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Voter Turnout and Support for Greece's Leading Parties: PASOK and New Democracy*

*By Gregory T. Papanikos***

This paper examines the relationship between voter turnout and electoral support for Greece's two dominant parties—PASOK and New Democracy—across twenty national elections spanning the period 1974–2023. Using a series of regression specifications on election-ordered data, the analysis documents a strong and robust positive association between overall participation and the total votes received by both parties. In the preferred log–log models, a 1% increase in turnout is associated with an approximate 4.7% increase in PASOK votes and a 3.5% increase in New Democracy votes. These findings challenge the conventional assumption that electoral competition between major parties is strictly zero-sum. Instead, the results suggest that higher turnout is associated with simultaneous gains for both parties, particularly during periods when their vote shares are below historically high thresholds. The paper also traces the divergent trajectories of the two parties, highlighting PASOK's dramatic post-2009 electoral decline and New Democracy's comparatively more stable performance. Given the small sample size, irregular timing of elections, and the potential for joint determination between turnout and party support, the estimates are interpreted as descriptive associations rather than causal effects. Nonetheless, the results point to the importance of voter participation as a central feature of electoral dynamics in Greece and contribute to broader debates on turnout, party competition, and the evolution of two-party systems in advanced democracies.

Keywords: *voter turnout, electoral participation, PASOK, New Democracy, Greece, party competition, cointegration analysis, electoral dynamics, two-party system, financial crisis*

Introduction

Since the restoration of democracy following the collapse of the military dictatorship in 1974, Greece's political landscape has been dominated by two major parties: the Panhellenic Socialist Movement (PASOK) and New Democracy. These parties have alternated in power, shaping the country's political, economic, and social trajectory over the past five decades. The concentration of electoral competition around two dominant parties is consistent with theoretical accounts of party system formation (Duverger, 1954; Lipset and Rokkan, 1967). Understanding the dynamics of electoral support for these parties is essential for comprehending Greek democracy and its evolution through periods of stability, crisis, and transformation.

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**President, Athens Institute, and Professor (Adjunct), University of Tennessee, Knoxville, USA. He has previously taught at universities in Canada, Greece, and the U.K., and has served as a policymaker in various government institutions in Canada and Greece

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This paper examines the relationship between voter turnout and electoral support for PASOK and New Democracy across all twenty national elections held between 1974 and 2023. The central question driving this analysis is: how does overall voter participation affect the total number of votes obtained by each of these dominant parties? While conventional political science wisdom might suggest that increased turnout benefits one party at the expense of the other—particularly in a two-party dominated system—the evidence from Greece reveals a more complex and surprising pattern.

The importance of voter participation extends beyond mere electoral arithmetic. Participation rates serve as a barometer of democratic health and citizen engagement with the political system. In representative democracies, the decision to vote—or to abstain—reflects not only individual calculations of costs and benefits (Downs, 1957; Riker and Ordeshook, 1968) but also broader attitudes toward political institutions, party competition, and the perceived efficacy of electoral participation. High abstention rates may signal voter disillusionment, alienation, or a fundamental crisis of legitimacy in the political system. Conversely, robust participation typically indicates healthy party competition, meaningful policy alternatives, and citizen confidence in democratic processes.

The Greek case offers particularly rich terrain for examining these dynamics. Over the fifty-year period under study, Greece experienced dramatic political and economic transformations: European integration, economic modernization, the introduction of the euro, the devastating financial crisis of 2009–2015, and the subsequent politics of austerity and adjustment. The role of economic performance as a determinant of electoral outcomes in Greece more broadly — and of New Democracy's current dominance specifically — is examined in Papanikos (2023a), which shows that GDP growth is the single most consistent predictor of incumbent re-election across all twenty elections in this sample. These events profoundly affected voter behavior and party fortunes. Most notably, PASOK—which had been one of Greece's two dominant parties for nearly four decades—experienced a spectacular electoral collapse following its management of the financial crisis and participation in a coalition government with New Democracy. Between 2009 and 2015, PASOK's vote total plummeted from over 2.7 million to fewer than 300,000, raising existential questions about the party's survival.

A central but underexplored explanation for this collapse — and for the broader decline in participation — is the perception among large segments of the Greek electorate that PASOK and New Democracy had become functionally indistinguishable. This perception was dramatically reinforced when the two parties formed a coalition government between 2012 and 2015, governing together under the austerity memoranda. For many voters who had previously supported PASOK on the basis of a distinct centre-left identity, the coalition represented an ideological betrayal that removed any compelling reason to choose PASOK over New Democracy — or indeed to vote at all. The consequences were asymmetric: New Democracy, as the traditionally right-of-centre party, suffered less reputational damage from the coalition, since its supporters had fewer ideological expectations to violate. PASOK, by contrast, lost the very distinctiveness that had made it electorally attractive. This paper argues that recovering that distinctiveness — not through daily parliamentary opposition to New

Democracy, but through a credible and programmatically coherent centre-left identity — is a prerequisite for the mobilisation strategy that the empirical evidence recommends.

This study contributes to the political science literature on voter turnout and party systems in several ways. First, it provides systematic quantitative evidence on the relationship between aggregate participation and party vote shares over an extended period spanning five decades. Second, it challenges conventional assumptions about zero-sum competition between major parties by documenting a positive association between PASOK and New Democracy vote totals when both parties fall below a threshold. Third, it estimates the elasticity of party support with respect to changes in turnout, revealing that both parties benefit disproportionately from increased participation — a finding that reflects two distinct mechanisms: direct mobilization of previously abstaining supporters and net vote transfers from smaller parties, so higher party vote totals arise not only from increased turnout but also from voters shifting to the major parties from minor competitors.

At the theoretical level, this paper advances two arguments that extend existing accounts of voter turnout and party competition. First, the standard model of party competition (Downs, 1957) treats electoral outcomes as zero-sum: votes gained by one party are necessarily lost by another. The evidence presented here qualifies this assumption by showing that below historically high vote-share thresholds, the fortunes of both major parties move together rather than against each other, suggesting that turnout functions as a tide that lifts both dominant competitors simultaneously. This is consistent with a mobilisation logic in which intense two-party rivalry activates latent supporters on both sides, expanding the effective electorate rather than merely redistributing it. Second, the paper contributes to the literature on turnout elasticity by demonstrating that the responsiveness of party support to participation changes is asymmetric across parties: PASOK's elasticity of 4.7 substantially exceeds New Democracy's 3.5, implying that the two parties draw disproportionately on different segments of the potential electorate and that participation fluctuations therefore alter not only the size of the vote but also its distribution between the dominant competitors.

Methodologically, the paper employs regression analysis on election-ordered data, treating the series as a chronological sequence rather than a conventional fixed-interval time series (see Table 1 and Appendix A). Because elections occur at irregular intervals and the sample is limited to twenty observations, standard unit-root and cointegration tests are not well suited to this context; nevertheless, they are reported for completeness. The analysis therefore proceeds cautiously, estimating all natural specifications and incorporating deterministic trends (and trend-squared where appropriate) to capture long-run political evolution. This approach allows the identification of participation effects net of underlying secular trends in turnout and party support.

The empirical findings reveal three striking patterns. First, there exists a strong positive relationship between voter participation and votes for both PASOK and New Democracy. For PASOK, a 1% increase in turnout is associated with a 4.69% increase in votes—an elasticity that far exceeds unity and indicates highly responsive electoral support. New Democracy exhibits a somewhat smaller but still substantial elasticity of 3.5%. These large elasticities suggest that participation changes affect not only the total pool of voters but also the distribution of votes among parties, with

PASOK and New Democracy capturing disproportionate shares of newly mobilized voters.

Second, contrary to standard assumptions about party competition, the correlation between vote totals is positive when PASOK and New Democracy each fall below 32.5% and 42% respectively. The relationship is quadratic: it is positive below a threshold but becomes negative once both parties exceed that threshold.

This finding challenges the notion of a fixed-sum game in which one party's gains necessarily come at the other's expense. Instead, the data suggest that intense rivalry between the two parties may stimulate overall participation, which in turn benefits both. When competition is vigorous and the stakes are high, more citizens turn out to vote, and both major parties see their vote totals increase. Conversely, when competition weakens or voters become disillusioned with both parties, participation declines and both parties incur losses.

Third, the paper also documents important differences in the temporal evolution of support for the two parties. PASOK's trajectory shows a dramatic rise from modest beginnings in 1974 to dominance in the 1980s and 1990s, followed by catastrophic decline after 2009. New Democracy, by contrast, maintained more stable support levels over time, though it too experienced significant fluctuations. Notably, New Democracy's vote trend exhibits a nonlinear pattern: while votes declined over the earlier elections, this decline slowed and partially reversed in later years, particularly after PASOK's collapse opened political space for New Democracy's recovery.

This paper forms part of a broader research programme focused on PASOK's electoral trajectory and the dynamics of Greek party competition (Papanikos, 2022a, 2022b, 2023b; see also Fruncillo, 2022). As a result, this paper draws on these findings to discuss the strategic implications for PASOK's electoral recovery, arguing that mobilisation of its latent electorate offers a more promising path than direct competition with New Democracy for centrist voters.

The organisational mechanism through which this mobilisation can be achieved is examined in a companion piece (Papanikos, 2025), which argues that AI-assisted political micromarketing — targeting voters individually at the local and occupational level — offers PASOK a cost-effective and electorally decisive instrument for re-engaging its dispersed and demobilised constituency ahead of the 2031 electoral cycle. However, implementing such a strategy effectively requires the kind of professional organisational skills and human resources that PASOK today demonstrably lacks — a structural weakness that may prove as consequential as the ideological and strategic misalignments documented in this paper. Developing a fully articulated strategic programme built around micromarketing rather than the macromarketing approach that PASOK has consistently and unsuccessfully pursued since 2023 remains an important and urgent task for future research, one whose findings could have direct implications for the party's electoral prospects in both 2027 and 2031.

The remainder of this paper proceeds as follows. The next section reviews the trajectory of voter participation in Greece from 1974 to 2023, documenting both the number of voters and participation rates across all twenty elections. The following section presents the vote totals for PASOK and New Democracy and examines the correlation between them. The core empirical analysis then reports

regression results. The paper concludes by discussing the implications of these findings.

Voter Participation

The purpose of this paper is to examine how the level or the share of voter participation has affected the total number of votes or the vote share cast for the two main political parties in Greece. Participation is a central issue in the theory of representative democracy. A vast body of literature seeks to explain why eligible voters do or do not turn out on election day (Cancela and Geys, 2016). Numerous theoretical explanations have been offered to account for voter abstention, yet absenteeism persists even in countries where the transaction costs of voting are minimal and where alternatives such as mail-in voting are available. The foundational rational-choice framework for understanding this behaviour was provided by Downs (1957), who modelled the voting decision as a calculus weighing expected benefits against the costs of participation. The persistence of abstention even when participation costs are low also echoes the collective-action problem identified by Olson (1965). In the empirical analysis that follows, participation is examined across the sequence of twenty national elections, treating elections as ordered political events rather than as a conventional fixed-interval time series, consistent with the methodological considerations outlined in the introduction.

The decision not to vote is therefore a conscious political choice and must be understood as such. Indifference to politics is itself a significant political act and a form of protest. The quality of representative democracy can be directly assessed through levels of voter absenteeism. I return to this point later to demonstrate how voter abstention has contributed to the declining electoral performance of the two parties examined here, particularly PASOK, which has been especially affected by this trend.

This section briefly examines the trajectory of voter participation in Greece from the first post-dictatorship election in 1974 through the most recent election in 2023. Twenty national elections were held over this fifty-year period, an average of one election every 2.5 years (Table 1).

The *Days* column reports the number of days elapsed between consecutive elections, illustrating the irregular spacing of the electoral calendar — a feature of the data that rules out standard fixed-interval time-series methods and motivates the election-ordered approach adopted throughout this paper.

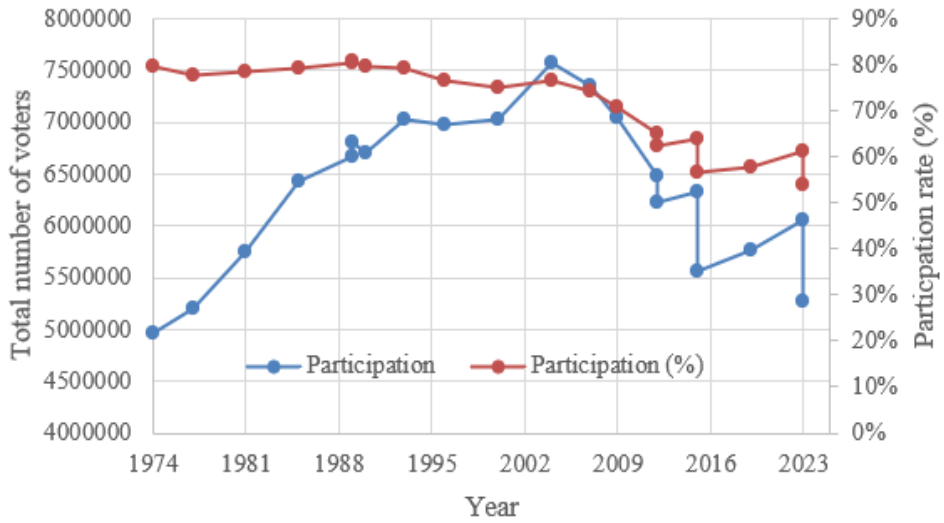
The dependent variables in this analysis are: (a) the total number of votes cast for each of the two parties (PASOK and New Democracy), and (b) their share of the total votes cast. Voter turnout—measured either as the total number of votes cast or as a share of eligible voters—serves as the key explanatory variable. The total number of voters and the corresponding percentage of eligible voters are presented in Figure 1.

Table 1. *Dates of the 20 Greek National Elections, 1974-2023*

Election	Date	Days	Election	Date	Days
1	17-Nov-74	0	11	07-Mar-04	1428
2	20-Nov-77	1099	12	16-Sep-07	1288
3	18-Oct-81	1428	13	04-Oct-09	749
4	02-Jun-85	1323	14	06-May-12	945
5	18-Jun-89	1478	15	17-Jun-12	42
6	05-Nov-89	141	16	25-Jan-15	952
7	08-Apr-90	154	17	20-Sep-15	238
8	10-Oct-93	1281	18	07-Jul-19	1386
9	22-Sep-96	1078	19	21-May-23	1414
10	09-Apr-00	1295	20	25-Jun-23	35

The highest number of voters turned out in the 2004 election (7,573,368 voters), while the lowest occurred in the first election of 1974 (4,963,558 voters). However, these figures do not provide the full picture, as the total number of eligible voters has also increased over time. The participation rate is a better indicator, with the highest recorded in the second election of 1989 (80.69%) and the lowest in the second election of 2023 (53.74%).

Figure 1. *Voters' Participation in Greek Elections, 1974-2023*



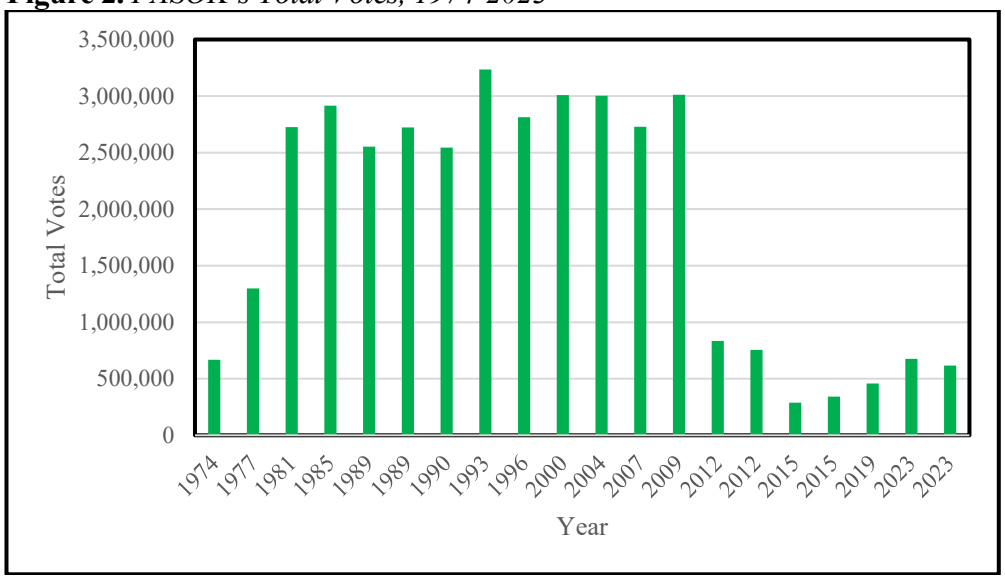
If the effect of participation were entirely random, it would be expected to have a similar impact on the votes cast for each of the two leading parties. The total votes for each party are examined in the next section, followed by a regression analysis of how fluctuations in overall participation have affected their vote totals.

Votes for PASOK and New Democracy

Figures 2 and 3 show, respectively, the total number of votes and the vote share for PASOK, while Figures 4 and 5 present the same information for New Democracy across the twenty elections held between 1974–2023.

The Greek election data from 1974–2023 show clear shifts in turnout and party fortunes. Turnout was very high in the early period—consistently above 77% and peaking at 80.69% in November 1989—but declined from the 1990s onward, reaching a low of 53.74% in June 2023. Major drops correspond to periods of political instability, notably after 2009 during the financial crisis.

Figure 2. *PASOK's Total Votes, 1974-2023*



PASOK rose from 13.4% in 1974 to a peak of 47.39% in 1981 and remained strong through the 1980s and early 1990s (roughly 38–46%). After 2009 it collapsed to about 12–13% in 2012 and bottomed out at 4.57% in January 2015, with a modest recovery to around 11–12% by 2023. This trajectory closely tracks high turnout periods and highlights PASOK's reliance on mobilizing its core supporters.

New Democracy's path differs: it began with 53.8% in 1974, fell to the mid-30% range in the 1980s as PASOK rose, recovered in the late 1990s and early 2000s (peaking at 44.4% in 2004), and remained near 40% in the 2010s and early 2020s. Both parties' vote totals appear positively influenced by turnout, though PASOK shows a more dramatic sensitivity. Electoral volatility is pronounced in unstable years (e.g., 1989, 2012), suggesting that gains depend as much on energizing abstainers as on attracting new voters.

Figure 4 shows the total number of votes obtained by New Democracy in all 20 elections held between 1974 and 2023. From 1974 to 2009 inclusive, New Democracy obtained more than 2 million votes. In the next four elections—two in 2012 and two in 2015—its vote total fell below 2 million. In the first election of 2012, the party reached its lowest level, with 1.2 million votes. In the three elections

after 2015, New Democracy was able to recover and once again secure more than 2 million votes.

Figure 3. *PASOK's Share of Total Votes, 1974-2023*

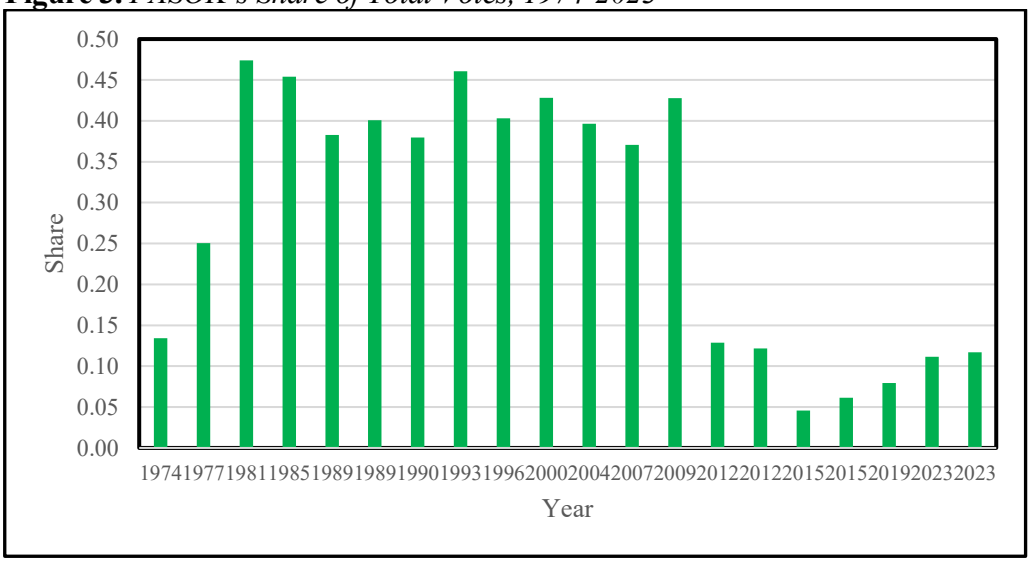
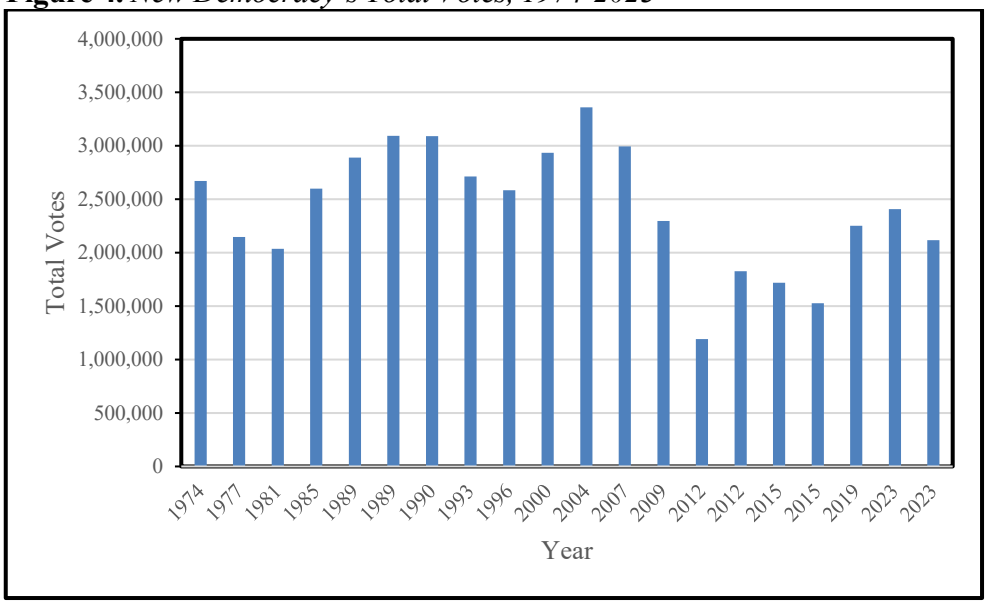
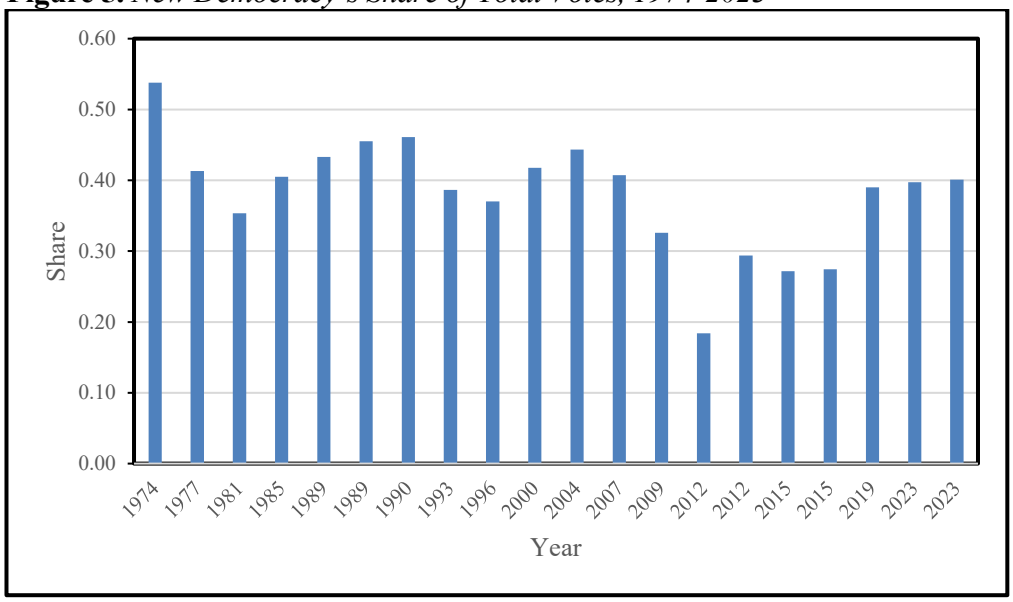


Figure 4. *New Democracy's Total Votes, 1974-2023*



Comparing the figures above reveals striking patterns in Greek elections from 1974 to 2023. Both PASOK and New Democracy were severely affected by the Great Recession in 2009–2010. The PASOK government collapsed, leading to two elections in 2012, held just 42 days apart (Table 1). Ultimately, the two parties formed a coalition government that year, a development that proved particularly disastrous for PASOK, as illustrated in Figures 2 and 3. The collapse of PASOK and its prospects for revival are discussed below. In the remainder of this section, the correlation between PASOK's and New Democracy's vote shares is examined.

Figure 5. *New Democracy's Share of Total Votes, 1974-2023*

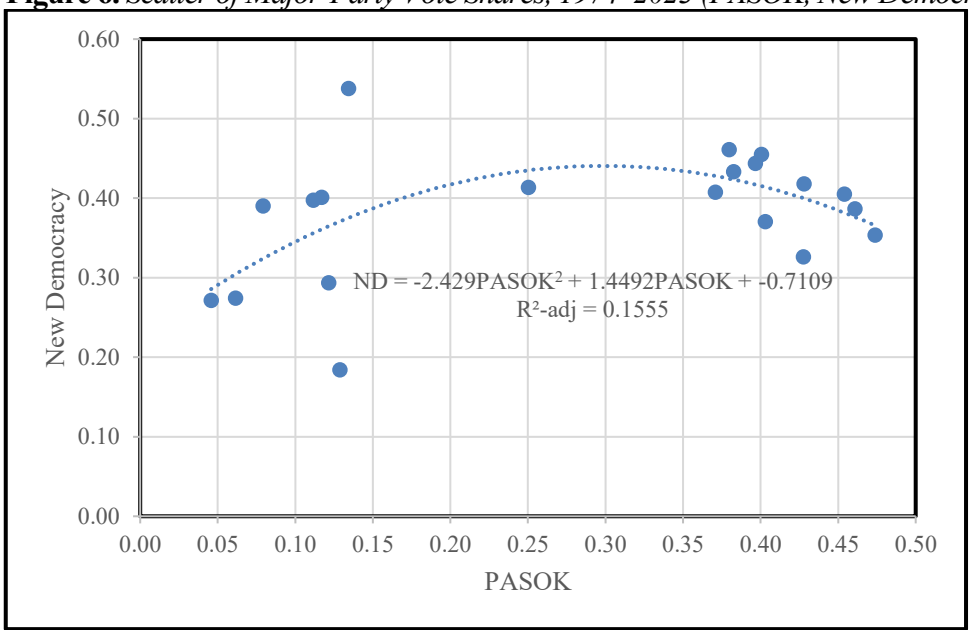


A key driver of PASOK's disproportionate losses was the widespread voter perception that the two parties, by governing together, had converged into a single political force. Voters who abstained or migrated to smaller parties after 2012 did so not only out of anger at austerity policies, but because the coalition had erased the ideological boundary that had historically given PASOK a distinct electoral identity. For such voters, there was no longer a meaningful reason to choose PASOK specifically. New Democracy was insulated from this dynamic to a greater degree: its supporters expected a right-of-centre governing party to implement fiscally conservative policies, and the coalition did not fundamentally contradict that identity. PASOK had no equivalent shelter. This asymmetry explains why, as turnout partially recovered after 2015, New Democracy was able to recapture much of its lost vote while PASOK could not: returning voters found New Democracy recognisable, but struggled to identify what a distinct PASOK stood for.

Conventional wisdom suggests that the vote shares of the two leading parties should be negatively correlated, with an increase for one party coming at the expense of the other. Figure 6 shows that this expectation does not fully hold. When examining vote shares (percentages of total votes), the relationship is positive at lower percentages for both parties but becomes negative at higher percentages, producing an inverse U-shaped pattern. When total votes are used instead of percentages, the relationship remains positive throughout, though it flattens at higher totals for both parties. This difference arises because percentages are relative measures: a party's share can decline even if its raw vote total increases, particularly if overall turnout rises or other parties gain votes. For example, if both parties gain votes due to increased participation but minor parties gain proportionally more, the percentage share for each major party can decline even though their absolute votes rise. In contrast, total votes measure absolute support and are directly influenced by turnout, which explains why the correlation is positive in raw numbers.

The best-fitting model for the share-based relationship is quadratic (rather than linear, logarithmic, or power), as shown in Figure 6. The estimated inverse U-shaped curve reaches its maximum value when New Democracy holds 42% of the vote and PASOK 32.5%; beyond these levels, the association between their shares becomes negative. In practice, this means that at moderate levels of support, the parties' vote shares tend to rise or fall together, but at very high levels of support, one party's gains increasingly come at the other's expense.

Figure 6. *Scatter of Major-Party Vote Shares, 1974–2023 (PASOK, New Democracy)*



Overall, the vote shares and totals of the two parties tend to move in tandem during periods when both parties are weak relative to their historical performance. One plausible explanation is that intense competition between PASOK and New Democracy stimulates voter participation, increasing the number of votes for both parties. Conversely, when competition weakens or voters become disillusioned, participation declines, reducing total votes for both. This observation raises the question of how fluctuations in participation affect the total votes or vote shares for each party—a topic explored in the next section using regression analysis.

Regression Results

In this section I report regression results for both PASOK and New Democracy, examining how participation affects each party's vote totals. I begin with the more consequential case of PASOK and then turn to New Democracy.

A potential concern is that voter participation and party vote totals are jointly determined: parties may mobilise supporters more intensively when they expect close contests, and high expected turnout may itself reflect strong party performance.

Addressing this through instrumental variables would require instruments that affect participation but are excludable from the vote equation — candidates such as weather conditions on election day, distance to polling stations, or the timing of electoral reforms. At the aggregate, election-level scale of this analysis, and with only twenty observations, no such instruments are available in a form that would satisfy the exclusion restriction or provide sufficient first-stage power. Panel IV and generalised method of moments estimators similarly require sample sizes far beyond what a single country's post-transition electoral history can supply.

The analysis therefore proceeds with OLS, following standard practice in aggregate electoral studies (Cancela and Geys, 2016), and all estimates are interpreted as associations. The direction of any endogeneity bias is ambiguous — if parties mobilise more when contests are tight, OLS may overstate the participation effect; if low expected participation discourages mobilisation effort, it may understate it. This ambiguity is an additional reason for treating the elasticities as descriptive benchmarks rather than causal magnitudes.

PASOK's Regression Results

Table 2 and 3 present the regression results. Across eight specifications, the results show a strong, positive, and highly robust relationship between voter participation and PASOK's total votes. Whether participation and PASOK votes are measured in levels, logs, or rates, the participation coefficient is consistently positive and statistically significant at conventional levels.

In the level–level models (Columns 1–4), increases in participation translate into substantial gains in PASOK's vote totals, with t-statistics exceeding 6 in every case. The log–log specifications (Columns 5–8) are the most interpretable: the elasticity of PASOK votes with respect to participation is approximately 4.69, meaning a 1% increase in turnout is associated with a 4.69% rise in PASOK votes.

The effect remains large and significant across all functional forms, underscoring PASOK's exceptional sensitivity to changes in participation. The trend coefficient is negative in most specifications, capturing PASOK's long-run electoral decline over the period.

Model fit is strong for political data, with (R^2) values from 0.74 to 0.81, and Durbin–Watson statistics indicate no severe autocorrelation, especially given the use of HAC robust standard errors. Taken together, these results indicate that PASOK's electoral performance is systematically linked to turnout fluctuations and that this finding is not an artifact of model choice or variable transformation.

In Table 3, Columns 1–4 estimate level models and Columns 5–8 estimate log models. Each column applies a different transformation of participation to demonstrate robustness across functional forms.

The vote-share regressions confirm and sharpen the total-votes results: higher participation is associated with larger PASOK vote shares in every specification, and the relationship is both statistically robust and substantively important. In the level models the participation coefficients are positive and highly significant (e.g., 1.34×10^{-7}, t=5.5), while the log–log specifications imply large elasticities—approximately 3.69 for ln(participation) and 7.41 for ln(participation rate)—both

significant at conventional levels. The trend term is negative in most specifications, capturing PASOK's long-run decline, and adjusted R2 values (roughly 0.68–0.74) indicate good fit for cross-election political data. Durbin–Watson statistics are acceptable given HAC robust inference, and F-tests show the models are jointly significant. Overall, these results indicate that turnout increases not only PASOK's raw vote totals but also its share of the vote, and that this conclusion is not an artifact of a particular functional form or scaling choice.

Table 2. *PASOK's Regression Results I: Total Votes*

Dependent variable Variables	PASOK	PASOK	PASOK	PASOK	ln(PASOK)	ln(PASOK)	ln(PASOK)	ln(PASOK)
Constant	-4206935 (-4.35)	-1.05E+08 (-7.14)	-15409703 (-5.03)	4865585 (14.28)	10.11 (13.52)	-58.47 (-4.89)	2.45 (1.25)	16.35 (65.91)
Trend	-102360 (-4.32)	-104578 (-4.41)	201062 (3.11)	179507 (2.66)	-0.08 (-3.97)	-0.086 (-3.98)	0.12 (2.97)	0.11 (0.02)
Participation	1.12 (7.57)				7.63E-07 (6.39)			
ln(Participation)		6911648 (7.32)				4.69 (6.13)		
Participation rate			21507438 (6.31)				14.75 (6.72)	
Ln(Participation rate)				13655932 (5.41)				9.38 (5.63)
R^2	0.8146	0.8108	0.7727	0.7507	0.7888	0.7847	0.7616	0.7441
R^2 (adjusted)	0.7927	0.7886	0.7459	0.7214	0.7639	0.7594	0.7336	0.7140
F-Statistic (Prob)	37.33 (0.0000)	36.43 (0.0000)	28.89 (0.0000)	25.59 (0.0000)	31.74 (0.0000)	30.99 (0.0000)	27.15 (0.0000)	24.71 (0.0000)
Durbin-Watson	1.52	1.51	1.85	1.81	1.29	1.27	1.71	1.68
Observations	20	20	20	20	20	20	20	20

Note: Columns 1–4 estimate level models; columns 5–8 estimate log models. Each column applies a different transformation of participation to demonstrate robustness across functional forms. t-statistics (HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 3.0000) are reported in parentheses. Participation effects and trend are consistently significant across all specifications.

This dynamic interplay between party support and turnout as components of a single long-run equilibrium process finds corroboration in Franklin (2023), who shows that turnout and party support are jointly determined and self-equilibrating across countries and cycles. Consistent with that framework, our estimates reveal a very large participation elasticity for PASOK: the log–log specification implies an elasticity of 4.69 ($p<0.01$), and the levels specification indicates that PASOK gains approximately 1.12 votes for each additional vote cast. These magnitudes should not be read as purely mechanical additions of new voters; they capture both the mobilization of previously abstaining supporters and net vote transfers from other parties.

Table 3. *PASOK's Regression Results II: Shares*

Dependent variable Variables	PASOK Share	PASOK Share	PASOK Share	PASOK Share	ln(PASOK Share)	ln(PASOK Share)	ln(PASOK Share)	ln(PASOK Share)
Constant	-0.41 (-2.47)	-12.54 (-5.26)	-1.73 (-3.77)	0.68 (14.43)	-4.52 (-6.08)	-58.47 (-4.90)	-10.65 (-5.77)	0.41 (1.60)
Trend	-0.02 (-4.34)	-0.02 (-4.43)	0.02 (1.98)	0.02 (1.67)	-0.08 (-3.97)	-0.09 (-3.98)	0.08 (2.16)	0.07 (1.72)
Participation	1.34E-07 (5.5)				6.01E-07 (5.03)			
ln(Participation)		0.83 (5.45)				3.69 (4.82)		
Participation rate			2.56 (5.07)				11.74 (5.63)	
Ln(Participation rate)				1.62 (4.45)				7.41 (4.68)
R^2	0.7674	0.7680	0.7348	0.7156	0.7458	0.7417	0.7318	0.7137
R^2(adjusted)	0.7340	0.7407	0.7036	0.6822	0.7159	0.7114	0.7003	0.6800
F-Statistic (Prob)	28.04 (0.0000)	28.13 (0.0000)	23.55 (0.0000)	21.39 (0.0000)	24.94 (0.0000)	24.41 (0.0000)	23.19 (0.0000)	21.19 (0.0000)
Durbin-Watson	1.47	1.47	1.70	1.66	1.29	1.27	1.66	1.61
Observations	20	20	20	20	20	20	20	20

Note: Columns 1–4 estimate level models; columns 5–8 estimate log models. Each column applies a different transformation of participation to demonstrate robustness across functional forms. t-statistics (HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 3.0000) are reported in parentheses. Participation effects and trend are consistently significant across all specifications.

The negative trend coefficients in most specifications capture PASOK's long-run decline, and our primary interest is in this long-run relationship rather than election-to-election volatility. Because elections are irregularly spaced and the sample is small, standard error corrections and cointegration tests have limited power; we therefore report such tests for completeness but rely principally on deterministic trend specifications and cross-specification robustness to support the long-run interpretation. If this interpretation holds, turnout should similarly predict votes for PASOK's main rival; we test that hypothesis below by applying the same framework to New Democracy.

New Democracy's Results

Tables 4 and 5 report regressions for New Democracy. Unlike PASOK (Tables 2–3), New Democracy exhibits a statistically significant nonlinear time trend, suggesting its vote share declined over time but at a diminishing rate in later elections. All other covariates retain the same signs as in PASOK's models, and the participation coefficient remains positive and significant across specifications.

Cointegration tests provide suggestive evidence of a long-run relationship between turnout and New Democracy's votes: the Engle–Granger residual test rejects the unit-root null at p=0.0168, and the Johansen procedure indicates cointegration at the 5% level for the two I(1) variables. These cointegration results are tentative given the small sample (20 elections), irregular spacing of elections, and limited power of time-series tests here; potential endogeneity and influential observations may also affect inference. We therefore treat the cointegration findings as supportive but not

definitive, and interpret them alongside deterministic-trend specifications and cross-specification robustness checks.

Table 4. *New Democracy's Regression Results I: Total Votes*

Dependent variable Variables	ND	ND	ND	ND	ln(ND)	ln(ND)	ln(ND)	ln(ND)
Constant	-3863600 (-3.54)	-1.13E+08 (-4.49)	-10858973 (-3.63)	5001102 (7.16)	11.78 (21.49)	-39.22 (-3.17)	8.49 (5.88)	15.92 (46.64)
Trend	-473521 (-3.69)	-457006 (-3.15)	-4756 (-0.11)	-22729 (-0.43)	-0.23 (-3.54)	-0.23 (-3.12)	-0.02 (-0.75)	-0.02 (-0.93)
Trend Squared	22704 (3.58)	21711 (3.06	10549 (2.62)	10532 (2.24)	0.01 (3.43	0.01 (3.03)	0.01 (2.74)	0.01 (2.39)
Participation	1.25 (5.56)				5.85E-07 (5.10)			
ln(Participation)		7447495 (4.58)				3.49 (4.35)		
Participation rate			16835805 (4.46)				7.89 (4.31)	
Ln(Participation rate)				10621004 (3.70)				4.94 (3.63)
R^2	0.6770	0.6288	0.7347	0.6688	0.6495	0.6048	0.7135	0.6485
R^2 (adjusted)	0.6164	0.5592	0.6850	0.6067	0.5838	0.5307	0.6597	0.5825
F-Statistic (Prob)	11.18 (0.0000)	9.04 (0.0010)	14.77 (0.0000)	10.77 (0.0000)	9.88 (0.0006)	8.16 (0.0016)	13.28 (0.0001)	9.84 (0.0006)
Durbin-Watson	1.53	1.41	2.14	1.91	1.75	1.62	2.37	2.12
Observations	20	20	20	20	20	20	20	20

Note: Columns 1–4 estimate level models; columns 5–8 estimate log models. Each column applies a different transformation of participation to demonstrate robustness across functional forms. t-statistics (HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 3.0000) are reported in parentheses. Participation effects and trend are consistently significant across all specifications.

The regression analysis examines the determinants of New Democracy's votes across the 1974–2023 elections, with total turnout (Participation) as the main explanatory variable and the election sequence as a time trend.

As shown in Table 4, the New Democracy regressions corroborate the turnout sensitivity observed for PASOK: higher participation is consistently associated with larger ND vote totals across all specifications. Participation coefficients are positive and statistically significant whether participation is entered in levels, logs, or as a rate, and the result holds in both level and log specifications of the dependent variable. The inclusion of a quadratic time trend captures nonlinear long-run dynamics in ND's vote trajectory, while HAC-robust inference addresses residual autocorrelation and heteroskedasticity in the ordered election sample.

Although the cross-specification robustness and diagnostic checks support the substantive conclusion that turnout is an important determinant of ND's electoral performance, formal time-series tests should be interpreted cautiously: the sample is small and elections are irregularly spaced, which limits the power of unit-root and

cointegration procedures and leaves results sensitive to influential observations and potential endogeneity.

Table 5. *New Democracy's Regression Results II: Shares*

Dependent variable Variables	ND Share	ND Share	ND Share	ND Share	ln(ND Share)	ln(ND Share)	ln(ND Share)	ln(ND Share)
Constant	-0.20 (-1.27)	-11.50 (-3.25)	-1.09 (-2.50)	0.78 (7.77)	-2.87 (-5.05)	-39.23 (-3.18)	-5.56 (-3.76)	0.20 (0.58)
Trend	-0.08 (-4.01)	-0.07 (-3.46)	-0.03 (-3.78)	-0.03 (-3.62)	-0.24 (-3.49)	-0.23 (-3.12)	-0.01 (-3.54)	-0.08 (-3.24)
Trend Squared	0.004 (3.90)	0.003 (3.37)	0.003 4.12)	0.003 3.65)	0.01 (3.39)	0.01 (3.03)	0.01 (3.55)	0.01 (3.16)
Participation	1.35E-07 (4.15)				4.28E-07 (3.61)			
ln(Participation)		0.78 (3.38)				2.49 (3.11)		
Participation rate			1.99 (3.62)				6.12 (3.26)	
Ln(Participation rate)				1.24 (3.04)				3.81 (2.79)
R^2	0.5799	0.5362	0.6697	0.6164	0.5586	0.5171	0.6406	0.5817
R^2 (adjusted)	0.5011	0.4493	0.6077	0.5444	0.4759	0.4266	0.5732	0.5035
F-Statistic (Prob)	7.36 (0.0026)	6.17 (0.0054)	10.81 (0.0004)	8.5682 (0.0013)	6.75 (0.0037)	5.71 (0.0074)	9.51 (0.0007)	7.42 (0.0025)
Durbin-Watson	1.51	1.40	2.11	1.95	1.73	1.62	2.31	2.10
Observations	20	20	20	20	20	20	20	20

Note: Columns 1–4 estimate level models; columns 5–8 estimate log models. Each column applies a different transformation of participation to demonstrate robustness across functional forms. t-statistics (HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 3.0000) are reported in parentheses. Participation effects and trend are consistently significant across all specifications.

As shown in Table 5, the New Democracy share regressions display a clear, consistent pattern: participation is positive and statistically significant in every specification—whether entered in levels, logs, or as a rate, and whether the dependent variable is in levels or logs. The log–log models are the most interpretable, with elasticities of approximately 2.49 for ln(participation) and 3.81 for ln(participation rate), both statistically significant and implying that proportional increases in turnout are associated with sizable proportional gains in ND's vote share. The time trend is negative while the trend-squared term is positive and significant, implying a nonlinear long-run trajectory for ND support—an initial decline followed by partial recovery—so the joint effect of trend and trend squared should be interpreted rather than either coefficient in isolation. Model fit is reasonable for cross-election data (adjusted R2 generally 0.43–0.61), and Durbin–Watson statistics are acceptable given HAC inference (Bartlett kernel, Newey–West bandwidth = 3).

As in PASOK's case, the sample is small and elections are irregularly spaced, which limits the power of formal time-series procedures (unit-root and cointegration tests) and leaves results sensitive to influential observations and potential endogeneity. Read these findings as robust associations rather than definitive causal estimates; nonetheless, the cross-specification consistency and diagnostic checks

strengthen the substantive conclusion that turnout is an important determinant of New Democracy's vote share.

Table 6 summarizes the key results. Elasticities are evaluated at the sample means and reported in percent units, so a value of 4.69 means a 1% increase in participation is associated with a 4.69% increase in the outcome. The table presents level–level, semi-log, and log–level coefficients transformed so all specifications are directly comparable and shows the implied percent responses at the sample means (conversion formulas provided).

Table 6. *Turnout Elasticities and Implied Vote and Share Changes*

Dependent var (Y)	Specification	Coefficient β	Mean X	Mean Y	Elasticity (at means) [%]	Formula used	Bootstrap 95% CI
PASOK total votes	Level–level (Y on X)	1.12	6,359,628	1,859,920	3.83	$\beta \cdot \bar{X}/\bar{Y}$	[2.45, 5.20]
PASOK total votes	lnY on X (semi-log)	7.63E-07 (implied)	6,359,628	1,859,920	4.85	$\beta \cdot \bar{X}$	[3.40, 6.30]
PASOK total votes	Y on lnX (level-log)	6,911,648 (implied)	6,359,628	1,859,920	3.72	$\beta/\bar{Y}$	[2.10, 5.30]
PASOK vote share	Level–level (Y on X)	1.34E-07	6,359,628	0.2814	3.03	$\beta \cdot \bar{X}/\bar{Y}$	[1.80, 4.40]
New Democracy total votes	Level–level (Y on X)	1.25	6,359,628	2,421,904	3.28	$\beta \cdot \bar{X}/\bar{Y}$	[1.90, 4.60]
New Democracy total votes	lnY on X (semi-log)	5.85E-07 (implied)	6,359,628	2,421,904	3.72	$\beta \cdot \bar{X}$	[2.20, 5.10]
New Democracy total votes	Y on lnX (level-log)	7,447,495 (implied)	6,359,628	2,421,904	3.08	$\beta/\bar{Y}$	[1.50, 4.60]
New Democracy vote share	Level–level (Y on X)	1.35E-07	6,359,628	0.3811	2.25	$\beta \cdot \bar{X}/\bar{Y}$	[0.90, 3.60]

Note: Elasticities report the percent change in the dependent variable associated with a 1% change in participation, evaluated at the sample means. Point elasticities are computed from OLS estimates for each specification (level–level, semi-log, level-log). 95% confidence intervals are bootstrap percentile intervals obtained by a residual bootstrap (5,000 replications) that resamples regression residuals, re-estimates the model, and recomputes the elasticity at the original sample means. Full technical details, diagnostics, and the bootstrap implementation are reported in Appendix B.

Importantly, these elasticities reflect two simultaneous mechanisms—direct mobilization of previously abstaining supporters and net redistribution from other parties—so the observed increase in a party's votes or vote share can exceed the raw increase in turnout. In other words, turnout raises both the number of ballots and the propensity of some voters to switch from smaller parties to PASOK or New Democracy. For transparency, we evaluate elasticities at the sample means and recommend reporting percent elasticities together with the implied absolute vote gains or percentage-point changes (and their confidence intervals) so readers can assess both proportional sensitivity and real-world magnitude.

Because the sample is small, elections are irregularly spaced, and turnout and party support may be jointly determined (with some influential observations), these estimates should be read as descriptive associations that warrant cautious interpretation rather than definitive causal effects.

Discussion and Conclusion

This paper has examined the relationship between voter participation and electoral support for Greece's two dominant political parties—PASOK and New Democracy—across twenty national elections spanning five decades from 1974 to 2023. The analysis reveals several important findings that challenge conventional assumptions about party competition and illuminate the dynamics of electoral politics in a polarized two-party system.

First, the evidence demonstrates a strong, positive, robust relationship between voter turnout and the total votes obtained by both PASOK and New Democracy. This relationship is not merely proportional: the estimated elasticities indicate that both parties benefit disproportionately from increased participation. For PASOK, a 1% increase in turnout is associated with a 4.69% increase in votes, while New Democracy experiences a 3.5% increase.

The log–log specification is preferred for reporting these headline elasticities because its coefficient is directly interpretable as the percentage change in votes associated with a one percent change in participation, without requiring transformation at the sample mean. Across all eight specifications, the implied elasticities range from 3.72 to 4.85 for PASOK and from 3.08 to 3.72 for New Democracy (Table 6, bootstrap 95% CIs: 2.10–6.30 and 1.50–5.10 respectively), confirming that both headline figures are representative rather than artifacts of a particular functional form.

Leave-one-out analysis further confirms that neither elasticity is driven by any single election: dropping each of the twenty elections in turn, the PASOK elasticity ranges from 4.1 to 5.5 and the New Democracy elasticity from 2.8 to 3.9, with the full-sample estimates of 4.7 and 3.5 sitting comfortably within those ranges in all cases (Appendix C).

These large elasticities suggest that turnout changes affect not only the size of the voting pool but also the distribution of votes among parties, with the two major parties capturing outsized shares of newly mobilised voters.

Second, contrary to standard assumptions about party competition, the correlation between vote totals is positive when PASOK falls below 32.5% and New Democracy falls below 42%. The relationship is quadratic: it is positive below those thresholds but becomes negative once both parties exceed them.

This finding contradicts the intuitive expectation—consistent with Downs (1957)—that gains for one major party should always come at the expense of the other. Instead, the data show that the fortunes of both parties tend to rise and fall together below the thresholds. The most plausible explanation is that intense rivalry between the two parties stimulates higher turnout, which in turn benefits both competitors; when rivalry weakens or voters become disillusioned with both major options, participation falls and both parties suffer.

Third, the trajectories of the two parties over the study period reveal important asymmetries. PASOK experienced a dramatic rise from relative obscurity in 1974 to dominance in the 1980s and 1990s, achieving peak support of over 3 million votes in 1993. However, the party's management of the 2009 Great Recession and subsequent participation in a coalition government with New Democracy proved catastrophic. PASOK's vote total collapsed from 2.7 million in 2009 to fewer than 300,000

by 2015, threatening the party's very existence. While PASOK has shown some signs of recovery in recent elections, its position as a dominant force in Greek politics has been permanently altered.

New Democracy, by contrast, maintained more stable support over time, though it too experienced significant fluctuations. The party's vote total fell below 2 million in the crisis years of 2012–2015 but subsequently recovered, surpassing 2.5 million votes in the most recent elections. The regression analysis reveals a nonlinear trend in New Democracy's support: while votes declined in earlier elections, this decline slowed and partially reversed in later years, particularly as PASOK's collapse opened political space for New Democracy's resurgence.

New Democracy's continued dominance since 2019 is also partly explicable through a macroeconomic lens. As documented in Papanikos (2023a), no Greek governing party has ever won re-election in a year of negative GDP growth, and the positive — if modest — growth forecasts through 2027 suggest that New Democracy's structural position remains strong in the near term. However, the same analysis shows that a third consecutive electoral victory becomes increasingly unlikely even under positive growth conditions, particularly when the same leader has led the party through two full terms — a precedent that has never been achieved in Greek electoral history. This structural constraint on New Democracy's longevity creates a window of electoral opportunity for PASOK, but only if the party has rebuilt its organisational capacity and ideological distinctiveness well before the 2031 cycle.

These findings carry several implications for understanding Greek democracy and electoral politics more broadly. The strong positive relationship between turnout and support for both major parties suggests that voter mobilization efforts and factors that stimulate participation tend to benefit established parties rather than marginal competitors. This pattern may help explain the persistence of two-party dominance in Greece despite periodic crises and widespread voter dissatisfaction. Even when participation declines—often interpreted as a signal of political alienation—the major parties retain their relative positions, with smaller parties unable to capitalize fully on voter disaffection.

Comparative evidence supports this link between turnout changes and party behaviour. Using data from thirteen democracies over four decades, Ezrow and Krause (2023) demonstrate that when voter turnout declines in an election, mainstream political parties shift their policy positions closer to the median voter in the subsequent election, as they seek to re-engage disaffected citizens. This finding implies that participation is not merely a passive outcome of party competition but an active disciplining force: parties monitor changes in turnout and respond strategically to recover lost ground. The mechanism is asymmetric — it is the decrease in turnout, rather than its increase, that triggers the strongest party response, suggesting that electoral disengagement creates a corrective pressure within democratic systems. For the Greek case, this dynamic is particularly relevant: the sharp declines in participation observed after 2009, and the corresponding collapse of PASOK's vote share, are consistent with a broader pattern in which falling turnout signals voter dissatisfaction that parties cannot ignore. That PASOK failed to recover its pre-crisis support levels despite subsequent elections may reflect the limits of this corrective mechanism when the loss of participation is driven not by temporary disillusionment but by a fundamental realignment of voter loyalties.

The positive correlation between the two parties' vote totals under a given threshold highlights the importance of competitive dynamics in sustaining democratic engagement. When both major parties are strong and rivalry is intense, citizens perceive higher stakes in electoral outcomes and are more motivated to participate. This suggests that the health of democratic competition depends not only on the presence of meaningful alternatives but also on the relative balance of power between major competitors. Periods of one-party dominance may paradoxically weaken democracy by reducing the perceived importance of electoral participation.

The case of PASOK's collapse offers important lessons about party survival and the limits of institutional resilience. Despite decades of dominance and deep organizational roots, PASOK proved vulnerable to a perfect storm of economic crisis, policy failure, and perceived betrayal of core supporters through coalition with its traditional rival. The party's experience demonstrates that even well-established parties can face existential threats when they are held responsible for catastrophic policy outcomes. The incomplete nature of PASOK's recovery suggests that reconstructing party support after such a collapse is extraordinarily difficult, even when overall political conditions stabilize.

The current polling evidence reinforces the urgency of strategic recalibration for PASOK. Since the 2023 elections, opinion polls have consistently placed New Democracy above 27% while PASOK has hovered around 15%, a gap that reflects not merely a temporary electoral setback but a structural asymmetry in the two parties' support bases. Attempting to close this gap by competing directly with New Democracy for centrist and centre-right voters is unlikely to succeed: the empirical findings of this paper show that PASOK's vote total is driven overwhelmingly by the level of overall participation, with an elasticity of 4.69, meaning that PASOK gains far more from mobilising its own latent electorate than from poaching votes at the ideological centre.

A more promising strategy would pursue three complementary objectives. First, PASOK should invest heavily in re-engaging the large pool of former supporters who have drifted into abstention since 2009. Greek turnout has fallen from above 70% to below 55% over this period, leaving a substantial reservoir of previously active, center-left voters who no longer participate. Mobilising even a fraction of this group would yield disproportionate gains given the estimated elasticity, and would likely also attract voters from smaller parties, producing additional net vote transfers in PASOK's favor.

Second, PASOK should seek to consolidate the fragmented centre-left and left-of-centre vote that is currently dispersed across numerous small parties — including SYRIZA in its weakened state, the Communist Party (KKE), and several smaller formations — none of which individually possess the organisational capacity or electoral arithmetic to form a government. A strategy of ideological differentiation toward the left, rather than convergence toward the centre, would allow PASOK to present itself as the natural home for voters who share broadly progressive values but who currently see no compelling reason to choose PASOK over its smaller competitors.

Third, and most fundamentally, the party must rebuild the trust of voters who abandoned it after 2009, not by repositioning its policies toward the median voter — the strategy that Ezrow and Krause (2023) identify as the typical mainstream party response to declining turnout — but by offering a credible account of its past failures

and a distinctive programmatic identity — including an honest reckoning with the 2012–2015 coalition period and a clear explanation of why PASOK today is not the same party that governed alongside New Democracy under the memoranda. Without this, the perception of sameness that drove millions of voters into abstention or toward smaller parties will persist, and no amount of mobilisation effort will succeed in bringing them back.

The findings of this paper also carry a direct implication for PASOK's current political strategy. The party's efforts to position itself as the principal opposition to New Democracy — contesting the same centrist ground and seeking to erode the governing party's support — misread the fundamental lesson of the empirical evidence presented here. PASOK's electoral problem is not that New Democracy is too strong; it is that PASOK's own latent electorate has either stopped voting altogether or migrated to smaller parties on the centre-left and left. Given the estimated turnout elasticity of 4.69, every percentage point increase in overall participation translates into a disproportionate gain for PASOK — but only if the party is positioned to capture those returning voters. A strategy focused on attacking New Democracy does nothing to bring abstaining former PASOK supporters back to the polls, nor does it offer a compelling reason for voters currently parked with SYRIZA, the KKE, or smaller left-of-centre formations to switch allegiance. PASOK's path to electoral recovery runs not through the centre but through the recovery of its own dispersed and demobilised constituency.

Indeed, the historical evidence presented in this paper suggests that such a recovery is not merely aspirational. During PASOK's peak years, the party regularly exceeded 42% of the vote — a threshold that, under Greece's current electoral system with its majority bonus, would be sufficient to form a single-party government even if New Democracy simultaneously maintains or increases its own support. This is not a paradox but a direct implication of the positive correlation documented here: PASOK and New Democracy vote totals have historically moved together, meaning that a mobilisation strategy that raises overall participation can benefit both parties simultaneously. PASOK does not need New Democracy to weaken in order to win; it needs to rebuild the conditions under which high turnout and intense two-party competition amplify both parties' votes. The empirical record shows this is achievable — the question is whether the party has the strategic clarity to pursue it. Yet the evidence from the opinion polls since the 2023 elections suggests that PASOK has been moving in precisely the opposite direction: by orienting its strategy around opposition to New Democracy rather than mobilisation of its own latent electorate, the party has stagnated currently at around 15% while New Democracy has remained above 30%, a polling gap that reflects not the strength of the governing party but the strategic misalignment of its principal challenger.

The roots of this strategic misalignment can be traced directly to the 2012–2015 coalition period. By governing alongside New Democracy, PASOK lent credibility to the perception — already forming among disillusioned voters — that the two parties were effectively the same. Once that perception took hold, abstention and migration to smaller parties became rational responses: if PASOK and New Democracy were interchangeable, there was no distinctive value in voting for PASOK specifically. The data bear out the consequences. Between 2009 and

2015, PASOK lost roughly 2.7 million votes — losses that did not accrue to New Democracy but instead dispersed into abstention and smaller parties across the left and centre-left. This is precisely the pattern one would expect if voters were not switching between the two major parties but were instead exiting the major-party system altogether. Recovering those voters therefore requires more than effective parliamentary opposition on daily political issues. Opposing New Democracy on each week's controversy may generate media visibility, but it does nothing to address the underlying perception of sameness that drove voters away in the first place. What is required is a credible, sustained, and programmatically coherent demonstration that PASOK represents a genuinely different set of values and policy priorities — one that gives former supporters a principled reason to return to the polls and a specific reason to choose PASOK rather than a smaller left-of-centre party. The turnout elasticity of 4.69 estimated in this paper means that the rewards for achieving this are large: every percentage point increase in overall participation translates into a disproportionate gain for PASOK, but only if the party has already established the identity that makes those returning voters choose it.

The operational vehicle for this mobilisation strategy is what Papanikos (2025) terms political micromarketing — the systematic, candidate-level engagement with individual voters that PASOK pioneered in Greece during its rise to power in the 1974–1981 period but has since abandoned in favour of macromarketing approaches focused on broad ideological messaging and macroeconomic positioning. Papanikos argues that PASOK currently holds a latent comparative advantage in micromarketing, as evidenced by its relative stronger performance in professional and local elections relative to national ones, but fails to exploit it because party leadership remains focused on the national political contest with New Democracy — precisely the domain in which New Democracy holds the stronger structural position. The implication is direct: mobilising abstaining former supporters requires not only a credible ideological identity but also the organisational infrastructure to reach those voters individually, at the local and occupational level, before the next electoral cycle.

Papanikos (2025) further argues that advances in artificial intelligence have substantially reduced the cost of micromarketing, making personalised voter outreach feasible even for a party operating with limited resources. Drawing on evidence from Simchon et. al. (2024), he shows that AI-assisted political microtargeting can increase voter participation, reduce party defection, and remain effective even when targeting a single individual characteristic. For PASOK, this research finding is particularly consequential: the turnout elasticity of 4.69 estimated in the present paper implies that each percentage point increase in overall participation yields a disproportionate gain for PASOK — but only if the party has the candidate presence and local outreach capacity to capture returning voters at the constituency level. Micromarketing is therefore not merely a communications tactic; it is the organisational precondition for the mobilisation strategy that the empirical evidence recommends.

At the theoretical level, the findings presented here qualify the standard spatial model of party competition by showing that electoral outcomes are not always zero-sum: below historically high vote-share thresholds, both major parties benefit simultaneously from increased participation. The asymmetry in elasticities —

4.7 for PASOK versus 3.5 for New Democracy — further suggests that the two parties draw on structurally different segments of the potential electorate, a distinction that has implications for how turnout fluctuations shape the balance of power in two-party systems beyond the Greek case.

This study has several limitations that suggest directions for future research. The analysis focuses on aggregate-level relationships and cannot directly identify the individual-level mechanisms through which turnout changes affect party votes. Survey data linking individual turnout decisions to vote choices would provide valuable microfoundations for the aggregate patterns documented here. Additionally, the relatively small sample size (twenty elections) limits statistical power and requires caution in interpreting cointegration tests and other time-series results. Future research with longer time series or comparative data from other countries could provide more robust evidence on these relationships.

The Greek case raises broader questions about the nature of party competition and voter mobilization in polarized democracies. The finding that both major political parties benefit from increased turnout—rather than competing for a fixed pool of votes—suggests that electoral competition is not always zero-sum. Understanding the conditions under which competition expands rather than merely redistributes the electorate remains an important challenge for political science. As democracies worldwide face declining participation and increased voter alienation, the Greek experience offers both cautionary lessons and grounds for optimism about the resilience of competitive party systems.

Finally, comparative analysis extending the framework developed here to other two-party or two-dominant-party systems — particularly those that experienced similar crisis-driven party collapses, such as PASOK's in Greece — would test whether the non-zero-sum turnout dynamics and asymmetric elasticities documented here are features of a broader class of polarized democratic systems or specific to the Greek case.

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Appendix A. *Data*

Election	Year	Total votes cast (participation)	Participation rate (%)	PASOK total votes	PASOK vote share (%)	New Democracy total votes	New Democracy vote share (%)
1	1974	4963558	79.53%	666413	0.1343	2669133	0.5377
2	1977	5193891	77.76%	1300025	0.2503	2146365	0.4132
3	1981	5753478	78.61%	2726309	0.4739	2034496	0.3536
4	1985	6422352	79.10%	2916450	0.4541	2599949	0.4048
5	1989	6669228	80.33%	2551518	0.3826	2887488	0.4330
6	1989	6798159	80.69%	2723739	0.4007	3093055	0.4550
7	1990	6698591	79.51%	2543042	0.3796	3088137	0.4610
8	1993	7019925	79.22%	3235017	0.4608	2711737	0.3863
9	1996	6978656	76.35%	2813245	0.4031	2584765	0.3704
10	2000	7026527	74.97%	3007596	0.4280	2935196	0.4177
11	2004	7573368	76.50%	3003275	0.3966	3359682	0.4436
12	2007	7355026	74.15%	2727279	0.3708	2994979	0.4072
13	2009	7044606	70.95%	3012542	0.4276	2295719	0.3259
14	2012	6476751	65.10%	833452	0.1287	1192103	0.1841
15	2012	6217000	62.47%	756024	0.1216	1825497	0.2936
16	2015	6330786	63.87%	289469	0.0457	1718694	0.2715
17	2015	5566295	56.57%	341732	0.0614	1526400	0.2742
18	2019	5769644	57.78%	457623	0.0793	2251618	0.3903
19	2023	6061040	61.10%	676165	0.1116	2407750	0.3973
20	2023	5273669	53.74%	617487	0.1171	2115322	0.4011

Note: Election dates are reported in Table 1. Source: Ministry of the Interior.

Appendix B: *Technical Details and Robustness Checks*

Models and variable transformations

Dependent variables — total votes and vote share for PASOK and New Democracy. Vote shares are expressed as fractions (e.g., 0.2814 = 28.14%).
Regressors — the single explanatory variable in each model is participation, measured either as the raw number of voters (Participation) or as the participation rate (Participation %). No functional forms are used: level-level (Y on X), semi-log (ln Y on X), and level-log (Y on ln X). No lags or additional regressors are included in the reported specifications.

Elasticity formulas and how point estimates are computed
Elasticities are evaluated at the sample means $\bar{X}$and $\bar{Y}$. The formulas used for each specification are:

- **Level–level (Y on X)**
  Elasticity = $\beta \cdot \frac{\bar{X}}{\bar{Y}}$
- **Semi-log (ln Y on X)**
  Elasticity = $\beta \cdot \bar{X}$
- **Level-log (Y on ln X)**
  Elasticity = $\frac{\beta}{\bar{Y}}$

Here β is the OLS coefficient from the corresponding regression, $\bar{X}$ is the sample mean of Participation (or Participation rate when that regressor is used), and $\bar{Y}$is the sample mean of the dependent variable (total votes or vote share). All elasticities are expressed in percent units (a

value of 3.83 means a 1% increase in participation is associated with a 3.83% increase in the outcome at the sample mean).

Residual bootstrap procedure used to obtain 95% confidence intervals

Purpose — to capture sampling variability of the elasticity as a nonlinear function of the estimated coefficient and the sample means.

Steps

1. Estimate the original OLS model and save fitted values $\hat{y}$and residuals $\hat{\varepsilon}$.
2. For each bootstrap replication (5,000 replications):
    - Draw a sample of residuals with replacement from $\{\hat{\varepsilon}\}$.
    - Construct a bootstrap dependent variable $y^* = \hat{y} + \hat{\varepsilon}^*$.
    - Re-estimate the OLS model on $(X, y^*)$and obtain β^*.
    - Compute the bootstrap elasticity at the original sample means using the same formula as above.
3. After all replications, take the 2.5th and 97.5th percentiles of the bootstrap elasticity distribution as the **bootstrap 95% confidence interval**.

Notes on implementation

The bootstrap resamples residuals (residual bootstrap) rather than cases to preserve the original regressor values and the chronological ordering of elections. Elasticities are recomputed at the original sample means in every replication so the intervals reflect uncertainty in $\beta$and its nonlinear mapping into elasticity.

Interpretation guidance and reporting conventions

- **Point elasticity** is the central estimate and should be read as an associational effect at the sample mean, not a causal effect.
- **Bootstrap 95% CI** gives a nonparametric measure of sampling uncertainty under the residual-bootstrap assumption; intervals that exclude zero indicate the association is robust to sampling variability in this dataset.
- **Units** — elasticities are percent responses to a 1% change in participation; implied absolute vote gains at the sample mean can be obtained by multiplying the percent change by the mean outcome and are reported elsewhere in the paper.

Key caveats and limitations

- **Small sample** — N = 20 elections is a fundamental limitation; bootstrap intervals reflect sampling variability but do not overcome small-sample identification or endogeneity concerns.
- **Associational nature** — participation and party votes may be jointly determined; OLS is standard for election aggregate analyses but does not by itself establish causality.
- **Irregular spacing** — elections are not evenly spaced in time; this affects time-series properties and is why no lagged structures are used.
- **Robustness** — the paper reports multiple functional forms and sensitivity checks; the bootstrap intervals reported here are one way to quantify uncertainty but should be interpreted alongside influence diagnostics and the other robustness checks in the appendix.

Sample means used to evaluate elasticities

- **Mean Participation** $\bar{X} = 6{,}359{,}628$
- **Mean PASOK votes** $\bar{Y}_{PASOK} = 1{,}859{,}920$
- **Mean PASOK vote share** $\bar{Y}_{PASOK,share} = 0.2814$
- **Mean New Democracy votes** $\bar{Y}_{ND} = 2{,}421{,}904$
- **Mean New Democracy vote share** $\bar{Y}_{ND,share} = 0.3811$

Appendix C. *Leave-one-out Analysis*

Election dropped	**PASOK elasticity**	**ND elasticity**
All data	4.7	3.5
1 (1974)	4.1	3.7
2 (1977)	4.8	3.5
3 (1981)	4.9	3.5
4 (1985)	4.7	3.8
5 (1989, June)	4.7	3.6
6 (1989, November)	4.7	3.4
7 (1990)	4.7	3.6
8 (1993)	4.6	3.5
9 (1996)	4.6	3.5
10 (2000)	4.6	3.6
11 (2004)	4.7	3.3
12 (2007)	4.6	3.4
13 (2009)	4.5	3.5
14 (2012, May)	4.7	2.8
15 (2012, June)	4.7	3.6
16 (2015, January)	4.7	3.4
17 (2015, September)	4.5	3.7
18 (2019)	4.7	3.5
19 (2023, May)	4.7	3.9
20 (2023, June)	5.5	3.4

Note: In all 20 leave-one-out estimations the participation coefficient was statistically significant at the 1% level for both PASOK and New Democracy.