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## Forecasting Factors Affecting Stock Price Fluctuations Using the Scenario Planning Approach

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### Abstract

In this study, we explain the future potential scenarios of factors affecting stock price fluctuations in the Tehran Stock Exchange concerning the 2026 perspective. This research is applied, cross-sectional, and qualitative, and is implemented as a descriptive survey using the scenario planning approach. The statistical population is a collection of financial experts; We selected 15 of them as a sample using the judgmental/purposive and network (snowball) sampling methods. In the first step, we identified the key uncertainties of the factors affecting stock price fluctuations using the Fuzzy Delphi method, then by identifying the probable modes of each of the key uncertainties, three compatible scenarios were determined by Scenario Wizard software, and finally, the experts suggested strategies for these scenarios.

**Keywords:** Future studies, Scenario planning, Stock price fluctuations, Tehran stock exchange.

## 1 | Introduction

There is no doubt that the capital market plays a significant role in a country's economic growth and development. The state of this market affects various economic sectors, which are in turn affected by other sectors [9]. By looking at the macroeconomic structure of each country and the various markets in each economy, it can be seen that one of the most basic markets in any economy is the capital market [50]. In countries that lack efficient capital markets, capitals are not efficiently allocated [76]. One of the important issues for the investor knows how to invest in the stock market and one criterion which can help the investor to decide to invest in the stock market is the performance of a certain company [10] and acquiring a vision of the future and forecast data trends to make appropriate decisions and plan for the future. Although it is impossible accurately to forecast these markets, researchers in this field try to address this problem by presenting different methods, ideas, and analyzes [57]. Today, it is no secret to anyone that investment in the stock market is fraught with specific complexities and difficulties [44]. Developing countries, including Iran, have a high degree of

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instability in macroeconomic variables [67]. In these countries (compared to advanced and industrialized economies), currency rates, stock prices, and other macroeconomic variables fluctuate more, which creates an uncertain environment for investors in the capital market and makes them unable to invest easily and reliably. They decide more about their future investments and may suffer more losses. Therefore, to increase investment in the capital market and, as a result, achieve long-term and continuous economic growth, it seems necessary to provide grounds for investigating stock price fluctuations [31].

Forecasting stock price fluctuations are more complex than forecasting future earnings alone because these other factors and their interdependencies must also be considered in the forecasts [79]. Due to the importance of investigating stock price fluctuations, in recent years numerous pieces of research in this field have been done inside the country [8], [24], [61], [63] and abroad [15], [23], [26], [38], [39], [70].

A review of the conducted studies in the field of stock price fluctuations shows that most of them in recent years have only forecasted fluctuations and identified the effective factors without considering the uncertainties of the future and only assumed that the future is a continuation of the past. No research was found on the issue of stock price fluctuations from the perspective of the future investigation of the influencing factors. This is even though the inherent uncertainty of financial and economic parameters is one of the basic issues that play a significant role in forecasting and financial decision-making processes [19].

Accordingly, to fill this theoretical gap, we implemented the current research in two steps with the aim of "compilation of possible future scenarios of the factors affecting the fluctuations of stock prices in the Tehran Stock Exchange concerning 2026 Perspective":

**First step:** Identification of the key uncertainties affecting stock price fluctuations using the Fuzzy Delphi technique

**Second step:** Compilation of compatible scenarios for the future of the factors that influence stock price fluctuations using the scenario planning method.

## 2 | Theoretical Foundations and Research Background

First, we consider the stock market in the economy of any country a pressure gauge to measure economic growth. Since economic fluctuations directly affect the fluctuations of this market; Volatility is a constant behavior for the stock market [21]. But sometimes these fluctuations go out of their normal form and cause concerns about the stable deviation of the stock price from its intrinsic value and unbridled ascents and sudden falls, which in this case will affect the expectations and forecasts of economic factors and inflict irreparable blows on the economy [11]. Although abnormal fluctuations in stock prices may lead to abnormal profits for risk-takers, it creates hesitation among risk-averse investors; because high volatility means high returns along with high-risk acceptance. In such a situation, conservative investors avoid investment due to existing uncertainty [21].

On the other hand, according to the theory of volatility feedback, increasing stock price volatility will decrease stock returns. The mentioned theory was first introduced by Pindyck. According to the theory of volatility feedback, the increase in stock price volatility increases the expected return of stocks, in other words, investors accept more risk only in exchange for a higher return. An increase in expected stock returns will lead to an increase in the discount rate of future cash flows. Also, an increase in the discount rate leads to a decrease in the current value of future cash flows, which results in a decrease in current stock prices, and a decrease in stock prices leads to a decrease in stock returns [2].

In general, if a stock is labeled as a volatile stock, it means that its price will change a lot and unpredictably all the time, and on the contrary, a low-volatility stock will have a price that has relatively reasonable and

predictable changes. Since volatility is regularly related to risk, therefore, the more volatile a stock is, the greater its risk, and the riskier a stock is, it is no longer possible to say with certainty what its future price

will be [45]. Two industries with different volatility in their stocks may have similar expected returns, but the industry with the higher volatility of returns will experience greater changes in its value over a while. It is worth noting that the fluctuation only expresses the dispersion and does not specify the direction of changes [3].

In the following, future studies and scenario planning, which are the basis of the research method, are described:

The human desire to know about the future has existed since ancient times. Predictors and priests are among the people who in the past tried to somehow respond to this desire in public and private. Currently, the use of future studies is considered one of the most important policies and decision-making tools [66]. Future studies reflect how tomorrow's reality emerges from today's changes [65]. In a simple and at the same time very deep definition, future studies are the science and art of discovering and shaping the future and the ideal world of tomorrow [55]. Futures studies are sciences that try to visualize and model potential futures by searching for factors affecting the problem, and in this way minimize uncertainties and uncontrollable futures as much as possible [4], [64]. Scenario planning or scenario-based planning is one of the future studies methods for achieving this goal [1].

Future studies methods include extrapolation techniques using time series data, models and brainstorming, scenario creation and simulation, historical analogy, Delphi techniques, causal modeling, genealogies, game creation, and textual mapping [55]. Scenarios are a large part of futures studies programs and the scenario method is one of the well-known and widely used methods in the field of futures studies [28]. The scenario technique is an established method to cope with uncertainty by exploring multiple alternate future situations for strategic and operational planning purposes [77].

According to Shermak, experts have four definitions of scenarios:

- I. Porter: A scenario is a view with internal consistency and content about what could happen in the future.
- II. Ringland: A scenario is a part of strategic planning that is used as a tool to manage future uncertainty.
- III. Schwartz: A scenario is a tool to organize a person's perception of alternative future environments in which the person's decisions will be made.
- IV. Schumacher: A scenario is a disciplined approach to visualizing possible futures in which organizational decisions can be implemented [13].

It should be noted that scenario planning is not a tool for predicting the future, but a method for handling uncertainty. Scenario analysis is an approach to decision-making under conditions of uncertainty that overcome many of the shortcomings of traditional methods [18]. A review of theoretical foundations shows that there is no single approach and method for scenario planning; rather, different methods have been suggested for scenario design [6].

In the classification of scenario writing techniques, Projsen et al. proposed three general categories: the forecasting category in response to the question "What will happen?", the exploratory category in response to the question "What could happen?" and the normative category in response to the question "how to achieve a specific goal?" use techniques that are used in this research from the exploratory approach. One of the most common techniques for scenario writing is the method first introduced by Pierre Wack at Shell Company under the name Global Business Network (GBN) and popularized by Schwartz in 1991. In this method, which has a matrix approach, variables with the highest importance and uncertainty are the basis of future scenarios [76]. The steps of Schwartz's scenario writing technique are as follows:

Identifying the main problem and decision, identifying key factors, identifying key driving forces, classifying key factors based on importance and uncertainty, choosing the logic of scenarios, compiling scenarios, analyzing the consequences and results of each scenario, and choosing strategic indicators [48].

Although the GBN method is very efficient, it is one of the various techniques used for scenario writing. These techniques are different depending on the intended purpose and the texture used; Such as intuitionistic logic, trend impact analysis logic, Cross-Impact Balance (CIB) analysis, and actor or activist analysis [5]. The method used in this research is the CIB analysis method, which is one of the standards and common tools in scenario planning [79]. This method is derived from the school of moderated probabilistic trends of scenario writing, which was invented by Gordon and Holmes (1966) at Rand Corporation [14] and since then it has been used numerous times as one of the futures studies methods [27]. The CIB analysis method was implemented using Scenario Wizard software. Scenario Wizard software is used in the field of scenario planning and its work is based on cross matrices. These matrices are used in the form of verbal expressions to extract the view of experts about the effect of the probability of occurrence of a mode of one descriptor on a mode of another descriptor, and finally, by calculating the direct and indirect effects of the modes on each other, compatible scenarios are extracted for the system. The purpose of this analytical technique is to optimize scenarios and make them reliable [7].

According to the topic of the research, some internal and external research related to the forecast of stock price fluctuations as well as scenario planning in the financial field are mentioned below:

Shahvardiani and Khajezadeh [61], in a study, analyzed the stock price fluctuations of companies listed on the Tehran Stock Exchange using the variables of profit per share, Tobin's Q index, conditional conservatism, company size, profit management, economic added value, and the capital cost. Girard and Omran [25], in a study, investigated the relationship between trading volume and stock price fluctuations. The results of their research show that in larger time scales, changes in trading volume are effective in stock return changes. Mishra et al. [42], investigated the relationship between gold volatility and stock return volatility in the Indian stock market. The results of their research showed that both variables can be used to forecast each other's fluctuations. Nazir et al. [46], in a study, investigated the volatility of Pakistan's stock market using the variables of interest payout ratio, long-term debt-to-asset ratio, asset growth rate, profit before interest, tax-to-asset ratio, and company size. The results of their research show that the company's dividend policy has a greater effect on stock price fluctuations than on other variables. Oseni and Nwosa [49], investigated the effect of macroeconomic factors (gross domestic product, interest rate, and inflation rate) on stock price fluctuations in the Nigerian market. The results of their research indicate that GDP can have a greater effect on stock market fluctuations than interest rates and inflation rates. Masih et al. [40], in their research, investigated the relationship between oil price fluctuations and stock price fluctuations in the Korean stock market. The results of their research indicate the effect of oil price fluctuations on stock price fluctuations and indicate how this effect has increased over time. Walid et al. [73] investigated the relationship between currency rates and stock price fluctuations in emerging markets (Hong Kong, Malaysia, Mexico, and Singapore). The results of their research show that the currency rate affects stock price fluctuations. Ezazi et al. [22] investigated the relationship between corporate governance and stock price fluctuations in the Tehran Stock Exchange. The results of their research show that the amount of ownership of major shareholders has a positive relationship with stock price fluctuations and the amount of ownership of real shareholders has a negative relationship with stock price fluctuations. Yogaswari et al. [78], investigated the relationship between macroeconomic variables and stock price fluctuations in the Indonesian stock market. The research results show that all three factors of inflation, currency rate, and interest rate affect stock price fluctuations. Ikromov and Yavas [33] investigated the effect of cash flow fluctuations on stock price fluctuations. The results of their research showed that cash flow fluctuations have a positive and significant effect on stock price fluctuations. Safian and Ali [60], investigated the stock price fluctuations in the Malaysian stock market. The results of their research show that there is a negative relationship between the profit-sharing percentage and stock price fluctuations and a positive relationship between the ratio of long-term debt to total assets and stock price fluctuations. Profilet [54], in a study, investigated the effect of company size, asset growth rate, dividend ratio, and long-

term debt-to-asset ratio on stock price fluctuations in the US stock market. The results of their research show that companies with a higher dividend percentage have less volatility in their stock prices. Also, bigger companies have less volatility in their stock prices. Contuk et al. [17], in a study, showed that gold price fluctuations and stock market fluctuations affect each other. Kang et al. [37], investigated oil shocks on US stock market volatility. The results of their research showed that disruption in demand has a negative effect and disruption in supply has a positive effect on stock price fluctuations. Kirui et al. [35], in their research, showed the effect of three variables of domestic growth rate, inflation rate, and currency rate on the volatility of the Kenyan stock market. Uwubanmwun and Omorokunwa [72] investigated the relationship between oil price fluctuations and stock price fluctuations in the Nigerian stock market. The results of their research showed that oil price fluctuations can be the cause and driver of stock price fluctuations. Chaudry et al. [16], investigated the stock price fluctuations in the Pakistani stock market. The results of their research confirmed the relationship between the dividend rate, asset growth rate, and profit fluctuations before interest and tax with stock price fluctuations.

In a study, Diaz et al. [20] investigated the relationship between oil price fluctuations and stock returns in G7 member countries (USA, Canada, Japan, England, Italy, Germany, and France). The results of the research indicate the negative reaction of the stock market to the increase in oil prices. The results also show that global oil price fluctuations are generally more important for stock markets than national oil price fluctuations. Prempeh [53], investigated the relationship between stock price fluctuations and macroeconomic variables in the Ghana stock market. The main variables examined in this research are the inflation rate, interest rate, and GDP growth rate. The research results indicate that the GDP growth rate has a greater effect on stock price fluctuations than the other two variables. Osundina et al. [51], investigated the effect of accounting variables on stock price volatility in the Nigerian stock market. The results of their research showed that accounting variables such as Earnings Per Share (EPS), the book value of each share, the ratio of market price to earnings per share (P/E), and the company's dividend percentage affect stock price fluctuations. Bašta and Molnár [12], investigated the relationship between oil price fluctuations and stock price fluctuations. The results of their research indicate a strong relationship between stock price fluctuations and oil price fluctuations. In a study, Zainudin et al. [79] investigated the relationship between dividend policy and stock price fluctuations in the Malaysian stock market. The results of their research show that there is a strong negative relationship between the dividend rate and stock price fluctuations.

Mehmood et al. [41] investigated stock price fluctuations in the Pakistani stock market. The research results confirm the relationship between interest payment rate, long-term debt ratio, profit before interest and tax, company size, and asset growth rate with stock price fluctuations. Handayani et al. [30], in study, investigated stock price fluctuations in the Indonesian stock market. The results of their research confirm that five variables: return on equity, debt-to-equity ratio, sales growth rate, company size, dividend payout ratio, and cash ratio have high explanatory power for forecasting stock price fluctuations. Bucci [15], to forecast stock price fluctuations using a neural network, used divided variables, profit-to-market price ratio, Fama-French three-factors model (size factor only, value factor only, a market factor only), inflation rate, and growth rate.

Based on this, using the theoretical background of the research, we classify the primary key factors affecting the stock price fluctuations according to *Table 1* into the general two categories of internal company factors and external factors:



**Table 1. Primary key factors and indexes affecting stock price fluctuations.**

Category	Index	Researcher
Internal factors of the company	Corporate governance	Ezazi et al. [22]
	Size of the company	Handayani et al. [30], Nazir et al. [46], Mehmood et [41], Profilet [54], Bucci [15]
	Value of the company	Bucci [15], Shahvardiani and Khajezadeh [61]
	Dividend percentage	Mehmood et al. [41], Nazir et al. [46], Profilet [54], Safian and Ali [60], Chaudry et al. [16], Handayani et al. (2019)[30] , Zainudin et al. [79], Bucci [15]
	Turnover	Girard and Omran [25]
	EPS	Osundina et al. [51]
	Book value	Osundina et al. [51]
	Price to earnings per share ratio (P/E)	Osundina et al. [51], Bucci [15]
	The long-term debt to total assets ratio	Mehmood et al. [41], Nazir et al. [46], Profilet [54], Safian and Ali [60]
	Profit before interest and tax to total assets ratio	Nazir et al. [46], Mehmood et al. [41], Chaudry et al. [16]
	Debt to equity ratio	Handayani et al. (2019)[30]
	Return on equity	Handayani et al. (2019)[30]
	Cash ratio	Handayani et al. [30], Ikromov and Yavas [33]
	market capitalization	Bucci [15]
	The growth rate of assets	Mehmood et al. [41], Nazir et al. [46], Profilet [54], Chaudri et al. (2015)[16]
External factors of the company	Inflation rate	Bucci [15], Yogaswari et al. [78], Kirui et al. [35], Prempeh [53], Oseni and Nwosa[49]
	Interest rate	Oseni and Nwosa [49],Yogaswari et al. [78], Prempeh [53]
	Currency rate	Yogaswari et al. [78], Walid et al. [73], Kirui et al. [35]
	Economic Growth Rate	Oseni and Nwosa [49], Kirui et al. [35], Prempeh[53], Bucci [15]
	The world price of gold The world price of oil	Contuk et al. [17], Mishra et al. [42] Masih et al. [40], Diaz et al. [20], Uwubanmwun and Omorokunwa [72], Bařta and Molnár [12]

In the following, some of the implemented studies using the scenario method in the financial field are mentioned:

Rezaei et al. [57], in their research, introduced a new approach based on scenario planning and forecasting methods to estimate diesel consumption. In their research, they compared predictive models for estimating diesel consumption with scenario planning. A comparison was made between MLP as a linear method, ANN as a non-linear method, and scenario planning as a method that takes uncertainty into account. The results of their research showed that the two possible scenarios are more similar to the results predicted by MLP and ANN methods. Alipour et al. [4] in a study, using the scenario planning model, investigated the amount of oil production in the post-sanction era. They first extracted the factors affecting oil production, then used the method of cross-effects analysis to determine the key factors with the most importance and the most uncertainty, and the method of morphological analysis to generate scenarios. And finally, using the fuzzy recognition map method, they extracted possible scenarios. Hanafizadeh et al. [29] introduced a new method for designing investment portfolios in Iran using scenario planning and the PROMETHEE method. First, they compiled a set of scenarios with the opinion of experts, then they ranked the strategies related to the scenarios using the PROMETHEE method and determined the percentage of investment in each area using linear models. Mohammadi and Pashoutanizadeh [43] used the scenario method in a study to investigate the effect of global oil and gold price changes on the Iranian stock market. Rahnemay roudpashti and Shirinbayan [56] discussed the design of the investment portfolio using the scenario planning method by applying the assumption-based planning method. The results of

their research showed that the assumption-based planning method is used for portfolio optimization and also has a better performance than the market index.

The review of the research background shows that future studies of factors affecting stock price fluctuations have not been focused on in the conducted studies; however, studies have been conducted to identify the effective factors of stock price fluctuations. Accordingly, according to *Table 1*, 21 primary indices were identified as influencing factors on stock price fluctuations to be used as a basis for future studies in this field.

### 3 | Research Methodology

According to the practical purpose, the current research is applied, cross-sectional, and qualitative, and is implemented as a descriptive survey using the scenario planning method. In general, the research implementation steps include two general steps:

**First step:** Identifying the most critical key uncertainties in the future of factors affecting stock price fluctuations in the Tehran Stock Exchange using the Fuzzy Delphi technique.

**Second step:** Studying the influence network of different modes of key uncertainties, scenario planning, and analysis of optimistic, probable, and pessimistic scenarios.

#### 3.1 | Steps of Research

##### 3.1.1 | First step: Identifying the most critical key uncertainties

To identify the most critical key uncertainties affecting stock price fluctuations, after defining the topic and determining the time horizon of the research [36], and library studies, including articles, theses, and the study of domestic and foreign books, key factors using the fuzzy Delphi method (*Table 1*) were extracted by considering the views of specialists and capital market experts. The Delphi method has become a broadly recognized forecasting technique [78]. Based on this, a questionnaire consisting of 21 questions was designed. The questionnaire was evaluated only in terms of content and appearance validity with the views of university professors, specialists, and experts. According to the type of questionnaire, the type of method (CIB analysis) and also, and the scenario method literature, there was no need to check the reliability manually; Because the Scenario Wizard software evaluates the reliability of the input data by checking and determining the internal consistency of the variables, and if the input data lacks reliability, this software does not provide any output or scenario due to the inconsistency of the data, and an error based on inconsistent data declares [55]. To collect data, the respondents were asked to evaluate the impact and uncertainty of each factor for each index, using a five-point Likert scale. Next, the score related to the degree of impact and uncertainty of each factor was converted into triangular fuzzy numbers according to *Table 2*.

**Table 2. Conversion of the Likert spectrum into triangular fuzzy numbers.**

Likert scale	Very low	Low	Middle	High	Very high
Triangular fuzzy numbers	0.0, 0.0, 0.25	0.0, 0.25, 0.5	0.25, 0.5, 0.75	0.5, 0.75, 1	0.75, 1, 1

To aggregate the views of experts, the fuzzy average method was used according to *Eq. (1)* and the defuzzification of the aggregated views was done according to *Eq. (2)* Finally, the options whose value is greater than the threshold (0.7) for both impact and uncertainty criteria [36] are identified as key uncertainties in forecasting Iranian stock price fluctuations.

$$F_{ave} = \frac{\sum_{i=1}^{i=n} l_i}{n}, \frac{\sum_{i=1}^{i=n} m_i}{n}, \frac{\sum_{i=1}^{i=n} u_i}{n} = (L, M, U) \quad (1)$$

$$Crips = \frac{L + M + U}{3} \quad (2)$$

### 3.1.2 | The second step: the study of the influence of network and scenario planning

In this step, to study the network effect of different modes of key uncertainties in the future of factors affecting stock price fluctuations using the CIB analysis matrix as one of the standard scenario planning tools, experts were asked to evaluate the cross-impacts of different modes using a 7-point Likert judgment scale, according to *Table 3*. The central question to complete this matrix is "if the status  $A_1$  of the key" factor  $A$  happens in the future, what impact will it have, for example, on the occurrence or non-occurrence of the status  $B_2$  of the key factor  $B$ , the answer of which is a spectrum of numbers +3 to -3 [57].

After completing the initial CIB matrices by each of the experts, based on the highest frequency (voting rules) for each of the answers, the final CIB matrix was formed, and finally, an influence network was provided, based on which, compatible scenarios are created using the Scenario Wizard software. Next, according to how many optimistic, pessimistic, and probable modes are predicted for the descriptors in each scenario, the most optimistic, probable, and pessimistic scenarios are determined among the created scenarios, and finally, the experts suggest strategies for these scenarios.

**Table 3. Judgmental scale and fuzzy equivalent in measuring CIB.**

The verbal equivalent of the amount and type of impact	Numerical equivalent
Highly reinforcing	+3
Moderately reinforcing	+2
Weakly reinforcing	+1
No effect	0
Weakly limiting	-1
Moderately limiting	-2
Highly limiting	-3

## 3.2 | Society and Statistical Sample

The statistical population of this research is the financial experts of Iran's capital market, including financial professors of universities, managing directors, investment managers, and financial experts and pundits in brokerage companies, investment companies, and capital-providing companies.<sup>7</sup> The statistical sample is 15 financial experts who are selected based on the judgmental/purposive and network (snowball) sampling methods. The minimum educational degree of these people is a master's degree and the minimum work experience in financial institutions is considered to be 10 years.

## 4 | Research Findings

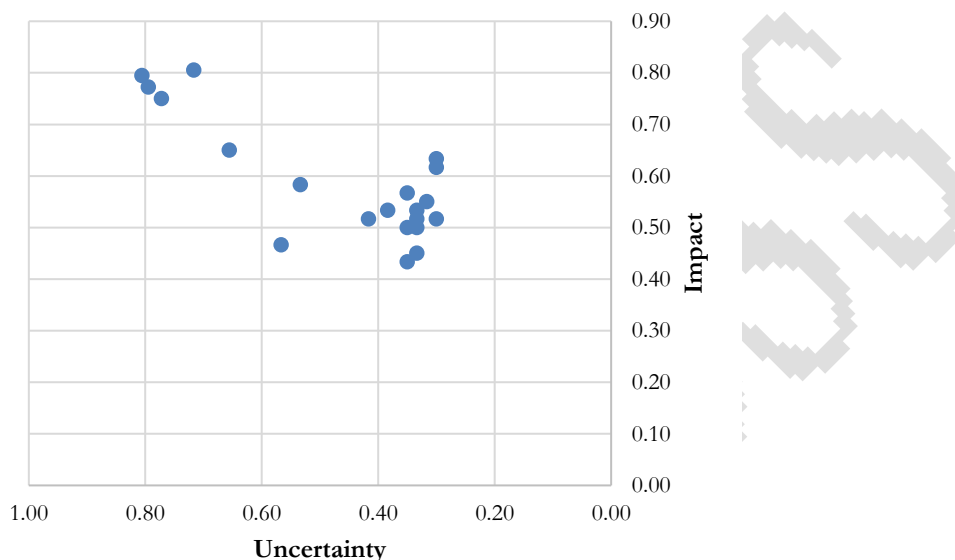
To identify possible future scenarios of factors affecting stock price fluctuations concerning the 2026 Perspective, key uncertainties were first identified by using the opinions of 15 experts in this field. For this purpose, two indexes of impact and uncertainty were used, as well as the Fuzzy Delphi method. *Table 4* indicates the final list of key uncertainties in the future of factors affecting stock price fluctuations with the degree of impact and uncertainty of each of them.



**Table 4. Key uncertainties of the research.**

Row	Key uncertainties	Impact	Uncertainty
1	Inflation rate	0.77	0.79
2	Interest rate	0.81	0.72
3	Currency rate	0.79	0.81
4	Economic Growth Rate	0.75	0.77

According to *Table 4*, among the 21 primary factors identified based on research literature and experts' views, 4 indexes with impact and uncertainty higher than 0.7 were identified as key uncertainties. *Fig. 1* indicates the result of the analysis of the collected data for the 21 primary indices of the research.



**Fig. 1. Uncertainty matrix - the impact of key uncertainties of factors affecting stock price fluctuations.**

After identifying the key uncertainties *Table 4*, to study the influence network between the leading modes, the most important identified factors affecting the future of stock price fluctuations concerning the 2026 Perspective, a set of possible modes for each of the key uncertainties to form CIB matrices according to the *Table 5* was considered.

**Table 5. Analytical structure of each of the key uncertainties.**

Key uncertainties	Modes
A: Inflation rate	A <sub>1</sub> Increase
	A <sub>2</sub> Stable
	A <sub>3</sub> Decrease
B: Interest rate	B <sub>1</sub> Increase
	B <sub>2</sub> Stable
	B <sub>3</sub> Decrease
C: Currency rate	C <sub>1</sub> Increase
	C <sub>2</sub> Stable
	C <sub>3</sub> Decrease
D: Economic growth rate	D <sub>1</sub> Increase
	D <sub>2</sub> Stable
	D <sub>3</sub> Decrease

After considering the different modes of the identified uncertainties *Table 5*, according to the research method, the experts evaluated the cross-impact of each of these modes on each other, and using the voting rule (highest frequency), the sum of their views was calculated and the final CIB matrix was obtained according to *Table 6*.

**Table 6. Final CIB matrix.**

Cross-Impact Matrix		A			B			C			D		
		A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>
A	A <sub>1</sub>				1	-1	-1	2	-1	-2	-3	-1	3
	A <sub>2</sub>				0	1	0	0	1	0	0	1	0
	A <sub>3</sub>				-1	1	1	-2	1	2	3	1	-3
B	B <sub>1</sub>	3	-1	-3				-1	-1	1	-2	-1	2
	B <sub>2</sub>	0	1	0				0	1	0	0	1	0
	B <sub>3</sub>	-3	1	3				1	1	-1	2	1	-2
C	C <sub>1</sub>	2	-1	-2	0	0	0				-2	-1	2
	C <sub>2</sub>	0	1	0	0	0	0				0	1	0
	C <sub>3</sub>	-2	1	2	0	0	0				2	1	-2
D	D <sub>1</sub>	0	0	0	0	0	0	0	0	0			
	D <sub>2</sub>	0	0	0	0	0	0	0	0	0			
	D <sub>3</sub>	0	0	0	0	0	0	0	0	0			

In the following, after studying the influence network of different modes of key uncertainties in the future of factors affecting stock price fluctuations *Table 6*, this analysis matrix and 4 compatible scenarios were identified using Scenario Wizard software. *Table 7* shows the status of each of the key uncertainties in the identified scenarios.

**Table 7. Status of key uncertainties in identified adaptive scenarios.**

Key Uncertainties in the Future Factors Affecting Stock Price Volatility	Scenario 1	Scenario 2	Scenario 3	Scenario 4
A: Inflation rate	Decrease (3A)		Stable (2A)	Increase (1A)
B: Interest rate	Decrease (3B)	Stable (2B)		Increase (1B)
C: Currency rate	Stable (2C)	Decrease (3C)	Stable (2C)	Increase (1C)
D: Economic growth rate	Increase (1D)		Stable (2D)	Decrease (3D)

As can be seen, the table of compatible scenarios *Table 7* shows the different modes of key uncertainties in each of the scenarios. In the following, to analyze and identify optimistic, probable, and pessimistic scenarios, for each of the different modes of uncertainty, three optimistic (O), middle (M), and pessimistic (P) statuses are considered so that the score of each status can be calculated for the scenarios. *Table 8* shows the results of this review.

**Table 8. Optimistic (O), middle (M), and pessimistic (P) scenarios.**

	A	B	C	D	Impact Factor	P	M	O
Scenario 1	Decrease	Decrease	Stable	Increase	12	0	1	3
Scenario 2	Decrease	Stable	Decrease	Increase	10	0	1	3
Scenario 3	Stable	Stable	Stable	Stable	8	0	4	0
Scenario 4	Increase	Increase	Increase	Decrease	14	4	0	0

According to *Table 8*, considering the scores of the optimistic, middle, and pessimistic modes of the scenarios, as well as their impact score, *Scenarios (1) and (2)*, due to their high overlap and the total impact score that are almost close to each other, were identified and named as the optimistic scenarios with the title "Golden age of the Stock Exchange", *Scenario (3)* as the most likely scenario under the title of "Continuation of the Current Situation", and *Scenario (4)* as the pessimistic scenario of "Capital Escape from the Stock Exchange".

## 5 | Discussion, Conclusions and Suggestions

The current research was conducted to explain the possible future scenarios of factors affecting stock price fluctuations concerning the 2026 perspective. This is even though most of the studies conducted in this field, such as Shahvardiani and Khajezadeh [61], Gholamian and Davoudi [24], Shariatmadari (2021) [63], Engel et al. (2021) [34], Lin et al. (2020) [38], Wang et al. [74], Bucci et al. [15] and Liu and Pan [38], only investigated the factors affecting stock price fluctuations and forecasting these fluctuations, and none of them investigated the future factors affecting stock price fluctuations.

In addition, future studies in various fields such as the tourism industry, the economic lifestyle of households, the transportation industry, urban planning, the agricultural industry, the food packaging industry, the banking industry, electronic services, the design of the investment portfolio, the quality of customs services, etc. have been used. Due to the novelty of the subject, the researchers of the present study did not find much research with similar conditions and results for reference, therefore, some of the suggested strategies for the scenarios rely solely on the experience and expertise of experts in this industry:

Accordingly, in the first step, based on the view of 15 experts who were selected in a judgmental-purposive approach and by the Fuzzy Delphi method, among the 21 primary factors *Table 1*, 4 indexes were identified as driving forces and key uncertainties affecting the future of the influencing factors of stock price fluctuations, which include: 1) Inflation rate, 2) Interest rate, 3) Currency rate, and 4) Economic growth rate.

Next, the set of possible modes for each of the key uncertainties was determined to form the CIB analysis matrix *Table 4* and with the experts' views based on the voting rule (highest frequency), the final CIB matrix *Table 5* was formed. Then, the obtained matrix was determined using Scenario Wizard analysis software and compatible scenarios. Finally, based on the view of experts, strategies were presented for the prosperity of the Tehran Stock Exchange and the reduction of fluctuations in each of the scenarios concerning the 2026 perspective. According to the results, among the four identified scenarios, *Scenarios (1) and (2)* as the most optimistic scenarios "Golden Age of the Stock Exchange", *Scenario (3)* is the most likely scenario "Continuation of the Current Situation", and *Scenario (4)* as the pessimistic scenario "Capital Escape from the Stock Exchange" was named.

The first scenario, the name "Golden Age of the Stock Exchange" is a combination of the first and second scenarios, is a set of all favorable situations and includes the best possible conditions for the Tehran Stock Exchange market. In this scenario, the cruel US sanctions are lifted, the currency rate decreases (Rial to Dollar rate), and the value of the national currency is strengthened. On the other hand, policymakers also reduced the interest rate. With the reduction of interest rates and the significant difference between stock returns and bank deposit returns, investors tend to invest in the stock market. Due to the drop in the price of the dollar, with the entry of investors into the stock market, industries that supply their products and services inside the country and import some of the raw materials or equipment from abroad will be more profitable. Despite the decrease in the dollar rate, export-oriented industries with the increase in the number of their exports will make more profit. In this case, we can witness an increase in economic growth while reducing interest rates and inflation. When the inflation rate drops, the level of people's savings increases, and as a result, the demand for stocks will grow. In this situation, the economic boom affects investors' expectations of the profitability of activities and the certainty of investment, and unbridled rises and sudden falls will be rare (unpredicted fluctuations).

For this purpose, the first scenario is considered an optimistic scenario that forecasts the most favorable situation. According to experts, the following strategies are suggested to benefit the capital market more from favorable conditions and reduce abnormal price fluctuations:

- I. The stability of regulations and the updating and removal of cumbersome regulations to facilitate the activity of entities active in the capital market according to new conditions.
- II. Encouraging competition and no mandatory pricing.
- III. Strengthening the role of the capital market in financing by providing legal and tax incentives to encourage issuers and investors to use the method of increasing capital from the use of stocks and strengthening the position and role of underwriters who are mainly capital-providing companies.
- IV. Increasing the transparency of issuers in quickly reflecting important news and improving the quality and timely release of financial reports to the market to prevent transactions based on confidential information and harm trust and fair competition in the capital market.
- V. Increasing transparency in supervisory institutions and regular reporting of organizations and stock exchanges regarding how to play their role in protecting the market mechanism and promoting the free and non-discriminatory flow of information for all activists.
- VI. Improving people's knowledge and investment culture to invest in the stock market.

*Scenario (3)* was named as the most probable scenario with the title "Continuation of the Current Situation". In this scenario, the factors influencing stock price fluctuations are faced with four intermediate situations, and it is assumed that the current situation will continue. The strategies of experts for this scenario are as follows:

- I. Development of financial tools including:
  - *Designing the necessary tools to make the market two-way (for example, borrowing sales) so that, in addition to the volume of transactions and money circulation in the market not entering a recession in times of decline (due to the loss aversion bias of investors who are less willing to exchange and modify the portfolio when prices fall), a suitable tool is created to prevent the formation of a price bubble and extreme fluctuations in the market.*
  - *Tools related to covering and risk transfer, including option and future contracts on all basic assets in the stock market, forward rate agreements, credit default swap contracts, etc. should be developed and introduced to be used by all economic actors and to deepen the market.*
- II. Not adopting new decisions and laws affecting the stock exchange without coordination with the Supreme Council of the Stock Exchange.
- III. Strict and systematic monitoring (based on software and with minimal personal judgment) of transactions and dealing decisively with market manipulation and those who intend to mislead and abuse the market in any way.
- IV. Encouraging indirect investment in the stock market.
- V. Incentive policies from the government for companies, such as tax discounts, adjustment of currency rates of banks, discounts on feed rates for petrochemicals and refineries, etc.

*Scenario (4)*, which is the most pessimistic scenario, is called "Capital Escape from the Stock Exchange". This scenario, in terms of frequency, includes all critical situations; if this scenario happens, the market of the Tehran Stock Exchange will face many challenges. In case of the intensification of US sanctions and despite the increase in interest rates, the currency rate will increase, and on the other hand, due to the high-interest rates, companies will not be able to receive credit and loans for their economic activities, and production will no longer be cost-effective. In this case, we will see a decrease in economic growth and an increase in inflation.

Therefore, to reduce side effects and turn threats into opportunities in this scenario, the following strategies are presented:

- I. Reducing the interbank interest rate and bank deposit interest to support the production and implementation of development projects.
- II. Allocation of special credit lines to financial institutions for the purchase of stocks (brokerages, banks, issuers, etc.).
- III. Allocation of interest-free credit lines to issuers to purchase treasury stocks.

- IV. Requiring the managers of state-owned companies and their subsidiaries and even banks to protect the Stocks of their subsidiaries, especially the stocks that these sectors have assigned during the boom period.
- V. Issuance of government bonds in the stock market subject to the control of liquidity inflow to the market.

## 6 | Limitations and Future Research

The study has several limitations. Such as the time-consuming completing of questionnaires and conducting interviews with experts and experts' unfamiliarity with the scenario planning approach. with due attention to scenario planning as a qualitative method, recommended future studies integrate scenario planning and quantitative methods to predict stock price fluctuation. quantitative methods of forecasting and scenario planning both examine developments over time, from two different perspectives. Forecasting looks to the past and scenario planning to the future. A deeper understanding of historical data analysis methods and approaches can help scenario planners acquire better insight into the future.

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