SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2025
ORGANIZATION AND MANAGEMENT SERIES NO. 238

ANALYSIS OF THE IMPACT OF THE U.S. PRESIDENTIAL CYCLE FRAMEWORK ON STOCK MARKET RETURNS: EVIDENCE FROM U.S. STOCK INDEXES

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Purpose: This study aims to evaluate the validity of the U.S. presidential cycle framework in predicting returns on U.S. stock indexes, including sector indexes, to address the research gap in its application to sector-specific indexes.
Design/methodology/approach: The research analyzes monthly returns from 18 U.S. stock indexes (3 major, 15 sector-specific) from their inception (1971-2002) to January 2025. It tests two hypotheses: H_1, that returns are highest in the third year and lowest in the first year of presidential terms; H_2, that returns are higher in the second half (years 3-4) than the first half (years 1-2). Robust and simplified approaches compare annual and halved-term returns, respectively. To determine whether the results are statistically significant, one-way ANOVA tests are used.
Findings: The presidential cycle framework shows limited validity in the robust approach, with only 1.85% of cases having the highest returns in year 3 and lowest in year 1. It is more valid for predicting higher returns in year 3 (52.78%), especially for Republican presidents (59.26%), but invalid for lowest returns in year 1 (0%). In the simplified approach, higher returns in the second half are confirmed in 63.89% of cases, particularly for Republican presidents (77.78%).
Research limitations/implications: Limited historical data for some sector indexes may affect generalizability. Future research could incorporate monetary policy or investor sentiment to explain sectoral deviations.
Practical implications: Investors may benefit from anticipating higher returns in the second half of Republican presidents' terms, aiding portfolio strategies.
Originality/value: This study uniquely validates the presidential cycle framework across 15 sector indexes, addressing a gap in prior literature focused on major indexes
Keywords: presidential cycle, stock market returns, sector indexes, U.S. elections, investor sentiment.
Category of the paper: research paper, conceptual paper.

1. Introduction

The U.S. presidential cycle framework is significant for both researchers and investors. For researchers, it elucidates the influence of political dynamics on financial markets, while for investors, it enables the prediction of periods with higher and lower returns (Nguyen, Mathieu, 2008). This framework, introduced by Yale Hirsch in the Stock Trader's Almanac, published annually since 1967, posits that U.S. stock market returns follow a recurring pattern driven by four-year presidential cycles (Hirsch, 1967).

The first year of the cycle, coinciding with the presidential inauguration, exhibits the lowest returns throughout the cycle. Investor behavior is marked by caution due to emerging concerns regarding planned reforms, new regulations, and changes in fiscal policy. This year is often associated with restrictive monetary policy, constraining financial market liquidity. The second year, continuing the presidential term, shows a slight improvement in returns, though they typically remain below average. Congress's increasing legislative involvement introduces uncertainty. Historically, the second year has frequently coincided with wars and recessions. The third year of a U.S. presidential term, a pre-election year, is potentially characterized by the highest returns according to the presidential cycle framework. This arises from the incumbent administration's focus on economic stimulation to enhance voter sentiment. The year often features looser fiscal and monetary policies, fostering greater investor optimism. The fourth year, an election year, yields above-average returns, albeit not as high as in the pre-election year. Political decisions are cautious to avoid alienating voters. Financial markets respond to campaigns, polls, and potential changes in administration, generating uncertainty (Hirsch, 1967).

According to the U.S. presidential cycle framework, the returns for each year of a presidential term are characterized by the following equation:

$$\mathbf{R_3 > R_4 > R_2 > R_1},$$

where:

R_4 – returns in year 4,

R_3 – returns in year 3,

R_2 – returns in year 2,

R_1 – returns in year 1.

Prior empirical studies, including Santa-Clara and Valkanov (2003) and Long (2015), confirm higher average returns under Democratic administrations and in the second half of U.S. presidential terms for the S&P 500, DJIA, and NASDAQ indexes (Arnott et al., 2017; Beyer et al., 2008, 2015). The literature also highlights a premium for small-cap stocks under Democratic administrations (Bonaparte, 2017; Bazley, Bonaparte, 2020) and the impact of political uncertainty on volatility (Białkowski et al., 2019). Most of these studies focus on major

U.S. stock indexes, such as the S&P 500, or stock baskets, with limited analysis of the validity of the U.S. presidential cycle framework for sector indexes. This paper addresses this research gap.

This study aims to evaluate the validity of the U.S. presidential cycle framework in predicting returns on U.S. stock indexes, including sector indexes. The analysis is based on data from eighteen U.S. stock indexes, comprising three major indexes and fifteen sector indexes representing key sectors of the U.S. economy.

The following research hypotheses were tested:

- **H_1**: The U.S. presidential cycle framework accurately predicts that returns on U.S. stock indexes are highest in the third year and lowest in the first year of presidential terms.
- **H_2**: The U.S. presidential cycle framework accurately predicts that returns on U.S. stock indexes are higher in the second half (years 3-4) and lower in the first half (years 1-2) of presidential terms.

The research problem aligns with the following economic theories:

- the U.S. presidential cycle framework, on which this paper directly draws to assess its validity (Hirsch, 1967),
- the efficient market hypothesis, suggesting that cyclical return patterns from presidential cycles may reflect deviations from full market efficiency (Fama, 1970),
- behavioral finance, through the analysis of investor sentiment's impact during individual years of presidential terms on stock market dynamics (Kahneman, Tversky, 1979).

The paper comprises six sections. The introduction defines the U.S. presidential cycle framework, identifies a research gap, articulates the research objective and hypotheses, and establishes the paper's foundation in economic theories. The second section reviews the literature on the impact of presidential cycles on the U.S. stock market. The third section outlines the research assumptions and methodology. The fourth section presents the empirical findings. The fifth section offers conclusions and a discussion of these findings. The final, sixth section provides details on the funding sources for this publication.

2. Literature review

The literature confirms the existence of systematic patterns of returns on the American stock market linked to presidential cycles. Empirical research most often indicates: higher rates of return in the second half of the term, maximum rates of return in the pre-election year, variation in rates of return depending on the size of individual companies, and those Democratic administrations are more conducive to higher rates of return on the stock market than Republican presidents.

Based on patterns observed across presidential terms, Arnott et al. (2017) confirm the presence of higher returns in the second half of U.S. presidential terms, while noting the absence of such patterns in international markets. Beyer et al. (2008) report lower returns in the first half and higher returns in the second half of U.S. presidential terms, with the most significant increases occurring in the third year, attributed to monetary policy and prevalent political uncertainty. In a subsequent study, Beyer et al. (2015) demonstrate that returns are influenced by political and monetary factors but are independent of the president's political affiliation. Hensel and Ziemba (1995) and Wong and McAleer (2009) provide statistically significant evidence of cyclical trends, characterized by lower returns in the first half and higher returns in the second half of a president's term. Conversely, Benenson (2020) suggests that these patterns have diminished in recent years.

Santa-Clara and Valkanov (2003) demonstrate that annual excess returns, calculated using value-weighted portfolios, reach 10.69% under Democratic administrations, compared to only 1.69% under Republican administrations. Their earlier study (Santa-Clara, Valkanov, 2000) reports returns 9-16 percentage points higher for Democratic administrations for both value-weighted and equally weighted portfolios. Similar findings are reported by Long (2015), who, accounting for the risk-free rate, finds returns of 10.83% for Democratic administrations and -1.20% for Republican administrations. These differences are statistically significant.

The literature also highlights differences in returns based on firm size. Bonaparte (2017) and Bazley and Bonaparte (2020) demonstrate higher returns under Democratic administrations, as well as superior performance for small-cap firms relative to large-cap firms, and the influence of investor sentiment on stock selection. Białkowski et al. (2019) examined the effects of political uncertainty on market volatility, demonstrating that political factors—such as presidential cycles—increase volatility, particularly during midterm elections.

Literature analysis also indicates variability in the effects of the presidential cycle across historical periods. For example, in the period 1971-1990, characterized by high inflation and oil crises, the cycle effects were less pronounced compared to the period 1991-2010, when economic stabilization favored more pronounced cyclical patterns (Benenson, 2020). Segmenting the data by decade suggests that monetary policy and global economic conditions may modulate the strength of the presidential cycle. However, the lack of a meta-analytic synthesis in the literature makes it difficult to clearly identify these relationships.

Table 1 presents a summary of the literature review on the impact of presidential cycles on the stock market.

Table 1.
Summary of the literature review on the impact of presidential cycles on the stock market

Author and year	Research methods	Research period	Indices examined	Main conclusions
Santa Clara, Valkanov, 2003	Time series analysis, econometric analysis	1927-1998	US equity market (capitalisation-weighted and balanced portfolios)	- returns are higher during Democratic presidencies, regardless of the economic cycle
Santa Clara, Valkanov, 2000	Quantitative analysis and quantile regressions	1927-1998	US equity market (capitalisation-weighted and balanced portfolios)	- during periods of Democratic rule, risk and returns are higher, particularly for small businesses and balanced portfolios, suggesting that presidential cycles have a significant impact on the stock market
Long, 2015	Regression analysis and comparison of rates of return	1929-2012	CRSP Value Market Index (NYSE, AMEX, NASDAQ)	- stock markets indicate higher returns under Democratic administrations – these differences are not fully explained by macroeconomic factors such as interest rates or economic growth
Arnott et al., 2017	Time series analysis of rates of return	1950-2017, (1988-2017 for France and Germany)	S&P/ASX (Australia), S&P/TSX (Canada), CAC-40 (France), DAX-30 (Germany), FTSE All Shares (United Kingdom)	- no evidence of systematic influence of the ruling party on stock market returns - returns are mainly driven by random events, which weakens the argument that politics has a stable influence on the financial market
Beyer et al., 2008	Time series analysis	1957-2004	New York Stock Exchange (NYSE)	- confirmation of the relationship between stock market returns and presidential cycles - higher returns in the second half of the term, especially in the third year - monetary policy actions correspond to the identified pattern of returns
Beyer et al., 2015	Regression analysis and comparison of average rates of return	1965-2008	S&P 500, small companies, long-term bonds, treasury bills	- in the third year of a presidential term, higher rates of return are observed on the stock market, which may be due to the policies of presidents and the actions of the central bank – this process is particularly evident in the case of small companies
Hensel, Ziemba, 1995	Time series analysis, comparative market research	1928-1993	US large-cap equities, small-cap equities, various bond indices and cash	- regardless of the party to which the president belonged, returns on shares of small and large companies were significantly higher in the second half of the term - returns on shares of small companies were higher under Democratic administrations - returns on shares of large companies were statistically identical regardless of the party to which the president belonged

Cont. table 1.

Wong, McAleer, 2009	Spectral analysis and EGARCH model	1965-2003	S&P 500	- a clear four-year presidential cycle has been detected, characterised by declines in the second year and increases in the third or fourth - the observed cycle is stronger during periods of Republican government
Bonaparte, 2017	Time series analysis	1945-2014	US equity market (capitalisation-weighted and balanced portfolios)	- Democratic presidents have a greater ability to positively influence the stock market - party politics usually have a negative impact on the stock market
Bazley, Bonaparte, 2020	Time series analysis, econometric analysis	No data available	S&P 500	- at the beginning of a term of office, when political uncertainty is at its highest, risk aversion among investors increases, leading to lower returns and higher volatility - as time passes, uncertainty decreases and investors' risk tolerance increases, which improves returns on equities and reduces market volatility
Białkowski, Nahavandi, 2019	Statistical analysis, regression analysis, comparison of historical rates of return	1954-2017	S&P 500	- the occurrence of the election effect, increasing rates of return in the period following elections, particularly in the case of mid-term elections
Benenson, 2020	Statistical analysis, systematisation and generalisation	1887-2020	DJIA	- the presidential cycle affects market returns, especially in the year before an election - in recent years, patterns associated with presidential cycles have been disappearing

Source: own study.

The referenced studies confirm higher returns under Democratic administrations and in the second half of presidential terms, primarily for major indexes (S&P 500, DJIA, NYSE, NASDAQ). However, the literature addresses sector indexes to a limited extent. The absence of comprehensive analyses evaluating the validity of presidential cycles in predicting returns for sector indexes represents a research gap, which this study addresses through empirical validation of the concept across eighteen indexes, including fifteen sector-specific indexes.

3. Methods

The study utilizes data from the inception of the selected indexes (between January 1, 1971, and January 1, 2002) to January 1, 2025. Given the nature of the presidential cycle framework, which compares annual returns, a monthly interval was adopted. The study includes three major U.S. indexes: the S&P 500, Dow Jones, and Nasdaq, alongside sector indexes representing key

economic sectors from the S&P 500, Dow Jones, and Nasdaq sector indexes. Data availability served as the criterion for selecting sector indexes, with the index having the longest data history chosen for each sector. The parameters of the selected indexes are presented in Table 2.

Table 2.
Parameters of indices selected for the study

Index name	Available data	Data used	Industry
NASDAQ Bank	1982-01-05	1983-01-01	Banking
NASDAQ Biotechnology	1993-11-02	1994-01-01	Biotechnology
NASDAQ Industrial	1980-03-18	1981-01-01	Industry
NASDAQ Insurance	1982-01-05	1983-01-01	Insurance
NASDAQ Other Finance	1982-01-05	1983-01-01	Finance - other
NASDAQ Telecommunications	1982-01-05	1983-01-01	Telecommunications
NASDAQ Transportation	1982-01-05	1983-01-01	Transport
S&P 500 Consumer Discretionary	1989-09-12	1990-01-01	Other consumer goods
S&P 500 Consumer Staples	1989-09-12	1990-01-01	Basic goods
S&P 500 Energy	1989-09-12	1990-01-01	Energy resources
S&P 500 Health Care	1989-09-12	1990-01-01	Healthcare
S&P 500 Information Technology	1989-09-12	1990-01-01	Technology
S&P 500 Materials	1989-09-12	1990-01-01	Raw materials
S&P 500 Real Estate	2001-10-10	2002-01-01	Real estate
S&P 500 Utilities	1989-09-12	1990-01-01	Public utilities
S&P 500	1970-02-01	1971-01-01	Main
Dow Jones	1970-02-01	1971-01-01	Main
Nasdaq	1980-04-01	1981-01-01	Main

Source: own study.

The study includes a total of 18 indexes, comprising 3 major indexes (Enderle, 2003) and 15 sector indexes (Zalgiryte et al., 2014), with 7 NASDAQ sector indexes and 8 S&P 500 sector indexes. No Dow Jones sector indexes were selected. When data were available from a date later than January 1 of a given year, data from January 1 of the subsequent year were used in the calculations.

The study was conducted using an analysis of returns. One-way analysis of variance (ANOVA; Lani, 2010; Malska, Twaróg, 2017) was employed to confirm the statistical significance of the relationships examined. All relationships presented are statistically significant, as confirmed by one-way ANOVA.

The research procedure comprised the following steps:

1. Downloading monthly prices for major indexes and sector indexes of the S&P 500, Dow Jones, and Nasdaq from www.investing.com.
2. Selecting target sector indexes based on the longest available time series.
3. Calculating annual returns for each target index per year, followed by analysis and comparison of annual returns (robust approach).
4. Calculating annual returns for each index per year, followed by analysis and comparison of returns across the terms of Democratic and Republican presidents (robust approach).

5. Analyzing and comparing returns from the first and second halves of all presidential terms, as well as those of Democratic and Republican presidents (simplified approach).
6. Conducting statistical tests using one-way analysis of variance (ANOVA) to confirm the statistical significance of the results.
7. Analyzing results and formulating conclusions.

To assess the utility of the presidential cycle framework, the study was conducted using two approaches, designated as robust and simplified. The robust approach assumes that returns in the third year of a presidential term are the highest and those in the first year the lowest among the four years analyzed. The simplified approach assumes that returns in the second half of a presidential term are at least higher than those in the first half.

4. Results

Figure 1 presents a summary of the years of presidential terms with the highest and lowest returns for all presidents.

Figure 1. Years of presidential terms with the highest and lowest returns for all presidents [%].
Source: own study.

Among all analyzed indexes, the third year of a presidential term most frequently exhibited the highest returns (52.8% of cases), consistent with the presidential cycle framework. In contrast, the second year of a presidential term recorded the lowest returns in 76.9% of cases, which is inconsistent with the presidential cycle framework (which predicts the first year as the lowest). For none of the indexes was the first year the lowest or the third year the highest in the majority of cases.

Figure 2 presents a summary of the years of presidential terms with the highest and lowest returns for Democratic presidents [%].

Figure 2. Years of presidential perms with the highest and lowest returns for Democratic presidents [%].

Source: own study.

Among all analyzed indexes, the first year of a Democratic president's term most frequently exhibited the highest returns (36.1% of cases), which is inconsistent with the presidential cycle framework (predicting the third year as the highest). In contrast, the third year recorded the lowest returns in 52.8% of cases, which is inconsistent with the presidential cycle framework (predicting the first year as the lowest). Only the NASDAQ Biotechnology Index exhibited the third year as the highest and the first year as the lowest in most cases.

Figure 3 presents a summary of the years of presidential terms with the highest and lowest returns for Republican presidents [%].

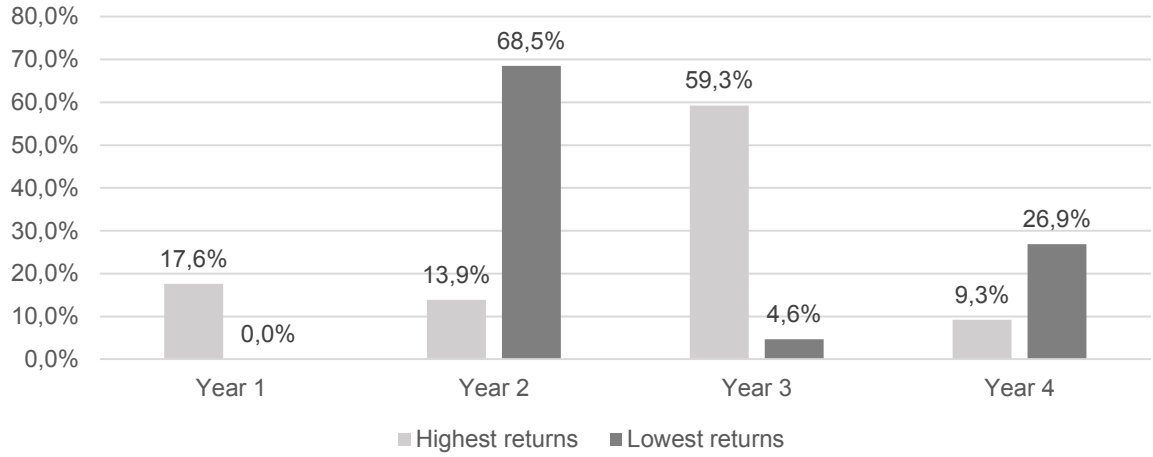

Figure 3. Years of presidential perms with the highest and lowest returns for Republican presidents [%].
Source: own study.

Among all analyzed indexes, the third year of a Republican president's term most frequently exhibited the highest returns (59.3% of cases), consistent with the presidential cycle framework. In contrast, the second year recorded the lowest returns in 68.5% of cases, which is inconsistent with the presidential cycle framework (predicting the first year as the lowest). No index exhibited the first year as the lowest and the third year as the highest in most cases.

The study also compared returns in the first (years 1-2) and second (years 3-4) halves of presidential terms for all presidents, as well as for Democratic and Republican presidents (see Figure 4).

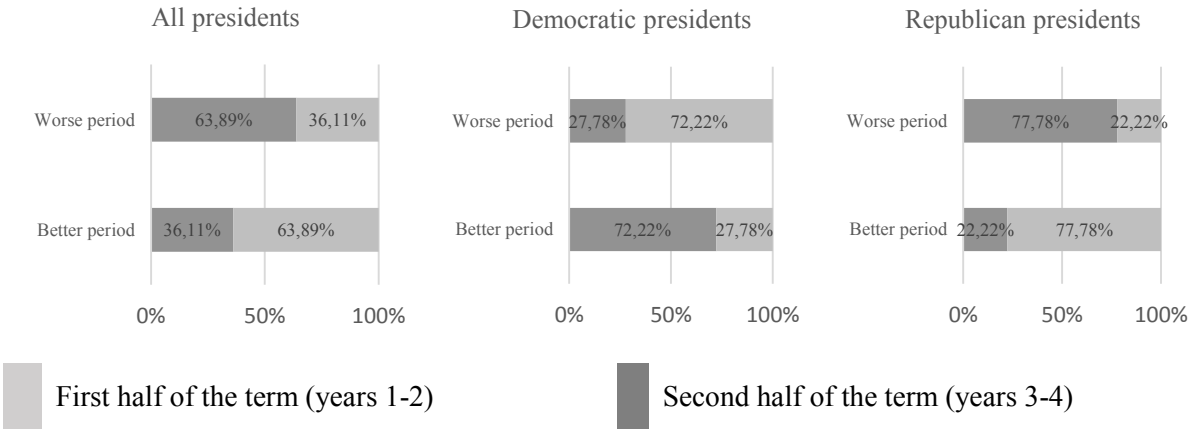

Figure 4. Comparison of returns in the first and second halves of presidential terms for all presidents and by Democratic and Republican presidents [%].

Source: own study.

Among all analyzed indexes, the second half of presidential terms exhibited higher returns than the first half in 63.9% of cases for all presidents. For Democratic presidents, the second half exhibited higher returns than the first in only 27.8% of cases. In contrast, for Republican presidents, the second half exhibited higher returns than the first in 77.8% of cases.

Table 3 summarizes the validity of the presidential cycle framework in the robust approach (years with the highest and lowest returns) and the simplified approach (halves of presidential terms with higher and lower returns).

Table 3.
Summary of the Validity of the Presidential Cycle Framework

Predicting the years with the highest and lowest returns (robust approach):			
Prediction	**All presidents**	**Democrats**	**Democrats**
Year 3 with the highest returns	52,78%	22,22%	59,26%
Year 1 with the lowest returns	0,00%	2,78%	0,00%
Prediction of the Halves of Presidential Terms with Higher and Lower Returns (Simplified Approach):			
Lower returns in the first half and higher returns in the second half of presidential terms	63,89%	27,78%	77,78%

Source: own study.

In the robust approach, the presidential cycle framework exhibited higher validity in predicting the highest returns in the third year of presidential terms (52.78%), particularly for Republican presidents (59.26%). In the simplified approach, the validity was higher in all cases than in the robust approach.

5. Discussion

The study validated the presidential cycle framework in the U.S. The results indicate partial validity, particularly in the simplified approach, where the second half of presidential terms (years 3-4) exhibits higher average returns than the first half (years 1-2) in 63.89% of cases for all presidents. This aligns with findings in Arnott et al. (2017), Beyer et al. (2008, 2015), Hensel and Ziemba (1995), and Wong and McAleer (2009), which confirm higher average returns in the second half of presidential terms and the highest returns in the third year. These studies, primarily based on major U.S. stock indexes, demonstrate statistically significant cyclicality, where the first half of presidential terms is marked by political uncertainty and restrictive monetary policy, leading to lower returns, while higher returns in the second half result primarily from economic stimulus.

However, in the robust approach—assuming the highest returns in the third year and the lowest in the first—the presidential cycle framework exhibited low validity, with returns simultaneously highest in the third year and lowest in the first in only 1.85% of cases. These results partially contrast with prior research, where Benenson (2020) documented a significant increase in returns in the pre-election year for the DJIA index from 1887-2020, and Beyer et al. (2008) indicated higher returns in later years of presidential terms. This discrepancy may arise from expanding the analysis to sector indexes, which have rarely been examined previously.

The results also highlight variation depending on the president's political affiliation. In the simplified approach, the presidential cycle framework exhibited a validity of 77.78% for Republican presidents but only 27.78% for Democratic presidents, indicating that presidential cycles more reliably predict higher returns in the second half of presidential terms (years 3-4) for Republican administrations. These findings partially diverge from prior research, where Santa-Clara and Valkanov (2000, 2003) and Long (2015) reported higher returns under Democratic administrations. This discrepancy may arise from including U.S. sector indexes, where the highest returns for Democratic presidents often occurred in the first year (36.1% of cases), potentially due to sectoral responses to initial reforms in industries such as technology or consumer goods. Additionally, Białkowski et al. (2019) highlight the role of political uncertainty in driving volatility, which may obscure cyclical patterns in the analyzed sectors under Democratic administrations.

The study results also show partial consistency with the literature, but differences in cycle effects across decades suggest that historical factors, such as changes in monetary policy or economic crises, may impact the validity of the presidential cycle model. For example, in periods after 2008, cycle effects were less pronounced, which may be related to the greater influence of global financial markets (Białkowski et al., 2019).

The findings may be valuable for individual investors, particularly during the second half of Republican presidents' terms (years 3-4), where the presidential cycle framework demonstrates the highest validity (77.78%). However, the low validity in the robust approach—where the highest returns are expected in the third year and the lowest in the first (1.85% of cases)—suggests that Hirsch's (1967) theory is not a universal predictive tool, especially for U.S. sector indexes, thus addressing a research gap identified in the literature. Future studies could incorporate additional factors in forecasting returns, such as central bank monetary policy or investor sentiment, as partially explored by Beyer et al. (2015) and Bazley and Bonaparte (2020), among others. This could better elucidate the causes of sectoral deviations within the presidential cycle framework. Future research could also employ a sector-specific fixed effects model to further explore cross-sector variability, which could strengthen conclusions about differences in the response of individual sectors to presidential cycles.

6. Conclusions

The research enabled the following conclusions (C_1–C_3 refer to the robust approach, C_4–C_5 to the simplified approach):

- **C_1**: The presidential cycle framework exhibits limited validity in forecasting returns for individual years. Only 3/54 cases (1.85%) showed the highest returns in the third year and the lowest in the first year of presidential terms.
- **C_2**: The presidential cycle framework is more valid in predicting the third year of presidential terms as having the highest returns (validity: 52.78%) but entirely invalid in predicting the first year as having the lowest returns (validity: 0.00%).
- **C_3**: Among all analyzed indexes, the validity of predicting the third year of a Republican president's term as having the highest returns is the highest (validity: 59.26%).
- **C_4**: The presidential cycle framework reliably predicts that the first half of presidential terms for all presidents exhibits lower returns than the second half (validity: 63.89%).
- **C_5**: The presidential cycle framework is more valid in predicting that the first half of a Republican president's term exhibits lower returns than the second half (validity: 77.78%) compared to a Democratic president's term (validity: 27.78%).

Based on the analyses conducted, hypothesis **H_1** is accepted in the part stating that the presidential cycle framework enables accurate prediction of the highest returns on U.S. stock indexes in the third year of presidential terms for Republican presidents and rejected in the part stating that the presidential cycle framework enables accurate prediction of the lowest returns on U.S. stock indexes in the first year of presidential terms.

Hypothesis **H_2**, stating that the presidential cycle framework enables accurate prediction of higher returns on U.S. stock indexes in the second half (years 3-4) and lower returns in the first half (years 1-2) of presidential terms, is accepted, except for the terms of Democratic presidents (validity: 27.78%).

Acknowledgements

Supported by funds from the Ministry of Science under the "Regional Excellence Initiative" Program.

Resources

1. Arnott, R.D., Cornell, B., Kalesnik, V. (2017). *Presidential Politics and Stock Returns. Available at SSRN.* Retrieved from: http://www.ssrn.com/abstract=2960458, 14.07.2025.
2. Bazley, W.J., Bonaparte, Y. (2020). *The Presidential Life Cycle and the Stock Market.* Available at SSRN. Retrieved from: http://www.ssrn.com, 14.07.2025.
3. Benenson, O. (2020). Specific features of using the presidential election cycle for forecasting the dominant trend on the US stock market. *European Journal of Management Issues,* pp. 127-134, doi: 10.15421/192012
4. Beyer, S.B., Garcia-Feijoo, L., Jensen, G.R., Johnson, R.R. (2015). What to expect when you're electing. *Managerial Finance, Vol. 41, Iss. 10*, pp. 1032-1045, doi: 10.1108/MF-03-2015-0088
5. Beyer, S.B., Jensen, G.R., Johnson, R.R. (2008). The presidential term. *Journal of Portfolio Management, Vol. 34, Iss. 2*, p. 135, doi: 10.3905/jpm.2008.701624
6. Białkowski, J., Nahavandi, A. (2019). Midterm elections' stock market surge: An unintentional gift from US politicians. *The Journal of Wealth Management, Vol. 21*, pp. 76-84, doi: 10.3905/jwm.2019.21.4.076
7. Bonaparte, Y. (2017). *US Presidents and Stock Market Performance: The Good, the Bad and the Useless.* Available at SSRN. Retrieved from: http://www.ssrn.com/abstract=3034312, 14.07.2025

8. Enderle, F.J., Pope, B., Siegel, L.B. (2003). Broad-Capitalization Indexes of the US Equity Market. *Journal of Investing, Vol. 12, Iss. 1,* pp. 11-22, doi: 10.3905/joi.2003.319496
9. Fama, E.F. (1970). Effcient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance, Vol. 25, Iss. 2,* pp. 383-417, doi: 10.2307/2325486
10. Hensel, C.R., Ziemba, W.T. (1995). United States investment returns during Democratic and Republican administrations, 1928-1993. *Financial Analysts Journal, Vol. 51*, pp. 61-69, doi: 10.2469/faj.v51.n2.1882
11. Hirsch, Y. (1967). *Stock Trader's Almanac*. Old Tappan, NJ: Hirsch Organization.
12. Investing.com. Retrieved from: http://www.investing.com, 14.07.2025.
13. Kahneman, D., Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, Vol. 47, Iss. 2,* pp. 263-291, doi: 10.2307/1914185
14. Lani, J. (2010). *ANOVA (Analysis of Variance). Statistics Solutions*. Retrieved from: http://www.statisticssolutions.com, 14.07.2025.
15. Long, M.S. (2015). *Why Market Returns Favor Democrats in the White House?* Available at SSRN. Retrieved from: http://www.ssrn.com/abstract=2622236, 14.07.2025.
16. Malska, W., Twaróg, B. (2017). Testy Anova jako narzędzie wspomagające weryfikację hipotez statystycznych. *Acta Scientifica Academiae Ostroviensis. Sectio A, Nauki Humanistyczne, Społeczne i Techniczne, Vol. 10, Iss. 2,* pp. 148-159, doi: 10.36021/asao.2017.1002.10
17. Nguyen, A., Roberge, M. (2008). Timing the stock market with a joint examination of the presidential U.S. election cycle and the yield curve. *Studies in Economics and Finance, Vol. 25, Iss. 3*, pp. 152-164, doi: 10.1108/10867370810894694
18. Santa-Clara, P., Valkanov, R. (2000). *Political Cycles and the Stock Market*. Available at SSRN. Retrieved from: http://www.ssrn.com/abstract=244728, 14.07.2025.
19. Santa-Clara, P., Valkanov, R. (2003). Political Cycles and the Stock Market. *Journal of Finance, Vol. 58, Iss. 5*, pp. 1841-1872, doi: 10.1111/1540-6261.00590
20. Wong, W.-K., McAleer, M. (2009). Mapping the Presidential Election Cycle in US stock markets. *Mathematics and Computers in Simulation, Vol. 79*, pp. 3267-3277, doi: 10.1016/j.matcom.2009.05.007
21. Zalgiryte, L., Guzavicius, A., Tamulis, V. (2014). Stock market and economic growth in the US France: Evidence from stock market sector indices. Inžin*erinė ekonomika, Vol. 25, Iss. 1*, pp. 47-53, doi: 10.5755/j01.ee.25.1.3206