannot prevent the accumulation of bad company news due to benefit and cost considerations, and as a result, in that boundary, the company's news is revealed at once and leads to the risk of a fall in the stock price [6].

The issue of stock price drop is so important that even years after the market crash, meetings and seminars are held to examine common and specific causes and factors, the time frames of a stock price drop, the behaviour of market participants, and the effects of law decisions. Investors, government officials and international organizations pay. According to the definition of [9], if the share price of a company has fallen sharply in the year under review, the share price of that company has fallen in that year. Since the sharp reductions in share prices may be the result of a general decrease in prices in the market, one should also pay attention to the general situation of the market and the sharp decrease in share yield should be interpreted in comparison with the market yield.

The most common model that relates stock prices to macroeconomic factors as leading indicators assumes that stock prices are equal to the present value of rational expectations of future dividends or capital flows discounted using a ratio-adjusted interest rate. It is a risk. Therefore, it is clear that macroeconomic factors can affect expectations about future profits and capital flows (funds) or discount rates or both. Therefore, such a price can be defined as the fundamental price of the stock.

Speculative behaviour in the stock exchange is mainly related to the ability to predict the existence of capital surplus in stock prices, at least in the short term. Stock price speculation often follows the anticipation and expectation of future changes in prices and the existence of returns, and as a result, real increases in stock prices. This only happens when it is believed that prices will change. Of course, this belief is formed due to the high stock prices in the past, which is one of the reasons for deviation from the fundamental values and as a result, the main component of the creation and expansion of bubbles.

On the other hand, based on the theoretical framework of behavioural finance, psychological components are also influential on investment decisions and therefore on excess and higher stock returns. It is generally believed that mispricing in the market is mainly done by disruptive traders, whose beliefs and behavior depend on disruptive information that is unrelated to factors. It is fundamental to the market. Many studies have been conducted in the field of reaching the causes and sources of the sudden and terrible collapse of prices, and sometimes the "bubble" factor has been mentioned for it. For example, during October 1987, the American market decreased significantly, but what was common to many countries was the unprecedented increase of the market during the first nine months of the year and before that. In this way, the real reason for the fall in October was the excessive and inflated price increase that created the speculative bubble in the mentioned period. However, the financial crisis in 2007 and 2008 set off a multi-factor process, the main reasons for which are the increase in liquidity and the mistake of the US Treasury in supplying too many financial reserves in the world financial markets, as well as the increase in mortgage assets in America with insufficient It was the ratio of assets to liabilities and management risk. The increase in these crises can be explained by the allocation of global reserves, which increases liquidity. This allocation of liquidity causes the movement of asset prices and creates a price bubble.

2.2 The ability of managers and the fall in stock prices

The ability of management as the most important aspect of the company's human resources, which is capable of changing the direction of the company, creating value for it and also creating competitive advantages and differentiation, has been one of the issues of interest to shareholders so that they can choose managers who bring the most value and profit to the organization. deliver the improvement of individual and organizational capability can have psychological indicators in addition to functional indicators, and the evaluation of a person's ability is also influenced by management's confidence and confidence in it [12]. Excessive trust, company-specific information funds, as well as a complete expert management team can improve the ability to manage and advance goals, and especially increase the value of the organization's shares.

In another study, management ability is defined as the efficiency of managers compared to competitors in converting company resources into income. This source of income generation in companies includes the price of inventories, administrative costs, distribution and sales, fixed assets, operating expenses, research and development costs, and intangible assets. Higher management ability can lead to the management of the company's daily operations, especially in periods of operational crisis, when management decisions can have a significant impact on the performance of companies. In addition, in periods when the company is facing a crisis, managers will be able to make more appropriate decisions regarding the provision of needed resources [2]. More appropriate investment in more valuable projects and efficient management of employees are also characteristics of capable managers. As a result, in the short term, it is expected that more capable managers can earn more income by using a certain level of resources, or achieve a certain level of income by using fewer resources, and vice versa, poor decisions and low management skills in leadership can lead the company to financial pressure and eventually bankruptcy. Basically, capable managers can create distinction and superiority for the company compared to other companies active in the same industry. Through the use of creativity, new innovations or amazing investments, these managers will lead to the improvement of the company's value, its stock price, and as a result, the shareholders' wealth. Such managers are always trying to get the most profit from using the least amount of resources.

Harper et al. [7] believe that in the absence of complete transparency in financial reporting (profit management action), managers have an incentive to hide part of the losses to keep their jobs. This process; That is, the non-disclosure of real losses continues until the presence of the manager in the company. After the manager left the company, a huge amount of undisclosed losses entered the market, leading to a fall in the stock price. In addition, in an opaque reporting environment, investors are unable to identify and discover the company's loss-making projects. The inability of investors to distinguish between profitable and unprofitable projects in their initial stages causes unprofitable projects to continue or become bad and with time, their losses increase. The negative returns of these types of projects are accumulated within the company over time, and when the information about them is disclosed, the stock price will decrease sharply [7]. Therefore, the bad performance of managers and the amount of negative information they can accumulate and hide are different in different companies. In addition, managers' abilities and opportunities to accumulate and not disclose negative news depend on its costs and benefits.

2.3 Political relations and influence and stock value reduction

According to the hypothesis of political costs presented by Watts and Zimmerman, politicians have the power to influence the wealth, resources and value of companies by using distribution policies. Because one of the main and most effective factors in managers' wealth is cash bonuses. Changes in cash flow can be affected by taxes, special regulations and information related to political expenses. Therefore, managers have to consider the laws and regulations that affect them and control them if possible. Basically, the meaning of political communication is establishing communication between the government and large companies through performance or ability to carry out operations. Numerous studies show that the influence of political relations on the performance of large companies through important factors such as the number of employees, foreign sales (exports), employer's contribution and unemployment insurance, total company assets, equity market value, and personal income tax Accepts.

Basically, the use of profit figures by politicians and legislators has proposed the hypothesis that company managers are motivated to use that group of accounting methods (such as the accelerated depreciation method) that reduces the reported profit. A low reported profit reduces the probability of opposition actions by the government and increases the probability of government subsidies. At the same time, politicians try to solve inflation through various programs and laws (for example, price and wage control, fuel price control, import restrictions, and financial and monetary policies). Some of these government programs use accounting figures. they do. For example, directive 12092 was issued in 1978. The purpose of this directive was to reduce inflation by monitoring the price of government contracts. However, companies whose profits did not increase were not subject to this directive. This issue is another example of how the political process creates incentives for managers to choose profit-reducing accounting methods [7].

Basically, in the capital market, investors, who are the main group of users of financial reports, tend to invest in companies that have the necessary efficiency in terms of performance, and on the other hand, to reduce the related uncertainty. They provide quality reports and transparent information on the return on their investments. Therefore, efforts to improve performance and increase transparency in financial reporting are among the necessities of attracting investors to the capital market. On the other hand, the government's presence in the economy cannot be ignored, because the market mechanism alone cannot perform all economic tasks, and government policies are necessary to guide, modify and complete the market mechanism. But what has a decisive role in the economic situation is the amount and volume of government interventions. The government's political support, depending on its amount and volume, has positive and unfavourable economic effects. Although the political support of the government can lead to

the creation of value for the company, the decrease in the quality of financial reporting and the inefficiency of economic units are also among the adverse effects of government interventions.

Existing studies show that risk and return have always been together in investment. In fact, these two parameters form the main foundations of investment. Every decision that investors make directly or indirectly depends on risk and return. Political risk is a part of the systematic risk that investors face and therefore they cannot reduce it by diversifying their securities portfolio. However, with the gradual revelation of the link between political risk and stock market yield fluctuations, researchers have made great efforts to explain political and technological risks and quantify them to investigate the relationship between them and stock market yield fluctuations and make more correct capital decisions. They have made a decision. Therefore, in a general view, stock fluctuations may be a reflection of changing and scattered opinions about the future, especially the expectation of unfavourable technological and political news. Although bad news can have different sources, government actions probably cause the most concern over other factors and sources.

2.4 Financial crises and stock price decline

The role of the stock exchange is so important today that it is said that the development of a country has a direct relationship with the prosperity of the stock exchange and the number of its shareholders. One of the most important criteria for evaluating investment conditions is the indicators of capital market growth. Although the information content of the indices is ambiguous in the not-very-efficient markets, the trend of changes and fluctuations of the stock indices shows the positive or negative performance of the market and the prosperity or stagnation of the economy of the countries. The instability of financial markets has significant negative effects on risk-averse investors. By studying and discovering the influencing factors on the fluctuations of indicators representing the functioning of the capital markets, it is possible to predict them during future time periods, making the correct decisions of individual and institutional traders active in the market. The evidence has shown that whenever new information about financial instability or economic recession is published in the future, stock prices take a downward trend and their returns also decrease. The continuation of this situation and the escape of investors from the market leads to a crisis in the capital markets [16].

Past studies in developing, mono-product countries and dependent on the global economy have shown that when the price of their products decreases, such as the price of oil in oil-exporting countries, the government's construction costs have always decreased. On the other hand, the reduction of the construction budget has reduced the government's demand for the purchase of basic goods, including cement, copper, iron tools, and also contracting services, and this in turn, in addition to threatening the country's economic growth, has caused a shortage of companies producing these products. The demand and as a result the reduction of production has been faced and finally, it has led to the reduction of the profit margin of these companies. In turn, the decrease in the profitability of the companies has been caused by the stagnation in the stock exchange and the downward trend in the price and volume of stock transactions. In their studies, they showed that the global financial crisis, in addition to reducing Iran's oil revenues, has also brought a budget deficit through the reduction of tax revenues. On the other hand, their findings show that the global financial crisis in the Iranian securities market has caused a decrease in the volume of transactions and ultimately a drop in the stock index in this market [13] also showed in a study related to the companies listed on the Tehran Stock Exchange that there is a direct relationship between the risk of financial crisis and the risk of falling stock prices of the companies listed on the Tehran Stock Exchange.

Several studies show that the American financial crisis has affected the economic situation of most countries and weakened the stock prices in these countries. The financial crisis of 2007-2008 occurred due to the lack of liquidity in the American banking and credit system. Following the financial crisis, stock exchanges in most countries experienced extreme fluctuations and the share prices of their companies also decreased. This phenomenon is known as "financial contagion" which spreads to other fields due to the spread of a financial disturbance in a factory, a market or a geographical area and appears there as well.

3 Literature review

Despite the important impact of political variables on stock returns and its fluctuations, there has been relatively little study on the impact of political news and events on stock returns and fluctuations, and most studies have focused exclusively on the impact of economic events on stock returns. But gradually, with the revelation of the connection and logical link between the risk related to relationships and political influence and stock returns, the description of this connection and the explanation of the concept of political risk have attracted more attention of researchers.

In a number of few studies before the beginning of the nineties, investigations were conducted regarding the impact of political news on the stock market, but they did not find significant evidence of the impact of this news on the American stock market. Gradually, during the 1990s, stock market researchers realized the logical connection between political risk and stock returns, and sought to discover the way and how of this connection. In such a way that a large number of studies related to the stock market that have been carried out during these years and the years after suggest that political risk should also be considered when analyzing the volatility of stock market returns. For example, in research entitled Volatility in Emerging Stock Markets, it is stated that changes in stock returns in emerging markets are in most cases specific to the respective country and are linked to political events.

In one study [1], whit aimed to investigating the managerial ability of CEOs and the risk of falling stock prices in Saudi Arabia, by selecting 112 non-financial companies for the period from 2018 to 2020 and using the regression analysis method, showed that between the ability There is a negative and significant relationship between the management of CEOs and the risk of falling stock prices [4], in a study in America, with the aim of investigating the relationship between the ability of managers and the risk of falling stock prices for the period from 1991 to 2014 among listed companies in this country, concluded that managers with high ability have a high probability of falling prices. Stocks are related in the future. In addition, the results showed that storing bad news and overinvesting through management ability increases the risk of stock crashes. Overall, their findings indicated that managerial ability may be costly, as more able managers have a positive effect on the likelihood of stock price falls.

Another researcher [11], in a study with 104 companies admitted to the Tehran Stock Exchange for the period 2008 to 2015, investigated the impact of the global financial crisis on financial helplessness, profit management and pricing of accruals and concluded that the financial crisis Globalization has affected the financial performance of companies and has put them on the verge of financial helplessness through the inability to secure financial resources [10], in a study aimed at investigating the effect of liquidity and political risks on the fall in stock prices of banks listed on the Tehran Stock Exchange, showed that liquidity and political risks affect the fall in stock prices of banks listed on the stock exchange. Tehran Securities has a positive and significant effect.

4 Research methodology

4.1 Research method, sampling and time course

The current research is a branch of experimental and post-event research that will be conducted based on real stock market information and financial statements of banks admitted to the stock exchange. Considering that the relationship between several variables is investigated in the present research, the research is of correlation type. The basic information of this research is related to the financial statements of 8 banks accepted in the Tehran Stock Exchange, including: Parsian, Pasargad, Tejarat, Saderat, Sina, Mellat, Post Bank, and Karafarin for the years 2014-2021, which are time series (panel data) is collected and with using the regression method through Eviews Econometrics software, the research hypotheses will be tested.

4.2 Research data collection method

The data required for the research is collected from library documents and sources, reports published by banks admitted to the stock exchange, as well as Tehran Stock Exchange Organization. Therefore, in order to get familiar with the theoretical foundations and background of the research, using library documents, publications, articles and scientific sites, literature and theories related to the research topic were collected with note-taking tools. Then, in the main stage of the research, by extracting information from the financial statements of banks admitted to the Tehran Stock Exchange through an Excel file, the data is summarized and classified and used in the regression model.

4.3 Research data

In this research, the relationship between the independent variable (management ability, political relations, and financial crisis) with the dependent variable (the fall in bank stock prices) will be measured through three separate hypotheses, during which the statistical relationship between the independent and dependent variables will be evaluated. The variables of this study are as described in Table 1.

In this study, a two-step process is used to determine the variable value of "management ability" based on the research of Gopal et al [5] and the efficiency of each bank is calculated based on the data envelopment analysis (DEA) method. The calculated efficiency will be in the form of scores between zero and one, which is considered as a measure of the management ability of each bank, which will enter the main regression model as a dependent variable in the

Table 1: Research variables

control variables	Independent variable	Dependent variable	hypothesis	Row
Bank life, size, growth rate of facilities,	Management ability	falling price	1	1
growth rate of deposits, change in net	Political Relations		2	2
profit and virtual variable of loss	Financial crises		3	3

next stage of the regression model. The definition of all the data used to determine the efficiency of each bank through data coverage analysis and also the regression model to test the hypotheses is shown in Table 2.

Table 2: Research variables to determine efficiency and hypotheses test

Variable name	Variable type	symbol	Variable definition
Total tangible assets	Input-DEA	PPE	The total tangible assets of the bank that can be extracted from the balance sheet.
Total intangible assets	Input-DEA	INT	The total intangible assets of the bank that can be extracted from the balance sheet.
General and administrative expenses	Input-DEA	LABOR	Public and administrative expenses that can be extracted from the profit and loss statement.
financial costs	Input-DEA	INTEXP	Financial expenses that can be extracted from the profit and loss statement.
Rental costs	Input-DEA	RENTALEXP	Rental expenses that can be extracted from the profit and loss statement.
Total bank deposits	Output-DEA	DEPOSITS	Total bank deposits that can be extracted from the balance sheet.
All facilities granted by the bank	Output-DEA	LOANS	All the facilities granted by the bank that can be extracted from the balance sheet.
Total investments	Output-DEA	INVESTMENT	The total investments of the bank that can be extracted from the balance sheet.
Total revenues	Output-DEA	INTINCO	The total joint and non-joint income of the bank that can be extracted from the profit and loss statement.
Falling stock prices	Dependent	CRASH	Dummy variable: If the price has fallen is one, otherwise, zero is given.
Management ability	Independent	MA	Based on the defined pattern, the data is obtained by the envelope analysis method.
Political Relations	Independent	POLITIC2	The percentage of direct or indirect ownership of the government and government institutions: if it is more than 20% in the company, the value of this variable is considered equal to 1 and otherwise, zero.
financial crisis	Independent	CRISIS2	It is introduced as a virtual variable, so that if one of the following conditions is met, the number one is assigned to it and zero otherwise: 1) the bank faces a decrease in profit during two financial periods; 2) The profit before interest and tax is more than the financial expenses in two consecutive periods.
Bank Life	control	AGE	The number of years the bank has been established
Size	control	SIZE	The natural logarithm of total bank assets
Facility growth rate	control	LOANGRTH	The growth rate of granted facilities compared to the previous year
Growth rate of deposits	control	DEPGRTH	The growth rate of deposits compared to the previous year
Change in net profit	control	ΔNI	Change in net profit compared to the previous year
Dummy variable (Loss)	control	LOSS	Dummy variable, if the bank has made a loss in the current year, number 1 is assigned, otherwise, the number 0 is assigned.

4.4 Research analytical models

4.4.1 Data envelopment analysis model

Data envelopment analysis is a non-parametric technique based on linear programming, which is used to measure the efficiency of units and organizations such as schools, hospitals, post offices, bank branches, etc., which have the same tasks and similar outputs using the same data. create This method was presented by Charnes, Cooper and Rhodes (CCR) in 1978 [3] and is currently used many times in measuring the efficiency and rating of units. In this method, the inputs and outputs of the units are determined and their value is calculated, and by implementing the linear programming model for each unit, the efficiency of that unit is obtained.

Therefore, in the model used in this research, the ratio of outputs to inputs indicates a model leading to decision improvement units, which are as follows:

$$\max \theta = \frac{u1Deposits + u2Loans + u3Investment + u4IntInco}{v1PPE + v2Int + v3Labor + v4IntExp + v5RentalExp} \tag{4.1}$$

where in:

Deposits: Total bank deposits at the end of the financial year

Loans: total facilities granted

Investment: investment

Intinco: The total revenue of the company

PPE: fixed assets

Int: net profit of the bank

Labor: General and administrative expenses

Intexp: total financial costs

Rentalexp: Rental expenses

The efficiency Score calculated for each bank based on inputs and supernumerary outputs will be between 0 and 1, where 1 indicates full management efficiency and 0 indicates lack of management efficiency.

4.4.2 Regression model

After completing the first step and calculating the efficiency score for each bank, the following regression model is fitted for all the studied banks as follows:

$$\begin{aligned} \text{CRASH}_{i,t} = {}& \beta_0 + \beta_1 MA_{i,t} + \beta_2 POLITIC_{i,t} + \beta_3 CRISIS_{i,t} + \beta_4\ DEPMARKET_{i,t} + \beta_5 AGE_{i,t} + \beta_6 SIZE_{i,t} \\ & + \beta_7 LOANGROTH_{i,t} + \beta_8 DEPGRTH_{i,t} + \beta_9 \Delta NI_{i,t} + \beta_{10} LOSS_{i,t} + \varepsilon_{i,t} \end{aligned}$$
$$\tag{4.2}$$

where, $\text{CRASH}_{i,t}$ is the stock price crash in year t, $MA_{i,t}$ is the ability to manage bank i in year t, $POLITIC_{i,t}$ is the bank i political relations in the year, $CRISIS_{i,t}$ is the financial crisis of bank i in year t, $AGE_{i,t}$ is the age of bank i in year t, $SIZE_{i,t}$ is the size of bank i in year t, $LOANGROTH_{i,t}$ is the growth rate of bank i's facilities in year t, $DEPGRTH_{i,t}$ is the growth rate of deposits, $\Delta NI_{i,t}$ is the change in net profit, $LOSS_{i,t}$ is the variable loss, and $\varepsilon_{i,t}$ is the model residual model items.

5 Research findings

5.1 Descriptive statistics findings

Table 3 shows the descriptive statistics of the variables related to the research. According to the results, the mean and median for the dependent variable of stock price fall are 0.359 and zero, respectively, and its data are in a range between zero and one. According to the results of the table, the average independent variables of management ability, political relations and financial crises are also equal to 0.165; 0.375 and 0.265, which is the highest average related to the variable of political relations. The coefficient of skewness, which indicates the degree of asymmetry of the probability distribution of the data around its mean, is positive for all data except for the size variable. Basically, if the value of skewness and kurtosis of the research data distribution is beyond the range of -2 to -2, the distribution will not be normal. Therefore, except for the control variables of deposit growth and losses, the rest of the variables have a normal distribution. According to the kurtosis coefficient of the variables, which is a measure of the sharpness of the curve at the maximum point, it is clear that the difference in the distribution of the variables of stock price fall and political relations is small in terms of dispersion, but it is huge for other research variables.

Table 3: Descriptive statistics of research variables

Variable name	Maine	Median	Max	Min	standard deviation	skewness	kurtosis	observations
(CRASH)	0.359	0	1	0	0.483	0.586	1.343	64
(ABILITY)	0.165	0.164	0.414	0.073	0.053	1.887	9.997	64
(POLITIC)	0.375	0	1	0	0.487	0.516	1.264	64
(CRISIS)	0.265	0	1	0	0.445	1.061	2.126	64
(AGE)	27.375	20	69	6	17.727	1.065	3.114	64
(SIZE)	8.847	8.974	10.008	7.120	0.649	-0.541	2.791	64
(LOANGROTH)	0.269	0.275	1.353	-0.257	0.296	0.665	4.048	64
(DEPGROTH)	0.978	0.268	13.760	-0.910	2.643	3.381	13.916	64
(ΔNI)	13728518	3766905	3.03E+08	-1.55E+08	64933643	1.974	9.826	64
(LOSS)	0.140	0	1	0	0.350	2.067	5.274	64

5.2 Inferential findings

5.2.1 Reliability test of research variables

A necessary condition for testing the data is the reliability of the research variables. Therefore, in order to ensure the accuracy of the results in the next steps, the reliability of the variables of the regression models is checked using the Levin, Lee and Chu (LLC) test, the results of which are presented in Table 4. According to the significance level, it was determined that all the variables of the research, except for the control variables of size, growth rate of facilities and changes in net profit, are all at the level of stationary, and these variables were also stationary with one order of differentiation.

Table 4: The results of the reliability test of the research variables (Levin, Lee and Chu (LLC) test)

Variable	test results (LLC)		unit root test result
	statistics	Significance levels	
(CRASH/)	-2.747	0.0030	I(1)
(ABILITY)	-9.551	0.0000	I(0)
(POLITIC)	-7.2541	0.0000	I(0)
(CRISIS)	-1.903	0.0285	I(0)
(AGE)	-8.1248	0.0000	I(0)
(SIZE)	-4.246	0.0000	I(1)
(LOANGROTH)	-9.588	0.0000	I(1)
(DEPGROTH)	-33.233	0.0000	I(0)
ΔNI))	-8.376	0.0000	I(1)
(LOSS)	-2.579	0.0049	I(0)

5.2.2 The results of F-Limer and Hausman tests

Considering the use of pooled/panel data to increase the number of observations, increase the degree of freedom, reduce variance heterogeneity and reduce colinearity between variables, it is necessary to select a suitable regression model before estimating regression models. Therefore, firstly, whit using F-Limer test, the selection of consolidated data model is discussed against panel data model. In the following, if the pooled data model is not selected against the panel data, the Hausman test is performed to select the panel model with fixed effects against the panel model with random effects.

According to the results of Leimer's F test, the results of which are shown in Table 5, since the significance level obtained from Leimer's F test for the regression model of the research is less than 5%, therefore, the null hypothesis (combined data) is rejected. The panel data method is used for the final estimation of the model.

Table 5: The results of F Limer's diagnostic test

Test statistics	Degrees of freedom	Significance level	Test result
5.8274	(6,40)	0.0002	Acceptance of Panel data

Also, according to the Hausman test results shown in Table 6, the statistical probability value for the regression model of the research is less than the significance level of 5%, which indicates the confirmation of the panel model with fixed effects.

Table 6: The results of the Hausman diagnostic test

Test statistics	Degrees of freedom	Significance level	Test result
20.2489	9	0.001	Panel data with fixed effects

5.2.3 Regression estimation and hypothesis testing

The results of examining the impact of management ability, political relations and financial crises along with other control variables on the fall of stock prices are presented in Table 7. The significance level obtained for all the independent variables in the fitted model shows that they are all statistically significant, except for the variable of changes in net profit and loss, which are significant at the significance level of 90 and 95% respectively, the rest of the variables in the 99% level has had a significant impact on the dependent variable of the fall in bank stock prices. The signs of the obtained coefficients for all three variables of management ability, management crises and political relations are positive and indicate the direct relationship of these variables on the dependent variable of stock price fall. Among the control variables, except for the three variables of facility growth, deposit growth and age of banks, which have a negative coefficient and have an inverse effect on the dependent variable, the rest of the control variables have a positive coefficient and a direct effect on the fall in bank stock prices. The value of the adjusted coefficient of 0.98 also shows the high explanatory power of the independent variables in the model for the behaviour related to the fall in bank stock prices. The Durbin-Watson statistic also confirms the absence of autocorrelation among the residuals in the fitted regression. Therefore, according to the results obtained, all three hypotheses of this research have been confirmed and it can be said that all three variables of management ability, management crises and political relations have a significant effect and a direct relationship with the fall in the stock prices of active banks in the Tehran Stock Exchange during the period under review.

Table 7: The results of regression estimation and hypothesis testing

Regressed model: $CRASH_{i,t} = \beta_0 + \beta_1 MA_{i,t} + \beta_2 POLITIC_{i,t} + \beta_3 CRISIS_{i,t} + \beta_4 AGE_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LOANGROTH_{i,t} + \beta_7 DEPGRTH_{i,t} + \beta_8 \Delta NI_{i,t} + \beta_9 LOSS_{i,t}$				
variables	Coefficient	standard deviation	t statistic	Significance level
Constant	-1.0446	0.1966	-5.3136	0.0000
(ABILITY)	0.9216	0.2384	3.8656	0.0004
(POLITIC)	0.2558	0.0247	10.3488	0.0000
(CRISIS)	0.1337	0.0394	3.3886	0.0020
(AGE)	-0.0075	0.0009	-6.3927	0.0000
(SIZE)	0.1591	0.0213	7.4735	0.0000
(LOANGROTH)	-0.2609	0.0590	-4.4204	0.0001
(DEPGROTH)	-0.0209	0.0054	-3.8475	0.0004
(Δ NI)	6.74E-10	3.63E-10	1.8564	0.0708
(LOSS)	0.0801	0.0361	2.2182	0.0323
Adjusted R squared	0.9824			
DW statistics	0.0108			
Prob (F-statistic)	0.0000			

5.2.4 Heterogeneity of variance test

If the regression errors are heterogeneous and the researcher continues the process of estimation and inference without considering this issue, in this case, any inference made can be misleading, and therefore it is necessary to examine the assumption of heterogeneity of the variance of the model. The results of the analysis of variance heterogeneity (Table 8) showed that the significance level of the test for the regression model of the research is higher than 5% and indicates the absence of variance heterogeneity.

Table 8: Results of variance heterogeneity test

Test statistics	Significance level	Test result
2.9700	0.9362	Absence of variance heterogeneity

6 Discussion and Conclusion

As the main players of the money market, banks and the banking system play an essential and unique role in Iran's economy. Therefore, conducting research about banks and increasing knowledge about this field is very necessary in the current situation. Numerous experiences have shown that the lack of training, experience, ability and initiative by management makes it difficult for the business unit to survive in the field of competition and technology, and has caused the role of management ability in improving performance, managing risk and falling stock prices. Banks are exposed due to the risks they are facing and a huge part of the financial and accounting research is included. Political relations are also among other factors that affect the companies' policies. This issue has also attracted significant attention in the recent research literature around the world. Having close relations between the government and commercial units and financial institutions can bring benefits such as improving growth opportunities and the possibility of reduction and bankruptcy and suitable borrowing conditions, and sometimes it also has negative consequences such as high capital cost and financial leverage and lower profitability. Accordingly, political communication is possible in performance; Risk management and the fall in the bank's stock price have both positive and negative effects. The occurrence of banking crises in recent decades in industrialized countries and especially in developing countries has caused disturbances in the order of financial markets and has created the basis for the bankruptcy of many banks, and it is one of the reasons that can affect the decrease in the prices of bank stocks.

The results of this study on banks active in the Tehran Stock Exchange organization showed that management ability has a positive and significant effect on the fall in the stock prices of Iranian banks, and therefore it can be argued that managers accumulate bad news on the quality of financial reporting. They have a direct effect and due to the lack of transparency in financial reporting, they cause the risk of falling stock prices. In fact, these results are in accordance with the theoretical foundations of managerial ability. Because, based on theoretical foundations, powerful managers, by applying their opinions and manipulating the quality of financial reporting in order to achieve personal interests, cause lack of transparency in financial statements and ultimately cause the risk of falling prices. Therefore, no matter how capable managers are, they can accumulate bad news of the company, but the accumulation of bad news is possible up to a limit, and at such a limit, the bad news of the company is exposed at once and leads to the risk of the stock price falling. Therefore, the findings of this study are consistent with the findings of [4], [6] and contradict the results of [1].

The results related to the investigation of the effect of political relations on the fall in the stock prices of banks also show that it has a positive and meaningful effect. In this context, many researchers believe that politically connected banks have a non-transparent operating environment. As a result, the quality of information in banks with political information is lower than other banks [14]. Due to the weakness in the quality of financial reporting, these institutions will face a decrease in the stock price in the coming periods, and if this trend intensifies, severe price fluctuations will cause the stock price to fall. In fact, despite the political ties, managers may carry out their opportunistic activities so easily that such an approach causes the stock price to fall by storing negative information. Therefore, it can be seen that the results of this hypothesis are also consistent with the findings of [10].

The financial crisis also has a positive and significant effect on the fall in bank stock prices. This result shows that the financial crisis has decreased the profit of banks and this also causes the value of banks to decrease and ultimately the price of their shares to fall. These results are consistent with the findings of [13] and [11].

Suggestions

According to the obtained results, practical suggestions are presented as follows:

- Considering the positive impact of managerial ability on the risk of future fall in stock prices, it is suggested that shareholders and investors pay more attention in choosing managers, because the existence of ability in company managers necessarily means taking steps and creating wealth in line with interests. They are not and can cause the waste of shareholders' resources in line with their goals.

- Considering the opportunistic behavior of the managers in order to achieve their own interests and in order to prevent the losses of the shareholders, it is suggested that a committee be formed in the company to review the actions of the managers on a permanent basis in order to prevent the wastage of resources. company, by making appropriate decisions, the company's resources are used in the most efficient way possible.

- It is suggested to the shareholders and beneficiaries of the company to pay attention to the tenure of the CEO to reduce the risk of falling stock prices; Because the CEO with a long tenure can deal with the opportunistic

behavior of managers and can influence their investment decisions and costs; Therefore, in companies where there are many changes in the CEO, its supervisory role over the manager becomes weaker and the probability of managers engaging in profit-seeking behavior increases. This has led to the accumulation of bad news in the company, and if this news is revealed, the company's stock price will fall.

- Due to the direct effect of political relations on the fall of bank stock prices, it is suggested to investors and users of financial statements to get more information about the state of stock prices in the business unit by obtaining sufficient information about the relations of the companies. Because the hidden political actions in the company may be contrary to the ultimate goals of the shareholders.

- Considering the positive effect of the financial crisis on the risk of falling stock prices, it is also suggested to bank managers to pay attention to the internal crisis situation of the bank and in case of crisis, by taking correct and pre-planned measures, from Prevent the occurrence of banking risks, including the risk of bankruptcy.

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