Iran J Econ Stud, 2025, 14(2), 527-546

Shiraz University

Iranian Journal of Economic Studies

Journal homepage: ijes.shirazu.ac.ir

The Role of Economic Development in Voting Behavior: Evidence from Iran's Presidential Elections

Nejat Mohammadifar[a]*, Iman Shaker Ardakani[b], Abolfazl Shahmohammadi Mehrjardi[b]

a. Department of Political Sciences, Faculty of Humanities and Social Sciences, Ardakan University, Ardakan, Iran.
b. Department of Economics, Faculty of Humanities and Social Sciences, Ardakan University, Ardakan, Iran.

Highlights

- **Economic development increases political participation.**
- **Inflation has a much stronger negative effect than economic development.**
- **Voters prioritize short-term economic factors.**
- **Regional differences of participation in presidential elections are rooted in economic development, not geographical location.**

Article History

Received: 04 December 2025
Revised: 08 January 2026
Accepted: 19 January 2026
Published:29 January 2026

JEL Classification
D72
P16
O1

Keyword
Iranian Provinces
Presidential Elections
Economic Development
Political Participation Rate

Abstract

This research examines the relationship between economic development and the voting behavior of eligible voters in the presidential elections of the I.R.I. As well as analyzes the impact of development levels in Iranian regions on political participation. This study is applied in terms of its objective and analytic considering its subject matter. To this aim, the data and information required to examine the above relationship for the country's provinces in 9th to 13th presidential election periods were extracted from statistical yearbooks and reports of the Statistical Center of Iran. The panel data econometric method was used to determine this relationship. The independent variables of this research included the average composite index of economic development, average of infrastructure index, average of coefficient, and average of inflation rate for 30 provinces of the country during the periods 2001-2005, 2006-2009, 2010-2013, 2014-2017, and 2018-2021. Also, the average of participation rate in presidential elections for each province was also considered as a dependent variable. The results of this study revealed that among the independent variables, the impact of the economic development index on the political participation rate was statistically positive and significant with a coefficient of 0.31, while the inflation rate had a negative and significant effect with a coefficient of -0.62. In other words, the negative influence of the inflation rate on the political participation rate was estimated to be twice the positive impact of economic development on the political participation rate in the country's provinces. This suggests that voters gave more value and weight to immediate and short-term factors (such as inflation). Further, the results of the one-way ANOVA indicated that although the level of provincial development creates a significant difference in the average participation rate of provinces in presidential elections, being a border province is not a significant factor in the average participation rate of provinces in elections.

* n.mohammadifar@ardakan.ac.ir
DOI: 10.22099/ijes.2026.55099.2087

1. Introduction

With the evolution of societies, economic conditions and election outcomes become interwoven and form a relationship that researchers and policymakers seek to understand in terms of its complexities as well as dynamics (Baidoo, 2024). Accordingly, in recent decades, political thinkers have agreed that economic conditions can have a significant influence on election outcomes (Linn et al, 2010; Nadeau, 2013). In the 19th century, economics was also recognized as the foundation of political development (Mahdavi, 2019). In this context, Lucian Pye considered economic development as a prerequisite for political development (Pye, 1965). In other words, he believed that improving a country's economic condition, such as increasing income, mitigating poverty, and enhancing living standards, could pave the way for stronger political institutions and more active citizen participation in political processes. Likewise, Downs (1957) argued that voters choose the candidate who likely has the best economic performance. Indeed, national prosperity and economic development in society legitimize governments and ensure their national security (Niakooee, 2015). This view reflects the close association between economics and politics, and emphasizes that without economic progress, achieving political development will be challenging.

Among these, one of the indicators of political development is people's participation in social and political institutions (Mahdavi, 2019). In this respect, Huntington and Nelson noted political participation as one of the main parameters of political development (Huntington & Nelson, 1976). With increasing income levels and improving economic conditions, citizens naturally tend to contribute more to political and social processes. This is especially significant in developing countries that are still in the early stages of economic development. Research suggests that societies with a high level of economic development usually have stronger political institutions that can facilitate more active citizen participation (Leftwich, 2006; Lipset, 1959). On the other hand, lack of economic development can lead to citizens' distrust in political institutions and lessen their participation (Muringani et al., 2024).

Elections and people's presence at polling stations are the most tangible manifestation of political participation and one of the most influential parts of political engagement, which is impacted by important variables such as the economy (Barnhart, 1925). Thus, many countries worldwide follow the content of election campaigns (Abbasi Khoshkhar, 2021). From Nomar and Matsonem's (2018) perspective, the growth and development of a country's economy have a close association with political participation. Arcelus and Meltzer (1975) consider inflation's role in voters' preferences and participation rates as an influential variable. In general, many studies confirm the link between economic development and voting behavior (Nadeau et al, 2013; Kalaycıoğlu, 2014; Knutsen et al, 2019). These studies indicate that in societies with a high level of economic development, citizens usually participate in elections with greater motivation and have more trust in political institutions. Further, in such societies,

there are stronger political institutions that can help facilitate more active citizen participation. Conversely, in countries confronting economic problems, citizens may be less inclined to participate in elections owing to their distrust in political institutions and disappointment in amelioration of economic conditions. This highlights the significance of considering economic conditions as a key factor in analyzing voting behavior and political participation.

In Iran, too, economic and political conditions are strongly interdependent. In recent years, economic crises and severe market fluctuations have deeply influenced citizens' political participation. Many Iranians, given economic problems and lack of trust in political institutions, have demonstrated less willingness to participate in elections. This was especially evident in the 14th presidential election in Iran, where the participation rate significantly dropped (39.92%) and indicated public distrust in political processes as well as ruling institutions. Reviewing voter turnout rates in presidential elections from the 9th through the 13th terms indicates participation rates of 60%, 85%, 73%, 74%, and 49% respectively. These figures exhibit a downward trend in voter turnout in Iran over the past two decades. Thus, examining the relationship between economic conditions and political participation in Iran can contribute to a better understanding of existing challenges and possible solutions for improvement.

The rest of this article is organized as follows. The first section defines the theoretical foundations of voting behavior. The second section briefly reviews the research background. Section three explains the research methodology. Section four examines the findings, and the final section concludes the study.

2. Literature Review

Voting behavior as a political act is related to citizens' participation or non-participation in elections held for members of their local, regional, or national governments. This behavior either results in support for political candidates and parties or avoidance of the voting process (Rule, 2014). Voting behavior means whether eligible citizens vote and what motivates them to do so. In other words, the central concept in exploring voting behavior is how and why individuals make a particular electoral decision (Hoene, 2011). Today, many studies note that the most influential factors on voter behavior relate to macroeconomic variables (Erdogan, 2013). Among these variables, per capita GDP, unemployment rate and inflation, inequality, urbanization, people's consent, uneven development, lack of infrastructure, and the feeling of relative deprivation are widely utilized in the literature (Powell and Whitten, 1993; Gurr, 2015; Dornbusch & Edwards; 1990; Farokhi, 2023; Rosenstone, 1982; Lewis-Beck & Paldam, 2000).

Lipset (1959) was the first to attempt to prove that a political game is only regarded as competitive or democratic if it relies on a certain degree of economic development. Using a correlation model, he demonstrated that there is a correlation between political development and economic as well as social factors. He compared a number of countries based on various economic indicators including national income, industry, education, and urbanization. He concluded

that there are striking differences between developed political systems and backward political systems. The more prosperous a nation is, the more opportunities and possibilities it has for the realization and attainment of democracy. According to Lipset, affluent societies have greater access to democracy, while poorer societies tend to lean toward oligarchy or autocracy. Likewise, Huntington also believed that there is a strong link between wealth and democracy. According to Huntington, wealthy economies bring higher levels of literacy, education, and media exposure to society. Wealthy economies also mitigate tensions arising from political conflicts; in wealthy countries, there are alternative opportunities for unsuccessful political leaders and larger economic resources generally facilitate the compromise process. Further, developed and industrial economies as well as the complex societies resulting from them cannot be effectively governed relying on authoritarian tools. Decision-making processes in these societies are dispersed, so power is divided among various groups, with governance being based on the consent and participation of these groups. Additionally, in developed economies, wealth distribution is more equitable compared to poorer economies (Huntington, 1984).

Rossett (1965) establishes reciprocal relationships between several economic, social, or cultural indicators (per capita income, urbanization, literacy, number of radios, hospital beds...) as well as fewer political indicators such as voter turnout and government share in GDP. These relationships naturally affirm the prospect of development based on the interaction between economic efficiency and political efficiency. For example, Rostow noted that reaching any stage of economic development also leads to increased voter participation (Dahl, 1971). Dahl also considered increasing GDP as the main factor behind political transformation. He specifically underscores that reaching a certain level of national income is a direct prerequisite for political transformation of societies and the establishment of pluralism.

Frey (1978), in his political-economic cycle model, argues that politicians act based on a balance between ideological considerations and the need for reelection. Voters ascertain politicians based on their success in achieving economic goals such as high employment, low inflation, and rapid income growth. From this perspective, the economic condition before elections is critically important, and politicians are aware that to maintain power, they have to keep the economy active. If economic conditions are unfavorable, voters may easily vote for the opposition party, causing current incumbents to lose power. Meanwhile, the opposition party offers attractive promises to voters. Thus, economic conditions have a significant impact on election outcomes, and the motivation to be elected directly affects the selection as well as implementation of macroeconomic policies. Further, politicians are influenced by party considerations, but ideological programs can only be implemented if the party wins the election or retains power first and foremost. According to this model, the main macroeconomic variables (such as inflation, unemployment, and income growth) are highly significant and indicate that these variables have a significant

influence on election outcomes. Since politicians currently in power have a position similar to monopolists regarding policy supply, it is unsurprising that they are likely to succumb to the temptation and use discretionary policies to maximize their chances of reelection (Snowden and Wein, 2013).

Meanwhile, the inflation rate, as a short-term and highly tangible variable, plays a key role in voter behavior within the framework of economic voting theory, and retrospective voting in particular. According to this theory, citizens base their judgment and voting decisions on the economic performance of the incumbent government, especially in the period close to elections (Key, 1966; Fiorina, 1981). High inflation induces immediate and tangible dissatisfaction by lowering purchasing power, increasing uncertainty, and weakening household welfare, and can diminish electoral participation or result in political punishment of governments (Lewis-Beck & Stegmaier, 2000). The connection of this mechanism with behavioral economics indicates that the impact of inflation is usually stronger than long-term structural variables such as economic development. Concepts such as the salience of inflation, loss aversion, and myopia explain that voters react more strongly to immediate and tangible losses (decreased purchasing power) than to the gradual and cumulative benefits of economic development (Kahneman & Tversky, 2013; Alesina et al., 1997). From this perspective, even in regions with a higher level of economic development, inflationary shocks can overshadow citizens' overall assessment of economic performance and motivation for political participation.

In the Iranian context, these mechanisms are deteriorated in the context of features such as chronic inflation, price instability, financial centralization, as well as regional inequalities. Hence, economic development and infrastructure variables are expected to affect political participation mainly through long-term institutional paths, while inflation—as a short-term, salient, and detrimental factor—has a stronger and more decisive influence on voting behavior. Such a framework explains why in the empirical results, the negative impact of inflation on political participation is estimated to be stronger than the positive effect of economic development. It also suggests that citizens' voting behavior is a combination of long-term structural considerations and short-term behavioral assessments.

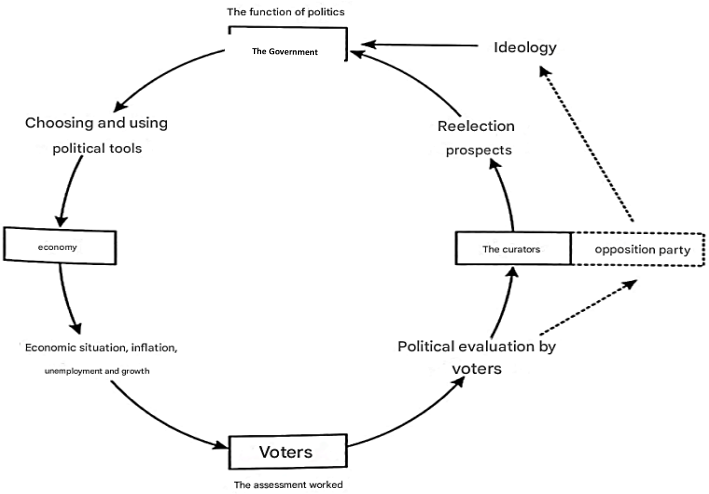

Figure 1. Political Economic Cycle Model
***Source**: Frey(1978)*

The following table lists some of the most important research studies that are closely related to the present study:

Table 1: Background of related studies

Author[s]	Research year	Research title	Research results
Calvo	2025	The impact of inflation on electoral support in Latin America:Analyzing the shift toward extreme candidates	The findings of this study revealed how economic indicators, particularly inflation, influence voter shifts toward extreme political platforms, and suggested strategies to mitigate the destabilizing effects of inflation, the sudden political polarization swings in elections, and prevent extreme political polarization.
Saud & Ashfaq	2025	Shift from traditional to contemporary political patterns: Knowing the youth perspectives on political participation	Regional differences in voter turnout are largely explained by significant differences in voters' economic perceptions, while the decision to vote for the ruling party is affected by future economic expectations.
Kozal et al.	2024	Social and economic determinants of electoral behavior in Turkey	Economic growth, the share of agriculture in regional GDP, the female illiteracy rate, the proportion of the elderly

			population, net internal migration, terrorism, and party alignment are among the key factors influencing electoral behavior in Turkey.
Behnamfar & Shaeriy	2024	A sociological study of economic factors and their relationship with political participation among citizens aged 25 and over in Esfarayen	Economic conditions influence political participation, and the better individuals' economic status is, the higher their level of political participation tends to be.
Baidoo	2024	Modeling the impact of economic factors on electoral results: A predictive approach to Ghana's 2024 elections	Economic factors significantly influence voter turnout and party vote shares. High rates of inflation and unemployment reduce voter support for incumbent parties.
Shojaei	2019	Comparative comparison of electoral behaviors in different periods of Islamic councils in Abek city	Negative economic growth, intensified sanctions, mounting pressures on household livelihoods, the expansion of monetary liquidity, and the depreciation of the national currency are identified as key factors contributing to the decline in citizens' electoral participation.
King & Carberry	2022	Political participation and the economy	Economic conditions function both as a goal of political participation and as a determinant shaping it.
Ashayeri, & Adel	2022	Analysis of the model of political participation in the I.R.Iran (2005-2019)	The results indicated that between social factors, political, economic, Cultural and psychological There is a significant relationship with political participation.
Pastarmadzhieva & Sakal	2021	Participatory attitudes and electoral behavior of young people: The cases of Turkey and Bulgaria	Young people in Turkey and Bulgaria exhibit both similarities and differences in their attitudes toward civic participation, and in this context, governments' economic performance has been a key factor driving support for incumbent parties.
Lewis-Beck & Martini	2020	Economic perceptions and voting behavior in US presidential elections	Objective economic perceptions have a fundamental impact on candidate support
Etminan	2019	Factors affecting the electoral behavior of	The variable of individuals' economic interests is the most

	Shahid Beheshti University students in relation to the 12th presidential elections	important predictive and effective factor in the electoral behavior of Shahid Beheshti University students.

***Source**: Research findings*

3. Research Methodology

The present study is applied in terms of aim and analytical in terms of subject nature, identified through documentary and library methods covering the literature, including theoretical foundations and research background. The data and information required to explore the relationship between economic development and provincial participation in the presidential elections of the 9th, 10th, 11th, 12th, and 13th terms have been extracted online from statistical yearbooks and reports of the Iran Statistics Center. In this respect, the composite economic development index, infrastructure, Gini-coefficient, and inflation for 30 provinces of the country were considered as independent variables, while the participation rate in the presidential election of each province during the periods 1380-1384, 1385-1388, 1389-1392, 1393-1396, and 1397-1400 were taken as the dependent variable. Thus, in this study, the panel data approach was employed with 150 observations to estimate the model. While this approach offers benefits such as enhancing the extent of information available, improving estimate efficiency and accuracy, controlling for heterogeneity, and providing flexibility in modeling, it also presents limitations and challenges. These include computational complexity, data measurement errors, cross-sectional dependence, autocorrelation, variance heterogeneity, bias in small panels, and constraints when using constant variables over time, such as gender. Note the composed economic development index was obtained by combining 6 indicators, whereas the socio-economic infrastructure index was obtained by combining 4 indicators using the TOPSIS method. These indicators are reported in Table 2. Also, since in the election year economic development and other economic variables from previous years also influence voters' decisions, the four-year average of the economic development index, infrastructure, inflation, and the Gini coefficient has been used. Also, to estimate the model and its coefficients, STATA software was applied, and for variance analysis, SPSS software was employed.

Table 2. Indicators of Economic Development and Socio-Economic Infrastructure Indices

Row	Model Variable	Indicators
1	Economic Development Index	GDP per capita of the province Labor force participation rate of the province Inverse of the unemployment rate of the province Share of industry in the province's GDP Inverse of the mortality rate Urbanization rate
2		The province's share of capital credits for environmental affairs

Row	Model Variable	Indicators
	Economic-Social Infrastructure Index	The province's share of capital credits for educational affairs
		The province's share of capital credits for health affairs
		The province's share of capital credits for welfare and social security affairs

***Source**: Research findings*

3.1 The Model

According to the theoretical foundations and the research objective, the following linear regression model is defined based on the panel data approach as Equation (1):

$$Elec_{it} = \beta_0 + \beta_1 Develop_{it} + \beta_2 Infras_{it} + \beta_3 Inflation_{it} + \beta_4 Gini_{it} + e_{it} \quad (1)$$

In this regard, the variable Electit represents the voter turnout rate in the presidential election of province i in year t, Developit stands for the economic development index of province i in year t, Infrasit represents the infrastructure index of province i in year t, Inflationit reflects the annual inflation rate of province i in year t, and Giniit denotes the Gini coefficient of province i in year t. In this model, eit also indicates the disturbance term.

In addition, to appraise the impact of the level of development as well as border status of the province on the participation rate in presidential elections, one-way ANOVA is used. In this analysis, provinces whose average development index (in percentage) during the period under review falls within the range [0% to 20%] are considered to have a low level of development; if it falls within [20% to 40%], they have a medium level of development; if within [40% to 60%], they have a high level of development; and if within [60% to 100%], they have a very high level of development. Based on this classification, 10, 13, 5, and one province has a low, medium, high, and very high level of development, respectively. Meanwhile, 16 provinces including East Azerbaijan, West Azerbaijan, Ardabil, Ilam, Bushehr, South Khorasan, Razavi Khorasan, North Khorasan, Sistan and Baluchestan, Khuzestan, Kermanshah, Golestan, Gilan, Mazandaran, and Hormozgan share borders with neighboring countries and are thus considered border or peripheral provinces.

In the ANOVA analysis, the assumption of equality of variances is first tested using Levene's test. The null hypothesis in ANOVA is the equality of means and reveals that differences and variations in the participation rate in presidential elections arise from random effects and that the factor under examination has no influence.

4. Empirical Results

This section deals with explaining the main findings of present research. It can be presented in two steps. In the first step, the main descriptive statistics of research variables during intended period are presented in Table 3.

The descriptive statistics presented in Table 3 collectively demonstrate the temporal dynamics and cross-regional heterogeneity of the studied variables along the five examined periods. As can be observed, the trend of turnout rates exhibits a moderately growing trajectory during the middle years, followed by a marked decline in 2021, with the mean rising from 0.61 in 2005 to its peak of 0.85 in 2009, before falling to 0.54 in 2021. The close alignment between means and medians throughout all years reflects largely symmetric distributions, while the noteworthy gaps between minimum and maximum values—confirmed by standard deviations ranging from 0.07 to 0.12—reveal substantial and persistent regional disparities, most pronounced in 2005. Economic development indicates relatively limited fluctuations over time, with the mean ascending from 0.25 in 2005 to 0.34 in 2009 and then declining to 0.28 in 2021; median values closely follow this pattern and generally fall below the means, suggesting a concentration of observations at lower development levels. In spite of modest temporal changes, the wide range between minimum and maximum values as well as the nearly constant standard deviation (0.12–0.14) reflect stable yet notable heterogeneity across regions. Infrastructure levels reveal a clearer upward shift, with the mean incrementing from 0.11 in 2005 to 0.25 in 2013, then stabilizing around 0.18 in 2017 and 2021; medians consistently lower than means suggest that a large share of regions fall below the average infrastructure level. Considerable variability—minimums between 0.02 and 0.08 and maximums between 0.36 and 0.71—along with standard deviations of 0.10–0.15, particularly high in 2013, highlights persistent spatial inequality in infrastructural development. Inflation demonstrates pronounced volatility, with the mean rising from 13.94% in 2005 to 26.07% in 2013, dropping to 11.49% in 2017, and sharply surging to 42.23% in 2021; the proximity of means and medians suggests symmetric distributions, yet the wide span between minimum and maximum values as well as the sharp growth in standard deviation to 3.65 in 2021 reveal heightened inflationary instability in the most recent period. Finally, the Gini coefficient remains relatively stable, with the mean gradually diminishing from 0.37 in 2005 to 0.31 in 2017 before a slight rise to 0.32 in 2021; the equality of mean and median values shows highly symmetric distributions, and the narrow range between minimum and maximum values, together with low standard deviations (0.02–0.03), reflects considerable regional homogeneity in inequality levels.

Collectively, these patterns suggest that, while certain socioeconomic indicators experienced notable temporal shifts—particularly turnout, infrastructure, and inflation—regional disparities persisted across most variables, albeit with varying magnitudes and degrees of stability over time.

Table 3. Descriptive Statistics of Research Variables (2005-2021)

Turnout Rates in Presidential Elections(Elect)

Statistics	2005	2009	2013	2017	2021
Mean	0.61	0.85	0.79	0.75	0.54
Median	0.62	0.87	0.80	0.75	0.54
Maximum	0.78	1.00	0.96	0.93	0.74
Minimum	0.25	0.65	0.64	0.59	0.37
Std. Dev.	0.12	0.08	0.07	0.08	0.08
Economic Development (Develop)					
Mean	0.25	0.34	0.31	0.26	0.28
Median	0.22	0.31	0.26	0.20	0.23
Maximum	0.51	0.59	0.73	0.72	0.78
Minimum	0.12	0.18	0.13	0.10	0.11
Std. Dev.	0.12	0.12	0.14	0.14	0.14
Infrastructures (Infras)					
Mean	0.11	0.17	0.25	0.18	0.18
Median	0.08	0.13	0.24	0.17	0.14
Maximum	0.71	0.50	0.62	0.36	0.62
Minimum	0.02	0.05	0.08	0.04	0.03
Std. Dev.	0.13	0.12	0.15	0.10	0.13
Inflation (Inflation)					
Mean	13.94	16.47	26.07	11.49	42.23
Median	13.90	16.50	26.18	11.54	42.17
Maximum	16.15	18.35	28.13	13.20	49.37
Minimum	11.00	14.45	22.25	10.20	34.57
Std. Dev.	1.15	0.83	1.22	0.73	3.65
Gini Coefficient (Gini)					
Mean	0.37	0.36	0.32	0.31	0.32
Median	0.37	0.36	0.32	0.31	0.32
Maximum	0.42	0.40	0.36	0.36	0.40
Minimum	0.33	0.30	0.28	0.25	0.29
Std. Dev.	0.02	0.02	0.02	0.03	0.03

***Source**: Research findings*

In the panel data method, the first stage includes the unit root test while the second stage is related to the test of determining the appropriate model for estimation, with the third stage being dedicated to diagnostic tests to check the accuracy as well as reliability of the results based on classical assumptions.

In this regard, because of the small number of periods and also the gaps in the data (due to holding presidential elections every 4 years), the unit root test is not relevant and there is basically no possibility of the relevant tests. In the second stage, the Chow test and the Hausman test are employed to determine the appropriate model in the panel data. In the Chow test, the null hypothesis is based on the homogeneity of the sections (Pooling Data). If the null hypothesis is rejected in the Chow test, the Hausman test is utilized to test the hypothesis of correlation or non-correlation between the model error component and the independent variables in the panel. Here, if the null hypothesis is accepted, the random effects model is used, and otherwise the fixed effects model is applied for the model estimation. The results of the above tests are presented in Table 4.

Table 4. Results of tests for determining the appropriate model in panel data

Test	statistics	Prob.	Result
Chow	8.34	0.00	Panel Data
Hausman	47.44	0.00	Fixed Effects

***Source**: Research findings*

Based on the results presented in Table 4, according to the Chow test, the cross-sectional correlation hypothesis is rejected with 95% confidence and the usage of the panel data approach is confirmed. Further, based on the Hausman test and the probability related to its statistic, the null hypothesis is rejected with 95% confidence, so the use of the fixed effects model in the panel data approach is confirmed. As such, the regression coefficients are constant in each cross-section (province), and the intercept is different from one cross-section to another, and the length of time does not change. After estimating the model with the fixed effects method, in the third stage, diagnostic tests are performed to inspect the heterogeneity of variance and cross-sectional autocorrelation . In this regard, the adjusted Wald test was employed to examine the heterogeneity of variance, whose null hypothesis is the homogeneity of the variance of the disturbance components. The Pesaran test was also utilized to examine the null hypothesis, indicating lack of cross-sectional correlation. The results of the diagnostic test are presented in Table 5.

Table 5. Results of diagnostic tests in panel data

Test	statistics	Prob.	Result
Modified wald	743.34	0.00	Variance heterogeneity
Pesaran	16.83	0.00	Cross-sectional correlation

***Source**: Research findings*

According to the results presented in Table 5, the heteroscedasticity of the variance of the disturbance components and the correlation of the residuals across sections have been confirmed at a confidence level of 95%. Thus, the estimators in the fixed effects method, though unbiased, are not efficient and the confidence intervals are not reliable. According to the results of the detection tests, Feasible generalized least squares (FGLS) method is employed. This method provides efficient and appropriate estimates in spite of the heteroscedasticity of variance, serial and cross-sectional correlation (Baltachi, 2005). The results of the model estimation using the above method are provided in Table 6.

Table 6. Results of estimating the coefficients of the regression model using the FGLS

Variable	Coefficient	Statistics	Prob.
Cons.	71.09	2.25	0.03
Develop	0.31	5.74	0.00
Infras	-0.11	-0.8	0.42
Inflation	-0.62	-2.41	0.02
Gini	0.18	0.19	0.85

***Source**: Research findings*

The results presented in Table 6 reflect the fact that the economic development index had a positive and significant influence on the political participation rate of the people in the presidential elections in Iran, so that on average, for every 1% increase in the level of development of the province, the participation rate in the elections has grown by about 0.3%. Further, these findings indicate that the inflation rate of the province, as an important economic variable, has a negative and significant impact on the participation rate in the elections. In other words, on average, for every 1% increase in the inflation rate, the participation rate in the elections has dropped by about 0.6%. Hoe evert, infrastructure variable and Gini coefficient of Iranian provinces did not show a significant effect on the participation rate in the elections. The latitude of origin, which reflects the impact of other fixed factors on the participation rate in political elections, had also a positive and significant effect.

Table 7 outlines the results of the analysis of variance of the effect of the level of development and border location of the province on the participation rate in the presidential elections in Iran.

Table 7. Results of one-way analysis of variance

Factor	Levene's Statistics	Sig.	F Statistics	Sig.
Level of development	0.89	0.42	3.04	0.047
province's border status	3.92	0.06	0.75	0.393

***Source**: Research findings*

According to Table 7, the assumption of equality of variance based on the Levene's test for both the level of development and the border location of the province is accepted at a confidence level of 95%. Hence, the results of the analysis of variance based on the F statistic and the corresponding probability reveal that the level of development of the province induces a significant difference in the average participation rate of the provinces in the presidential elections. Nevertheless, based on these results, the border location of the province is not regarded a significant factor in the average participation rate of the provinces in the elections.

5. Concluding Remarks

This study aimed to explore the role of economic development in citizens' voting behavior in the Iranian presidential elections. Using panel data from 30 provinces of the country along the 9th to 13th presidential elections, the impact of economic variables, including the composite economic development index, infrastructure index, inflation rate, and Gini coefficient, was examined on the electoral participation rate . The empirical approach of the study was based on panel data models. After identifying the limitations of the fixed effects model owing to variance heterogeneity and cross-sectional correlation, the FGLS method was employed for the final estimation. The empirical findings revealed that the composite economic development index has a positive and significant

influence on the participation rate in the presidential elections. This finding is consistent with the theoretical literature on political economy and development. It demonstrates that improving economic and social conditions, such as increasing per capita income, expanding access to education and health services, and enhancing the level of welfare, can pave the way for more active participation in political processes. This can be accomplished by boosting citizens' empowerment, strengthening human capital, and enhancing the sense of political influence. In this framework, economic development is viewed not only as a material variable but also as an institutional context for the formation of political participation.

Concurrently, the results indicated that regional differences in the level of economic development of provinces are linked to significant differences in the average electoral participation rate. This pattern can be interpreted within the framework of institutional economics and regional governance. More prosperous provinces typically have higher institutional capacity to absorb and implement public resources, better quality infrastructure, and more efficient local institutions. Such conditions can boost citizens' satisfaction with the government and public institutions as well as strengthen the motivation for political participation. In contrast, in less developed regions, the gap between citizens' expectations and the tangible results of public policies may result in a feeling of relative deprivation, diminished institutional trust, and ultimately lower political participation. Moreover, the possible influence of the components of the development index on the unbalanced levels of political power distribution (and hence, the influence of budget distribution on the unbalanced distribution of political power) in the provinces of Iran can confirm the positive effect of power in favor of the more developed provinces . This contributes to a higher voter turnout in more developed provinces. However, the development variable can be regarded as a long-term variable since the development process is time-consuming and cumulative. Thus, provinces that have suffered from lower levels of development, such as higher unemployment and lower production, for a longer period of time are less inclined to participate in political voting.

One of the most important findings of the research, along with economic development, was the negative and significant impact of the inflation rate on electoral participation. Inflation, as a variable that directly affects the purchasing power and perceived well-being of households, plays a key role in citizens' evaluation of government performance. Elevation of inflation is associated with livelihood pressure, economic uncertainty, and reduced well-being. Conversely, it can be viewed as a sign of weak economic policymaking and institutional inefficiency. The research findings suggest that macroeconomic instability, especially in the form of high inflation, can undermine public trust and lower motivation to participate in elections.

Note that the absolute value of the estimated coefficient for the inflation rate in the empirical model was nearly double the coefficient of the economic development index. While this numerical difference may appear significant, it is important to consider that there was no formal test of coefficient comparison

conducted, and the economic development index is both composite and multidimensional in nature. Thus, this result should be interpreted cautiously, solely within the context of the data and methodology employed. Nevertheless, from the perspective of the political economy of elections, this trend may conditionally suggest that voters have a relative preference for short-term and livelihood variables over structural a well as long-term development indicators. This finding, viewed through the lens of behavioral economics, suggests that intense and emotional reactions to inflation (as an immediate and short-term variable) may overshadow the long-term, positive feelings associated with levels of development when it comes to voter participation in Iranian provinces. As such, this discovery highlights the significance of considering the impact of emotional responses to immediate economic factors on voting behavior, particularly in regions where inflation plays a significant role.

Inflation rates, given their high subjective salience and direct connection to citizens' daily lives, carry more weight in voters' political judgments. In contrast, development gains, although important, are usually gradual, slow-moving, and less directly attributable to the government in power over the short-term electoral horizon. Thus, voters may perceive a failure to control inflation as an immediate sign of weak economic governance and react more strongly to it politically.

Regarding institutional economics and public sector economics, the stronger and more negative impact of inflation on political participation can be interpreted as a sign of "policy failure" in the process of economic governance. High inflation is often a reflection of weak institutional coordination, constraints on fiscal and monetary policymaking, and inefficiency in providing one of the most basic public goods, namely economic stability. The persistence of such conditions can compromise the institutional legitimacy of the state and result in the erosion of social capital; a phenomenon that ultimately manifests itself in diminished political participation and the withdrawal of citizens from formal decision-making processes.

The research findings also revealed that the level of development of provinces creates a significant difference in the electoral participation rate.

nevertheless, the border or non-border status of provinces as a political factor does not have an independent significant influence on participation. This result suggests that the observed differences in the participation of border provinces are rooted in economic, institutional, and developmental factors rather than their geographical or political location. In other words, economic development and the quality of regional governance play a more significant role than purely geographical variables in explaining citizens' participatory behavior.

In spite of the statistical significance of the estimated coefficients, caution should be exercised when interpreting the findings of this study within the context of correlational relationships. While the use of panel data, controlling for provincial fixed effects, and employing the FGLS method have enhanced the reliability of the estimates, they do not fully support strong causal relationships. There is potential endogeneity in the relationship between economic variables and

political participation. For instance, economic conditions can affect political participation, and varying levels of participation may have long-term economic implications through their impact on political accountability as well as policymaking quality. Further, certain institutional and political factors, such as the quality of local governance, political competition, public trust in electoral institutions, and provincial budget distribution methods, are not directly accounted for in the empirical model owing to data constraints. Nevertheless, controlling for provincial fixed effects helps capture some of these unobserved heterogeneities, allowing the findings to be interpreted as conditional and conservative estimates.

The research results indicate that promoting political participation requires simultaneous attention to macroeconomic stability and long-term development policies considering policy recommendations. Controlling inflation and reducing economic uncertainty, as prerequisites for maintaining public trust, play a fundamental role in boosting electoral participation. Further, regional development policies, improving infrastructure, and augmenting the quality of local institutions can provide the necessary institutional framework for sustainable and meaningful citizen participation in the long term.

Finally, future research could apply higher time-frequency data, direct indicators of institutional quality, instrumental variable-based methods, or quasi-experimental designs to more closely explore the causal mechanisms between economic conditions, institutional governance, and political participation. These studies could help strengthen the theoretical and empirical understanding of the link between economic development and voting behavior in Iran as well as other developing economies.

Author Contributions

Conceptualization, investigation, formal analysis, and writing of the original draft: Nejat Mohammadifar; Supervision and methodological guidance: Iman Shaker Ardakani; Scientific consultation: Abolfazl Shahmohamadi Mehrjardi. All authors have read and approved the final version of the manuscript.

Funding

This research received no external funding.

Conflicts of Interest:

The authors declare no conflict of interest.

Data Availability Statement:

The data used in the study were taken from https://amar.org.ir/.

Acknowledgements

Not applicable

References

Alesina, A., Roubini, N., & Cohen, G. D. (1997). *Political cycles and the macroeconomy*. MIT Press.

Arcelus, R & Meltzer, A. (1975). Effects of Aggregate Economic Variables on Congressional Elections, *American Political Science Review*, 4(69), 1232-1239.

Ashayeri, T. and adel, H. (2022). Analysis of the model of political participation in the I.R.Iran(2005-2019). *Journal of Political Knowledge*, 18(2), 485-514. [In Persian].

Baidoo Jnr, F. (2024). Modeling The Impact Of Economic Factors On Electoral Results: A Predictive Approach To Ghana's 2024 Elections. SSRN. https://doi.org/10.2139/ssrn.4927491

Baltagi, B.H. (2005) *Econometric Analysis of Panel Data*. 4rd Edition, John Wiley & Sons Inc., New York.

Barnhart, J. D. (1925). Rainfall and the populist party in Nebraska. *American Political Science Review*, 19(3), 527-540.

Abbasi Khoshkhar, A. (2021). From Strategic Similarity to Tactical Differences: Iran and the 2020 US Presidential Election. *Iranian Review of Foreign Affairs*, 12(33), 61-81. [In Persian].

Behnamfar, M. H. and shaeriy, F. (2024). A Sociological Study of Economic Factors and Their Relationship with Political Participation Among Citizens Aged 25 and Over in Esfarayen. *Journal of Socio-Cultural Studies of Khorasan*, 18(3), 55-90. [In Persian].

Calvo, S. N. V. (2025). *The Impact of Inflation on Electoral Support in Latin America: Analyzing the Shift Toward Extreme Candidates* , Master's thesis, Georgetown University.

Dahl, R. (1971). Polyarchy. New Heaven; Clark, T. N. (1968). Community structure, decision-making, budget expenditures, and urban renewal in 51 American communities. *American Sociological Review*, 576-593 .

Dornbusch, R., & Edwards, S. (1990). Macroeconomic populism. *Journal of development economics*, 32(2), 247-277.

Downs, A. (1957). *An Economic Theory of Democracy*. New York: Harper-Collins.

Erdogan, E. (2013). Denklemi Gözden Geçirmek: Türkiye Bağlamında Partizanlık ve Ekonomik Oy Verme Hipotezi. *İktisat İşletme ve Finans*, 28(325), 27-60.

Etminan, A. (2019). *Factors affecting the electoral behavior of Shahid Beheshti University students in relation to the 12th presidential elections*. Master's thesis, Shahid Beheshti University, Faculty of Economics and Political Sciences. [In Persian].

Farokhi, M. (2023). The Role of Political Elites and the Public in Shaping Islamic Governance. *Iranian Review of Foreign Affairs*, 14(2), 469-482. [In Persian].

Fiorina, M. P. (1981). *Retrospective voting in American national elections*. Yale University Press.

Frey, B.S.(1978). Politico-economic models and cycles, *Journal of Public Economics, Elsevier*, 9(2), 203-220.

Gurr, T. R. (2015). *Why men rebel*. Routledge.

Hoene, E. (2011). *Asian Americans and politics: Voting behavior and political involvement*. Unpublished senior thesis. Bemidji State University.

Huntington, S. p. (1984). Will More Countries Become Democratic*? Political Science*, Quarterly 99, 193-218.

Huntington, S.P. & J. Nelson (1976). *No Easy Choice: Political Participation In Developing Countries*, Cambridge: Harvard University Press.

Kahneman, D., & Tversky, A. (2013). *Prospect theory: An analysis of decision under risk. In Handbook of the fundamentals of financial decision making*, Part I ,99-127.

Kalaycioglu, E. (2014), Local elections and the Turkish voter: looking for the determinants of party choice, *South European Society and Politics*, Vol. 19 No. 4, 583-600.

Key, V. O. (1966). *The responsible electorate: Rationality in presidential voting 1936–1960*. Harvard University Press.

King, B. G., & Carberry, E. J. (2022). *Political Participation and the Economy*.

Knutsen, C. H., Gerring, J., Skaaning, S. E., Teorell, J., Maguire, M., Coppedge, M., & Lindberg, S. I. (2019). Economic development and democracy: An electoral connection. *European Journal of Political Research*, 58(1), 292-314.

Kozal, O., Karacuka, M., & Haucap, J. (2024). Social and economic determinants of electoral behavior in Turkey. *Review of Economics and Political Science*, 9(3), 233-264.

Leftwich, A. (2006). States of Development, translated by Javad Afshar Kohan, Tehran: Nay Negar Publications. [In Persian].

Lewis-Beck, C., & Martini, N. F. (2020). Economic perceptions and voting behavior in US presidential elections. *Research & Politics*,7(4), 2053168020972811.

Lewis-Beck, M. S., & Stegmaier, M. (2000). Economic determinants of electoral outcomes. *Annual review of political science*, 3(1), 183-219.

Linn, S., Nagler, J., & Morales, M. A. (2010). Economics, elections, and voting behavior.

Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy. *American political science review*, 53(01), 69-105.

Mahdavi, P. (2019). *The Relationship between Political and Economic Development in Selected Countries*. Available at SSRN 4069338.

Mahdavi, P. (2022). The effect of participation on economic development emphasizing social cohesion. *International Journal of Innovation in Management*, Economics and Development.

Muringani, J., Fitjar, R. D., & Rodríguez-Pose, A. (2024). Political trust and economic development in European regions. *The Annals of Regional Science*, 73(4), 2059-2089.

Nadeau, R., Lewis-Beck, M. S., & Bélanger, É. (2013). Economics and elections revisited. *Comparative political studies*, 46(5), 551-573.

Nardo, M., Saisana, M., Saltelli, A., & Tarantola, S. (2005). Tools for composite indicators building. *European Comission, Ispra*, 15(1), 19-20.

Niakooee, S. A. and Ejazi, E. (2015). Foreign Policy and Economic Development: Iran under Rafsanjani. *Iranian Review of Foreign Affairs*, 5(19), 179-207. [In Persian].

Nomor, D. T., & Mtswenem, O. S. (2018). Political participation and economic growth in Nigeria. *Lafia Journal of Economics and Management Sciences*, 3(1), 317-317.

OECD. (2008). *Handbook on constructing composite indicators: Methodology and user guide*. OECD Publishing.

Pastarmadzhieva, D., & Sakal, H. B. (2021). Participatory attitudes and electoral behavior of young people: The cases of Turkey and Bulgaria. *Acta Politologica*, 13(3), 1-23.

Persson, T., & Tabellini, G. (2003). *The economic effects of constitutions*. MIT Press.

Powell Jr, G. B., & Whitten, G. D. (1993). A cross-national analysis of economic voting: Taking account of the political context. *American journal of political science*, 391-414.

Pye, L. W. (1965). The concept of political development. *The Annals of the American Academy of Political and Social Science*, 358(1), 1-13.

Rosenstone, S. J. (1982). Economic adversity and voter turnout. *American Journal of Political Science*, 25-46.

Rule, S. (2014). Voting Behavior. In: Michalos AC (Ed.). Encyclopedia of Quality of Life and Well-Being Research. *Springer, Dordrecht, Netherlands: Springer*, pp. 6985-87.

Russett, B. M. (1965). *Trends in world politics*. New York: Macmillan

Saud, M., & Ashfaq, A. (2025). Shift from traditional to contemporary political patterns: Knowing the youth perspectives on political participation. *Journal of Asian and African Studies*, 60(6), 3474-3494.

Shojaei, Gh. (2023). *Comparative comparison of electoral behaviors in different periods of Islamic councils in Abek city*. Master's thesis, Payam Noor University of Alborz Province, Payam Noor Center Hashtgerd. [In Persian].

Snowdon, B. & Vane, H.R. (2013). *Modern Macroeconomics (Its Origins , Development and Cerrent State)*. Translator(s): Mansour Khalili Araghi & Ali Souri. Tehran: Samt. [In Persian].

Statistical Yearbooks, *Statistical Center of Iran*. [In Persian].