The Presidential period in the United States of America and stock returns, evidence from Iran

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The Presidential period in the United States of America and stock returns, evidence from Iran

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Declaration of Competing Interest
On behalf of all authors, the corresponding author expresses that there is no conflict of interest.

Data Availability Statements
The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.
Abstract

The most important event in the world is the presidential election in the United States of America, to which the stock markets of many countries react. This reaction may differ according to the presidential period in which one of the candidates is selected. Accordingly, our research aims to investigate the effect of two presidential periods with two different parties on the stock returns of companies listed on the Tehran Stock Exchange. Hence, using the analysis of 650 firm-year observations for the first period and 1095 firm-year observations for the second period, for two different presidential periods, respectively, the presidency of Barack Obama (Democratic Party) and Donald Trump (Republican Party), we find that the elections and the presidential period of both parties have a negative, significant effect on the annual cumulative stock returns of companies. Results show that investors react to events such as elections, even in emerging markets like Iran.

Keywords: United States presidential election, Presidential period, Iranian stock market, Stock return, parties, emerging markets
1. Introduction

The presidential election has affected the stock market, and investors will meticulously follow political events. In many cases, besides domestic elections, the stock market also has a direct effect on foreign elections. According to previous research, which was done in the field of the capital market, political cycles and presidential elections in industrial, developed countries affect the global economy. Hence, the US presidential election and the winning candidate are of great interest to financial market investors around the world.

The President of America significantly impacts how the world confronts international crises such as war, epidemics, and climate change. Such an election is the most important event widely covered by the media in all parts of the world (Boomgaarden et al., 2012). The United States is one of the most influential countries whose military, foreign, trade, and financial policies significantly affect political stability, economic performance, corporate profits, stock market returns, and fluctuations (Aizenman et al., 2016). Previous studies have found significant results from the impact of the US presidential election on stock markets in Canada and Mexico (Nippani & Arize, 2005), Indonesia (Evelyn & Basana, 2018), Taiwan (Hung, 2013), and Russia (Nanday & Sussan, 2019). (Pantzalis et al., 2000) analyzed the behaviour of the stock market index in the range of 33 countries on the political election dates for the years 1974 to 1995. Based on the evidence provided by these researchers, the elections have affected the stock markets of all the sample countries. All previous studies state that elections include events widely reflected in stock markets, and their results will affect these markets. Even some researchers, such as; Nippani and Medlin (2002), investigated the effect of delay in announcing the winner of the presidential election in 2000 on the performance of stock markets.

This study examines the reaction of the Iranian stock market to the US presidential election. Recent studies have investigated the Iran presidential elections' impact on the stock market. However, no study has been done yet on the impact of the US election on the Iranian capital market. In fact, in this article, we will examine the impact of two different periods of the presidency of the United States of America by the two Democratic and Republican parties, Obama and Trump, respectively, on the stock returns of companies listed on the Tehran Stock Exchange.
The continuation of this paper is organized as follows. Section 2 discusses the institutional background of Iran's capital market and the US presidential election, and in section 3, the research hypothesis is developed. Section 4 provides the research methodology, including how to collect data, the proposed model, and Control variables. Section 5 presents descriptive statistics and statistical analysis results, and the last part includes a discussion and conclusion.

2. Institutional background

2.1. The Iranian capital market

In 1954, the task of establishing the stock exchange was assigned to the Chamber of Commerce, Industries and Mines, the Central Bank, and the Ministry of Commerce. After 12 years of research and investigation, this group prepared the law and regulations for establishing the Tehran Stock Exchange in 1966. The National Council approved the bill to establish the Tehran Stock Exchange in May 1966. On the 4th of February 1968, the Tehran Stock Exchange (TSE) started working with the entry of the shares of the Bank of Industry and Mine and Pars Oil. A few years after the Tehran Stock Exchange started working, Iran was involved in two important events; a Change of government and war (1980-1988), and as a result, its activity was stopped for nearly a decade. But with the dissection of the first Five-year Development Plan in 1990, the Iranian stock market took on a new life. The law establishing the Tehran Stock Exchange was revised due to its inability to respond to the new needs of the stock market, and in November 2005, the amended law was approved by the Islamic Consultative Assembly of Iran. As a result, the number of companies listed in the Tehran Securities Exchange Technology Management Company and approved financial instruments increased significantly, and the basis of capital market privatization was implemented in Iran.

Now, four stock markets are operating under the Securities and Exchange Organization of Iran: (1) Stock Exchange, (2) Fara Bourse, (3) Mercantile Exchange, and (4) Energy Exchange (Research, Development and Islamic Studies (RDIS), 2018). The industries with the highest value on the Tehran Stock Exchange include chemical products, finance bonds, insurance, and pension fund except for social security, investments, extraction of metal ores, basic metals, banks and credit institutions (Iran Fara Bourse (Ifb. ir)).

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1 tsetmc.ir
The exchange is an institution that will show sensitivity to political evolution. Empirical studies state that one of the most important outer factors of the capital market that may affect it is political activities, including elections. For the markets of developed countries (United States, United Kingdom, and Canada), most statistical studies show that political elections and polls have an impact on stock prices.

The inflow and outflow of capital are the consequence of wide fluctuations in the stock market, and this relocation will have significant effects on the economy of countries. In developing countries, shocks to the economy caused by stock market fluctuations can be dangerous. As a result, investigating the interaction between stock market fluctuations and political developments is of special importance (Zare, 2021). Hereupon, Zare (2021) expressed that the Iranian stock market reacts significantly to domestic political events, such as presidential elections and external events, such as the imposition of economic boycotts and negotiations to remove them. (Faraji et al., 2020), by examining the effect of political cycles on the stock returns of listed companies in the Iranian stock market, concluded that intra-border presidential elections have a positive relationship with annual real and unreal stock returns of business entities. On the other hand, sohaili (2017); states that in the last years of the presidency, Tehran Stock Exchange has shown a higher return, and in this regard, there is a significant difference from the initial years. This finding is consistent with Hirsch's theory of presidential elections, which states that the stock market exhibits the highest returns in the final years of a presidential period. But it seems that the other parts of this theory do not apply to the Tehran Stock Exchange.

2.2. United States presidential election

Declaration of independence of the United States of America on 2 July 1776, after 13 states were able to defeat their common enemy, was issued to conquer Great Britain. Because at that time, there was no central government that could remove the needs of the people and the codified constitution was not written, an agreement was made between the states that laid the foundations of a confederation, the ineffectiveness of this form of government became a reason for the American society that This type of government should be the revision. In 1787, a conference was held in the city of Philadelphia, and after 11 years, the constitution was written, and the federal
government was established (Goharti et al., 2021). According to principle 2 of the United States Constitution, a person must be born in the United States to become president, at least 35 years old and live in this country for at least 14 years. Presidential candidates usually run in different American political parties, and that party, in a certain way (such as presidential primaries), nominates the person it considers to be the best option as its candidate. Presidential primaries are usually held indirectly. In this way, voters vote for a list of party representatives who are committed to a particular candidate. Then, the representatives formally choose a candidate to run for the party in the election.

The election of the president of the United States of America as a global superpower based on five primary factors: economy, military, political influence, innovation, and lifestyle, is a mandatory political event. The United States election system is based on the Electoral College vote, and a winning candidate must receive 270 of the 538 electoral votes (Ahmed et al., 2020). Following the holding of the presidential elections of the United States of America every four years, the elected president and vice president take the executive responsibility of the government of the United States of America by swearing on 20 January. According to the 22nd Amendment to the constitution, ratified in 1951, no person elected for two presidential periods can run for a third period. Since the beginning of the 20th century, with a significant increase in power during the presidency of Franklin Roosevelt, the presidency took on a more prominent role in the American political scene. In the modern era, the president is considered the only remaining superpower and one of the most powerful political personalities in the world (Drehle, 2017; Jon, 2008; Zakaria, 2008; Meacham, 2010). The president of the United States of America, as the leader of a nation with the largest economy in the world, has both domestic and international hard and soft power. America is one of the countries in the world that uses a two-party system. The modern two-party system (currently in use in the United States) includes the two major parties in the country, the Republicans and the Democrats. Of course, third parties usually do not have much power and are mainly active in the management of local departments. Among the most potent third parties, we can mention Freedom Party. The Republican and Democratic parties have won all presidential elections since 1852 and have taken control of Congress since 1856. In 2008, the 56th presidential election was held in the United States, and after the election campaign, power was finally transferred from George Bush Junior to Barack Obama. After that, Barack Obama went to the White House as the first African-American to be elected president for two periods, that is, until 2016. But on Tuesday, 8 November 2016, the 58th
Presidential election of the United States of America was held according to the constitution, and on 9 November 2016, Donald Trump won more than 270 votes from the Electoral College, the majority of 538 electors (more than He got 270 votes), which was enough to make him the elected president of the United States (Table 1).

Presidential elections and transfer of power

<table>
<thead>
<tr>
<th>Table (1): The two periods of the presidential election in the USA (reviewed in the study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elections</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>56th Election</td>
</tr>
<tr>
<td>58th Election</td>
</tr>
</tbody>
</table>

2.3. Election and Stock market

There is considerable empirical evidence that US presidential elections affect stock markets. Since the United States has the largest economy in the world, its presidential election is a significant event for this country and the general global community. Bajpai (2020) states that the United States is highly developed with substantial political power. Therefore, the results of the American elections can change the world's social and political-economic development. Initially, researchers such as Nordhaus (1975) and MacRae (1977) discussed the relationship between economic performance and political business cycles. Other studies by Allvine and O'Neill (1980) and Herbst and Slinkman (1984) focused on the relationship between the political-economic cycles of the stock market. Studies such as Hobbs and Riley (1984) and Homaifar et al. (1988) provided evidence regarding the commitment of profits to shareholders based on the results of the US presidential election. In addition, the impact of the US election on international markets was expressed based on the studies of Foerster (1994) and Foerster and Schmitz (1997). Foerster and Schmitz (1997); Jones and Banning (2009) provided evidence on the short-period and long-period international effects of the United States presidential election. They examined two hypotheses that can explain the effect of elections on stock fluctuations; 1- Election uncertainty and 2- Political uncertainty. In the election uncertainty hypothesis, the fluctuations of the stock market increase when the market uncertainty about the outcome of the election increases. On the other hand, according to the political uncertainty hypothesis, elections affect market fluctuations when unexpected information reaches the market. They proposed two new methods to measure political uncertainty. In the first step, they examined a financial channel in which
any change in the probability of a candidate winning should increase stock market fluctuations since a change should occur when unexpected information enters the market. They also considered a second new channel, namely the channel of macroeconomic policies; According to the channel, only positive changes in the odds of the opposition party candidate winning should raise investors' concerns as they expect potential changes in macroeconomic policies. It seems that the revision policy is associated with a significant increase in the fluctuations of stock returns (Pastor and Veronesi, 2012).

Mnasri and Essaddam (2020) stated that the return fluctuations increase during the election process, which means the election's result is effective on the investors' financial decisions. Macroeconomic policies (monetary, financial and ...) change significantly when the election's winner belongs to a political party other than the current president's party. On the other hand, there is considerable evidence that US presidential elections, particularly, have a large impact on US and outland stock markets. Nippani and Arize (2005) show that the Mexican and Canadian stock markets are not only as closely merged as possible with their American counterparts but also show that the markets of these countries follow the elections in the same way as the US markets themselves. Also, the study of the 30 countries with the most exports to the United States showed that the election results are essential for almost one-third of them (Beek, 2018).

Generally, stock market analyses during the election period clearly show that the 2016 US presidential election contained important market-related information to describe investors' trading strategies. The obtained results state that; During the election period, the global stock market was in a phase of instability, and on the day of the announcement of the results, almost all markets reacted significantly. Also, the stock markets of some countries, such as India, Australia, and Mexico, faced a more significant decline than other markets.

### 2.4. Hypotheses development

Despite the tendency of some political science scientists to theorize and investigate political phenomena without considering economic issues, many researchers rightly insist on the relationship between economics and politics. However, even these scholars sometimes use economic theories that underestimate the diversity and complexity of how political and economic relations influence each other, including the positive and negative effects of different economic practices on democracy (Swanson, 2007).

Several studies have provided evidence of the inextricable link between politicians and business performance (Leuz and Oberholzer-Gee, 2006; Faccio, 2010; Cooper et al., 2010).
Democracy is a system for assigning the determinants of political policies and organizing the government so that the policies reflect the citizens' priorities. Therefore, all citizens should have enthusiastic participation in choosing their leaders. Of course, it should be noted that this applies to developed and, to some extent, developing countries because many countries whose leaders are inefficient in resolving the basic needs of their citizens do not have a station in the matter of electing their presidents and for this reason, the election will be a downplay issue.

The effect of democracy on income and economic growth is unclear. Also, the relationship between politics and the economy is an old reality. On the other hand, elections may build a better institutional structure, improve governance, and to some extent, promote growth. In addition, markets tend to respond to new information about political decisions that may affect a country's fiscal and monetary policy (Murekachiro, 2014). On the other hand, we should not ignore the influence of countries' political relations on each other's economies and financial markets. While the political cycles and elections of countries with strong economic and political influence in the world, including the United States, may affect not only the economy and financial markets of developed countries but also developing countries such as Iran. In other words, economies and communications in the global village are in such a way that countries may not be able to prosper without interacting with each other and keeping their financial markets safe from upcoming crises. However, it does not matter whether these markets are efficient-market such as the New York Stock Exchange or the London Stock Exchange, or whether it is an emerging market, such as the stock exchange of a developing country such as Iran. Hence, Khanthavit (2021), by analyzing the sample returns from 6 August 2019 to 28 January 2021, observed significant reactions from the Thailand market to the US presidential election, the final election results, and the presidential inauguration ceremony. Meanwhile, the market did not react to the protests of Congress and Trump's efforts to invalidate the election results.

Research conducted by Niederhoffer et al. (1970) shows changes in the Dow Jones Industrial Average before and after presidential elections. In this research, the range of 1968-1900 was examined, and it included eighteen presidential periods. In this study, the authors concluded that the performance of the stock market during the assignment of republican and democratic governments is not systematically different. Focusing on the internal relationship between politics and the market, Allvine and O'Neil (1980) stated that markets generally follow a four-year business cycle, which coincides with the presidential election cycle. In addition, Huang (1985), examining common stock returns and presidential elections, found that, contrary to the belief that the Republican Party is better placed in business, returns are, on average higher during the Democratic government. Nevertheless, Riahi et al. (2013) stated that since the election will gradually affect the stock price, the domestic presidential election within one month and fifteen days before and after the event does not significantly affect the index's return. On the other hand, Faraji et al. (2020) stated that the
presidential election in Iran reinforced the positive relationship between political relations and cumulative abnormal returns.

According to the above, the research hypothesis is as follows:

H: The presidential period of the Democratic and Republican parties in the United States of America significantly impacted the Iranian stock market.

H-a: The presidential period of the Democratic party in the United States significantly affects cumulative stock returns.

H-b: The presidential period of the Republican party in the United States significantly affects cumulative stock returns.

This hypothesis states that the Iranian stock market will be affected during the period of the American presidency. However, the question is whether this effect will be positive or negative. Given that the policies of the two Republican and Democratic parties are entirely different towards Iran, and each of them expresses a different strategy towards each region of the world in their election meetings, therefore, inefficient and emerging markets such as Iran's capital market and investors may be sensitive to its results and follow it.

3. Research Methodology

3.1. Data Collection

Data related to stock returns and control variables in the regression model were used to test the research hypothesis from audited financial statements and explanatory notes from the site of Tehran Securities Exchange Technology Management Company, the Comprehensive Database of All Listed Companies in the Tehran Stock Exchange, and Iran's Financial Information Processing Center, in two four-year periods from 20/01/2009 to 20/01/2013, coinciding with the presidency of Barack Obama, and from 20/01/2017 to 20/01/2021, it has been collected during the presidency of Donald Trump(2-1 and 2-2).

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2 Tsetmc.ir
3 Codal.ir
4 fipiran.ir
3.2. Definition of variables and research model

In this study, to investigate the effect of the presidential periods of the United States of America on the stock returns of companies listed on the Iranian Stock Exchange, two four-year presidential periods of the Democratic Party and the Republican Party have been considered. Also, the dependent variable is the abnormal stock return, measured based on the stock price return inferred from the market model.

\[
R_{i,t} = \alpha_i + \beta_{i,m} \times r_{m,t} + e_{i,t}
\]

In this model, which is based on the market model, \(r_{i,t}\) and \(r_{m,t}\) it is the return of asset (share) \(i\) and the return of the market in period \(t\), respectively. \(\alpha_i\) and \(\beta_{i,m}\) are the parameters of the regression model, the first one is the width from the origin or constant value, and the second is the slope or beta of the
asset (share) \( i \) compared to the market return. Also, \( e_{t,t} \) is the error component of the model, and \( t \) takes on the values from one to \( T \) (the estimation period).

After calculating the actual return; an Abnormal return will be calculated:

\[
AR_{i,t} = R_{i,t} - (\alpha_i + \beta_{i,k}R_{m,t})
\]

After calculating the annual abnormal return for the company, the cumulative abnormal return (the difference between the actual return and the expected return) is calculated based on the market model as follows in two different presidential periods:

\[
CAR_T = \sum_{i} AR_t
\]

Finally, the research model, which is a modified form of the model of Lee et al. (2019), and Cooper et al. (2010), will be as follows:

\[
CAR_T = \beta_0 + \beta_{i,Election} + B_i Controls + \epsilon
\]

### 3.3. Control variables

Some lag-level control variables are included in the research regression model. Since investors tend to have a higher return, a high level of systematic risk (beta) is expected to generate excess returns (Fama and French, 1993). We measure beta using a market model, which is the additional return of a company \( i \) for a previous year compared to the excess return of the market or the index return of the Tehran Stock Exchange. Previous research has concluded that the ratio of market value to book value (MB), measured based on the annual value of shares compared to the book value of owners' equity, has a positive relationship with its rate of return (Kim et al., 2012). Return on assets (ROA), which is expected to be measured based on the ratio of net profit to total assets, and sales growth (Sale GR) based on the ratio of sales revenue growth of business units, are expected to be positively related to stock returns. Return on assets (ROA), which is measured based on the ratio of net profit to total assets, and sales growth (Sale GR), based on the ratio of sales revenue growth of business units, are expected to be positively related to stock returns (Chen and Zhang, 2007). The company's financial leverage (LEV),
measured based on the debt-to-asset ratio, indicates poor performance and reduces future returns due to financing (Fama and French, 1993). Cooper et al. (2010) found that small, growing firms have higher return rates than larger firms. Therefore, it is expected that the financial leverage and the size of the business unit (Size) (the natural logarithm of the total assets) have a negative relationship with the cumulative abnormal return.

4. Analysis of results

4.1. Univariate results

The descriptive statistics are summarized in Tables 3-1 and 3-2. The dependent variable, CAR, presents a mean of 0.405 for the first and 3.009 for the second periods.

Regarding the independent variable, election, which is a dummy variable, the average for both periods is 0.200 during the target years of the study. Also, in the first period, the return on assets (ROA) variable has the lowest value with a value of 0.125, and the firm size (size) has the highest average value of 19.865. Among the variables of the research, the return on assets (ROA) variable (0.109) had the lowest standard deviation and dispersion, hence, compared to other data, it is more focused and has more accuracy, and the firm size (size) variable has the highest standard deviation with a value of 6.514.

On the other hand, in the second period, the firm size (size) variable has the highest average value with an amount of 16.944, and the return on assets (ROA) has the lowest value of 0.161. Furthermore, among the variables of the research, the return on assets (ROA) variable (0.154) had the lowest standard deviation and dispersion; accordingly, compared to other data, it is more focused and more accurate, and the ratio of market to book (MB) with the value of 9.058 had the highest standard deviation.

Additionally, Tables 4-1 and 4-2 indicate that all the variables present a low correlation coefficient (<0.7), and the Variance Inflation Factor (VIF) (Panel $B_1$ and $B_2$) ranges from 1.00 to 1.95, well below 5, and 10, thereby confirming that multicollinearity should not be a concern.\footnote{VIF statistics are employed in ordinary least squares (OLS) linear models; our estimations are obtained by estimating the final model using linear regression (Orser et al., 2010).}
**Table 3-1 (The first period)**

Descriptive statistics.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR</td>
<td>0.405</td>
<td>0.369</td>
<td>-1.443</td>
<td>1.515</td>
<td>650</td>
</tr>
<tr>
<td>ELECTION</td>
<td>0.200</td>
<td>0.400</td>
<td>0.000</td>
<td>1.000</td>
<td>650</td>
</tr>
<tr>
<td>SALESGR</td>
<td>0.194</td>
<td>0.319</td>
<td>-0.470</td>
<td>1.680</td>
<td>650</td>
</tr>
<tr>
<td>MB</td>
<td>1.796</td>
<td>1.670</td>
<td>-2.870</td>
<td>10.500</td>
<td>650</td>
</tr>
<tr>
<td>LEV</td>
<td>0.629</td>
<td>0.207</td>
<td>0.070</td>
<td>1.310</td>
<td>650</td>
</tr>
<tr>
<td>ROA</td>
<td>0.125</td>
<td>0.109</td>
<td>0.000</td>
<td>0.450</td>
<td>650</td>
</tr>
<tr>
<td>Size</td>
<td>19.865</td>
<td>6.514</td>
<td>11.460</td>
<td>31.990</td>
<td>650</td>
</tr>
</tbody>
</table>

**Table 3-2 (The second period)**

Descriptive statistics.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR</td>
<td>3.009</td>
<td>1.602</td>
<td>0.925</td>
<td>9.953</td>
<td>1088</td>
</tr>
<tr>
<td>ELECTION</td>
<td>0.200</td>
<td>0.400</td>
<td>0.000</td>
<td>1.000</td>
<td>1095</td>
</tr>
<tr>
<td>SALESGR</td>
<td>0.425</td>
<td>0.523</td>
<td>-0.470</td>
<td>3.580</td>
<td>1095</td>
</tr>
<tr>
<td>MB</td>
<td>6.572</td>
<td>9.059</td>
<td>-11.910</td>
<td>52.880</td>
<td>1095</td>
</tr>
<tr>
<td>LEV</td>
<td>0.592</td>
<td>0.429</td>
<td>0.020</td>
<td>4.340</td>
<td>1095</td>
</tr>
<tr>
<td>ROA</td>
<td>0.161</td>
<td>0.154</td>
<td>0.000</td>
<td>0.700</td>
<td>1095</td>
</tr>
<tr>
<td>Size</td>
<td>16.944</td>
<td>4.595</td>
<td>10.020</td>
<td>30.930</td>
<td>1095</td>
</tr>
</tbody>
</table>
### Table (4-1) (The first period)

Pearson correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ELECTION</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. LEV</td>
<td>-0.003</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Size</td>
<td>0.013</td>
<td>*-0.007</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. MB</td>
<td>-0.044</td>
<td>***-0.163</td>
<td>-0.043</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ROA</td>
<td>0.034</td>
<td>***-0.618</td>
<td>0.000</td>
<td>***0.306</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>6. SALESGR</td>
<td>*-0.071</td>
<td>***-0.109</td>
<td>0.019</td>
<td>***0.141</td>
<td>***0.273</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Panel B1: Multicollinearity Diagnostics using Variance Inflation Factor (VIF)  
|       | 1.01 | 1.82 | 1.00 | 1.03 | 1.95 | 1.09 |

*** p<0.01, ** p<0.05, * p<0.1

### Table (4-2) (The second period)

Pearson correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ELECTION</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. LEV</td>
<td>**0.060</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Size</td>
<td>***0.312</td>
<td>0.040</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. MB</td>
<td>***-0.203</td>
<td>-0.038</td>
<td>***-0.121</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ROA</td>
<td>***-0.220</td>
<td>***-0.388</td>
<td>**-0.059</td>
<td>*0.052</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>6. SALESGR</td>
<td>***-0.242</td>
<td>***-0.157</td>
<td>**-0.067</td>
<td>***0.176</td>
<td>***0.253</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Panel B2: Multicollinearity Diagnostics using Variance Inflation Factor (VIF)  
|       | 1.19 | 1.39 | 1.12 | 1.00 | 1.47 | 1.07 |

*** p<0.01, ** p<0.05, * p<0.1
4.2. Multivariate results

To examine the relationship between the cumulative abnormal returns and the presidential course for which the Election proxy variable is used, the panel regression model has been run twice for two periods in Table 5. How does CAR in Iran behave toward the two presidential courses in the United States of America? Results support the influence that election has on the CAR in both periods, of course, a negative relationship (respectively, Coef. -0.380, P<0.01 and -1.470, P<0.01). In words, the presidencies of both Democratic and Republican parties in the United States hurt the abnormal stock returns stock of companies listed on the Tehran Stock Exchange.

Table 5
The results of research hypotheses testing

<table>
<thead>
<tr>
<th>variable</th>
<th>CAR – H-a</th>
<th></th>
<th>CAR – H-b</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>P&gt;</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>ELECTION</td>
<td>***-0.380</td>
<td>0.000</td>
<td>***-1.470</td>
<td>0.000</td>
</tr>
<tr>
<td>LEV</td>
<td>**0.211</td>
<td>0.033</td>
<td>-0.155</td>
<td>0.179</td>
</tr>
<tr>
<td>Size</td>
<td>0.000</td>
<td>0.808</td>
<td>0.002</td>
<td>0.758</td>
</tr>
<tr>
<td>MB</td>
<td>***0.016</td>
<td>0.000</td>
<td>***0.068</td>
<td>0.000</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.013</td>
<td>0.957</td>
<td>***5.380</td>
<td>0.000</td>
</tr>
<tr>
<td>SALESGR</td>
<td>***0.222</td>
<td>0.000</td>
<td>**0.493</td>
<td>0.012</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.619</td>
<td>0.796</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
<td>2.305</td>
<td>1.842</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>****7.192</td>
<td>0.000</td>
<td>***19.986</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td>650</td>
<td>1088</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***p<0.01, **p<0.05, *p<0.1
5. Discussion and conclusions

In this research, we have sought to investigate the impact of the presidency of the two Democratic and Republican parties in the United States on the annual cumulative abnormal returns of stocks in companies listed on the Tehran Stock Exchange during two periods, the years 2009 to 2013 and 2017 to 2021, in this regard, the main hypothesis and two sub-hypotheses were presented.

In the first sub-hypothesis, we have sought to investigate the impact of the victory of the Democratic Party and the presidency of Barack Obama on the cumulative abnormal returns of stocks. In this regard, elections were used as a proxy for the victory of a particular party and the presidential periods. The results indicated that the victory of the Democratic Party in the United States and the coming to power of Barack Obama had a negative and significant impact on the cumulative stock returns of Iran. So that with the coming to power of the Democratic Party, the stock returns of the companies listed on the Tehran Stock Exchange have decreased and have hurt their returns.

On the other hand, the second sub-hypothesis sought the impact of the victory of the Republican Party and the presidency of Donald Trump on the cumulative abnormal returns of stocks. The results showed that the presidency of Donald Trump, representing the Republican Party in the United States of America, has had a negative and significant impact on Iran's cumulative stock returns. This means that with the Republicans coming to power, the cumulative abnormal return of the stocks of the companies listed on the Tehran Stock Exchange has decreased and has hurt their return. Hence, the findings of this research are consistent with the results obtained by Obradović et al. (2017). They stated that the US presidential election in November 2012 had a negative and significant impact on the stock returns of firms active on the New York Stock Exchange. Pham et al. (2018) declare that the life insurance sector is one of the industries most negatively affected by Trump's replacement in the US presidency seat. The 45th president of the United States has different characteristics from a presidential candidate, but she is an experienced person with a history in government positions. Morales et al. (2021) stated that at low levels, stock market fluctuations could be seen in the second period of Obama's presidency. In addition, higher levels of market uncertainty were identified in the first period. Of course, these results are not surprising because the first period of Obama's presidency was affected by global economic and financial crises. Oehler et al. (2013) acceded a different reaction caused by election results from 1980 to 2008 on the stock market performance of eight industries. A Democratic candidate's victory has a relatively negative impact on overall stock returns. Against, the victory of the Republican
candidate has been relatively different. The alteration from a Democrat to a Republican, or vice versa, has more potent effects on the stock market than re-election or the election of a president from the same party. On the other hand, the obtained results do not agree with Jones and Banning (2009). They examined the relationship between stock market performance and "various events in US elections" but did not find a strong relationship between them. Also, Hoe et al. (2017) the impact of the 2016 United States election on three main and leading indicators; investigated SHCOMP, SZCOMP, and SHSZ300 in China; no significant effect was seen in the first two indices, but an immediate effect was found on the SHSZ300 index. They attribute this to the dominance of less sophisticated investors on the stock market and the country's media censorship regarding the US election event.

On the other hand, this research provides worthwhile guideline directions for future research. The method used in this research can be used for studies in countries with similar economic structures. Our findings have valuable implications for investors and market analysts in Iran and other countries. It can also be helpful for the government in guiding the stock market towards an efficient market. Furthermore, future researchers can examine the concurrent impact of macroeconomic variables on the relationship between elections, stock returns, and even market index changes.

Appendix A. Definition of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR</td>
<td>Cumulative abnormal returns are measured as the sum of the difference between the actual returns of security and the expected returns based on the Market model in 12 months or (365 days)</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>Election</td>
<td>A dummy variable that takes the value of 1 if the presidential election is held in a given year and 0 otherwise (as a proxy variable from the presidential period)</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Natural logarithm of a firm's assets</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>Lev</td>
<td>Debt-to-asset ratio of a firm</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>ROA</td>
<td>The ratio of net income to total assets</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>Sales GR</td>
<td>growth ratio of firms' sales revenue</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>MB</td>
<td>The market capitalization of firms divided by the book value of the owner's equity</td>
<td>Lee et al. (2019)</td>
</tr>
<tr>
<td>Beta</td>
<td>Market beta based on 356 daily excess returns regression of market index excess returns</td>
<td>Lee et al. (2019)</td>
</tr>
</tbody>
</table>
Author's contribution statement
First author: Responsible for data collection and analysis
Second writer: responsible for writing the text
The third author: as a consultant, supervising the research process and final editing of the text

Reference
Beek, C. 2018. The effect of the US presidential elections on the stock market of the top trading partners of the US Faculty of Economics and Business, University of Amsterdam.


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