

The Inefficacious Electorate

Political Powerlessness and Vote Choice

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Abstract

Non-traditional parties have had newfound success across European democracies contributing to increasing electoral volatility. Drawing from the literature on social movements, voting for an unconventional party can be a form of contentious politics. Support for non-mainstream parties is the institutional manifestation of the factors that contribute to social movements. Perceptions of political power and grievances extend beyond non-institutional actions, shaping how individuals cast their ballot, with the inefficacious and dissatisfied voters engaging in electoral disorder. An attitude-ideology approach to non-traditional party support is tested with Bayesian inference using Dutch Parliamentary Election Studies from 1977 to 2006. Voters' perceived influence in and satisfaction with government are important factors for deciding between a mainstream and outsider party, supporting a connection between unconventional behavior outside institutions and within the electoral process. When at the ballot box, non-ideological factors have the potential to alter party choice, with the alienated and disaffected portion of the electorate behaving differently than the efficacious and satisfied.

Contents

1	Introduction	5
2	Motivating Voters: Participation and Choice	7
2.1	Ideology and the Vote	11
2.2	Non-Ideological Components of Voting	14
3	Political Efficacy and Expressive Motivations	17
3.1	Power Dynamics	18
3.2	Social Movements and Party Choice	20
3.3	Vote Switching	23
3.4	Mainstream versus Outsider Support	27
3.5	The Role of Ideology	29
4	Data and Methods	31
4.1	The Netherlands	31
4.2	Data	33
4.2.1	Dependent Variables	34
4.2.2	Independent Variables	35
4.2.3	Variables Across Elections	37
4.3	Methodology	38
4.4	Model Selection	44
5	Results	48
5.1	Voters' and Parties' Ideology	48
5.1.1	Vote Switching	51
5.1.2	Mainstream Voting	53
5.1.3	Party Choice	55
6	Discussion	57
6.1	Vote Switching	59

6.1.1	Vote Switching and Individual Influence	59
6.1.2	Vote Switching and Satisfaction	61
6.2	Mainstream Voting	64
6.2.1	Efficacy and Voter–Party Power Dynamics	65
6.2.2	Satisfaction and Affective Motivations	66
6.2.3	Left and Right–Leaning Voters’ Relation with their Parties	67
6.3	Party Choice	70
6.4	Electoral Earthquakes	71
6.5	A Protest Voter?	72
7	Conclusion	73
7.1	Future Work	74
8	Appendix	78
8.1	Appendix A: Variables	78
8.2	Appendix B: Vote Switching	82
8.3	Appendix C: Mainstream Voting	84
8.4	Appendix D: Frequentist Regression Results	92
8.5	Appendix E: MCMC Diagnostics	94
8.6	Appendix F: Diagnostic Test Statistics	99

List of Figures

1	Efficacy and Voting	6
2	Attitudes and Behavior Across Time	37
3	Parties' and their Voters' Left–Right Ideologies	49
4	Vote Switching Regression	51
5	Expected Probability of Vote Switching	51
6	Mainstream Voting Regression Table	54
7	Expected Probability of Mainstream Vote	54
8	Posterior Predict Distributions	56
9	Posterior Distribution of Regression Coefficients	89
10	Efficacy and Satisfaction of Left and Right–Leaning Voters	90

List of Tables

1	Posterior Inclusion Probabilities	46
2	Changing Party Loyalties: Past and Present	50
3	Variables by study Year	81
4	Changing Party Loyalties: Intension and Actual	82
5	Vote Switching Regression Table with Policy Distance	82
6	Hesitated Party Choice	83
7	Mainstream Voting Regression Table with Left–Right Relative Extremeness	84
8	Mainstream Voting Among Liberal Parties	84
9	Mainstream Voting Among Conservative Parties	85
10	Mainstream Voting by Election, 1	86
11	Mainstream Voting by Election, 2	87
12	Posterior Predictive Distribution Misclassification	90
13	Frequentist Regression Tables	92

1 Introduction

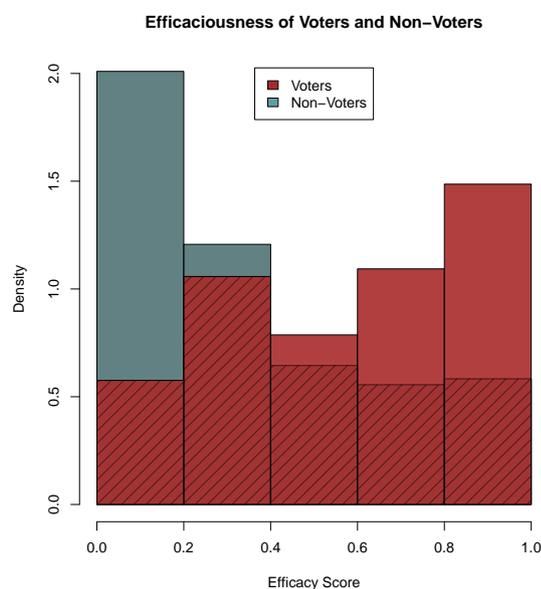
Elections in Europe have experienced increasing unpredictability, while outsider parties have had newfound success. European Parliament elections in 2009 and 2014 saw sizable increases in Eurosceptic MEPs; National Front in France has had recent success in local elections, setting the groundwork to contest the presidential election; the Greek electorate, rejecting the established New Democracy and PASOK, elevated SYRIZA to the majority party; the Spanish parliament is the most fragmented in history, with the traditional left and right parties losing to the upstart PODEMOS and Citizens parties; Law and Justice has become the dominant force in Polish politics; while Alternate for Germany has won representation in German states, and is poised to make gains in federal elections. Across parliamentary democracies, establishment party dominance faces increasing challenges from the left, right, and more idiosyncratic movements. New parties have emerged and gained rapid electoral success, directly challenging the status quo of mainstream party control.

Why have non-traditional movements become increasingly successful? While anti-immigrant and populist politics are the most prominent, they are by no means the only. These new movements across Europe span the ideological spectrum. Far-right politics have been the focus of an expanding literature, but there is less work on the growth of the far-left and other party types; and works on the broad challenges to traditional parties is less plentiful. Have European voters' political orientations shifted and their ideology changed, or do the origins of outsider support lie elsewhere? This paper proposes that the decline in mainstream support may be a non-ideological phenomenon, rooted in political attitudes and the ways in which voters see themselves in relation to government. External efficacy can drive citizens to the polls, but once they have arrived, can it influence the party for which one will cast their ballot? Will the inefficacious behave differently than the politically empowered, and will those dissatisfied with government act differently than those that are satisfied?

In non-institutional contexts, disaffected and alienated individuals are more likely to engage in non-traditional, more contentious actions, such as attending demonstrations and participating in riots, but are there institutional analogs of these behaviors? I apply the work on social movements to a system-focused context, testing the effects of political attitudes on electoral behavior. While vote choice and social movements have mostly remained distinct

literatures, there may be a greater connection between the two. Voting is more individual, lacking the collective action component of movements, but the motivations of both phenomena may share common roots. Treating traditional voting as ideologically-based decision-making, in which one engages in spatial behavior, I examine non-traditional voting: situations in which ideology is not the main concern behind an individual's party choice. Considering support for outsider parties as a form of unconventional vote choice, then its cause will follow that of non-traditional, non-institutionally-focused participation, together forming a repertoire of unconventional behavior.

Figure 1: Efficacy and Voting



In the political participation literature, individuals' expressive desires and attitudes have contributed to the understanding of political action, both institutionally and non-institutionally focused. The addition of efficacy and satisfaction to an ideological-understanding of party choice has the potential to replicate the successes in the participation literature, furthering the understanding of political decision-making. Removed from parties' relative position with respect to a voters' liberal-conservative placement, how will an individuals' perceptions of their political

power and their dissatisfaction with government influence their actions? There is a strong role for an individual's belief in the effectiveness of their actions. If one does not trust that their political actions will have consequence, then they are unlikely to take such action.

Electoral disorder does not strictly fit within traditional conceptualization of voting behavior or social movements. Due in part to the assumption that those who view themselves as politically powerless will not vote, inefficacious voters' behavior has seen less analysis. Likewise, impacts of inefficacy on party choice has not been researched in the social movement context, as one's vote is more individualistic in nature, removed from mobilizing and organizational aspects of a movement. Non-traditional electoral action is a more personal, singular, and anonymous form of un-conventional behavior. Densities of the efficacy score of those who intend to vote

and non-voters can be seen in 1. Voters, as the work on participation predicts, are more empowered, while non-voters are substantially more alienated. Most voting respondents are rather efficacious, scoring between .8 and one; however, the third most scoring category is comparatively lower, ranging from .2 to .4. Although those alienated will vote in lower numbers than the empowered, there is still a substantial portion of low-scoring Dutch Parliamentary Election Study (DPES) respondents that still intend to vote. This project focuses on this inefficacious component of the electorate, that, despite lack of efficacy, are still driven to the polls. The central question is whether their inefficacy will affect how they cast a ballot.

2 Motivating Voters: Participation and Choice

Work on participation, and voter turnout in particular, has benefited from the inclusion of individuals' attitudes. Expanding motivations from strictly economic factors to include variables such as civic duty has created a more full understanding of the decision to cast a ballot. Anthony Downs introduced Rational Choice to voting behavior in "An Economic Theory of Political Action in a Democracy" (1957). Downs theorized voters as utility-maximizing actors that select candidates based on which will provide the most personal benefit; and candidates for office were suggested to be motivated by income, power, and prestige goals. In order to win elections, parties create policies that maximizes a majority of the population's utility, and therefore gaining the most votes (Downs 1957). When deciding whether or not to vote, and individual makes their choice based on the utility function: $\mathcal{R} = pB - c$. In the voter's calculation, p is the probability that one's vote will be pivotal, determining the outcome of the election; B is the benefit from the preferred candidate winning; and c is the cost of voting. When the probability of the desired outcome multiplied by the benefit of that outcome is greater than the cost, the individual will vote. That is, if the benefit gained from voting is positive, $\mathcal{R} > 0$, then the individual will turnout on election day. While an economic understanding provides a theoretical basis for the decision to participate, in its original form, the theory produces an inconsistency. The strict cost-benefit approach is unable to explain the most fundamental political action in democracies: given Downsian assumptions, it is irrational to vote. The negligible probability of one casting the deciding vote for their most preferred candidate is overshadowed by the costs; and when adjusting the utility function to an individual's perceived probability of casting a decisive vote,

the costs still outweigh the benefit (Ferejohn & Fiorina 1974, Nurmi 1999, Ordeshook 1976). In order to rectify the inconsistency, one must incorporate non-economic factors in the electorates evaluation of the benefits gained from voting.

One proposed adjustment to Downs' assumptions is cost minimization. Alternative to voters maximizing their benefit, individuals may act in a manner that will minimize their potential losses. A would-be voter is not motivated by the belief that their vote will have tangible effects; instead, one will seek to reduce potential losses from not participating (Ferejohn & Fiorina 1974). Perceived harms from the least preferred candidate winning drives a cost-minimizing individual to the polls in order to reduce the probability that the disliked candidate wins. While it is improbable that one will cast the deciding vote for their supported party, the costs of voting are less than not participating in an election in which the most disliked party wins. The use of Prospect Theory, especially loss-aversion, produces a more accurate understanding of participation than the original Downsian assumption (Quattrone & Tversky 1988). However, loss-minimizing assumptions are still unable to explain action lacking a clear economic incentive.

A variety of solutions have been proposed to overcome the paradox of voting. While many focus on a strictly economic basis, there is a large body of literature that make use of political attitudes. One such attitudinal approach was that of Riker and Ordeshook, whose work modified Downs' assumptions with the addition of a new, non-economically based variable. Besides the probability of creating the desired change, a voter may gain utility, and therefore motivated by "a sense of civic duty." Riker and Ordeshook altered the function to include a citizen's perceived obligation to vote with the D term (1968): $\mathcal{R} = pB - c + D$. The addition of the D term captures, as defined by Campbell, Gurin, and Miller, "the feeling that oneself and others ought to participate in the political process, regardless of whether such political activity is seen as worth while or efficacious" (1954, 194). Regardless of the cost of casting a ballot, citizens of a democratic society have an obligation to vote. When the strength of this sense of duty, combined with the perceived benefits, outweigh the costs, an individual will vote. As opposed to the expected benefit of political action, the D term is a sort of expected cost of not participating, i.e. the cost of not upholding one's duty. Although "a sense of civic duty" is not an economic consideration and cannot be quantified in a strict cost-benefit context (Ferejohn & Fiorina 1974), the inclusion of the subjective attitudinal component makes the Rational Choice framework consistent (Nurmi 1999, Quattrone & Tversky 1988, Whiteley 1995).

Individuals' motivations, their goals, define the factors that influence political participation; in order to understand what drives one to the polls on election day, and what influences vote choice, one must understand voters' expectations regarding their participation and support for a particular party. One such variable is the extent to which an individual is able to influence the system. If a voter feels their vote will be more effective in bringing about desired change, in achieving their goals, there is a greater motivation for action (de Moor 2014). Coined by Campbell, Gurin, and Miller in *The Voter Decides*, political efficacy is defined as "the feeling that individual political action does have, or can have, an impact upon the political process, i.e., that it is worthwhile to perform one's civic duties" (1954, 187). In a similar perspective, Mokken (1971) described political efficacy as the sense that one can influence the system. However, evaluations of the governments willingness or ability to implement citizens' desires are independent of individual factors. In addition to external components, such as government responsiveness, there is a self-focused dimension to efficacy. One's own ability, or competency to affect change—separate from the government's receptiveness to input—defines one's level of internal political efficacy (Coleman & Davis 1976). Both components of efficacy have substantive implications for participation, and perception of an individual's political power can be used to understand individuals' motivations for such action.

Perceptions of control over government and system responsiveness have substantial implications for political mobilization. As external efficacy increases, so does the chance of institutionally-focused participation, such as voting (Campbell, Gurin & Miller 1954, de Moor 2014, Pattie & Johnston 1998, Klandermans 1996, Zimmerman, Israel, Schulz & Checkoway 1992, Whiteley 1995). When the government is seen as more receptive to its citizens desires, then there is a greater perceived benefit in giving one's input. If the government is seen as unwilling to address an individual's concerns, then they will use more confrontational means outside of established institutions. For example, efficacy is a significant factor in protest attendance or rioting participation (Craig 1980, Craig & Maggionto 1981, Gamson 1968, Nachmias 1974, Paige 1971, Pollock III 1983, Seligson 1980, Wolfsfeld 1986). As the government does not address concerns when institutional routes are used, one must take extra-system actions to redress grievances. A perception of government obstinance will lead one to use protest as a mean to address their concerns (Klandermans 1996). The perceived power relationship between an individual and their government is consequential for political behavior, whether channeled

through existing institutional corridors or extra-system means. In deciding whether one will vote, or how they will participate, an individual considers the effectiveness of their chosen action on exerting influence within government.

Efficaciousness motivates the individual, in that the perception that one's participation is likely to create the desired change drives action. In the context of voters' utility functions, efficacy can offer an alternative interpretation to the p term. Instead of the probability of determining the outcome, internal and external efficacy can be seen as the extent to which an individual senses they can bring their political desires to fruition. Replacing an objective or subjective measure of the probability of casting a pivotal vote, efficacy accounts for general influence over government. Beyond the ballot box, an individual must believe that their most preferred party will uphold their electoral promises after winning an election. One may decide an election with their vote, but if the winning party does not represent the voter thereafter, the benefit received would be equal to that of not participating. Perhaps equally important to affecting an election outcome is an individual's influence within the most preferred party. The efficacious sense that their participation will be more likely to create the desired outcome, increasing the probability of receiving the benefits from their action, and therefore motivating such actions (Finkel & Muller 1998). Likewise, inefficacy ferments the belief that one's action will not have a meaningful impact for bringing out change, which reduces perceived benefits of political action and decreases the likelihood of voting. Due to its influence on the expected probability of receiving benefit, inefficacy can perpetuate inaction.

Use of economic or attitudinal components emphasize different motivations: instrumental and expressive, respectively. Strict economic voting models focus on instrumental considerations—voting meant to determine the winner of elections, with the calculus based in probability of influencing the outcome (Achen 2006, Franklin, Niemi & Whitten 1994). In a voter's utility function, the p term represents one's belief that their vote will be pivotal. Alternatively, although not mutually exclusively, attitudinal formulations of Downs' assumption make use of voters' expressive desires. Motivational assumptions are relaxed from a strictly economic paradigm (Harsanyi 1969), including elements such as upholding one's civic duty. The use of efficacy is not oppositional to Rational Choice; instead, political efficacy can be seen as a replacement of the p term with a subjected measure of the expected benefits from participation (Finkel & Muller 1998). In a comparison of efficacy and economic-based motiva-

tions for voter turnout, both items performed equally well (Pattie & Johnston 1998), reinforcing the importance and compatibility of non-economic and economic elements behind voters' decisions. In the 1987 British elections, Franklin, Niemi, and Whitten (1994) found that while some voters behaved strategically, selecting the party best able to win, others chose to vote expressively, without concern for possible pivotal consequences of their choice. They selected a party to signal or warn their most preferred party, or voted in a certain way to register support for another party's policies in hopes that the voters' most preferred party would adopt those positions. Voters do not cast a ballot believing that they will determine the election; instead, they are motivated by showing support, or turnout on election day in accordance with social norms, upholding their civic duty. Assuming that voters follow Bayesian updating—combining new with old information and adjusting beliefs—and act expressively improves model performance over strict instrumental approaches (Achen 2006). Overtime, strict economic analysis of political action has been relaxed to include attitudinal motivation effects and expressive considerations into the understanding of participation. While still making use of Downsian utility-maximizing voters, the utility function has been expanded to include attitudinal variables, separate from determining electoral outcomes and tangible benefits.

2.1 Ideology and the Vote

Concerned directly with vote choice, a spatial understanding of party selection developed from Downs economic approach. In the two-party case, the ideology space is unimodal, centered about the median voter; in multi-party, parliamentary democracy, the ideology space is multimodal, in which there is a party to fill the space for each mode (Downs 1957). In the unimodal case, both parties converge towards the median voter in order to capture a majority of the electorate, while in multi-party systems, the candidates are distinctly separated, remaining within their neighborhood of the ideology space. Where parties are effectively bound to an ideological area, they attempt to maximize their vote share of like-minded voters. As absolute majorities may be impossible, parties seek a plurality of the electorate and the ability to form coalitions. When deciding which organization to support, voters can engage in hard issue voting, in which decisions are reached through a more costly conscious calculation, or one may use soft issue voting, based in heuristic gut responses that are policy ends-oriented and more symbolic (Carmines & Stimson 1980). Hard or soft issue voting determines the amount of time

and energy dedicated to party selection. Informed from an economic approach, spatial voting assumes utility maximization behaviors of voters. Ideology and or policy positioning is the determinant of vote choice, in which one votes correctly if they support a party most closely aligned to themselves (Jessee 2012). As with the strictly-economic analysis of voter turnout, a strictly-ideological approach to vote choice may present an incomplete understanding; while maximizing ideological proximity provides a theoretical basis, the exclusion of attitudinal factors reduces the ability to explain voting behaviors.

Formal spatial models use Downsian assumptions to form a deductive framework of voters' party selection. The models assume that each individual votes sincerely: an individual's goal is to vote correctly (Ordeshook 1976). While spatial models offer a simplifying framework that still provides a large amount of explanatory power, the parsimony runs the risk of neglecting important factors in vote choice. Individuals tend to support the party most closely aligned to their preferences, but spatial behaviors cannot explain non-ideologically-based actions. Likewise, policy distances cannot determine which organization an individual will choose when they are in the two parties' ideological midpoint. In American presidential elections, an ideology-only model's predictive ability for those equally close to the two candidates is equivalent to that of a coin flip (Jessee 2012). For a deeper understanding of individual behavior, spatial models have the potential to replicate the success of developments to research on voter turnout.

Similar to work on participation, formal spatial models have expanded the utility-maximization criteria, incorporating expressive motivations to examine the theoretical consequences. In party choice, there is a tension between signaling preferences and instrumental considerations: when one's most-preferred party is not the most politically powerful, which do they choose? One may cast a strategic vote for the party with the greatest chance of winning, or choose a party that is most closely-aligned to the voter's ideology. If voting correctly, one would select the party more aligned with themselves, but pivotal concerns would motivate a vote for the more powerful organization. While behaving in an attempt to influence future ideological positioning, a signaling voter puts aside their spatial concerns in the current election in order to alter parties in future elections (Shotts 2006). Likewise, one may engage in "signal jamming" behavior, which is not voting for the most preferred candidate in order to prevent electoral landslides. Jamming functions as a strategy for balancing victory for the desired candidate

while preventing an over-sized electoral mandate, which can lead to candidates overstepping (Myatt 2015). Individuals base their behavior on the expected action of others, attempting to gauge and regulate the probable margin of victory. If a voter assumes that a party will adjust their position after suffering electoral losses, a voter has a clear path to send a message to the party. When dissatisfied, one may engage in protest: they will select a party other than the most preferred in order to communicate their disapproval (Kselman & Niou 2011). When the electorate has lost faith in the candidates, they will choose the “lesser of two evils” and punish the most relatively worse candidate (Levin & Eden 1962). Not necessarily motivated by ideology or enthusiasm for one party over the other, the voter bases their decision in a cost-minimizing-like fashion—one is motivated to prevent the most disliked candidate from winning. While formal modeling has explored theoretical implications of non-strictly-ideological behaviors, the transition has been slow to applied models.

Empirical spatial models have been slower to adopt attitudinal elements than their formal counterparts. Following the assumptions of correct voting, survey analyses focuses on the difference between parties’ positioning and voters’ stance in the ideology space, controlling for contextual variables (Fennema 1997, Quinn & Martin 2002, Van der Brug, Fennema & Tillie 2000). Work on spatial models uses a Downsian political market place, in which candidates supply policies to meet citizens ideologies, to analyze success, or failure, of new and anti-establishment movements across Europe. In the case of electoral volatility, voters will change their party loyalty if either they, or their party, change their ideological stance. As a consequence, outsider movements are explained with changing ideology and preferences of voters. The rise of outsider political movements is driven by a demand for their policies, currently un-supplied by existing parties. Analyses have found that contextual factors—supply-side elements affecting ability to provide an outsider ideology—explain a fair amount of variation between countries. Across democracies, the shape of political institutions and electoral regulations influence success of non-established parties, determining the entry costs and voters’ strategic incentives. However, individual-level, demand components has seen less analysis (Van der Brug & Fennema 2007, Golder 2016). On the demand side, there is a consensus on the importance of an existing anti-immigrant sentiment for the success of extreme-right parties (Arzheimer & Carter 2006, Arzheimer 2009, Coffé 2005, Fennema 1997, Thijssen & Dierickx 2001, Van der Brug et al. 2000, Van der Brug & Fennema 2003, Van der Brug & Fennema 2007). Individuals

that desire more conservative immigration policies select a radical-right party in order to bring about the desired change.

Outside a strict supply and demand setting, the limited work on socio-demographic and attitudinal components is mixed. One such case of conflicting results concerns the different success of the Flemish Vlaams Blok and the absence of such a Wallonian movement (Coffé 2005, Thijssen & Dierickx 2001). While attitudinal factors are an influence in Flanders, their effects are less prominent in Wallonia. Likewise, class interest and group membership is less clear on outsider support. For vote choice in general, once-powerful socio-demographic predictors are increasingly less potent. As old cleavages fade, as is the case of de-pillarization in the Netherlands, traditional variables behind party support are losing relevance (Van Holsteyn & Irwin 2003, Inglehart 1981). Given an individual's demographics, such as age, religion, and class, one is now less able to predict vote choice. An economic-based understanding of vote choice is less able to explain post-materialist movements. There is a large body of work on radical-right success, but work on the root cause of these types of movements broadly is less plentiful; when and why they appear, the variability across countries and variability across parties, as well as the emergence of other movements such as the radical left, populist or anti-establishment, and Euroscepticism is uncertain (Erlingsson & Persson 2011, Hix & Marsh 2007, Spoon & Hobolt 2010, Ignazi 1996, Van Holsteyn & Irwin 2003, Zaslove 2008, Pahre & Radziszewski 2006). It remains unclear what underpins the broad success of anti-establishment politics, and whether there are common roots across the heterogeneous new movements.

2.2 Non-Ideological Components of Voting

Adoption of an expressive voter approach, explored in formal models, has the potential to introduce a more full understanding of voting. As Downsian participation models have benefited from attitudinal elements, spatial models may equally benefit. There are factors influencing political decision-making exogenous of ideology; behaviors of an alienated electorate cannot be explained solely through a spatial approach. Dominance of establishment parties in European elections has been decreasing: levels of partisan identification have been falling, and dissatisfaction and skepticism towards traditional politics has been rising (Dalton 2000, Ignazi 1996). New political movements across the spectrum have gained prominence in parliamentary democracies

throughout Europe. Neoliberal movements were the first to emerge in post-industrial Europe, formed as a reaction to voters' inefficacy with respect to traditional means of participation and their lack of influence within party structures; these "New Politics" parties served as a new form of expression (Ignazi 1996). Following the New Politics, "post-industrial extreme-right" parties grew, seeking to de-legitimize the system. Both movements have origins in the conflict over changing values as well as an individual's relationship with government (Ignazi 1996). With parties moving towards the median voter and ideological center to capture the electorate, new parties form on the right and left periphery, in a Downsian fashion, filling neglected ideological space (Bale 2003). Outsider political parties were given openings on the ideological spectrum, but there is more underlying the modern political shifts than ideology. Broadly, anti movements have become increasingly successful. Relational outsider movements—those beyond the traditional mainstream ideological space—work to undermine and polarize electoral politics (Capoccia 2002). Populism grew from post-industrialism and the perception of a disconnect between the people and politics. The govern-governed break gives democratic deficits more salience, forming opportunity structures for populist movements and the success of us-vs-them appeals (Barr 2009, Zaslove 2008). Alienated from the establishment, resentment towards the status quo motivates voters to support non-traditional politics. And growing perception of democratic deficits leads to growing electoral instability (Keman 2014). In a similar vein, one's policy preferences might remain stable, but the perception of how parties govern changes. One may sense that the mainstream has engaged in de-politicization, colluding to suppress contentious issues and reducing competition between the established organizations; the party works less for its members and the country, instead ensuring its own survival in an Iron Law of Oligarchy-like fashion (Katz & Mair 1995, Katz & Mair 2009, Michels 1915). While the individual's ideology has remained constant, a perception of the cartelization of politics drives the individual to unconventional political behaviors. Where party collusion prevents government from addressing issues of interest, the individual will change their party loyalty, instead supporting an anti party.

Accompanying the emergence of new policy questions are changes to values orientations. In the modern era, economic scarcity has become less prevalent, shifting voters' focus to non-material concerns. As one does not have to worry of first-order needs, they progress to higher-orders, such as self-expression. The ideology space can be dynamic, shifting electoral

politics and voter loyalties through shifting orientations, but there are non-spatial factors that should not be neglected. Post-material values have been increasing throughout Europe. Old cleavages are decreasing while new post-material conflict over government involvement in the economy, welfare, and social policy grow (Inglehart 1981, Inglehart & Flanagan 1987). While left-right self placement is a predictor for party choice (Middendorp 1992), a liberal-conservative scale alone is insufficient for explaining voting behavior. In the Netherlands, Lijst Pim Fortuyn (LPF) illustrates the failures of old models based on social cleavages and ideology to explain electoral choice (Van Holsteyn & Irwin 2003). Support for LPF was not restricted to certain demographics, instead gaining support across the Netherlands and drawing from all ideologies. Previous work has found that anti-immigrant parties are evaluated using the same criteria as traditional organizations (Fennema 1997, Van der Brug & Fennema 2007). While spatial behaviors may align between the outside and mainstream parties, ideological factors by themselves do not incorporate post-materialist considerations, such as expression and democratic ideals of citizen control and representation.

Work merging an expressive and instrumental understanding—although more limited—has been fruitful. A combination of spatial and social characteristics of voters in the Netherlands performs better than models with ideological variables alone (Quinn, Martin & Whitford 1999). Focusing citizens' on evaluations of government, previous research has examined the implications of incumbent affect: an individual's perceptions of the current governing officials, independent from evaluations of the political institutions (Muller & Jukam 1977). In Spanish national elections, the position of parties in the issue space is not an adequate explanation of vote choice. An individual is not only concerned with their ideological proximity to a party, but also with the perception of a party's ability to effectively govern and a basic level of trust (Labzina & Schofield 2015). Comparing voters' support for extreme-right versus conventional parties, there is clear attitudinal distinction, in which the extreme-right voter exhibits greater dissatisfaction (Arzheimer & Carter 2006). In Belgian elections, affect and trust improve the understanding of the differences in Flemish and Wallonian parties. Distrustful voters, when given the opportunity, defect from traditional parties and engage in elite-challenging behaviors (Hooghe, Marien & Pauwels 2011). In an environment with emerging parties and anti-establishment sentiments, models combining ideology and attitudes provide more in-depth understanding of individuals' political decision-making. Voters identify with party families that share a similar

ideology; however, ideological proximity alone cannot explain the support for an outsider versus mainstream party member.

The current framework of understanding vote choice is an instrumental, ideological approach. Changing dynamics in multi-party elections can be contributed to shifting ideologies; however, the emergence and success of varied and ideologically unique movements and the broad support of outsider parties is not fully understood within this context. Preexisting demand for new movements' ideology and spatial concerns contribute to outsider vote choice, but provide too parsimonious an operationalization. The approach to individual electoral choices requires more breadth. The utility-maximization framework of political participation began restricted by narrowly-defined motivations, creating a paradox; incorporation of "a sense of civic duty," and further inclusion of attitudinal components created a consistent explanatory framework. Movement towards an understanding that emphasizes individuals' perceptions and their expressive motivations of voters gives a more broad understanding of participatory action. Adding attitudinal elements to voters' evaluation of parties has the potential to further the understanding of party selection. While dissatisfaction with government has been used in explanations of outsider political support (Arzheimer 2009, Erlingsson & Persson 2011, Muller & Jukam 1977), the implications of the power relationship between an individual and the government have been less researched. Political efficacy, the sense of individual influence over government, is a foundational attitude in democratic societies. Efficacy has been broadly applied to participation research, but its implications for how one selects a party remains relatively untested. This paper incorporates expressive considerations into vote choice, examining the effects of perceived democratic deficits and government unresponsiveness on party selection.

3 Political Efficacy and Expressive Motivations

Voting is an expressive act, but what exactly are voters expressing? Through elections, citizens can voice their ideological preferences or support for advantageous policies. More fundamentally, the vote can be an expression of a citizen's disaffection or an avenue to address political powerlessness. Ideals of system responsiveness form the foundation of democratic norms. And, even in an autocratic system, symbolic gestures of citizen control are important for regime success (Coleman & Davis 1976). Individuals are not inspired to action and expend resources

on participation because their ideology compels them to action; involvement originates in the notion that action can bring the desired outcomes to fruition and that the expression will be successful. The belief that one's action can have a meaningful impact is a necessary condition for such action. As a result, one will consider their influence over the system before participation. If one's control over government is less than the desired level, an individual will first focus on restoring their level of influence. Perceptions that action will result in the desired government response is the foundational motivation for political action. A basic level of efficaciousness is a prerequisite for higher-order expressions of policy preferences and instrumentally-motivated decisions. Beliefs that one's vote will be cast without impact, or that the government will not respond, can discourage participation and move one to act to in a restorative fashion.

A favorable outcome of one's political action manifests in attitudes of one's own ability to create change, improving sense of government's receptiveness. This perception mediates emotional responses. When faced with policy threats, those confident in their ability to influence government are motivated to suppress the threat, encouraging political participation (Valentino, Gregorowicz & Groenendyk 2009). A reciprocity exists between efficacy and action. In an electoral context, participation, such as voting or campaigning, increases efficacy; the increased efficacy in turn raises the probability of participation, contributing to habitual patterns (Finkel 1985, Valentino et al. 2009). When political action is successful—such as supporting the winning candidate—efficacy increases more than in the case of an unsuccessful action (Clarke & Acock 1989). Engaging with the political system has the potential to produce a sense that the government is more responsive, as well as increase an individual's perceived competency regarding political action. However, if an individual senses that the government has become unresponsive, the sense of inefficacy, or powerlessness alienation, will create two motivational sources for action: efficacy and affective responses.

3.1 Power Dynamics

Within democratic institutions, there is a balance of power between individuals' influence and government's mandate. Representatives are bound through elections and democratic norms to the voters, but also possess their own agency to pursue policy that may not align with electors preferences. The relationship between a voter and their party forms a principle-agent

problem. Tension between citizen and government power manifests in conflict between popular sovereignty and constitutional democracy (Zaslove 2008). Discontent between voters' ideals of their influence can conflict with perceived responsiveness of government and the quality of available avenues. This contrast takes the form of democratic deficits. As individuals do not have direct control over government, political parties are a tool for citizens to aggregate common interests and hold greater influence over government (Michels 1915); however, the increased power of collaboration diminishes the control of the individual as the organization grows. Conflicts can arise through different groups—represented through parties—struggle for hegemonic control, or through a party's paradoxical nature to act in its own interests (Mudge & Chen 2014). In return for increased organizational strength, individuals concede a certain amount of their individual political efficacy. Voters and parties engage in a trade-off between ones' influence over interest articulation and the strength of the party, increased with larger membership that decrease individuals' influence. Deficits arises when the balance between individual influence and party autonomy moves out of a voter's ideal range, in which the agent is not acting in their favor. This can lead one to feel that they have granted too much influence to a group that gives too little in return. Perception of individual powerlessness can be tolerable when the organization and a supporter hold the same interests; however, an increasing disconnect between preferences makes one's inability to influence the movement more poignant. Parties fulfill a mediator-like role between citizen and state (Katz & Mair 1995, Michels 1915). It is this intermediary role that shifts the tension of responsiveness and organizational agency from a conflict between the government and citizens to tensions between individuals and parties. Inefficacy and disaffect arising from the sense of democratic deficits therefore manifests in an individual's alienation from a political party. Where the traditional, mainstream parties are the dominant force in government and form the governing coalitions, one can become alienated from the establishment. A sense of political powerlessness within the mainstream parties acts as an alienating force.

When selecting a party, ideological proximity is not individuals' only concern. A party needs to have the trust of voters and the capability to enact legislation (Labzina & Schofield 2015). The participation decision is based on the belief that action will bring about the desired policy, while political decisions and party selection is based on the who will grant the greatest level of influence; a party's supporters want an organization in which the balance of

power is in their favor. In the formation of, or in supporting a political party, individuals seek greater power in government in order to implement desired policy. Aggregated interests of like-minded voters increases influence, alleviating powerlessness alienation (Michels 1915). Through collaboration, one seeks to minimize “the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes, or reinforcements, he seeks” (Seeman 1959, 784). However, if unable to influence the political organization, the voter will again face powerlessness. A party that is no longer a representation of the supporter’s will defeats the organization’s purpose, leading the support to another organization that upholds their will. As for the tension between the general party membership and its leadership, one may also face alienation from the perception that the party elite are unresponsive to, or unrepresentative of the institution’s base. Likewise, the organization may begin seeking its own survival over the interests of its supporters, colluding with other parties to form a cartel-like, oligarchic organization (Katz & Mair 1995, Michels 1915). Manifested within the governmental institutions, a cartelized party does not require the support of its constituency, using public resources and colluding to reduce competition to solidify their power. One will not support a party that has alienated them, and will alternatively seek organizations in which they have greater influence. Voters want a movement that can drive change, and they want to be able to control the direction. Inherent struggle between individuals’ influence and parties’ power establishes dynamics of contention (Mudge & Chen 2014, Oberschall 1978). But when will flash-points emerge, and what are the effects of voters’ behaviors¹?

3.2 Social Movements and Party Choice

Work on protest participation and non-institutional action provides insight for voter-party relations and mainstream versus outsider support. While voting behavior and social movements are for a large part separate literatures, treated as distinct (McAdam & Tarrow 2010), there is a connection between them: origins and behaviors of non-institutional, collective action and institutional, individual actions share common roots and goals. External efficacy has implications for participation, both focused within and outside government, and its effects extend into party choice. Perceptions of government responsiveness forms the connection between so-

¹While the institutional reaction to the contention is of equal interest, this study focuses on the individual-level behaviors of voters, and not party strategy

cial movements and voting behaviors, serving as the common denominator. Treating behaviors within and outside institutions as separate phenomena hinders the understanding of individual action (Seligson 1980), suggesting that the basis for the two are equally separate. As an attitudinal foundation for social movements, the impacts of efficacy will be similar for institutional actions. The attitudinal relationship between government and citizens, based in efficacy and satisfaction, underly the dynamics of contention. Alienation and affective motivations serve to bring the two forms of political action under a common repertoire, in which unconventional behaviors, either expressed through governmental means or outside them, will have the same motivational factors and goals. When individuals feel they have lost control of government, that the norms of democratic governance have been violated, one's considerations pivot away from ideology and shift towards re-exerting influence within government. Where the inefficacious engage in protest to exert influence, the alienated voter turn to unconventional voting behaviors to have their voices heard. Normative attitudes towards the roles of citizen and political parties within democratic society supplants ideological considerations when the voter perceives the parties' power too strong, the organization cartelized, or serving its own interests (Katz & Mair 1995, Michels 1915). A perceived power imbalance leads to voting behaviors intended to re-exert influence, much the same as political protest.

Gamson's theory in *Power and Discontent* concerns non-traditional political actions, the roots of which are in the power struggle and satisfaction (1968). Individuals who are sufficiently dissatisfied, externally inefficacious, and internally efficacious² will engage in non-institutional action, such as protest (Craig 1980, Craig & Maggiotto 1981). The hypothesis complements previous work on political action—in particular, effects of efficacy on turnout—but purposes an alternative, in that alienation will not necessarily lead to withdrawal from politics. Instead, the politically powerless, unable to influence the government within established means, will use more contentious actions outside its institutions to exert influence. Treating efficacy as a resource to overcome the costs of participation (Sigelman & Feldman 1983, Valentino et al. 2009) implies that the inefficacious are unlikely to engage in political action; however, individuals motivated by expression use protest as a means to voice grievances against a system that has alienated them (Klandermans 1996). Individuals can possess attitudes on the effectiveness of institutional and non-institutional action separately, with inefficacy in the former and efficacy in

²Internal efficacy is not examined in this project. See Appendix A.

the latter promoting non-conventional action (Wolfsfeld 1985, Wolfsfeld 1986). While Gamson's hypothesis—and Craig's reformulation—has received empirical support in both institutional and non-institutional action (Craig & Maggiotto 1981, Nachmias 1974, Paige 1971, Pollock III 1983, Seligson 1980, Wolfsfeld 1986), the work has not been applied to explain unconventional voting behaviors. The two phenomenon are not evaluated under the same framework, which this paper serves to test the implications of Gamson's hypothesis for vote choice. Where unconventional action outside government's institutions can be motivated by external inefficacy and disaffection, the attitudinal components will be influential for non-traditional party selection.

Within the repertoire of unconventional behaviors, one may choose to act outside institutions or within the electoral process. Faced with alienation, the individual may withdraw from the electoral process, electing to use non-institutional behavior—such as those in hypothesized by Gamson. However, before dropping out of the electoral process, one will seek influence directly with system-focused expressions. Previous work has shown how powerlessness, mistrust, and inefficacy can depress participation; however, these political attitudes, and inefficacy in particular, do not inherently lead to withdrawal. The politically disinterested and disengaged will selectively drop out of the political system at lower levels of disaffection. Their withdrawal is more a product of their preexisting alienation from the little amount of utility they place on political participation. Likewise, those placing little value in political action are unlikely to engage in unconventional behaviors. But those alienated not by selection, but through decreased influence, those whose preferences fall on deaf ears, are more resistant to withdrawal. Those motivated by expressive desires, ideological preferences, or avocation of economically advantageous policies, act to change the alienating force (Nachmias 1974).

Given a history of participation, efficacy's effects on developing a habitual pattern on voting will play a role in persisting participation. Even through one may feel unable to influence, they will still turnout (Valentino et al. 2009). Continued failed action will manifest in inefficacious attitudes, increasing the possibility of removing oneself from the electorate and using other means, but withdrawal is not the first result. In the unconventional behavior repertoire, an individual will first exhaust institutionally-focused participation before growing alienation moves them to extra-system action. Influencing government through the electoral system becomes impossible for the individual; political parties are too distant from the voter for meaningful influence, and the government appears to act without citizen consent. When the system is

perceived to use its autonomy too much, disregarding individual preferences, means outside the system become more attractive. Power dynamics between the state and the individual are seen to be moving too much in the government's favor. The relationship between voters and representatives is too frayed, causing one to place little value on preserving an ineffectual relationship with government authorities, so individuals must exert influence from alternate means (Gamson 1968). Severed links between the populace and political organizations can serve to increase alienation and spurs distrust among the electorate (Barr 2009, Keman 2014), where the distrust can have a spiraling effect, further increasing animosity towards representatives and depressing participation (Grönlund & Setälä 2007, Hooghe & Dassonneville 2014, Muller & Jukam 1977). But before an individual decides to withdrawal, they use restorative actions available within the electoral process.

3.3 Vote Switching

When an individual perceives that their party is consolidating its power and removing citizens' influence, they will attempt to resolve the power imbalance. Perceptions of the cartelization of a party, or a growth in oligarchic tendencies, will be met with a reaction by party supports. However, when faced with decreasing political agency and distrust of authorities, protest is not the first resort. Voting provides a less costly path for influence as compared to the resources required for demonstrations and other forms of non-conventional political action; one may individually attempt to restore their influence through the ballot, without problems regarding collective action or fraying their relationship with government authorities (Gamson 1968). Where a party is an aggregation of interests, uncoordinated efforts of disaffected, alienated individuals changing loyalty has the effects of their combined influence. A party will lose organizational strength and power within government equal to its number of defectors. When assuming parties are rationally bounded, having imperfect information of voters' preferences, the organizations will alter their positions when learning more of the electorate (Kollman, Miller & Page 1992). Without expending the resources required for a political movement, the collection of voters leaving the party will have the same effects as an organized movement. Seeing a loss in support, the party will adjust their policy position to one more closely aligned to a majority—or plurality—of voters, using voters' changing loyalties to inform the ways in which they adjust their stance (Shotts 2006). Where individuals make signaling assumptions about

parties' responses to loss of vote share, as well as gauge the behaviors of other voters (Kselman & Niou 2011, Myatt 2015), party defection serves as a quasi-social movement: there is no direct collective action, but the individual assumes others who are similarly-motivated will behave in a similar fashion as themselves to achieve the same goals. If a party wins, they will engage in satisficing behaviors, maintaining their position; however, if the election is lost, the party will change its stances before the next poll (Bendor, Mookherjee, Ray et al. 2006). The size of voter defections communicates the extent to which a party's members are disaffected, influencing the size of the party's potential adjustments. When one anticipates that enough of like-minded party supporters will defect, then the possibility of shifting the party's position is greater.

Vote signaling can be seen as a special case of vote switching, in which one has more clearly-defined goals. The individual has a more specific message and desired result when engaging in strategic signaling, as opposed to registering general disaffection. In showing a party their preferences, voters issue a warning meant to re-exert their influence and make the organization more attentive to their voice. Through their signal, one may show support for a specific policy of a niche movement they feel has been neglected (Franklin et al. 1994). In signaling, voters abandon instrumental considerations in favor of expressive motivations, knowing that their vote will not likely influence the election results, but that their vote will alter future behavior of parties. Such a case can be seen in the Swedish Pirate Party, whose voters were inspired by their support for their uniquely-captured policy space (Erlingsson & Persson 2011). When individuals' political action is successful and their party adjusts its position, the individual's efficacy increases (Finkel 1985). After successfully signaling, voters will return to their original party. As their alienation was, at least in part, addressed, the individual does not continue to engage in untraditional voting behaviors, instead returning to traditional spatial voting.

Less clearly-defined, one's vote can be used as a soft—or low-cost, more individualistic—route to register their desires. Casting a ballot behaves as a quasi-movement. While non-collective and separate from a social movement, unconventional action within and outside the system are intertwined: institutional forms of the unconventional repertoire are the first resort. Directly registering preferences through selecting government representatives offers the most direct form of expression by providing a mandate to elected officials; and, alternative to supporting a party, signaling behaviors can have the effect of removing an electoral mandate,

shaping an organization's future action. Before one will engage in demonstrations, they will exhaust lower-cost institutional actions that serve as a less overtly-contentious means of influence. Political parties can form a vehicle for protest, functioning as an aggregation of disaffected citizens, giving their discontent greater influence (Miller 1974). Besides cost-benefit calculations, the habit-forming qualities of efficacy on voting (Gerber, Green & Shachar 2003, Valentino et al. 2009) elongates the time before which one withdraws. The more efficacious the individual was before losing their sense of government responsiveness, the longer it will be until they resort to extra-system routes. Concerned with social norms and pressures, one may also use the vote as a socially-approved route to influence. Participation in democratic governance fulfills one's sense of civic duty, influencing individuals to varying degrees. Unwilling to engage in public action such as demonstrating, one may use the vote as an anonymous contentious behavior. Such unconventional behaviors are indicative of future non-traditional, extra-system action: political unrest in a given country can be predicted by the extent to which blank and null votes are cast (Superti 2014). Individuals do not want to increase their alienation from government authorities, and are therefore resistant to undertake provocative actions. Confrontational behaviors and extra-system action will not be utilized until conventional actions have been ineffective (Gamson 1968). Faced with continued unsuccessful attempts to rectify alienation within the confines of government, an individual can progress to using non-institutional actions from the repertoire of unconventional action.

Wide-scale displeasure of citizens who feel that they have lost all influence within government makes powerlessness a nationally salient attitude. When individuals become more alienated and feel that they lack agency in political affairs, their propensity to hold negative attitudes increases and the individual becomes more oppositional (Thompson & Horton 1960). These sentiments of parties' failure to uphold their representative duties provides opportunities for outsider movements to break through, contributing to the fading mainstream monopoly over electoral politics (Dalton 2000, Ignazi 1996, Keman 2014). Using us-vs-them appeals or anything-but-the-mainstream rhetoric makes these movements a more attractive option to the alienated portion of the electorate (Barr 2009, Levin & Eden 1962, Miller 1974, Thompson & Horton 1960, Zaslove 2008). A signaling option or a movement that will grant an individual greater influence serves as a viable alternative to those feeling politically powerless, who perceive that their current party has taken too much power. Given the presence of an outsider movement,

the party serves as an “exit option” for distrustful voters, in that an individual is given an alternative outside their current party or establishment politics; and in the absence of such a group, a voter will remain with their current party (Hooghe et al. 2011).

The question arises “given differences in policy preferences or ideology between a voter and their party, at what point will the voter change allegiance?” Values shifts and the decline of political cleavages, described through post-materialism (Inglehart & Flanagan 1987) or “New Politics” (Conradt & Dalton 1988) describe an environment in which differences between individuals and parties are more likely to be salient. The emergence of new policy areas and considerations of non-materialist goals opens the possibility for greater differences between traditional mass, catch-all parties and the electorate. But when will an individual, concerned with differences in their own and their party’s beliefs, switch to a newly-emerging movement, such as the greens? Given that two individuals share a similar ideological profile, policy preference is unable to discern which will change their party loyalty and which will not; however, the relative efficaciousness of the two voters can inform their propensities to defect. The voter who is dissatisfied with their current party, feels they lost their influence, or desires for the party to adopt the policy position of another will be more likely to cast their ballot for an alternative organization. When party members feel that they have control over the movement, there is no need to change allegiance. Given influence within a party, one is more able to dictate the organization’s proposed answers to the new issue areas. The decision to switch parties arises from the individual’s sense that they do not have this influence, the ability to shift the party. Dissatisfied with the party acting independently of the voter, the previously-loyal support will seek another. Once one becomes sufficiently dissatisfied or alienated from the organization, they will change their support to a party that is more in line with their ideology, will give them greater influence in organizational decision-making, and more purely expresses their desires.

H1 The inefficacious are more likely to change which party they support than the efficacious.

H2 Those that are dissatisfied with government are more likely to switch their vote than the satisfied.

3.4 Mainstream versus Outsider Support

While elections have seen increasing volatility, support for the mainstream, establishment parties has also been decreasing. What factors influence an individual to support outsider political parties? Social movements literature informs the decision to engage in non-traditional and non-institutional action, but will support unconventional political parties have similar motivations? As a deviation from the status quo, casting a ballot for an outsider political party can be evaluated as a form of non-traditional voting behavior. When an individual is alienated not only from a single party, but from politics-as-usual, the individual will follow the repertoire of unconventional political behavior, becoming more prone to support organization challenging mainstream, establishment dominance. No longer able to influence government through standard electoral choices, the inefficacious voter's decision-making changes. Transitioning from ideological representation concerns, the individual begins to focus more on which organization will grant them the greatest control, rectifying their alienation. As opposed to considering the power relationship between the self and an individual party and its leadership, the power dynamics between oneself and the political elites becomes more salient; concerns of influence maximization moves from one's control within their party to a more broad evaluations of the role of their voice within government more generally. In such situations, perceptions of democratic deficits motivate the individual to take unconventional actions to restore the norms of democratic governance.

While there is an ideological component to outsider political support, there is a potent effect of alienation, separate from liberal-conservative positioning and policy preferences. The rise of anti politics and outsider parties can be seen as a social movement in its own right: individuals, while not acting collectively, will use means from the unconventional repertoire of action to restore their influence within government. The vote is an individualistic form of action, however, electoral decision-making will be influenced by similar factors as participation in a movement; although acting in different arenas, the two phenomenon share common goals and motivations. There is an element to non-traditional voting behaviors that is separate from ideology, in that the party decision is motivated by an individuals attitudes towards government and their perception of the relationship between the elected officials and their constituents. Belief in the cartelization of the mainstream and the dominance of an oligarchic political class out of touch with its citizenry spurs a reaction by voters. In this instance, the

exit option is not necessarily a particular political party, but any outsider, non-mainstream party. Given the choice between multiple non-establishment alternatives, ideological factors and spatial considerations will take over, but the decision to support an outsider party is not based in ideology. Declining mainstream party support and the surge of untraditional politics cannot be explained within the context of shifting ideologies and new political orientations; alternatively, non-traditional voting behaviors are more in line with a social movement: the reaction of voters to alienation from the status quo. There is an action and reaction between voters and parties in the struggle over political power.

Corresponding with political powerlessness, the growth of outsider parties can be motivated through an affective response towards the establishment. A strong “throw the bums out” sentiment from inefficacy can lead to increasing anti votes (Levin & Eden 1962), in which an individual is not issuing support for a party, but registering a dislike of the alternatives. Restorative, affective actions do not suggest a positive evaluation of the chosen party, but instead act as a display of the lack of support for the mainstream and current state of political affairs. As with the power dynamics, affective voting is not ideologically-based, alternatively motivated by disillusionment with a goal of registering discontent. Individuals express exasperation with their total loss of control over government and the party system; the disaffected voter mobilizes their discontent in non-conventional voting, much like how dissatisfaction mobilizes into non-traditional extra-system action. Given alternatives, an anti-establishment or general outsider party provides an exit option from the oppressive traditional politics (Hooghe et al. 2011, Hooghe & Dassonneville 2014). The sense of powerlessness accompanied by perceived threats from disadvantageous policy drives individuals to action in order to stop the threat (Valentino et al. 2009). Coinciding with this effect, the inefficacious are more likely to hold negative attitudes (Thompson & Horton 1960).

This affective response can be seen during European Parliament elections. Where some voters see that these elections will not have direct effects on their lives, they present a near costless opportunity for expression. When dissatisfied with their chosen domestic organization, individuals are more likely to use the European Parliament punitively (Hix & Marsh 2007, Spoon & Hobolt 2010, Van der Eijk, Franklin & Marsh 1996). Diminished strategic concerns create perceptions that vote wasting at the supranational level is lower cost, removing instrumental concerns and allowing the individual to act in a more expressive fashion. In the case of the

disaffected voter, expression takes the form of discontent. Accompanying disaffect with respect to a specific party, the European Parliament elections may also be used as a more general expression of dissatisfaction, in which the individual does not send a message to a single party, but the establishment more broadly ((Treib 2014). From a similar perspective, a distrustful domestic electorate is more likely to select outsider or protest parties (Hooghe & Dassonneville 2014, Hooghe & Marien 2013). However, in the non-conventional action context, distrust is not enough: efficacy is necessary to explain non-traditional behaviors (Pollock III 1983). Voters become disgruntled when they do not feel that they are represented. When the party is perceived to abandon its constituency, the voters have an affective, non-ideologically driven response. This discontent can be an important component in an electoral system. Non-traditional voting behaviors can lead to re-alignment with voters, in which parties re-adjustment in response to voters' actions (Miller 1974); alternatively, there can be a spiral of distrust (Hooghe & Dassonneville 2014). The declining mainstream support is a social movement-like phenomena, with the inefficacious and dissatisfied following the unconventional behavior repertoire. Support for new, outsider parties has roots in non-ideological factors, in which an individual does not have strict spatial or policy goals; instead, the goals are focused on restoration of positive affect and political influence.

H3 Inefficacious voters are more likely to support a non-mainstream political party than the efficacious.

H4 Individuals dissatisfied with government are less likely to vote for a mainstream party than the satisfied.

3.5 The Role of Ideology

This is not to say the ideology is an unimportant factor in electoral choice: instrumental factors and voters' proximity to alternatives is a primary motivation behind party choice. However, individuals behave spatially in a normal electoral context when engaging in conventional voting, but the inefficacious and disaffected portions of the electorate do not base part choice on conventional motivations. Political powerlessness and disillusionment promotes behavior according to the unconventional repertoire, potentially resulting in spatial incorrect voting. Research on party choice has examined a two-step process, which can be interpreted through an attitudinal

understanding. Voters first evaluate a party as a standard alternative or a protest option, and then vote spatially or non-ideologically, respectively (Van der Brug, Fennema & Tillie 2005); an efficacy-ideology provides a similar two-step evaluation. As opposed to deciding whether a party is normal or a protest option, the voter considers which party will maximize their influence: the first stage in the processes is the decision to engage in traditional or unconventional behavior, where alienation results in the latter. After deciding on a course of action, the individual will then choose a specific party spatially. While work on anti-immigrant parties have found that they are treated as standard parties (Van der Brug et al. 2005)—not serving a protest function—examination of electoral behavior and social movements as equivalent phenomenon in different contexts may result in an alternate conclusion. A given voter using unconventional voting will select an anti-immigrant party when it is the most closely aligned alternative, but that does not indicate that an anti-immigrant party is treated as a traditional organization.

When voters' perception towards government sours, democratic deficits, and overall satisfaction with politics deviates from acceptable levels, ideology alone is not sufficient. When there is not a substantial inefficacious base of voters, spatial modeling can explain party choice, as the majority of individuals engage in standard ideology-based decisions. But, when a large number of voters engage in unconventional behavior, a spatial understanding alone cannot explain voting that is not strictly ideological. Individuals' sense of political empowerment and satisfaction provide an explanation for the voting that cannot be captured through liberal-conservative party evaluations. Efficacy provides the necessary condition for "normal"—ideologically-based—political behavior. The belief that an individual's political action will have the intended effects is a prerequisite for actions motivated by instrumental concerns. When inefficacious, individuals will first select the movement that will grant them the greatest influence, or send the most effective signal to their most preferred party. If there are multiple exit options, one will choose the alternative most closely aligned to their preferences. The importance of attitudes towards the system and its representatives is deciding which type of party one will support. However, efficacy and satisfaction will have less effect on specific party choice within a party family. With a variety of mainstream or outsider movements to select from, after deciding which type to support, the individual will then use ideological proximity to select which party to support.

H5 Ideological and policy preferences will be greater factors in selecting a specific party, while

efficacy and satisfaction will be less influential in the decision of which party to support within the mainstream or outsider categorizations.

Instrumental considerations alone are insufficient for explaining vote choice. Incorporating expressive desires provides additional insight into behaviors and increases explanatory power. Work on vote choice has begun to examine more than spatial concerns with socio-spatial models; however, individuals' efficacy, their perceptions of democratic deficits, their relationship with government, and their ideal level of influence has been underutilized. The vote is more than a means to register desired policy. Individuals can use the ballot strategically, sending signals in an attempt to reform their parties future actions or voice discontent, as well as select the movement that will give the individual that greatest amount of control over government. Motivations behind participation and political action are treated as separate from political choices; the factors that push individuals to the polls are underused in research on party choice. There is a disconnect between the work on institutional and extra-system action, and the two are treated as if independent from one another. Alternatively, this project proposes a social movement evaluation of unconventional voting behaviors. Electoral behaviors and social movements are common phenomenon with a repertoire of unconventional actions, but in different contexts: the former is institutionally-focused and the latter works outside government. Before an individual uses non-institutional restorative actions, they will engage in the political process and exhaust existing, established means to exert influence. There are two motivations for restorative actions: efficacy and the power-dynamics between citizen and party, and the affective response to perceived violation of norms sourced from government dissatisfaction.

4 Data and Methods

4.1 The Netherlands

The three main organizations in Dutch politics are the center-left Labor Party, *Partij van de Arbeid* (PvdA); the Christian Democratic Appeal, *Christen-Democratische Appel* (CDA), a standard Christian Democracy party; and the Liberal center-right People's Party for Freedom and Democracy, *Volkspartij voor Vrijheid en Democratie* (VVD). PvdA and VVD were founded 1946 and 1948, respectively, while the CDA emerged in 1977 after the fusion of three Christian-

Democrat parties: the Catholic People's Party (KVP), the Anti-Revolutionary Party (ARP), and the Christian Historical Union (CHU). These three organizations have dominated post-industrial Dutch politics, with one, two, or all three comprising every coalition since 1971; The CDA has been a member of the most, then the VVD—who is often in government with CDA—and PvdA the least³.

The Calvinist Reformed Political Party (SGP) is currently the oldest party in the Netherlands, with an old-right religious ideology and has never entered into a governing coalition. The Socialist Party (SP) was founded in 1971 and has had moderate electoral success, but the party has always remained in opposition. Movements that have emerged more recently are much more heterogeneous and less traditional. De-pillarization of Dutch politics—the erosion of class and religion-based voting, accompanied by general secularization—have shifted the electoral dynamics, as has growing post-materialist values (Van Holsteyn & Irwin 2003, Inglehart 1981, Inglehart & Flanagan 1987). Compounding the changes, the 1971 elections were the first in which the voting age was decreased from 21 to 18, enfranchising a younger electorate. Desire for greater democratization and an American-style presidential democracy gave rise to the radical-democrat movement: the *Democraten '66* (D66), named after their ideology and year of formation. D66 has been the most successful outsider movement, and has entered into four governments. Environmentalist parties unified into the *GroenLinks* (GL) in 1989, or the Green Left. Although never entering into a national coalition, the movement has been quite successful in provincial elections. The D66 and GL are representative of the beginning of a new type of Dutch parties that continued to emerge.

Beginning in the early 2000s, a variety of new movements formed and began to grow. An outsider Christian, more centric alternative to the SGP, gained prominence when the Reformed Political Alliance (GPV) and Reformatory Political Federation (RPF) merged into the Christian Union (CU) in 2001. After electoral success in 2006, CU was invited by CDA to join their coalition with PvdA. Occupying a more unique ideology space, the Party for the Animals (PvdD) was founded in 2002 as a testimonial party for animal rights and welfare, winning several seats in parliament after the 2012 elections. Perhaps the most defining Dutch political events of the early 2000s was the quick ascension and collapse of Pim Fortuyn List (LPF). Expelled

³Given the electoral preeminence of the PvdA, CDA, and VVD, these three organizations are classified as the mainstream, establishment parties.

from Livable Netherlands in February 2002, Pim Fortuyn began his own list of candidates for parliament. Outside traditional ideological definitions, “Fortuynism” was anti-elite, populist, anti-immigrant, but supported traditional Dutch social liberalism. In May 2002, Pim Fortuyn was assassinated a week before the general elections, in which LPF won the second most votes and gained 26 seats. The party joined a coalition with CDA and VVD, but the government collapsed within a few months. Elections were held January 2003, where LPF only held onto eight seats. LPF won no seats in the 2006 election, and the movement dissolved 2008. In a sort of continuation of anti-immigrant politics, Geert Wilders left the VVD in 2004, incorporating the Party for Freedom, *Partij voor de Vrijheid* (PVV), in 2006. After the 2010 elections, PVV agreed to support the VVD in its coalition with the CDA.

4.2 Data

To test the social movements approach of an attitudinal-ideological basis of vote choice, I use the Dutch parliamentary Elections Studies (DEPS) integrated data set, which contains data on the 1971, 1972, 1977, 1981, 1982, 1986, 1989, 2002, 2003, and 2006 elections. The Netherlands institutional and political landscape are an optimal environment for analysis of individual-level factors affecting voting behavior. There are no electoral districts in national elections for the 150-member parliament; the entire country acts as a single district, voting for all MPs simultaneously. The single-district nature creates a highly proportional system in which a political party only needs to gain 0.66% of the vote in order to win representation. High proportionality reduces strategic voting incentives that create concerns of vote wasting (Franklin et al. 1994), which allows for a wide range of alternatives and reduces the instrumental-expressive voting competition. The low threshold permits smaller changes in factors influencing vote choice to manifest in electoral results, permitting effects from changes in voters’ behavior to be readily examined. In less proportional systems, the effect of a single factor on vote choice must be great enough to overcome strategic considerations, which are reduced in the Netherlands, allowing for expressive motivations to be more prominent. Dutch politics face a similar environment as other European parliamentary democracies, but more uniquely offers the opportunity to measure these factors’ effects on voting.

4.2.1 Dependent Variables

The DPES includes a question on voters' intended party choice in the upcoming general election⁴. Respondents' previous party choice was included in the survey, as well as which party the individual actually voted for, which is asked in the post-election waves. The parties included are: PvdA, CDA, VVD, D66, GL, SGP, CU, LPF, SP, KVP, CHU, ARP, GPV, RPF, Centrum-Demokraterne, and "Other." For the 1971, 1972, and 1977 studies, the ARP, KVP, and CHU are coded as CDA. Although the Centrum-Demokraterne (CD) are included among the party choices, only 12 respondents indicated that they would support the party. Due to the low level of indicated support, CD is included in "Other." The "other" category creates an issue with analysis of party choice due to the heterogeneity of the movements included. For example, both the PvdD and PVV are included in "Other." The category prevents inference of these specific movements' support and the ideological influences behind voting for an "Other" party; however, the category still allows analysis of insider vs. outsider support. This DPES question was used to form the categorical vote intention, previous party supported, and current party supported variables. For analysis of vote intention, "undecided" serves as the reference category, and individuals who did not intend to vote are excluded.

The vote switching variable is dichotomous, with the respondent being coded as one if the party they voted for previously is different from the party they intend to vote for in the upcoming elections. Although the respondents' self-reported past voting—up to five years prior—may not be the most reliable, for all intents and purposes of this project, the factors that contribute to an individual either misremembering or incorrectly reporting their choice is of equal interest to the actual voting record. Those that either did not previously vote or do not intend to vote in the current elections are included in the variable. The inclusion of non-voters allows for analysis of the voters leaving or re-entering the electorate. Undecided respondents are not included in the variable.

Intention to vote for a mainstream party is a dichotomous variable, coded as one if the respondent will vote for PvdA, CDA, or VVD. For this paper, mainstream versus outsider is defined in terms of participation in governing coalitions, as opposed to ideological or other classifications; however, the three parties classified as mainstream are relatively centrist. Frequent

⁴The question was not included in the 1972, 1982, and 2003 studies

participation in the government suggests broad support for a party and its establishment status. PvdA, CDA, and VVD are classified as mainstream, establishment organization because they have received the top vote shares in all elections since 1971, excluding 2003 when the LPF took second, and PvdA received the fourth most votes. Although other parties have participated in governing coalitions, their presence is less consistent. Only those that intend to vote and have decided who they will support are considered.

4.2.2 Independent Variables

An efficacy variable is created from yes/no answers to the external political efficacy items included in the integrated data file, in which agreement with the question indicates efficaciousness. The number of question asked ranges from three to five, with the later surveys including more questions than the earlier. Question wording reflects the operationalization of efficacy validated in the ANES (Niemi, Craig & Mattei 1991). The number of “yes” answers—coded as one—is divided by the total number of questions the respondent answered, as to create a variable consistent across surveys in which the range of efficacy scores is between zero and one.

For government satisfaction, the provided DPES variable⁵ is used. Respondents select from a five-item scale from one being “very satisfied” to five being “very unsatisfied.” Coded in the DPES as a high number equating to more dissatisfaction, the variable was switched for the analysis: a score of one represents most dissatisfied, with a higher score indicating a higher level of satisfaction. The question regards general satisfaction with the government’s performance over the previous years, as opposed to policy or institutional dissatisfaction. General satisfaction with the government allows respondents to broadly express incumbent affect, as opposed to restricting discontent to a single factor, such as policy. It is assumed that dissatisfaction with the functioning of democracy is encapsulated in the efficacy variable, as a more inefficacious individual will express frustration with their lack of influence; therefore use of satisfaction with democracy would create redundancy in the analysis.

A policy preferences item is created in a similar fashion to efficacy. Like the efficacy questions, the number and issue items have some variability by study. The variable is constructed by how respondents place themselves on a scale, from one to seven, regarding various

⁵Not included in the 1982 study

issue areas. Their answers are summed and then divided by the number of the questions answered. The variable represents respondents' average position within the issue space. A one represents the traditionally more liberal policy position, with seven the conservative position. This construction allows for a consistent variable across all study years, as well as increasing the number of complete cases. If a respondent refuses to answer a specific question(s), but does give their opinion on other areas, then their policy preferences are still recorded. Due to the lack of data on respondents' perceptions of parties' issue stances, and to keep the model parsimonious, the difference between the respondent and political parties on issues is not included. Based on previous work on spatial voting behaviors, it is assumed that if policy preference is a significant factor in vote choice, then it is because of the individual's and the alternatives' relative positions on the issue items (Downs 1957, Van der Brug & Fennema 2007, Quinn et al. 1999).

A left–right self–placement is provided by the DPES in the pre–election wave studies⁶. Whereas policy preferences regards specific issue areas, the left–right scale is more general measure of a respondent's ideology. Respondents select a position from zero, the most liberal, to the most conservative, 10. As with policy preference, the significance of respondents left–right placement is assumed to be based on proximity to parties⁷ (Van Der Eijk, Irwin & Niemöller 1986).

The control variables are: income, self–image of one's social class, the highest level of education attained, and age. All the variables are constructed such that an increase indicates a higher level of the respective characteristic; if a variable was categorical, it was converted to a numeric scale. While traditional cleavages are less prominent in voting behavior (Inglehart 1981, Inglehart & Flanagan 1987, Van Holsteyn & Irwin 2003), they are still expected to have some influence over party choice—especially with inclusion of earlier elections. Self–description of class asks respondents to place themselves within one of the given classes, while income asks net annual household earnings and categorizes respondents into one of twelve quantiles. From work on radical–right and anti–immigrant parties, it is expected that higher income and self–perceived social class will be associated with mainstream support (Van der Brug & Fennema 2007, Arzheimer 2009). Due to privacy regulation, respondents' exact age are not included in all studies; therefore, the age variable represents categories of approximately five

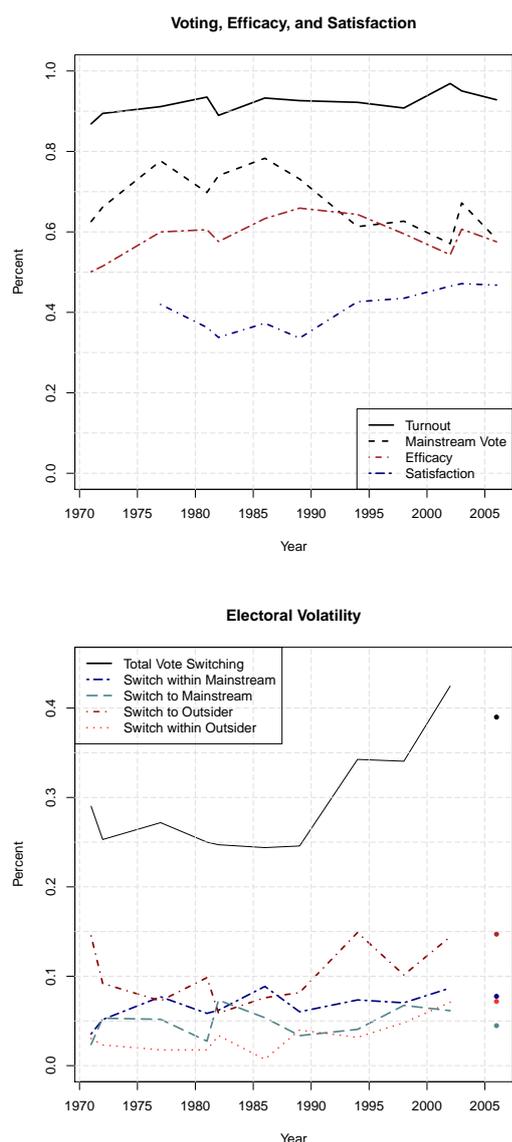
⁶Left–right self–placement was not asked in the pre–election wave of 2006, so the post–election wave scale was used

⁷Figure 3 depicts the correlation between a voter's left–right placement and the position of their chosen party

years each, ranging from 17 to 99 years old.

4.2.3 Variables Across Elections

Figure 2: Attitudes and Behavior Across Time



Voter turnout percentages are based on respondents self-reporting to DPES, not official data. Vote choice was based on the party the respondent supported in the current election, not intention; vote switching is also based on previous party supported and the current party supported.

Although the DPES does not track the same individuals across elections, results from the various studies are able to depict general trends in Dutch political life. The Netherlands ended compulsory voting in 1967, but has maintained relatively stable voter turnout at about 80% of those registered casting a ballot. While turnout has been decreasing across Europe, decreases in Dutch participation have not been as severe. Results from the 12 electoral studies from the 1971 to 2006 national elections appear in Figure 2⁸. The “Voting, Efficacy, and Satisfaction” plot traces respondents’ turnout in the current election, the proportion supporting mainstream parties, as well as their efficacy and government satisfaction score. Overall, turnout has decreased since the late 70s; however, the 1982, 1986, and 2002 elections saw sizable increases. While the proportion of those indicating they voted has remained within a range of eight percent, efficacy and satisfaction have been more variable across studies. Respondents were less efficacious in the 70s, gaining confidence in their ability to influence government into 1989 election, but once again facing in-

⁸Respondents self-reported voting, and not official data, are used. While individuals over-report voting, the general trend follows that of actual turnout

creasing powerlessness in the remaining studies⁹. Dissatisfaction is highest for the 2003 respondents, while those surrounding in the 1977 and post–1994 surveys are most content with government performance. The fortunes of Dutch mainstream parties reflects that of Europe’s political establishment: their electoral prospects have been decreasing. The numbers indicating they intended to support either PvdA, CDA, or VVD was a little more than 60% in the 1970s, but was at its highest levels in the 1980s. However, in the elections proceeding the 1986 polls, the proportion of mainstream voters has precipitously declined.

Changing dynamics of Dutch elections can be seen in the Electoral Volatility plot. Total rates of vote switching and changing between and within party types are plotted using respondents’ answers to current and previous party for which they voted. Following the decline in the mainstream’s vote share, those indicating that they changed their party support has increased. Elections in the 70s and 80s had relatively low volatility, but increasing numbers in following studies began changing party loyalty thereafter. Diminishing party loyalty accompanied the post–1986 mainstream decline, in which vote switching began quickly increasing after the elections of 1989. Proportion of those supporting a different party was highest in 2002, with over 40% changing parties; however, this may be exceptional do to the rise of LPF. The second highest proportion occurred in 2006¹⁰ at just below 40% casting a ballot for a new party.

4.3 Methodology

For the data analysis, I use Bayesian inference¹¹. Bayesian statistics differs from frequentist, or classical approaches in the treatment of uncertainty, as well as in the construction of questions about probabilities. Bayesian inference quantifies uncertainty through probability densities, treating uncertainty through a process in which there is a prior belief, evidence is collected, and then the belief is updated to reflect the new information. The process of Bayesian inference can

⁹Extrapolating from the independent surveys, the 2002 election appear to have served a pressure–valve like function. There was a peak in inefficaciousness leading into balloting that swept LPF to power. The success of LPF restored some level of efficaciousness, as respondents’ in the 2002 average efficacy score is .457, while those answer the 2003 DPES have an average score of .393.

¹⁰Data on vote switching for 2003 is not available

¹¹Use of Bayesian statistics has become increasingly popular in Political Science (e.g. Achen 2006, Bartels 2009, Bernardo 1984, Bonneau & Cann 2011, Rosas 2006) as well as in the social sciences more broadly (Gill 2014).

be represented by Thomas Bayes' rule, which is as follows (1763):

$$P(A | B) = \frac{P(B | A)P(A)}{P(B)}$$
$$P(A | B) \propto P(B | A)P(A)$$

The posterior, or updated, probability, $P(A | B)$ is proportional to the prior probability, $P(A)$, times the likelihood of the parameter, given the known information $P(B | A)$. The two only differ by a constant, which is the total probability of the data across all possible parameter values. Probabilities of values for a parameter, given the data, is proportional to the likelihood of the data under the parameter value, multiplied by the prior belief of the value of the parameter. Alternatively, an initial degree of belief—or ignorance—regarding a hypothesis is combined with the probability of the observed evidence being generated given that the hypothesis is correct, resulting in a new state of belief in the hypothesis.

Frequentist statistics, as the name suggests, makes inferences from the relative frequency of events. Data are treated as non-fixed, taken from repeatable, random samples; the population parameter is treated as fixed across data, with inference of the parameter drawn from the repeated samples and asymptotic theory. In Bayesian inference, the data are treated as fixed realizations, generated from the true parameter values. The credibility of estimates for parameters is assessed on the extent to which they fit the data. Uncertainty regarding unknown parameters is expressed as a random variable, where values that are better able to describe the given data are more probable. While the population parameter that created the data is a single value, the state of knowledge regarding its true value is expressed as a density; and for different data, there can be different parameter values that generated the observations. Bayesian statistics makes use of inverse probabilities, focused on questions regarding the cause of an event, given its effects. Although frequentist and Bayesian statistics vary philosophically and interpretation of findings, the empirical results produced by the two methods are typically the same; in regression analysis, the estimates tend to be similar, but the interpretation of results differs, with frequentist and Bayesian interval estimation differing in implication.

Although named after the English Presbyterian minister, Pierre-Simon LaPlace developed Bayesian statistics for his work on celestial mechanics. LaPlace independently discovered

a more generalized version of Bayes' Rule, depicted in *A Philosophical Essay on Probabilities* (2012):

$$P(A_i | B) = \frac{P(B | A_i)}{\sum_{j \in \Omega} P(A_j)P(B | A_j)}P(A_i)$$

After LaPlace's developments and application of inverse probabilities for his research, Bayesian statistics laid mostly dormant until the mid nineteenth century during the second world war. The computational intensity and often-produced intractable integrals limited the applicability of Bayes. The advent of computers resolved calculability issues: Markov Chain Monte Carlo (MCMC) methods implement numerical integration for estimation of high-dimensional integrals that were previously unsolvable. First used in physics, Monte Carlo methods were used to model stochastic processes, such as particle movements (Metropolis & Ulam 1949). Later combined with Markov Chains, MCMC was then applied to statistics (For a history of MCMC methods, see Richey 2010). The result was the Metropolis-Hasting algorithm (see Metropolis, Rosenbluth, Rosenbluth, Teller & Teller 1953, Hastings 1970). The use of MCMC allowed for Bayesian statistics to be more readily calculated, granting greater applicability. While the theory behind Bayesian statistics was debated, applied Bayesian statistics was used to solve problems that frequentist probability could not. Pertinence of Bayesian methods in applied problems—such as cracking the Enigma Code—encouraged a renewed interest. Since World War Two, Bayesian statistics has become more popular in the natural and social sciences, prompting most frequentist regression models to be adapted into a Bayesian environment.

The most contentious aspect of Bayesian statistics was—and to some degree, still is—the requirement of a prior: $P(A_i)$. In order to make inference from inverse probability, an initial degree of belief—the prior knowledge of the parameter—must be incorporated through a probability density. Prior information can influence results, although the effect decreases with sample size and sensitivity of results can be readily tested; however, the possible impacts of a prior are less than that of the likelihood function, which affects frequentist and Bayesian inference alike. Although the most disputed (Gelman, Carlin, Stern & Rubin 2014), the prior can also be an incredibly beneficial component for social science research. As an illustration, Bayesian statistics and the use of priors can improve polling predictions. By incorporating new polling data into the previous through Bayesian updating, Bernardo (1984) was able to predict

the Spanish national elections with a higher level of precision. Old estimates were used as the prior for the new opinion polling, and the new information was combined with the previous polls to create a new posterior probability density. When constructing a prior, any probability density, including improper densities¹², may be used.

There are traditional sources of the initial state of knowledge, with the prior density representing the starting belief, which a new analysis may or may not uphold. When nothing is known of the parameter, i.e., there is no prior belief in the parameter's value, one may use an uninformative prior: a diffuse distribution for which no value is substantively more likely than any other value. The use of non-informative priors is referred to as objective Bayes¹³. An elicited prior incorporates non-statistical issue-area expert contributions into the parameter estimation (Gill & Walker 2005). For example, prior knowledge gained by testimony from government authorities or policy specialists can be included in the analysis through the prior knowledge. The elicited prior may also be based on findings from qualitative study. Likewise, previous empirical research may be used to construct a power prior, in which the prior degree of belief is based on the results of the previous quantitative analysis. In particular interest, existing regression coefficient estimates can be constructed into a prior probability density for the current analysis. Bayesian and frequentist models may also be combined with a reference prior, which uses the parameter estimates generated from frequentist models. For example, a reference prior for regression coefficients can be defined with the mean set to the MLEs and the initial precision equivalent to the inverted sample variance-covariance matrix (Bayarri & Berger 2004, Lecoutre, Lecoutre & Poitevineau 2001).

However, results can be sensitive to prior specification. The relationship between the posterior and the prior can be seen as a weighted average of a sort between the data and initial beliefs¹⁴. As \mathcal{N} increase, the results are more influenced by the data, with the prior having little effect. In large- \mathcal{N} survey data, such as the DPES, prior specification has increasingly little influence on posterior estimates. To ensure that results are not substantially influenced by the prior, a sensitivity analysis, or robustness evaluation, is used—especially with a low \mathcal{N} . Sensitivity analysis, which is the use of different prior distributions, specifications, and analysis

¹²A non-traditional or non-finite probability density. For example, a normal density with infinite variance

¹³Developed by Harold Jeffrey, who created a rule for determine an uninformative prior. Jeffrey's Prior is: $P(\theta) = \sqrt{I(\theta)}$, where $I(\theta)$ is the Fisher Information.

¹⁴When a conjugate prior is used, there is a clear relationship between the prior pseudo-data and posterior.

of the change in conclusions resulting from changes in initial conditions more fully explores uncertainty and assists in evaluation of estimates (Berger 1982).

Whether using uninformative priors or constructing an initial degree of belief, Bayesian statistics' has a variety of nice properties. The assumptions of Bayesian analysis are more in line with the way in which social science research is conducted (Gill 2014). Bayesian statistics provides an opportunity to study singular, non-repeatable events, such as elections. Since Bayesian methods do not assume infinite repeatability, one may readily make inference about a one-time event. The unobserved, unknown causes of various electoral behaviors can be inferred from the observed effects with the use of Bayesian statistics. And, although the estimation does not assume repetition, Bayesian statistics still maintain the asymptotic properties of frequentist regression, while allowing analysis of small-sample data. When there are not enough data for the limit theorems to apply, the prior still allows for inference. Treating uncertainty surrounding parameters as a probability density, along with the variety of possible priors, makes Bayesian analysis more versatile and more widely applicable. While Bayesian probability more closely follows individuals' actions of updating their prior belief. For analyzing political decision-making, the assumptions of Rational Choice Theory implies Bayesian behaviors of individuals (Berger 1982). Frequentist and Bayesian methods typically produce the same results, but Bayesian estimates tend to be more precise (Bayarri & Berger 2004, Lindley & Smith 1972).

An instance in which Bayesian statistics are able to perform better is in overcoming dilemmas with Maximum Likelihood Estimation. Given that a uniform prior is used, the posterior mode is equivalent to the Maximum Likelihood Estimate. If the distribution of the parameter is multi-modal, then an MLE may become trapped in a local maximum and unable to find the global maximum¹⁵. In this instance, the likelihood of the parameter is improperly estimated. Alternatively, there may be several maxima, which are not given through a single point estimate. The Analysis of the full distribution circumvents this dilemma by fully expressing the parameter space, allowing for analysis of various descriptive statistics of posterior estimates instead of using point estimates.

¹⁵Possible failures of an MLE are a result of the algorithm with which the MLE is approximated. There is not a set of criteria for which convergence of the algorithm is guaranteed; the iterative process may diverge or settle on a local that is not the global maximum. With the use of an Expectation Maximization algorithm (EM), the estimate will converge, but can converge to minima, or a local maxima—convergence to the global maximum is not assured, and the rate of convergence is slow (see Weihs, Mersmann & Ligges 2013)

Additionally, the use of probability densities in Bayesian analysis allows for easy transformation of results into prediction through the Predictive Probability Distribution:

$$P(y_{n+1} | D) = \int_{\theta} P(y_{n+1}, \vartheta | D)P(\vartheta | D)d\vartheta$$

Given the data, a probability distribution of a new observation allows one to infer the likelihood of future values. Combining the posterior distributions for the regression coefficients, the probability of a range of future observations can be expressed. As opposed to predictive inference based on a 95% chance that a new observation will fall within plus or minus the margin of error for a point estimate, the PPD gives insight into the relative degree of belief across possible values of future data. The PPD also provides an opportunity for model checking. Using the distributions of the betas, simulated response variables can be created under the assumptions of the model. Comparing the simulated data to the observed gives insight to how well the model describes the phenomenon of interest. For categorical data, the accuracy can be quantified with the percent correctly classified: the proportion of observations that the model successfully predicts (See Gill, 2013; Bland and Altman 1998; Jackman 2004 for a more rigorous treatment).

Bayesian analysis also offers a more intuitive means of making inferences from estimation: the Credible Interval. Discussing uncertainty in terms of probabilities, or degrees of belief, offers a more natural interpretation (see Lecoutre et al. 2001). The lower and upper credible bounds, (C_l, C_u) , are chosen such that:

$$0.025 = \int_{-\infty}^{C_l} P(\beta | y)d\beta \quad \text{and} \quad 0.975 = \int_{-\infty}^{C_u} P(\beta | y)d\beta$$

The probability that β is less than C_l is 2.5%, while the probability that β is less than C_u is 97.5%. Together, there is a 95% chance that the parameter that generated the data is between the two bounds. The Credible Interval expresses the most probable values through the Highest Posterior Density region (HPD)¹⁶:

¹⁶An HPD region does not necessarily need to be continuous. In the case that the posterior is multi-modal, the HPD may cover multiple disjoint intervals. However, a unimodal distribution is the most common, in which case the HPD region is a single interval.

$$\int_{C_l}^{C_u} P(\beta | y) d\beta$$

The Bayesian Credible Interval says, given the data, there is a 95% probability that the parameter that generated the data lies within the HPD region. Uncertainty of the population parameter is treated as a random variable, giving a range of plausible values as a probability density, allowing for direct inference of the parameter value. A Confidence Interval at the $\alpha=.05$ significance level states that:

$$P(\hat{\theta}_1 < \Theta < \hat{\theta}_2) = .95$$

If repeated, the population parameter would be within 95% of the Confidence Intervals produced by different data, with the distribution of the estimates approaching the true value asymptotically. The HPD regions allows inference about the range of parameter values that generated the data, as opposed to a statement concerning the expectation of repeated analyses. The Confidence and Credible Intervals differ in that the former concerns the probability of obtaining the observed data under the hypothesis, $P(D | H)$, while the latter is the probability of the hypothesis given the data, $P(H | D)$. The distinction of the two is representative of the different approaches, in which Bayesian inference concerns inverse probabilities, or inferring the probability of an unknown cause given the observed effects.

4.4 Model Selection

Inherent uncertainty exists with model and variable selection: given k variables, there are 2^k possible specifications. Bayesian Model Averaging (BMA) allows one to address the uncertainty involved in model designations and their respective parameters (For an overview of variable selection problems and solutions, see George 2000, Bayarri & Berger 2004). A particular problem with model selection is the possibility for coefficients to have different values or the opposite relationship with the dependent variable, based on the different specifications. BMA allows for the examination of the estimates and direction of relationships across models. The posterior probability of a model can be calculated with Bayes Theorem: the probability of a model is equal to the probability that the data was generated by the assumptions of a given model, and then averaged over all possible models' performances, a constant across specifications. That is,

BMA tests which \mathcal{M}_γ is the most likely to describe the factors by which the data was created. Given an uninformative prior and a sufficient sample size, the Likelihood Ratio Test (LRT) and BMA are effectively the same. The LRT compares the MLEs, which is the median of the posterior; BMA defines the full probability distribution of a model, inclusive of the MLE.

The posterior model probability (PMP) or the probability of a given model conditioned on the data, is calculated as follows:

$$P(M_\gamma | D) = \frac{P(D | M_\gamma)P(M_\gamma)}{\sum_{j=1}^{2^k} P(D | M_j)pr(M_j)} \quad (1)$$

$$P(D | M_\gamma) = \int_{\theta} P(D | \vartheta_k, M_\gamma)P(\vartheta_k | M_\gamma)d\vartheta \quad (2)$$

where

$$P(M_\gamma | D) \propto P(y | M_\gamma, X)P(M_\gamma) \quad (3)$$

From (1), $P(M_\gamma | D)$ is the PMP, $P(y | M_\gamma, X)$ is the marginal likelihood of the model, and $P(M_\gamma)$ is the model prior. The integrated likelihood (2) is the probability of the model across all possible vectors of parameters, θ_k . If there are relatively few variables, the model space can be enumerated; however, the calculation often has intractability issues or is too large to feasibly calculate, in which case, the integrated likelihood is approximated using MCMC methods (see Hoeting, Madigan, Raftery & Volinsky 1999, Wasserman 2000).

In addition to model specification, the marginal probability that a regressor should be included can be calculated: Posterior Inclusion Probabilities (PIP). The PIP is the probability that a given variable should be included in the model best able to describe the data (Tsangarides 2004). More concretely, a given variable v_i 's PIP, q_i , is the sum of PMPs of all models that include v_i (Berger & Molina 2005, Scott, Berger et al. 2010):

$$q_i = P(v_i \in M_\gamma | D) = \sum_{j: v_i \in M_\gamma} P(M_\gamma | D) \quad (4)$$

PIPs can assist in determining which variables should be considered for model specification.

Although BMA is conditioned on the data and included variables, which can give rise to similar specification issues, such as which factors to include in model averaging, the PMP and PIP are able to inform the model selection process and assist with addressing uncertainty.

I used Bayesian Model Averaging in order to aid in specification of the mainstream and vote switching models. There are a number of control variables whose results are mixed, as well as some obscurity with the relative importance of left–right ideology versus policy positions in voting behavior. The PIPs of the variables is given in 1. Since there are only 2^{10} possible specifications, the model space was enumerated. A Bayesian Adaptive Sampling algorithm was used. The uninformative model prior was used, $P(M_\gamma) = \text{BetaBinomial}(\alpha = 1, \beta = 1)$; the prior for the regression coefficients is a Generalized g–prior designed for BMA of GLMs, with $\alpha = .5$, $\beta = 7213$ —the number of complete observations—and $s = 0$ (For an overview of the Bayesian Adaptive Sampling algorithm, see Clyde, Ghosh & Littman 2012).

External political efficacy and government satisfaction are included in both the mainstream and

Table 1: Posterior Inclusion Probabilities

	Vote Switch	Vote Mainstream
Intercept	1.00 *	1.00 *
Efficacy	1.00 *	0.94 *
Gov't Satisfaction	1.00 *	1.00 *
Age	1.00 *	1.00 *
Class	0.77 *	0.65 *
Education	0.91 *	1.00 *
Policy Preference	1.00 *	0.36
Income	0.99 *	1.00 *
Left–Right	0.10	1.00 *
Religion	0.50	1.00 *
Sex	0.11	0.16
Political Interest	0.18	0.11

* Variable included in the most probable model, given the data

switching models with the highest marginal probability, and is highly likely to be a component in explaining the dependent variable. Age, education, class, and income were included in all three of the models¹⁷. Although religiosity has a high PIP, the variable was excluded from the analysis. Given the lack of complete cases, and the decline of social cleavages and the influence of religion in politics, the exclusion should not have a substantive effect. The results of the BMA concerning the control variables aligns with previous research (Arzheimer 2009, Coffé 2005, Van der Brug

¹⁷Model that including all variables with a PIP greater than .5 has the greatest predictive capabilities (Bayarri & Berger 2004)

et al. 2000, Van der Brug & Fennema 2003, Van der Brug et al. 2005). One difference is in the importance of sex. While the variable has been significant in some analysis, while having no effect in others (Arzheimer & Carter 2006, Van der Brug et al. 2000, Van der Brug & Fennema 2003). The PIPs of sex and political interest are relatively low, and therefore are excluded from the final model specification. Interestingly, left–right is highly likely in a mainstream versus outsider support model, while negligible for vote switching; and policy preference is probable for vote switching and unlikely for mainstream models. The possible different roles and explanatory capabilities of these two variables is discussed later.

For the regression, the model specifications are as follows:

$$P(y_n) = \beta_0 + \beta_1 \textit{Efficacy} + \beta_2 \textit{Government Satisfaction} + \beta_3 \textit{Left} - \textit{Right} + \beta_4 \textit{Policy} \\ \beta_5 \textit{Income} + \beta_6 \textit{Class} + \beta_7 \textit{Education} + \beta_8 \textit{Age} + \epsilon$$

Both vote switching and mainstream vote are binary variables, and therefore analyzed with logistic regression. As a categorical response variable, party choice is modeled with multinomial logistic regression. For vote switching, policy preference is used and left–right ideology is removed, the opposite is the case for mainstream voting, and party choice includes both variables. To estimate the densities of the regression coefficients, MCMC methods are used. The burnin period is 50,000 iterations, and then 300,000 iterations are run thereafter. In order to reduce the autocorrelation of the chain, only every 20th iteration is stored, bringing the number of effective iterations to 15,000. For a standard logistic regression prior (see Gelman et al. 2014), all the independent variables are centered and scaled, such that the mean is zero and the standard deviation is .5¹⁸. A reference prior is used with a Cauchy distribution. The location parameter is set to the MLE obtained from frequentist regression, and the scale is 2.5: $\vec{\beta}_p \sim \textit{Cauchy}(\vec{\beta}_{MLE}, 2.5)$, resulting in a prior density $f(x) = (2.5\pi(1 + \frac{x - \beta_{MLE}}{2.5}))^{-1}$. The prior is weakly informative, using the MLEs as initial approximations, in order to increase MCMC efficiency and assist convergence during the iterative process to construct the posterior; however, the distribution is quite diffuse, and, given the sample size, the information from prior will have negligible effects on the posterior²⁰.

¹⁸The variables are recoded as follows: $(x_i - \bar{x}) \frac{.5}{SD(x_i)}$

¹⁹After rescaling, the variable ranges are as follows. Efficacy: -.87 to .62; Satisfaction: -1.16, 1.08; Policy: -.95 to 1.35; Left–right: -1.16, .99; Income: -.91, .84; Class: -.72, 1.11; Education: -.62, .75; Age: -.80, 98.

²⁰See Appendix E: MCMC Diagnostics for a discussion of robustness.

For the first and second hypothesis, it is expected that both efficacy and satisfaction will be negatively associated with vote switching. The directionality of the policy variable was not hypothesized, but it is expected that there will be a substantive relation. In the case of mainstream voting, I expect that efficacy and satisfaction will have a positive correlation, with the less alienated and more satisfied supporting the establishment. For party selection within the outsider and mainstream categorization, I do not anticipate that efficacy will have substantial effects on many parties. Likewise, satisfaction with the government's performance is not expected to have a large effect on party selection²¹. Both policy preferences and left–right ideology should have substantive implications on party support: a negative association is expected for left–leaning parties, where a positive relation should exist for conservative parties.

5 Results

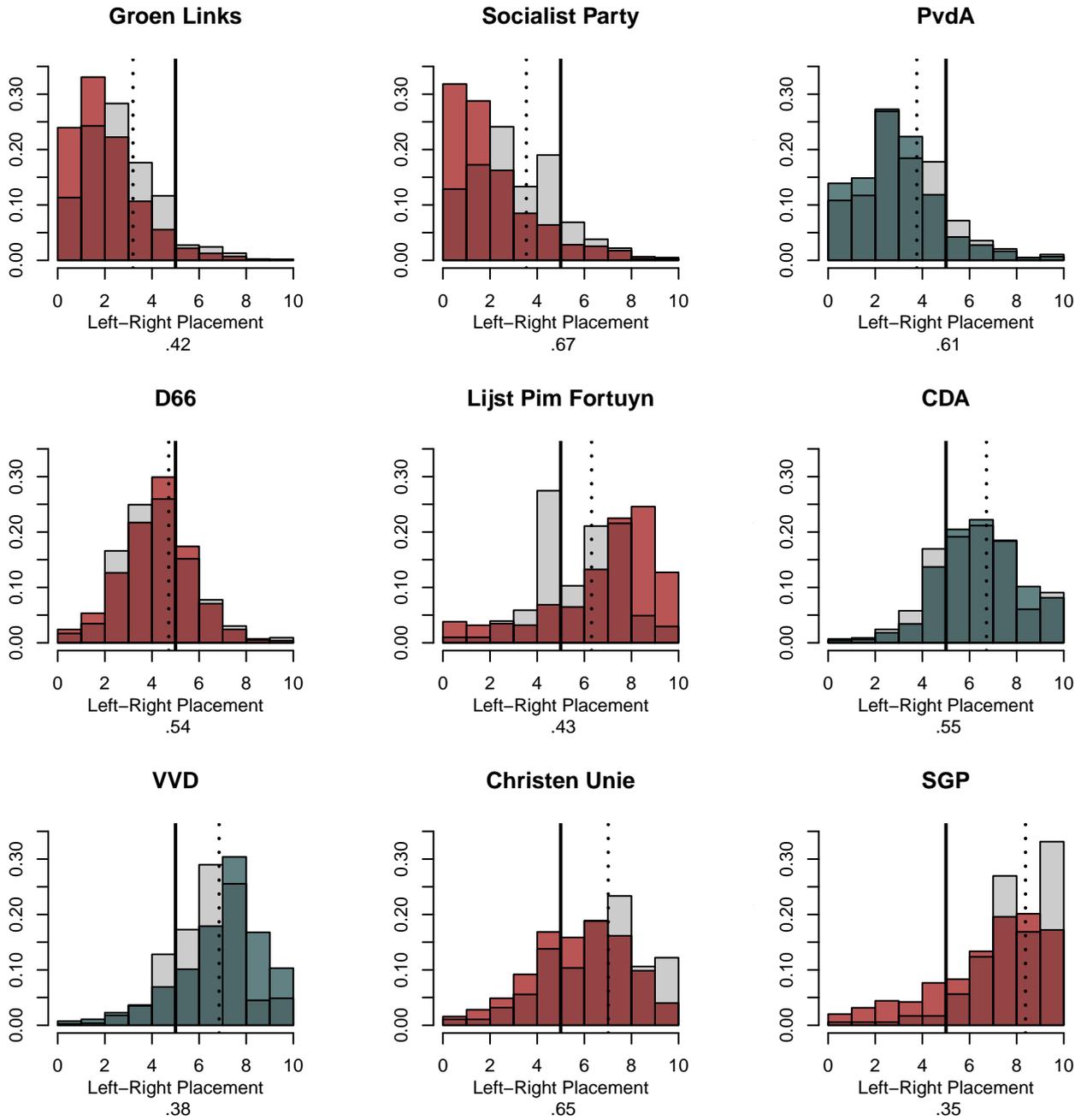
5.1 Voters' and Parties' Ideology

Figure 3 displays overlap of voters' own ideology and their perception of the party's ideology that they intend to support. Generally, there is a strong relation between one's self placement on a left–right scale and their selected party's; however, the strength of the relationship varies across parties. Of the mainstream parties, there is a fair amount of variability among the correlations: PvdA was the third highest at .61, CDA the fourth at .55, while VVD was the second lowest at .38. The overall highest correlation was with the Socialist Party at .67; the lowest correlation of .35 is the SGP's. Mainstream voters' ideologies follow a similar pattern to the correlations, where PvdA is the third most liberal, and CDA and VVD are the fourth and second most conservative, respectively. The most liberal constituency belongs to the Green Left, the most conservative to the SGP, and D66's voters are the most centric of all the parties. Overall, left–leaning parties are more closely aligned to their voters than the more conservative. Notably, those that supported LPF see themselves as more centric than the upstart party: most supporters place themselves as just–right–of–center with a six of 10, but mostly see LPF as a nine out of 10.

When deciding which party to support, the voter–party ideological proximity also

²¹Given the wording of the question, there could be a significant relationship with intention to support the mainstream parties.

Figure 3: Parties' and their Voters' Left-Right Ideologies



The solid color represents the parties' supporters placement of the organization on a left-right ideological scale; The lighter bars outlined in black are the party supporters' self-placement on the same scale. The correlation of the two is below. Parties are organized from left to right by their voters' average left-right self-placement. Red indicates outsider and blue mainstream.

appears in loyalty to one’s chosen party. Table 2 represents the flux between the party one supported in the last national election and vote intention in the current election²². Across all studies, just under 65% of all respondents intending to vote indicated support a mainstream party. CDA has the largest base of intended support, with PvdA a close second, and VVD trailing with a little more than half as many supporters. A few short of the VVD, the fourth most common vote intention is to not vote. Among outsider parties, the number of intended votes is as follows: D66, other, GL, SP, CU, SGP, and LPF with the lowest numbers of vote intentions²³. PvdA loses the most support to respondents not intending to vote in the current cycle, followed by D66 and other. Overall, 23% do not plan to vote for PvdA again, and it only gains 15% in new intended votes. Similarly, CDA and VVD lose 17% and 26% and gain 15% and 20%, respectively. The Greens gain from PvdA, but also lose to the Socialist Party, who successfully pulls in new voters: 57% of SP’s intended support is from respondents not previously supporting them. ChristenUnie picks up 12% of their total votes from CDA. SGP, despite their low total support, is the largest beneficiary of new voters, gaining 28%, about half of which are those who previously supported an “other” party; and the organization only lost 13% of their base. During LPF’s brief existence, it mainly drew from VVD, previous non-voters,

²²Although a voter’s intended vote may not manifest in actual support, it is an indication that one is flirting with the idea of either staying the course or changing support

²³LPF is underrepresented as compared to the other parties, given that the party was only present in 2002, then greatly diminished for 2003 and 2006

Table 2: Changing Party Loyalties: Past and Present

	PvdA	CDA	VVD	D66	GL	SGP	CU	LPF	SP	Other	Not Vote	Total
PvdA	2829	85	40	148	99	2	2	20	87	113	251	3676
CDA	92	2983	121	51	21	10	38	9	18	65	219	3627
VVD	27	192	1464	51	14	0	6	61	14	52	95	1976
D66	101	44	68	492	55	0	1	3	20	34	57	875
GL	10	6	2	3	225	0	1	7	29	3	9	295
SGP	1	9	0	0	0	159	7	0	0	2	6	184
CU	1	19	0	3	1	2	244	2	0	8	5	285
LPF	2	2	9	0	1	0	0	1	5	24	12	56
SP	9	4	1	1	11	0	1	6	153	7	9	202
Other	68	25	16	28	38	32	7	2	8	216	42	482
Not Vote	194	136	99	73	16	3	11	31	23	69	1112	1762
Total	3334	3505	1820	850	481	208	318	142	357	593	1817	

The row is the party respondents supported in previous elections; the columns are the party they intend to support in the upcoming election; the diagonal is numbers of those staying with their previous party. The last row is the total number of those intending to support a party, and the last column is the total of previous support.

and then used-to-be PvdA supporters. In all, only 62% of those that did not vote in the last election intend to do so again. Intended non-voters comprise 14% of the respondents across studies. From the pool of previous non-voters that intend to re-engage for the current polls, 24% choose either PvdA, CDA, or VVD; the other 13% plans to vote for an outsider party. When deciding to change party support, voters tend to move towards movements with a similar ideological profile as their current party, i.e., a PvdA-D66 or CDA-CU switch is more common than movement across the left-right spectrum. An individual's level of efficacy, self-placement on a left-right scale, and position in the policy space are relatively the same for individuals switching within the mainstream, to an outsider party, within outsider movements, and moving to the mainstream. However, on a zero to one scale, the average level of satisfaction for those switching between and to a mainstream party is .35 and .38, respectively; one moving to an outsider party has average satisfaction of .43, while switching between has an average level of .45. As a one is the most dissatisfied, respondents that left the mainstream and shift between non-establishment movements are more dissatisfied than their mainstream-supporting cohorts.

5.1.1 Vote Switching

Where table 2 gives some insight to voters' movement, or lack thereof, between parties, information on one's previous vote and current intention does not explain the decision-making process behind vote switching. Table 4 contains the results from the regression of attitudinal, policy preferences, and demographics on the intention to support a different party²⁴. The analysis supports the first hypothesis, in which efficacy is theorized the have

Figure 4: Vote Switching Regression

	Mean	Lower CI	Upper CI	Effective Size
Intercept	0.274	0.257	0.292	9142.000
Efficacy	0.634	0.559	0.722	9072.000
Satisfaction	0.670	0.596	0.753	8984.000
Policy	1.163	1.024	1.320	8857.000
Income	0.881	0.776	1.002	9755.000
Class	1.154	0.992	1.338	9183.000
Education	1.564	1.350	1.801	9334.000
Age	0.588	0.516	0.676	9542.000
	PCC:	.7833	Null:	.7826

Figure 5: Expected Probability of Vote Switching

	Efficacy	Satisfaction	Policy
Min	0.290	0.304	0.192
-.5	0.256	0.251	0.203
0	0.215	0.215	0.215
.5	0.179	0.183	0.228
Max	0.171	0.151	0.252

²⁴The posterior means are approximately equal to the MLE and are the most likely values of the regression coefficients, while there is a 95% probability that the parameter is between the lower and upper credible bounds. See Appendix E, Sensitivity Analysis for brief overview. See Appendix D, table 13 for the results of frequentist regression and the MLEs

a negative relation with vote switching. There is a 95% probability that the odds of efficacy are between .559 and .722, with a mean of .634. When one becomes increasingly ineffectual then the individual's propensity to change party support increases. Likewise, a more satisfied individual is less likely to change their party from the one which they supported last cycle: the mean odds are .670. Moving towards a more conservative policy profile accompanies a growing probability of vote switching, with mean odds 1.16. Although the posterior distribution of the policy preference coefficient is near 1, there is a greater than 95% probability that odds are greater than one. As for demographics, older respondents are more likely to remain loyal to their party, while those who have attained higher education switch with a greater prevalence. While the posterior distribution of both class and income contain one, it is still highly likely the coefficient that generated the data is positive for the former and negative for the latter. As for the effects across the variables, the expected probabilities are located in table 5²⁵. The most ineffectual have a 29%²⁶ chance of vote switching, while the most empowered are only expected to switch with a probability of 17%; the total change is 11.9. Satisfied respondents have a 15% chance of switching, where the change for the most dissatisfied is double that of the most satisfied. An individual's average position in the policy space has less effect of vote switching, with a total change of 6% from liberal to conservative.

The Percent correctly classified is 78.33%, which is approximately equal to the null model's PCC of .7826. Simulating a PPD from the regression, the probability density of a new observation's propensity to vote switch is approximately normal, with mean .217 and standard deviation .007. The median of the simulated values for each individual under-predicts the prevalence of vote switching—only ten were predicted to switch votes. However, when using the median for the PCC, given the relatively low propensity to vote switch, it is unlikely that the median of the replications for an individual will be 1, indicating a vote switch²⁷. Fully expressing the distribution is more beneficial for evaluating the model. The percentage of false positives is effectively zero; however, the rate of false negatives is 21.6%. The PPD for vote switching can be found in figure 8. From the simulations, the density of the number of voters

²⁵Since all variables were re-scaled, the expected probabilities were recorded at the same values for the respective predictors: the minimum and maximum values for the variable; the mean, 0; and one standard deviation above and below the mean, $\pm .5$

²⁶The expected probabilities are generated using the posterior means of the respective coefficient.

²⁷See Appendix B: Vote Switching

who intend to vote differently from the previous election is plotted. The distribution is quite accurate, with the median of the PPD is 1530, which is close to the 1538 actual vote switchers; the standard deviation is 49. Given that total number of respondents is 6,845, the PPD is a relatively precise. The probability that the model over-predicts the amount of vote switching is 51%. On average, the model correctly predicts the amount of vote switching, but there is still a fair amount of uncertainty.

For the vote switching model, all the MCMC tests suggests that the chain converged to the true distribution of the regression coefficients²⁸. The posterior means for the odds of the coefficients are within .1 of the MLEs produced through frequentist regression. All variables passed the Geweke and Heidelberger–Welch tests, suggesting that the chain reached its stationary distribution. The autocorrelation of the chain is around .3 for all variables at a lag of 20, which effectively decreases to zero before a lag of 100. The autocorrelation contributes to slow mixing of the chain, which required a larger number of iterations and explains the decreased effective sample size. The cross-correlations between the variables was low, with most below .1.

5.1.2 Mainstream Voting

As expected under the third hypothesis, political attitudes are influential components in the decision to support the mainstream versus an outsider party²⁹. As an individual becomes increasingly efficacious, the probability that they will intend to vote for PvdA, CDA, or VVD is higher than for the inefficacious. The mean odds for the efficacy score are 1.33, with a lower bound of 1.178 and an upper bound at 1.513. Similarly, as expected with the fourth hypothesis, the dissatisfied are less likely to support the established parties. There is a 95% chance that the regression coefficient's odds for satisfaction are between 1.825 and 2.29, with mean 1.825. While the vote switching model used policy preferences, the mainstream voting model uses left–right positioning, which has posterior mean odds of 1.751. Although the control variables where somewhat mixed for vote switching, they are more likely to influence mainstream voting. The wealthy and more highly educated are more likely to support the mainstream, as are older voters. Notably, while income has a positive relation, self–perception of class has a negative relationship: an increase in net income is associated with supporting the mainstream, while

²⁸See Appendix E: MCMC Diagnostics for the results of tests.

²⁹See Appendix C for regressions by year

seeing oneself as upper class reduces the chance of voting for PvdA, CDA, or VVD.

Figure 6: Mainstream Voting Regression Table

	Mean	Lower CI	Upper CI	Effective Size
Intercept	3.031	2.852	3.230	8901.000
Efficacy	1.337	1.178	1.513	9085.000
Satisfaction	2.049	1.825	2.290	8994.000
Left-Right	1.751	1.562	1.961	9201.000
Income	1.373	1.209	1.551	9237.000
Class	0.843	0.733	0.977	9109.000
Education	0.455	0.397	0.528	9192.000
Age	1.806	1.585	2.053	8893.000
PCC:	.733		Null:	.722

Figure 7: Expected Probability of Mainstream Vote

	Efficacy	Satisfaction	Left-Right
Min	0.701	0.568	0.612
-.5	0.724	0.679	0.696
0	0.752	0.752	0.752
.5	0.778	0.813	0.800
Max	0.784	0.869	0.841

however, the model still performs relatively well. The observed number is still well within the HPD region, and given a sample of 7,485, a difference of 32 is relatively small. A higher rate of false negatives is likely a consequence of the operationalization of left-right ideology. As a general scale was used, and not an individual's proximity to parties, there was a trade-off between accuracy and model parsimony³¹. The standard deviation is 54, which is relatively precise. Although a fairly sharp distribution, the model exhibits some bias, tending to over-predict the number of mainstream voters. The probability that a value greater than the observed will occur is 72%.

Table 7 is the expected probabilities of mainstream voting. Notably, satisfaction with the performance of the government has quite a substantive impact on an individual's propensity to vote for PvdA, CDA, or VVD. The most satisfied are estimated to vote for a mainstream party about 86% of the time versus the most dissatisfied individuals' probability of 56.8%³².

³⁰See Appendix C: Mainstream Voting for a discussion on incorrect classification

³¹In future analysis, a more equal compromise between the two goals may be reached through a quadratic in left-right self placement. The linear term would account for a general left-right self-placement, while the quadratic term would account for relative extremity, as compared to the average.

³²The effects of satisfaction may be overstated. The question in the DPES regards approval of the government

The PCC for the mainstream voting model is .733, which is a marginal improvement over the null model with a PCC of .722. Comparing the simulated y values with the observed, false negatives are fairly rare, occurring 3.27% of the time; the rate of false positives is 23.4%³⁰. The PPD is given in figure 8. The median is further from the observed value than with vote switching. The most-probable number of mainstream voters from the PPD simulations was 5,438, as compared to actual number of 5,406;

As hypothesized, the efficacious will vote for a mainstream party more often. An empowered respondent has a 78% probability of intending to vote for PvdA, CDA, or VVD, while the alienated respondents' probability is 70%. Liberal voters are anticipated to choose the mainstream 61% of the time, and the most conservative support the establishment at an expected rate of 84%.

All variables passed the mean test of the Geweke diagnostic; and each regressors passed the stationarity and half-width portions from the Heidelberger-Welch tests. Given the success of the both, it is highly suggestive that the chain converged to the stationarity distribution for the coefficient estimates. Similar to the vote switching regression, the posterior means of the mainstream coefficients are nearly identical to the MLE estimate under frequentist regression. A little more than five per cent of iterations were accepted, lower than the optimal rate. The low acceptance rate could be likely due to slow mixing and an autocorrelation of .3 after 20 lags, disappearing before 100. Cross-correlations follow a similar pattern as with vote switching, with nearly all below .1.

5.1.3 Party Choice

Overall, the effects of efficacy and satisfaction on party choice are less pronounced than with vote switching and mainstream support; in deciding which party to support within the mainstream or outsider organizations, ideology is the most prominent component. Unexpectedly, an individual's political efficacy is significant for supporting PvdA and CDA, while satisfaction is highly likely to relate to all three mainstream parties. Efficacious and satisfied individuals are more likely to move from "undecided" to selecting one of the mainstream parties³³. However, the distinction of which to vote for comes with ideology. Support for the PvdA is highest with liberal respondents; choosing the VVD or CDA is associated with a more conservative self-placement. In agreement with previous work on party choice, left-right ideology is a large component in deciding between alternatives. Similar to left-right placement, the PvdA gains those supporting traditionally liberal policy solutions, with CDA and VVD winning those with conservative positions. PvdA has greater support from the lower classes, while VVD and CDA

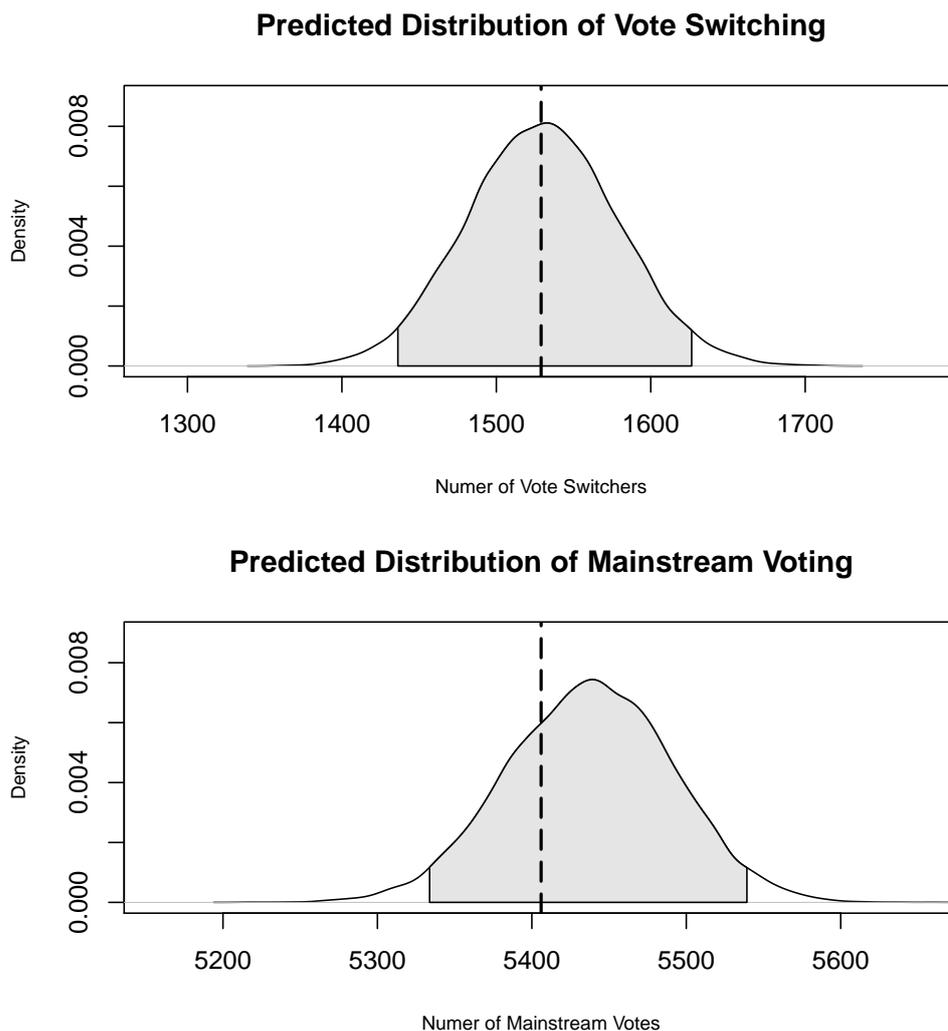
since the last election. Some outsider parties have gained access to coalitions in various elections, but at least one of the major three parties is represented in all the governments since 1971. Given the phrasing of the question, a portion of the overall effect is likely due to a reaction specific to PvdA, CDA, or VVD, depending on which was in power at the time of the survey.

³³The relevance of efficacy for mainstream party support likely originates in that the efficacious are more likely to have decided what party they will support.

benefit from the upper classes, and income follows the same pattern as class. Older voters are more likely to support all three, although more strongly related to CDA.

The choice of which outsider party to support is influenced by similar factors as selecting between mainstream alternatives; policy preferences and left–right ideology are large factors in the party choice decision. External efficacy is related with supporting the Socialist Party, CU, LPF, and other—the influence of efficacy on party choice is more than hypothesized. The efficacious are more likely to support CU, and less likely to support the others. Satisfaction has a positive relation with D66, and a negative relation with CU, LPF, and other. Placing oneself further left on the ideological spectrum is a significant factor behind supporting D66, GL, SP, and other; conservative voters have a greater tendency to support CU, SGP, and LPF. However,

Figure 8: Posterior Predict Distributions



it appears that separation occurred between SGP and left–right placement, as well as policy preferences. Given the unique ideology and the party’s placement as the most conservative, it is to be expected that ideological variance within its voters is relatively low; the positioning of the party in the policy and ideology space make it such that their constituency is highly homogeneous. The relationship between party choice and policy preference is the same as ideology. Higher classes favor the D66 and GL, while the lower are more partial to the Socialists and LPF. Income is positively related with support for D66, and negative for all others except the SGP. Individuals with higher education tend to support the GL, SP, CU, LPF, with the less educated leaning more towards other. One’s age is mostly unrelated, except for LPF and SP, which wins more voters from older age categories.

6 Discussion

Following the trends across parliamentary democracies, the Netherlands has faced increasing electoral volatility and decreasing support for mainstream parties. Shifting dynamics raise questions about the origins behind the decline of traditional parties and fading loyalties. Answers to the causes of these changes have focused on ideological components; this paper proposes a social movements approach, in which the shifts are examined as unconventional behaviors whose cause is rooted in attitudes. Value orientations have seen a shift, whether through post materialism or New Politics, but there may be another factor underlying the changes: individuals’ evaluation of their influence within, and satisfaction towards government. As with work on participation, the inclusion of expressive motivations through political attitudes can further the understanding of party choice. There is more to a voter’s evaluation of parties than their policy stance and general ideology with respect to their own; one’s satisfaction with parties and sentiments of political power enter into the calculation. As an individual is motivated to participate based on the belief that their action will have influence, they seek to maintain that influence within a political organization. Where dissatisfaction and alienation motivates unconventional participation outside of the system, it influences non–traditional choices within the electoral system. Political powerlessness and disillusionment contribute to the changing status quo. Non–institutional action and participation within a political system share common influences, in which social movements and electoral behavior are rooted in similar motivations

Party Choice Regression Tables

Mainstream

	Mean	.025	.975	Mean	.025	.975	Mean	.025	.975	
Party:		PvdA			CDA			VVD		
Intercept	1.2	1.095	1.313	1.165	1.059	1.276	0.487	0.43	0.552	
Efficacy	1.291	1.077	1.528	1.425	1.198	1.695	1.191	0.985	1.442	
Satisfaction	1.295	1.1	1.535	3.155	2.65	3.789	1.702	1.405	2.064	
Left-Right	0.128	0.103	0.158	4.293	3.477	5.288	9.941	7.765	12.71	
Preferences	0.404	0.333	0.492	2.063	1.692	2.507	1.613	1.297	2.015	
Income	0.942	0.792	1.123	1.105	0.923	1.31	2.17	1.778	2.62	
Class	0.565	0.463	0.692	1.125	0.924	1.385	2.996	2.368	3.808	
Education	0.452	0.371	0.554	0.545	0.445	0.662	0.878	0.704	1.092	
Age	1.96	1.638	2.351	3.028	2.541	3.62	1.393	1.14	1.694	

Outsider

	Mean	.025	.975	Mean	.025	.975	Mean	.025	.975	Mean	.025	.975	
Party		D66			GL			SP			CU		
Intercept	0.391	0.342	0.446	0.108	0.086	0.135	0.086	0.067	0.109	0.08	0.062	0.103	
Efficacy	1.083	0.856	1.356	1.154	0.862	1.52	0.581	0.431	0.791	1.935	1.387	2.726	
Satisfaction	1.448	1.152	1.84	1.176	0.9	1.541	0.767	0.57	1.028	0.706	0.504	0.991	
Left-Right	0.606	0.461	0.813	0.05	0.033	0.073	0.049	0.032	0.076	4.84	3.154	7.407	
Preferences	0.339	0.254	0.451	0.519	0.368	0.75	1.926	1.315	2.851	10.15	6.55	15.905	
Income	1.307	1.045	1.624	0.733	0.574	0.949	0.649	0.482	0.871	0.788	0.553	1.099	
Class	1.792	1.368	2.321	1.694	1.235	2.342	0.574	0.406	0.826	1.031	0.698	1.537	
Education	0.791	0.609	1.047	1.923	1.379	2.759	3.351	2.337	5.037	1.578	1.05	2.342	
Age	0.787	0.611	1.004	1.276	0.956	1.732	2.15	1.544	2.983	1.277	0.902	1.764	
Party		SGP			LPF			Other					
Intercept	0.006	0.003	0.011	0.031	0.021	0.044	0.228	0.195	0.266				
Efficacy	1.522	0.933	2.519	0.384	0.238	0.61	0.654	0.492	0.87				
Satisfaction	0.884	0.527	1.474	0.363	0.231	0.56	0.446	0.343	0.595				
Left-Right	51.15	23.289	114.688	1.789	1.02	3.17	0.497	0.351	0.691				
Preferences	31.84	15.855	62.563	8.45	4.719	16.156	0.678	0.485	0.941				
Income	1.308	0.738	2.272	0.575	0.356	0.902	0.633	0.482	0.831				
Class	0.482	0.27	0.858	1.528	0.888	2.716	0.968	0.695	1.313				
Education	1.136	0.632	2.067	2.687	1.543	4.725	0.543	0.394	0.762				
Age	0.849	0.516	1.39	1.939	1.246	3.113	1.015	0.757	1.367				

The reference category is “undecided.”

and have the same goals, forming a repertoire of unconventional behaviors. The analysis reaffirms the significance of ideology and policy preferences in vote choice, while supporting a social movements approach. Vote switching is a reaction to disaffection and alienation within one's party, while outsider party support stems from general disillusionment and powerlessness within government more broadly; changing party support is a movement against a singular party, while leaving establishment parties is a movement against the mainstream and the political status quo.

6.1 Vote Switching

The values shift that has occurred across Europe does not necessarily lead to a shift in political alignment. Given the influence of ideology, the question arises "when will an individual decide to change their party support?" One may vote for another party once their desired policy position is far enough away from their current party's. However, this raises additional questions about the factors that influence an individual's tolerance for a disconnect between themselves and their party. What magnitude of difference would be required for an individual to change loyalty? This project has found support for a different answer: the decision to change party support is motivated by more than policy preferences, with an individual's perceived political power and affect impacting the choice.

6.1.1 Vote Switching and Individual Influence

There is support for the first hypothesis: when deciding to change party support, individuals evaluate their political power. Parliamentary democracy grants voters a greater range of political options, especially in the Netherlands; however, not all options are evaluated equally. After having decided to support a new party, there are clear alternatives. The choice of which new party to support is based in instrumental and expressive concerns, as well as the trade-off between them. The relative importance the voter places on these factors influences to which party one will switch. Given a range of possibilities, the voter may behave more sincerely, selecting a party that is more ideologically aligned with themselves, or they may support a party whose organizational structure is more favorable than their current party's. Although the vote switcher may base their new party choice on spatial considerations, the motivation to switch is

rooted in their inefficacy.

Pursuing a greater ideological agreement, the voter may engage in vote signaling with the intent of influencing their most-preferred party, or one may be less willing to compromise, selecting a more ideologically pure organization. Signal voting can explain the relevance of policy preference, but not left-right ideology, for vote switching, as seen in the model averaging. The use of hard issue voting for changing one's party supports previous work on the relevance of policy preferences on party defection, following the expected results of expressive voting behaviors (Erlingsson & Persson 2011, Franklin et al. 1994). There is a dependency between efficacy and policy preferences, with both factors influencing the decision-making process behind changing loyalties. Significance of both alienation and specific issue-area concerns suggests that there is a trade-off between instrumental and expressive motivations. In supporting a political party, one reduces their direct influence in order for the aggregated support of all members to affect policy; the individual is unable to single-handedly control the direction of the party, in return receiving beneficial—although not necessarily the most preferred—policy outputs. One may stay with a party that has alienated them, but is large enough to influence policy, or one can switch to a party more aligned with their positions, but unable to enact legislation. The question becomes when an individual decides that their influence within the aggregate is too little, and begins looking at other parties; what determines one's willingness to trade expression for outputs?

If one desires to send a specific message of support for a policy position, then they may abandon their previous party to register their support for another party's stance. When engaging in signal voting, one will use hard issue voting, increasing the significance of policy preference. In the case of signaling, the voter is likely more instrumentally-focused, in which the goal is influencing policy outputs: the individual is attempting to alter the position of a party and affect future legislation. When seeking greater ideological similarity, the voter is expected to be expressively motivated, with a greater desire for a more purely representative organization. In such a case, inefficaciousness contributes towards an emphasis on expressive considerations, with the extent of one's alienation influencing the amount of policy distance one will tolerate between themselves and their chosen party. While similar behaviors, signaling and switching would appear to have separate motivations—one instrumental and the other expressive—but share a similar goal of maximizing their efficacy. A desire to restore influence adjusts electoral behavior

in the same way that it promotes unconventional extra-system participation. The restoration of influence can take the form of selecting a party that has the closest ideological proximity, or in successfully signaling one's former party. Alternatively, one may seek an organization that grants more control to individuals.

An individual can also be motivated to switch based on party structure and the relation between party elites and the membership. Not necessarily in support of a specific ideology or policy, the voter is more concerned with restoring their ideal level of citizen control. Alienated by a party they feel has taken too much power from its supporters, one searches for a party that will uphold its constituency's desires. These sentiments may manifest in perceptions that the party elite have too great control within the organization, and therefore the voter searches for more grass-roots parties and political outsiders. When individuals maintain a sense that they have control over a political party, there is no need to change allegiance. There may be new policy areas emerging, or old ones changing, but the perception that one has a say in government affairs reduces the desires to change support. The efficacious perceive that they are able to shift the party's stance in their desired direction. However, when a sense that the individual has lost influence in the organization begins to grow, they are more likely to search for alternatives. Once one no longer has faith in party leaders, and no means within the organization exist for reform, a member leaves the party; the voter is less concerned with the party's ideology, as they see the leadership is corrupt or untrustworthy (Levin and Eden 1962). Instead, the individual will not support the current parties—or party—in government, but will cast their ballot for the out-of-power mainstream party. Although inefficaciousness alone may not be enough. An alienated individual may not change support, given that their policy preferences still align with the organization's. A decision to vote switch is an evaluation of one's political power, their ability to influence government, and their desired policy outcomes.

6.1.2 Vote Switching and Satisfaction

As with the first, there is support for the second hypothesis: it is more probable for a dissatisfied vote to change loyalty than a satisfied one. Voters may also be motivated to change allegiance due to their dissatisfaction or animosity towards their current party. Out of efficacy, satisfaction, and policy preferences, government satisfaction had the largest effect on the expected probability

of vote switching. While the implications of political powerlessness may in part be conditioned on policy differences, it is possible the dissatisfaction is independent of ideology. As with motivations concerning one's political power, affective considerations can also be seen as a trade-off between instrumental and expressive motivations. Even if the voter's preferences agree with the organization, if there is a sufficient level dissatisfaction, the individual may change their support regardless of the ideological concordance. A voter may use their ballot to register discontent with the party, but in doing so, reduces the organization's ability to create policy. This trade-off can be seen as a decision between registering support for an organization and the desire to limit a party's electoral mandate, as suggested in formal modeling (Myatt 2015). How one reaches their decision depends on their relative level of disillusionment with the organization. If more instrumentally-focused, one will not switch from the party with which they are dissatisfied. However, when a voter is less concerned with casting a pivotal ballot, and their disaffection increases, then they are more likely to cast a vote in order to register their discontent. Where the most satisfied are only expected to switch 15% of the time, those most dissatisfied have a 30% chance of switching.

The process of deciding on a new party can be seen through the case studies of the CDA and VVD defections. One that feels they are powerless within the CDA has two alternatives: the CU and SGP. If one desires to send a signal to the CDA, then support for the CU becomes more attractive, while transferring to the SGP seeks greater ideological purity. Switching to the CU is more instrumentally motivated, while the SGP is expressive. One may desire to leave the mainstream party, but still concerned with ideological proximity, the voter can use the CU, which, from the party choice regression, gains support from disaffected voters. Interestingly, CU voters are more likely to be efficacious, raising the possibility that supporting the party can restore a sense of political power. Alternatively, individuals who feel their vote more effective may expect that a transition to CU from CDA will be met with the CDA reforming the win back voters—the Christen Unie voter perceives that their signal will have the desired result and alter the CDA's future behavior. As the Christen Unie has served in governing coalitions, it can serve as a balance between the expressive desires for a closer ideological proximity, while maintaining the possibility that the organization will be able to enact policy. Alternatively, one whose expressive motivations outweigh instrumental may choose the SGP. Given that the Reformed Political Party, currently the oldest party in the Netherlands, has never been in a

coalition, the likelihood that supporting the SGP will yield policy results is nearly zero. An SGP voter is less willing to accept ideological distance in return for policy, instead electing to support a more ideologically pure party that will be unable to enact their policies. A vote for the SGP, as opposed to the CU, is more purely expressive act, registering support for the policies of the party, less concerned with the ability to implement the policies. Such a trade-off provides an explanation as to when Swedish voters will leave a traditional organization in favor of the Pirate Party. While not abnormally dissatisfied (Erlingsson & Persson 2011), the inability to influence the mainstream's position on intellectual property pushes one towards an unconventional party. For the case of the VVD, the mainstream party lost numerous voters to LPF, while it was active. Lijst Pim Fortuyn offered a stronger position on immigration than the VVD, creating the possibility of signaling to VVD to change its stance. However, LPF may have also benefited from those that felt powerless within the organization and dissatisfied with the VVD; the Pim Fortuyn List benefited from both the alienated and the disillusioned. Therefore, LPF can serve both a signaling function, as well as source to register discontent.

When deciding whether to switch to a new party, there is more to the choice than ideology: an individual's efficaciousness and level of satisfaction both influence the decision-making process. Vote switching is not a non-ideological process, but neither is it solely ideology-based; voters do not change party support in order to maximize their ideological similarities, instead motivated by their inefficacy or satisfaction. The analysis supports previous works on the importance of policy for party support, but suggests that it may not be a complete picture. A voter's decision to vote switch depends on the importance they place on expressive and instrumental motivations. One may behave strategically or cast a sincere vote, depending on their satisfaction with a given party and their belief of the political power. When inefficacious, one seeks to maximize their influence with the government. This desire can manifest in voting sincerely and supporting the party closest to themselves ideologically, or in voting for an organization that most upholds the individuals democratic norms or representative government. Inefficacy can result in more sincere and less strategic voting, but the motivating factor is not one's ideology; the decision to vote switch is based in alienation and disaffection, which can lead to either more spatially-focused behaviors or the desire to register discontent.

6.2 Mainstream Voting

While elections in advanced democracies have become increasingly volatile, decreasing voter loyalty is not the only shift that has occurred. The dominance of the mainstream, established political parties has a variety of new challengers; traditional political parties' preeminence has been diminished within the Netherlands, as well as across Europe. Decreases in established parties' support has been explained through values shifts and re-orientation of ideology, in which there is a growing demand for parties other than the mainstream organizations, with growing support for anti-immigrant parties of particular interest. However, this paper proposes that the role for ideology may not be as large as expected, supplanted by political attitudes. Ideology is a factor in mainstream versus outsider voting, but the decline of established parties may be an expression of the inefficacious electorate, whose main concern is not sincere, spatial voting. While new movements' left-right positioning is heterogeneous and their politics cannot be classified within single family, these parties' support may have origins in the same factors. The growth of outsider political parties can be seen as a social movement, whose origin lies in alienation from and disaffection towards the mainstream.

The mainstream versus outsider party decision can be an instance in which ideology is not the main consideration³⁴. Both power dynamics and voters' sentiments towards government have repercussions for party-type selection. From the BMA, positioning in the policy space has less importance for outsider voting, while general left-right ideology is more important. This could be due to party-type selection being based on a more heuristic evaluation of parties. Instead of engaging in hard issue voting to select a party, one uses the less intensive soft issue voting. A voter seeks an exit option with which they generally align, but specific policy stances are less important. While one may behave spatially after deciding to vote outside the mainstream, the choice of which party type to support is not rooted in ideology. Where alienation and disillusionment motivated unconventional behaviors outside of the political system, so will they influence non-traditional voting.

³⁴For a comparison of an ideology-only and attitude-ideology model of mainstream voting, see Appendix C: Mainstream Voting With and Without Attitudes

6.2.1 Efficacy and Voter–Party Power Dynamics

Supporting hypothesis three, inefficacious voters tend to support outsider parties more so than empowered voters. Despite their sense of political powerlessness, many alienated voters turnout to the polls; however, when casting their ballot, inefficacy influences their decision–making. Voters who feel that they have little influence within government seek alternatives to the established PvdA, CDA, and VVD. Moving from the most efficacious to the least, the propensity to support one of the mainstream parties decreases eight per cent, falling from 78.4% to 70.1%. When one feels that the mainstream does not respond to their desires, that they do not have influence within the organizations, they begin to look elsewhere for representation. When alienated from established politics, one becomes more likely to support a different type of political party, one that is closer to its constituency and promotes the power of its supporters. The inefficacious segment of the electorate does not behave in a traditional ideologically–based understanding; instead, they support movements that will re–empower them within the political process. Underlying the transition to unconventional voting behaviors is a sense of political powerlessness, that one does not have influence within their respective party or the government as a whole. Differing from eroding party–specific loyalties, anti–establishment behaviors of the alienated target status quo politic and the mainstream more broadly, with the goal of restoring democratic norms of citizen control and general representativeness. In order to capture a plurality of voters and create governing coalitions, traditional catch–all parties require a big–tent nature. While growing the base of supporters increases an organization’s political power, an individual voter may sense that the organization has become too big for their voice to have any meaningful impact. In reaction to the marginalized role of the individual, the alienated voter searches to restore norms of representative democracy outside of the establishment. Responding to cartelization or a perception of an oligarchic elite of the mainstream parties, a voter uses unconventional behavior, acting in a social movement–like context.

Use of a social movements approach may be able to explain more extremist, and possible anti–democratic politics. Voters’ reactions to their power relationship with parties and perceptions of cartelization contributes to the role of relative ideological extremeness in choosing outsider parties. A farther left or right voter will not feel represented by the centrist mainstream; the organization is not one of like–minded voters, and may shun members that are relatively more extreme. The diminished influence within traditional parties and possible ostracization

may motivate one to support an outsider political party. Combining left–right proximity with institutional alienation can give insight into the transition from traditional politics to more extreme outsider parties. Given that an individual has been estranged from traditional politics, they can be pushed further towards the radical right or left. While outside the scope of this project, the social movements approaching to voting behaviors can also lend an explanation to radical politics. In the non–institutional component of the unconventional behaviors repertoire, alienation contributes to political violence, such as riot participation (Paige 1971); but is there an institutional counterpart to violence, and possible revolutionary behaviors? Polarizing parties, those that are not anti–democratic, but more antagonistic (Capoccia 2002) may become more appealing to the individual. If the sense of powerlessness is strong enough, one may turn to more anti–system organizations. As efficacy can be present in authoritarian government through symbolic gestures of citizen control (Coleman & Davis 1976), an individual facing extreme alienation may turn to anti–democratic parties to restore their influence.

6.2.2 Satisfaction and Affective Motivations

There is also support for hypothesis four: the more dissatisfied a voter, the more likely they are to support an outsider political party. The results support previous work on dissatisfaction and voting. When individuals are dissatisfied with mainstream movements, they change their party loyalty or abstain in future elections (Miller 1974). As a voter becomes increasingly disaffected with the government, support for the PvdA, CDA, or VVD decreases. An individual’s negative sentiments towards the current government can stem from dislike of the policies that they have enacted, or the way in which they have conducted themselves. As with Labzina and Schofield (2015), disapproval and lack of trust grows support for non–traditional parties. When no alternatives exist, then the voter has the option to no longer participate in the electoral process, or if their disaffection is not great enough for them to withdraw from politics, the individual will continue to support the organization with which they are unsatisfied. However, when an exit option is available, then the prospective voter will change their support to the alternate, non–establishment party. A more general dislike of the government—not necessarily specific to a certain policy or action—has the possibility of altering how an individual evaluates the exit option, or how they select among a plurality of options. Disaffection with mainstream politics reduces the emphasis one places on spatial factors. Policy preferences are less important for the

decision to support an untraditional party, and the effects of left–right position are less than that of satisfaction.

When dissatisfied with the mainstream, one's affect can become more important in their decision making, in that the individual uses an exit option with which there may not be a high degree of ideological similarity, but they have more positive sentiments towards the organization. When negative affect towards government does not arise from a single cause, or when there is not an especially salient origin of the disaffectedness, then a particular restorative action—and therefore a specific exit option—is unclear; an obscured negative attitude leads to an obscured course of action, in which the party best able to remedy one's dissatisfaction may be unknown. In such a case, an individual will select an outsider party with less intent, using softer decision–making. Their action is meant to register their discontent, but not necessarily a solution—they engage in a sort of anti voting, in which there is a more general anything–but–the–mainstream sentiment. The effects of government satisfaction on mainstream voting may be a result of this anti sentiment, in which the voter is responding to cartelization or another source of frustration. Rejection–based political action, motivated by general dissatisfaction, supports the tendency of voters using less intensive evaluations engaging in more symbolic behaviors (Pollock III 1983), like that seen in the 2009 Greek elections, in which the Greens were used as a negative vote (Vasilopoulos & Demertzis 2013). Such actions would not have a clear goal other than a kind of punitive or negation–orientated action against the party that is the origin of the voter's low satisfaction, supporting Thomposon and Horton's (1960) work on political alienation.

6.2.3 Left and Right–Leaning Voters' Relation with their Parties

While outsider voters tend to be extreme ideologically—as to be expected—conservative voters are less likely to support an outsider party. Two of the mainstream parties, the CDA and VVD, being more conservative, while the outsider parties are split between left and right–leaning, the D66, Socialists, and the Greens have more supports than the more conservative organizations: LPF, Christen Unie, and the SGP. The relationship between further–right placement on the ideology scale and support for mainstream parties may be a result of these two factors; however, there is a possible interesting implication of the relationship between more left–leaning voters

and their parties. As for the higher support of mainstream parties among conservative voters, right-leaning individuals are not particularly more or less efficacious than liberal voters: there is effectively no correlation between efficacy and left-right self placement. Therefore, the difference in party type support is not likely a factor of different levels of alienation between the two ideological groups. However, there is a difference between the satisfaction levels of liberal and conservative voters³⁵. When dichotomizing the left-right scale into left and right-leaning, as well as satisfaction and efficacy into above and below average levels, there is a difference in the level of satisfaction between the two ideological groups of voters. Given the data from the DPES, individuals more liberal than the average are almost surely more dissatisfied than above-average conservative voters. This difference suggests that the relationship between voters and their party—and the mainstream more broadly—is influenced by more than ideology; and when deciding whether to support traditional, established parties, the more disaffected liberal voters may be more partial to outsider movements. A more dissatisfied liberal base of voters may be able to explain, in part, the mechanism for the greater numbers of liberal outsider support. Out of the 5,446 individuals that intended to vote for a left-leaning party, 33.4% intended to support an outsider movement; among the total 6,417 intended conservative party voters, only 11.2% indicated they would select an outsider party.

It is possible that liberal voters are more attracted to non-mainstream movements, or the relation is a result of the ideological composition of the mainstream; however, the more disaffected liberal constituency can have consequences for how left-leaning parties and voters relate within one another. Although not particularly more or less likely to be alienated, the left-leaning voter tends to have lower affect towards the government than the conservative voter³⁶. The disconnect may arise from the relative salience of traditionally left and right policies, and how the electorate perceives the extent to which parties have acted on these issues. One could feel that environmental regulations have not been adequately addressed by the PvdA—the mainstream left party has not fulfilled the voter’s policy desire for environmental policy output. For the voter, there is a clear exit option: the Greens. Similarly, for issues regarding income inequality or the Dutch parliamentary democracy, the Socialist Party and D66, respectively, serve as alternatives. Conservative voters may feel that the CDA and VVD are delivering on their most salient political issues, and therefore are more satisfied and do not feel a need

³⁵See Appendix C: Mainstream Voting

³⁶See Appendix C

to support an outsider party to the same extent. Meanwhile, the PvdA has not sufficiently implemented policy on its supporters' more important issue areas, so their voters become more dissatisfied and begin looking at the possible alternatives with greater frequency. The effect of salience can be interpreted to have the opposite cause: instead of supporting outsider parties because the mainstream has not addressed important issues, in supporting Arzheimer (2009), the increased salience of policy issues drives voters towards a more ideologically pure outsider. The dissatisfaction may arise from the PvdA's inability to create legislation, a perception of cartelization, or that the PvdA has moved towards the center in an effort to grow its vote share and gain supporters from the other two mainstream parties. The role of ideology in choosing a traditional versus non-traditional party could be a function of the extent to which liberal and conservative voters feel the mainstream has address their respective issues of focus.

While both efficacy and satisfaction with government can provide motivations for outsider support, they may operate as two independent factors, with each supplying a different behavior from the unconventional repertoire. A sense of political powerlessness and disaffection can create desires to restore influence or incumbent affect, respectively. However, alienation from politics may promote a more strategic behavior, in which the individual engages in more calculated political actions. In order to force a party to address a policy or change its position, the individual must select which party they will use to cast a signal vote. The decision to send a more specific message with a ballot requires more attention to be paid to what signal to send, and how the individual perceives the party will respond; one must communicate their desire effectively. If attempting to adjust a party's stance, then one would need to select the correct party with which to send the message. Additionally, the individual may base their action on how they believe other voters will act. In the case of regaining influence, the voter would need to select a party emphasizing representation and a stronger role for party supporter, and then determine if their most-preferred party would properly receive the message that they need to re-connect with their base.

Alternatively, an affective motivation may not promote strategic behaviors to the same level as inefficacy. Instead of a more costly, calculated messaging, disillusionment with the mainstream could promote more of an anti-vote: a ballot cast without any particular intended outcome, but more of an act of registering discontent. The individual will still heuristically choose an exit option that generally aligns with their ideology, but they will not seek to promote

a specific policy element of the party. One casting an anti vote would be showing their support for untraditional, anti-establishment and mainstream politics. Such a voter would be inclined to support a political outsider to change the status quo; the voter registers their support for their type of politics. One may have more punitive motivations, in which high levels of dissatisfaction and negative sentiments towards the mainstream leads the individual to vote for a party that will punish the establishment, or otherwise challenge the current political climate. Dissatisfied with traditional parties, the voter may have more positive feelings towards an outsider party and its politicians, in which case, they would like to see the more favorable candidates succeed. Given the relatively large effect of government satisfaction on mainstream support, the Dutch electorate may be more affectively motivated, expressing a general disaffection as opposed to signaling.

Growth of new politics and declining mainstream support can be seen through a social movements perspective, in which untraditional voting behaviors are similarly motivated as untraditional extra-system action. While ideology is not irrelevant, it is not the motivating force behind the changing electoral dynamics. Voters' alienation and disillusionment provide a source for the decision to support outsider or anti-establishment politics. While not tested in this paper, there is a potential that a social movements understanding can also contribute to work on political extremism. Likewise, interactions between efficacy and satisfaction can further the development of the institutional arm of the unconventional behaviors repertoire.

6.3 Party Choice

Whereas efficacy and satisfaction are influential in the decision-making process behind vote switching and outsider support, to what extent are these factors incorporated into specific party choice decisions? The role of non-ideological expressive or attitudinal is more ambiguous when choosing between alternatives. It was expected that after one had decided to cast a ballot for a mainstream or outsider party, the significance of political attitudes would give way to ideological and policy-specific factors. While that is the case for most parties, the extent to which efficacy and satisfaction remain relevant for specific movement selection was unanticipated. Within the mainstream, efficacy is quite probably related with a vote for the PvdA, CDA, and there is a fairly large probability of a relation with VVD; there is a very probable relation between

satisfaction and intention to vote for all three of the parties. Given the relevance of these two factors for mainstream party type selection, it would follow that they are also related with choosing an individual party, as well. For the outsider parties, the attitudinal variables have less influence. Efficacy is only influential with three of the seven possibilities, while satisfaction has a high probability of being related with four. Interestingly, the Christen Unie is both positively associated with efficacy, while negatively associated with satisfaction. This may be in part due to CU serving as a clear alternative for CDA voters. When disaffected with the CDA, it appears that voters may turn to the CU as a signal, sensing that their support for the Christen Unie may be able to create the desired outcome.

Generally, the role of efficacy was expected to be minimal, but I did anticipate that one's sense of government responsiveness would be important for D66, the party advocating radical democracy and more direct influence for citizens. It would seem that such a platform would speak to the alienated, but that is not case. In fact, the probability that efficacy is unrelated to D66 support is the highest among all the outsider parties. While founded as a movement for greater democratization, it is possible that voters' evaluation of the party has shifted. The D66 has the greatest vote share of all outsider parties, has been in several governing coalitions, and has moderated their platform since 1966. These components may have altered the D66's status with voters, possibly being seen as another established, traditional party. Softening of the radical democracy platform, taking a more catch-all approach, may have decreased the party's credibility with the alienated electorate. Support for D66 is unlikely to have a relation to one's perceived political power, and very well may have been incorrectly classified as an outsider party and should be considered a part of the mainstream in future analyses.

6.4 Electoral Earthquakes

When an exit option appears for the first time in an election, there is the potential to have a large electoral shift. A large number of voters whose levels of dissatisfaction and alienation are high creates an optimal environment for a change in party dynamics and a high level of volatility. The disaffected or politically powerless have stayed with their party due to no available exits, due to a sense of civic duty, or that their currently party is the best of the available alienates; other voters may have dropped out of the electoral process, given increasing frustration and

perceptions that their actions cause no reaction. But, when an exit option becomes available, the disaffected and or alienated are given another option, and the previously withdrawn can be motivated to return to politics. There is a possibility that large numbers of voters will take the exit option, abandoning their previous party—either motivated by affect of powerlessness—as well as drawing in previous non-voters, resulting in a substantial shift. The new dynamic may only last for an election, where the exit option is a sort of pressure value during the election, with voters returning to their original party in the next election; alternately, the party may sustain, more permanently altering elections in a country. The Pim Fortuyn Lijst could be a case of such a scenario. A few months after inception, the party had rapid success, placing third in the national elections. However, after the assassination of Pim Fortuyn, the party quickly collapsed nearly as quickly as it rose, losing a large portion of its vote share in the following elections. While the number of political parties has been fairly stable, the appearance of a new alternative had significant implications for the 2002 elections. While there were other outsider parties, their support levels were fairly stable; before LPF, there was volatility, but not to the same extent as the 2002 parliamentary elections that created a shock, quickly increasing levels of vote switching and decreasing mainstream party support.

6.5 A Protest Voter?

The current conceptualization of a protest voter is an individual who non-habitually votes with the intention of registering dissatisfaction without regard for ideology and other political attitudes (Van der Brug & Fennema 2003, Van der Brug & Fennema 2007). The theorization lacks clarity and establishes a strange operationalization. The theory seems to treat a protest vote as an entirely separate phenomenon from demonstration attendance or other political actions. Social movements and party choice—or the decision to cast a protest vote—are treated as unique actions with separate motivations. While there is not a clear operationalization of a protest voter, a social movement approach may have potential to explain the possible presence of protest voting. Based in the attitudes, motivations, and goals of attending demonstrations or undertaking some other form of protest, the protest voter may be defined as the institutional expression of the factors behind non-institutional protest. As unconventional behaviors may form a common repertoire, protest could be incorporated, in which there is an institutional and extra-system manifestation, with both influenced by the same factors. Given the role of internal

and external efficacy in non-institutional protest (Gamson 1968, Craig 1980), both attitudes would also be expected to maintain relevance in the institutional form of protest. Using efficacy and satisfaction can more fully explain, and provide a definition of protest voting, as the two variables complement each other to explain protest attendance.

While ideology may not be the sole motivating force of unconventional behaviors, it cannot be discounted in untraditional behaviors, and goes against the body of work on spatial voting. While the analysis supports a role for attitudinal variables in non-conventional voting, the results also support the influence of ideological factors. Instrumental motivations alone may not give a full understanding, but a purely-expressive framework is unable to broadly explain behavior, as well. Under the current operationalization, when deciding to cast a punitive vote, it is unlikely the ideology would have no influence. Either acting spitefully and selecting an oppositional party to one's previous party's position, or choosing an ideologically similar one in a signaling-like fashion, ideological positioning is expected to have some form of influence. Likewise, the motivation to protest could also come for the dissatisfaction from policy disapproval. The 1998 Swedish elections, in which there were low levels of trust in the two mainstream parties, saw a large amount of voting switching to peripheral parties. Voters used available exit options, motivated by discontent, as well as ideology (Moller 1999), impressing on the importance that ideology can have in an affective response. And when examining social movements, there are underlying grievances and ideological considerations that can motivate an individual to action.

7 Conclusion

There is a connection between the motivations for non-traditional behaviors outside the political system and non-traditional behaviors within the system; the drivers of social movements and extra-system participation have influence in institutional political action. Those that are disaffected with government and feel politically powerless are more likely to participate through means other than the ballot box, but what of the alienated and dissatisfied that still vote? There is a portion of the electorate that is inefficacious, but, despite their inefficacy, they still engage with the system. However, they do not behave traditionally: an inefficacious voter is more likely to change their party loyalty and support outsider movements. The alienated and dissatisfied

do not necessarily behave in the standard ideologically-motivated actions. Both social movements and electoral behavior are similar phenomena, comprising a repertoire of unconventional behaviors, in which the individual is motivated by disaffection and alienation, and their goal is to restore their political influence and positive affect. An individual satisfied and empowered will make conventional political decisions, correctly voting based on ideological differences between themselves and parties, and emphasizing instrumental considerations. However, the analysis suggests that ideology may be a second-order consideration. Before engaging in traditional electoral decision-making, an individual must feel a sense of empowerment and have a sense of satisfaction with the government. If these two conditions are not met, the individual will attempt to resolve their powerlessness or dissatisfaction; the power dynamics and affect towards government become the motivating factors behind their choices, transitioning ideology to a second-order consideration. The individual becomes more expressively motivated, in which ideological concordance between themselves and a party are de-emphasized, and restoring their government influence and affect become more prominent in decision making. While maximizing influence is not mutually exclusive from spatial considerations, the alienated will be motivated by the former. When faced with the choice between equally-attractive parties, ideology alone cannot discern which party the individual will choose. Likewise, the use of ideology alone cannot inform the point at which one will abandon their current party in favor of another, or when a voter will choose to support an outsider political party.

7.1 Future Work

While non-traditional, extra-system and institutionally-based participation have similar motivating characteristics, it remains to be seen whether the two forms of behavior have greater interconnections. The two may be influenced by similar factors, but that does not necessarily imply that two have further similarities or that the two forms behaviors play off one another. Does to inefficacious voter cast a ballot to send signals or register discontent before using other means? When faced with continued unsuccessful action at the ballot box, does the individual then transition towards non-institutional behavior? Blank and null voting can be a predictor for future political unrest; can electoral volatility and outsider party support be such a predictor, as well? Future work should examine the extent to which the institutional and non-institutional repertoires of unconventional action intermingle. The predictability of one form of action for

another, as well as the prominence of engaging in both electoral and extra-system mean provide future paths to understanding the repertoire.

The analysis suggests that democratic deficits are relevant factors in political decisions, but what are the roots of political powerlessness? When faced with parties continually pursuing policies unfavorable to the individual, it is possible for feelings of powerlessness to emerge, but effects individuals differently. Although not explored in this paper, it would be worthwhile for future work to examine the implications of Craig's (1980) notion of entitlement. A possible operationalization of democratic deficits or political powerlessness, could be created from the entitlement understanding. The roots of inefficacy, perceptions of one's inability to influence the system, could arise from a disconnect between the preferred and actual amount of influence. The internally efficacious felt that they are capable enough to hold a large amount of influence within the system, while the externally inefficacious feel that the actual means to influence are limited. This gap could be to origin of democratic deficits. Likewise, an operationalization of democratic deficits could employ internal efficacy: the separation of ones perceived competency to influence government and the government's responsiveness. Those that see themselves as competent enough to create their desired change, but are unable to influence an unresponsive government, would have a greater sense of a deficit.

A next step would be the analysis of the generalizability of an efficacy-ideology model, testing the social movements approach in different systems, as well as across time with panel data. Cross-country testing would enable a better understanding of efficacy's influence on voting across different political histories and institutions. Electoral districts with variable magnitudes and electoral thresholds can modify individuals behavior, as well as the effects of efficacy on vote choice. The implications of political powerlessness may have variability across democracies, such as the newer democratic systems in Eastern Europe or First Past The Post Systems like the United States'. The model could also be applied to further the understanding of signaling, political breakthroughs, as well as the importance of symbolic citizen control outlined in Coleman and Davis' work (1976). Time series analysis will allow for a more in-depth understanding of the point at which an individual will change their party support or transition to an outsider political party, as well as when an individual will transition between institutional and extra-system means of influence. While the analysis shows a relation between dissatisfaction and inefficacy with these behaviors, it is less beneficial for informing at which level of

alienation or dissatisfaction one will change. Additionally, data over time will give insight into whether restorative actions are effective in re-creating political empowerment or satisfaction for the individual. Likewise, time series will be able to inform whether mainstream parties are able to re-capture voters that have moved to outsider parties. The data could give insight to the effectiveness of restorative actions, as well as the effectiveness of political parties' strategies for re-gaining voters. Over-time data would allow for an analysis of the reciprocity between restorative action and efficacy and satisfaction levels—whether an individual's affect becomes more positive and they become more empowered, or restorative action is ineffective, or if there is a spiral of distrust.

The use of an efficacy and left-right ideology model could be beneficial, also though it would lose the more in-depth aspect of individual policy areas, but reduces some drawbacks. Salient policy topics lose and gain salience over time, which presents issues for analysis. While individuals' policy positions may change over time, democratic ideals and voters' optimal level of influence are more fixed—perceptions of how government is upholding those ideals and deficits are what fluctuate. Predicting which policy issue will be the most important for a given election can be difficult. And more contentious policy areas such as immigration or euthanasia are more subject to social desirability pressures or respondents refusing to answer, which decreases the total amount of available data. An attitudinal-ideological framework of voting behavior has potential for a more full understanding of voters' decision making; however, the analysis raises more questions and possible implications. The model provides a framework connecting social movements with electoral behavior, analyzing contexts in which voters are motivated by other factors than ideology. Future analyses can tease out the relative importance and effects of efficacy and satisfactions, as well as test the interactions between the two. More than how a voter responds to alienation, future work should also focus on how political parties react in such environments, and whether their strategies are successful. Given the introduction of a new exit option, there is potential for increased volatility, but will the increase fluidity in elections act as a pressure valve, quickly returning to normal levels, or serve as a more extended flux?

The introduction of efficacy and satisfaction gives additional insight into electoral decision-making. Factors influencing social movements play a part in vote choice; and there are situations in which individuals' left-right positioning is not the main consideration. As opposed to dichotomize institutional and extra-system action, integrating the two behaviors

can provide a greater understanding of individuals' political actions. It is worth reconsidering the preeminence of ideology and the assumption that voters' behavior is spatially-motivated. The inefficacious electorate's choices de-emphasize spatial considerations, implying that they do not engage in correct voting; however, given their goals, they cannot be said to incorrectly vote. Where correctly voting is defined in terms of supporting the party with which one agrees most ideologically, analysis of voting that best fulfills a voter's intention may provide additional understanding; the factors that affect an individual's goal of casting a ballot—such as when one desires to minimize ideological differences, promote their influence within an organization, or have the greatest effects on policy outputs—can provide a basis for understanding citizens voting strategies, as well as the roots of increasing electoral instability and the declining mainstream.

8 Appendix

8.1 Appendix A: Variables

Internal Efficacy

Although internal efficacy is employed in the protest literature, it is not used in this paper’s framework. This project’s focus is on the power relationship between citizen’s, parties, and government, as well as dissatisfaction. The attitudinal object of interest is the state—the extent to which the individual feels that the government is willing and able to implement their desires—and less so one self competency captured by internal efficacy. One’s perception of their ability to influence and understanding government is not foundational to restorative action: both the internally efficacious and inefficacious can hold attitudes towards democratic deficits, and desire to correct the deficits. The internally inefficacious are faced with a meaninglessness alienation: “the individual is unclear as to what he ought to believe—when the individual’s minimal standards for clarity in decision-making are not more” (Seligson 1959, 786). This alienation caused by perceptions of over-complexity and a lack of understanding has the potential to motivate actions to regain a sense of clarity, which could have implications for vote choice, but is out of the scope of this particular analysis.

In future work, it is worthwhile to examine the relationship between internal and external efficacy, how they influence voting behavior, and a possible operationalization of democratic deficits. Craig’s interpretation of Gamson’s hypothesis includes an aspect of the internally efficacious feeling more capable, and therefore have an entitlement-like desire for more influence (1980). This desire for greater influence, due to individuals’ perceptions of self-competency, may manifest in a sense of democratic deficits. The magnitude of the discrepancy between an individual’s perceived ability to influence and the government’s responsiveness may inform the extent to which an individual senses that there are democratic deficits.

DPES Surveys

Given that some variables were dropped in some studies, not every election from 1971–2006 can be analyzed. The total number of complete cases is $\mathcal{N} = 6,845$. The first two, 1982, and 2003 elections were not included in the analysis, as one or more of the variables were not included in the survey. Complete data are more prevalent in the later, post 1980 election studies.

Year	1971	1972	1977	1981	1982	1986	1989	1994	1998	2002	2003	2006
Cases	0	0	486	817	0	720	999	782	996	956	0	1089

DPES Survey Question Language

Vote Intention Which party do you intend to vote for?

Asked if respondent answered “yes” to: As you may know, elections for the Second Chamber will be held in [Month/Date] of this year. Do you intend to vote or not, or dont you know yet?

Previous Party Choice For which party did you vote then?

Asked if respondent answered “yes” to: The previous elections for the Second Chamber were held in [year of previous election]. Did you vote in these elections, or not?

External Efficacy This survey topic contains five yes/no questions:

1. MPs do not care about opinions of people like me
2. Parties only interested in my vote, not my opinion
3. People like me have no influence on politics
4. So many people vote. my vote does not matter.
Not included in the 2006 study.
5. MPs quickly lose contact with citizens.
Only in the 1998, 2002, and 2006 studies.

Government Satisfaction With the help of this card, could you indicate how satisfied you are in general with what the government has done during the past four years?

One is “very satisfied” and five is “very unsatisfied.”

Class One sometimes speaks of the existence of various social classes and groups. If you were to assign yourself to a particular social class, which one would that be?

One is upper class, five is working class.

Income The respondent has been asked to indicate, with the help of categories on a showcard, the level of household income. The interviewer emphasized that the information provided would remain strictly confidential and that the question referred to the net total income of the household (i.e. the sum of net incomes of all members of the household, including social security, unemployment benefits, etc., after deduction of taxes).

Education The next question is about your own education. Could you indicate by means of this showcard the highest education for which you received a diploma?

One is elementary, five is higher level vocational, university.

Religion How often do you attend religious services?

One is at least weekly, five is almost never or never.

Political Interest Are you very interested in political subjects, fairly interested or not interested?

Policy Position Question Wording

Abortion Voluntary ending of pregnancy. Some people think that the government should forbid abortion in all circumstances, other people think that each woman should have the right to decide for herself whether or not she wants an abortion. Of course there are also people who have an intermediate opinion. Suppose we place the persons who would like to forbid in all circumstances at the left of this line, at number 1, and the persons who think each woman has the right to decide for herself at the other end, at number 7.

Asylum Now I would like to talk with you about another problem. Allowing ASYLUM SEEKERS to enter the Netherlands has frequently been in the news during the last few years. Some people think that the Netherlands should allow more asylum seekers than the government currently does. Other people think that the Netherlands should

send asylum seekers who are already staying here back to their country of origin. Of course, there are also people whose opinion lies somewhere in between. At the beginning of this line are the people (and parties) who think that the Netherlands should allow more asylum seekers to enter (at number 1); at the end of the line are the people (and parties) who think that the Netherlands should send back as many asylum seekers as possible (at number 7).

Minorities There is disagreement in the Netherlands about foreigners and ETHNIC MINORITIES. Some people and parties think that these people should be able to live in the Netherlands while preserving all customs of their own culture. Others think that these people, if they stay in the Netherlands, should completely adjust themselves to Dutch culture. Of course, there are also people whose opinion is somewhere in between. At the beginning of this line are the people (and parties) who think that foreigners and ethnic minorities should be able to live in the Netherlands while preserving all customs of their own culture (at number 1); at the end of the line are the people (and parties) who think that these people should fully adjust themselves to Dutch culture (at number 7).

Income Inequality Some people and parties think that the differences in incomes in our country should be increased (at number 1). Others think that these differences should be decreased (at number 7). Of course, there are also people whose opinion is somewhere in between.

EU Integration EUROPEAN UNIFICATION is well under way. The countries of the European Union have decided to work more and more closely together. However, not everybody holds the same view about it. Some people and parties think that European unification should go further. Others think that European unification has already gone too far. Suppose the people and parties who think that European unification should go further are at the beginning of this line (at number 1) and the people and parties who think European unification has already gone too far are at the end of the line (at number 7).

Euthanasia Now some questions about political affairs that are frequently in the news. When a doctor ends the life of a person at the latter's request, this is called euthanasia. Some people think that euthanasia should be forbidden by law. Others feel that a doctor should always be allowed to end a life, if the patient makes that request. Of course, there are people whose opinions lie somewhere in between. Suppose that the people (and parties) who think that euthanasia should be forbidden are at the beginning of this line (at number 1) and the people (and parties) who feel that a doctor should always be allowed to end a life upon a patient's request are at the end of the line (at number 7)

Nuclear Power Now I would like to ask you some questions about political issues that are regularly in the news. As you may know, some people fear that within the foreseeable future a shortage of energy will occur in the world. One means of supplying this shortage is to build NUCLEAR POWER PLANTS. Some people therefore believe that the Netherlands should quickly increase the number of nuclear power plants. Others, on the other hand, consider the dangers too great and think that no nuclear power plants should be built at all. At the beginning of this line are people and parties who think that additional nuclear plants should be built in the Netherlands (at number 1); at the end of this line are people and parties who think that no nuclear plants should be built at all (at number 7).

Table 3: Variables by study Year

	Abortion	Asylum	Minorities	Income Ineq.	EU	Euthanasia	Nuclear	Left-Right	Total
1971									0
1972									0
1977	x						x	x	3
1981	x						x	x	3
1982	x						x	x	3
1986	x			x		x	x	x	5
1989	x			x		x	x	x	5
1994			x	x	x	x	x	x	6
1998		x	x	x	x	x	x	x	7
2002		x	x	x	x	x	x	x	7
2003		x	x	x		x		x	5
2006		x	x	x	x	x	x	Post-wave	7

8.2 Appendix B: Vote Switching

Table 4: Changing Party Loyalties: Intension and Actual

	PvdA	CDA	VVD	D66	GL	SGP	CU	LPF	SP	Other	Not Vote	Total
PvdA	2529	103	21	85	19	1	2	3	36	57	112	2968
CDA	71	2749	86	32	1	5	21	3	10	33	80	3091
VVD	22	109	1423	23	3	0	1	8	5	23	51	1668
D66	65	26	46	588	10	1	0	1	4	19	30	790
GL	54	8	11	27	326	0	0	2	18	10	6	462
SGP	1	10	0	1	0	152	11	0	1	1	4	181
CU	0	29	3	0	0	3	249	0	0	2	2	288
LPF	1	10	6	0	0	0	0	100	2	1	3	123
SP	32	5	4	6	10	0	0	1	270	8	2	338
Other	62	39	23	27	10	2	6	4	10	342	25	550
Not Vote	230	206	101	86	28	5	9	6	58	96	746	1571
Undecided	320	429	244	164	48	9	43	1	148	179	80	1665
Total	3387	3723	1968	1039	455	178	342	129	562	771	1141	

Separate from table 2, this table is a voter's intended party they will support, asked during the pre-election wave, contrasted with the self-reported party they supported, asked during the post-election wave.

Policy Distance

Table 5: Vote Switching Regression Table with Policy Distance

	Mean	Lower CI	Upper CI	Effective Size
Intercept	0.328	0.296	0.364	9900.000
Efficacy	0.629	0.551	0.715	8301.000
Satisfaction	0.660	0.589	0.743	9130.000
Policy	0.624	0.504	0.774	9381.000
Income	0.876	0.772	1.002	9776.000
Class	1.168	1.004	1.362	9101.000
Education	1.495	1.288	1.727	9574.000
Age	0.595	0.520	0.680	9300.000

The model is the same as the vote switching model, except that the absolute value of the policy preferences is used. Instead of measuring general right-left placement in the policy space, the variable measure the relative extremeness of an individual, as compared to the mean. The results are very similar to the regression with general policy preferences, with the only difference being that the policy variables has a negative relationship. As one becomes relatively more liberal or conservative in their policy preferences, they become less likely to change their party loyalty. Given that an individual is relatively more extreme than the mainstream parties, there are fewer alternatives or exit options available to them; the individual will support a more niche party that captures a unique policy space, with which they agree.

Under-Prediction of Vote Switching from the Median

Let $X \sim \text{Binomial}(n, \theta)$, where n is the number of simulations and θ is the PPD of the proportion of vote switchers. $P(Y = 1) = 1 - P(X < n/2) = 1 - \sum_{k=0}^{n/2-1} \binom{n}{k} \int \theta^k (1 - \theta)^{n-k} d\theta$. $E[X] = E[X | \theta = \hat{\theta}] = n\hat{\theta}$. Therefore, $\theta \geq .5$ for the median to be one. Since $E[\theta] = .27$ and has a relatively narrow variance, it is highly unlikely that an observation's simulation median drawn from the PPD will be equal to one, despite the expected 27% of vote switchers.

Hesitation With Regards To Party Choice

Table 6: Hesitated Party Choice

	Mean	Lower CI	Upper CI	Effective Size
Intercept	0.331	0.309	0.354	9453.000
Efficacy	0.783	0.687	0.896	9439.000
Satisfaction	0.781	0.689	0.884	9431.000
Policy	0.917	0.799	1.064	9355.000
Income	0.967	0.847	1.106	9107.000
Class	1.181	1.010	1.387	8952.000
Education	1.722	1.486	2.011	9345.000
Age	0.417	0.360	0.481	8816.000

Table 6 are the results of an individual's hesitation to support their chosen party, regressed on the vote switching model. A one indicates a yes—zero a no—to the question “And did you seriously consider voting for [a different party than the one intended] at the parliamentary elections?” The results support the findings of the vote switching model: the inefficacious and dissatisfied are more likely to consider alternative parties. While not all act, the alienated and disaffected contemplate changing their party loyalty more so than the empowered and satisfied. Unlike the vote choice model, policy position is less likely to be a factor in party choice hesitation; individuals across the policy space have relatively equal amounts of hesitation. Policy preferences have less impact on party hesitation, while individual's attitudes are more influential.

8.3 Appendix C: Mainstream Voting

Relative Ideological Extremeness

Table 7: Mainstream Voting Regression Table with Left–Right Relative Extremeness

	Mean	Lower CI	Upper CI	Effective Size
Intercept	3.656	3.267	4.096	9061.000
Efficacy	1.294	1.148	1.467	8594.000
Satisfaction	2.263	2.030	2.528	9454.000
Left–Right	0.625	0.510	0.771	9180.000
Income	1.399	1.238	1.590	9248.000
Class	0.919	0.800	1.063	9041.000
Education	0.405	0.352	0.467	9289.000
Age	1.863	1.637	2.117	9083.000

Left–right distance is measured as the absolute value of an individual’s left–right self–placement. As the mean is zero, the variables reflects how far outside the mean an individual places themselves ideologically. The other regressors’ effects are virtually unchanged, while the left–right extremeness variable’s relation is negative. Those that are more conservative are more likely to support the mainstream, but those that are further from the mean ideology are less likely to support the mainstream. As two of the three mainstream parties are conservative, it follows that the mainstream attracts more conservative voters; likewise, as the PvdA, CDA, and VVD are more moderate, individuals’ whose ideology is relatively more far left or right tend to support outsider parties.

Mainstream Voting with Left and Right Categorization

Table 8: Mainstream Voting Among Liberal Parties

	Mean	Lower CI	Upper CI	Effective Size
Intercept	1.790	1.610	2.010	9054.000
Efficacy	1.331	1.113	1.580	9102.000
Satisfaction	1.227	1.049	1.427	9227.000
Left–Right	0.698	0.567	0.869	9052.000
Income	1.201	1.005	1.421	8890.000
Class	0.473	0.389	0.577	8884.000
Education	0.307	0.252	0.376	9330.000
Age	1.615	1.345	1.950	8713.000
PCC	.6605	Null	.6152	

Table 8 are the results from logistic regression, in which a one represent an intended vote for the PvdA, and a zero indicates an intended vote for GroenLinks, D66, or the Socialist Party. Table 9 are the results from logistic regression, in which a one represent an intended vote for the VVD or CDA, and a zero indicates an intended vote for ChristenUnie, LPF, or the SGP.

The decision to support the mainstream left party over the outsider left is influenced is positively associated with efficacy and satisfaction. As an individual becomes

Table 9: Mainstream Voting Among Conservative Parties

	Mean	Lower CI	Upper CI	Effective Size
Intercept	9.590	8.023	11.454	8995.000
Efficacy	1.132	0.890	1.430	8832.000
Satisfaction	3.361	2.684	4.220	9128.000
Left–Right	0.340	0.249	0.460	9045.000
Income	1.525	1.216	1.977	8771.000
Class	1.607	1.214	2.140	9148.000
Education	0.506	0.387	0.667	9169.000
Age	1.510	1.190	1.919	8857.000
PCC	.8784	Null	.8790	

more empowered and or more satisfied, the probability that they will support the more established liberal party—the PvdA—increases. Given the data, there is a 99.93% chance that efficacy is non-negative and positively related to supporting the PvdA over the leftist outsiders; for satisfaction, the probability is 99.57%. Deciding to support one of the two mainstream conservative parties has an almost surely non-zero and positive relation with satisfaction; however, the probability that efficacy has a positive effect is 84.33%. While the HPD region of the efficacy coefficient contains zero, there is still a fairly high probability that a more efficacious voter will support the mainstream right over the outsider conservative parties.

Mainstream Voting by Election

When examining individual elections, the results are fairly close to the effects of attitudes and ideology on mainstream support across all elections. The probability that efficacy is positively related to mainstream vote intention is greater than 95% for the 1977, 1981, and 2002; 89% for 1994; 86% for 2006; dropping to 76% for the 1998 elections; and it is unlikely efficacy had an effect for the 1986 and 1989 elections. Satisfaction is more consistent, with a greater than 95% probability of a positive relationship for all elections, except for 1986, in which the probability is 85%. Left–right self–placement is fairly consistently positively related to mainstream voting, suggesting that conservative respondents are more likely to support the mainstream, with probability greater than 95% for all elections besides 1986 and 1989, in which there is likely no effect of left–right ideology. Differing dynamics of individual elections have the potential to alter the factors behind mainstream support, deviating from the broader trend. In particular, respondents support for the mainstream during the 1986 survey are mostly unaffected by attitudinal factors, as well as traditional ideological components. Efficacy levels and self–placement of the liberal–conservative scale were likely non–factors in mainstream party support, but satisfaction with government retained an 85% probability of affecting the decision–making process. As would be expected, attitudinal and ideological factors were significant in the 2002 elections that swept LPF to power. Comparing the efficacy of the 2002 respondents to others, theirs was the lowest of all; however, they were slightly more satisfied than average and tended to be more liberal.

Table 10: Mainstream Voting by Election, 1

1977

	Mean	Lower CI	Upper CI	Effective Size
Intercept	4.516	3.235	6.310	6701.000
Efficacy	1.783	0.937	3.326	6846.000
Satisfaction	1.873	1.042	3.328	6657.000
Left-Right	1.964	1.179	3.252	6428.000
Income	1.072	0.474	2.285	6911.000
Class	1.588	0.772	3.280	6978.000
Education	0.287	0.138	0.593	6384.000
Age	1.781	0.977	3.176	6833.000
N	486			

1981

	Mean	Lower CI	Upper CI	Effective Size
Intercept	3.522	2.887	4.323	6625.000
Efficacy	1.401	0.977	2.051	6578.000
Satisfaction	1.880	1.323	2.671	6775.000
Left-Right	1.626	1.102	2.359	6791.000
Income	1.157	0.798	1.746	6739.000
Class	0.746	0.491	1.123	6893.000
Education	0.723	0.458	1.114	7087.000
Age	2.566	1.737	3.876	6718.000
N	817			

1986

	Mean	Lower CI	Upper CI	Effective Size
Intercept	7.030	5.545	9.021	6480.000
Efficacy	1.052	0.639	1.784	6738.000
Satisfaction	1.299	0.785	2.085	6702.000
Left-Right	0.928	0.555	1.578	6741.000
Income	0.938	0.564	1.542	6938.000
Class	1.187	0.681	2.074	7004.000
Education	0.616	0.361	1.076	6846.000
Age	1.771	1.026	3.016	6674.000
N	720			

1989

	Mean	Lower CI	Upper CI	Effective Size
Intercept	4.090	3.405	4.891	6809.000
Efficacy	1.012	0.696	1.488	6787.000
Satisfaction	2.126	1.462	3.067	6973.000
Left-Right	1.074	0.730	1.557	6769.000
Income	1.324	0.918	1.873	6751.000
Class	0.777	0.516	1.163	6867.000
Education	0.595	0.365	0.966	6827.000
Age	2.601	1.767	3.824	7134.000
N	999			

Table 11: Mainstream Voting by Election, 2

1994

	Mean	Lower CI	Upper CI	Effective Size
Intercept	2.078	1.717	2.500	6859.000
Efficacy	1.291	0.862	1.908	6973.000
Satisfaction	2.881	1.980	4.205	6802.000
Left-Right	2.421	1.746	3.400	6621.000
Income	1.684	1.196	2.321	6753.000
Class	0.907	0.599	1.364	6849.000
Education	0.865	0.525	1.417	6964.000
Age	3.375	2.245	4.930	6953.000
N	782			

1998

	Mean	Lower CI	Upper CI	Effective Size
Intercept	2.534	2.097	3.090	6701.000
Efficacy	1.143	0.793	1.642	6671.000
Satisfaction	3.358	2.307	4.839	6621.000
Left-Right	2.192	1.551	3.037	6567.000
Income	1.593	1.136	2.232	6541.000
Class	0.666	0.423	1.012	6683.000
Education	0.388	0.259	0.591	7185.000
Age	2.149	1.481	3.111	6547.000
N	996			

2002

	Mean	Lower CI	Upper CI	Effective Size
Intercept	1.767	1.434	2.213	6741.000
Efficacy	1.360	0.950	1.897	6649.000
Satisfaction	4.019	2.873	5.586	6711.000
Left-Right	2.777	1.992	3.859	6722.000
Income	2.231	1.545	3.228	6739.000
Class	0.656	0.438	0.968	6596.000
Education	0.674	0.464	0.971	6548.000
Age	2.064	1.471	2.936	6997.000
N	956			

2006

	Mean	Lower CI	Upper CI	Effective Size
Intercept	2.523	2.036	3.106	6788.000
Efficacy	1.168	0.899	1.524	6905.000
Satisfaction	2.254	1.663	3.040	6752.000
Left-Right	2.281	1.661	3.116	6791.000
Income	1.470	1.077	2.012	6843.000
Class	1.120	0.778	1.593	7109.000
Education	0.586	0.376	0.884	6931.000
Age	2.316	1.624	3.210	6676.000
N	1089			

Percent Mainstream Vote by Election

Election	1977	1981	1986	1989	1994	1998	2002	2006	Average
Percent Mainstream Vote	86	75	87	80	66	71	59	69	73
Average Efficacy Score	.12	.11	.12	.14	.15	.04	-.01	.06	.09
Average Satisfaction Score	.17	-.10	.02	.04	-.10	.20	.04	.01	.03
Average Left–Right Score	.04	.06	.00	.02	.02	-.05	-.09	.00	.00

The prior for each regression is a Cauchy distribution, with the MLE from frequentist regression serving as the location parameter, and the scale set to 2.5. There was a 50,000 iteration burnin, with an additional 200,000 iterations thereafter, with every 10th iteration stored. The acceptance rates were approximately 15% for each model.

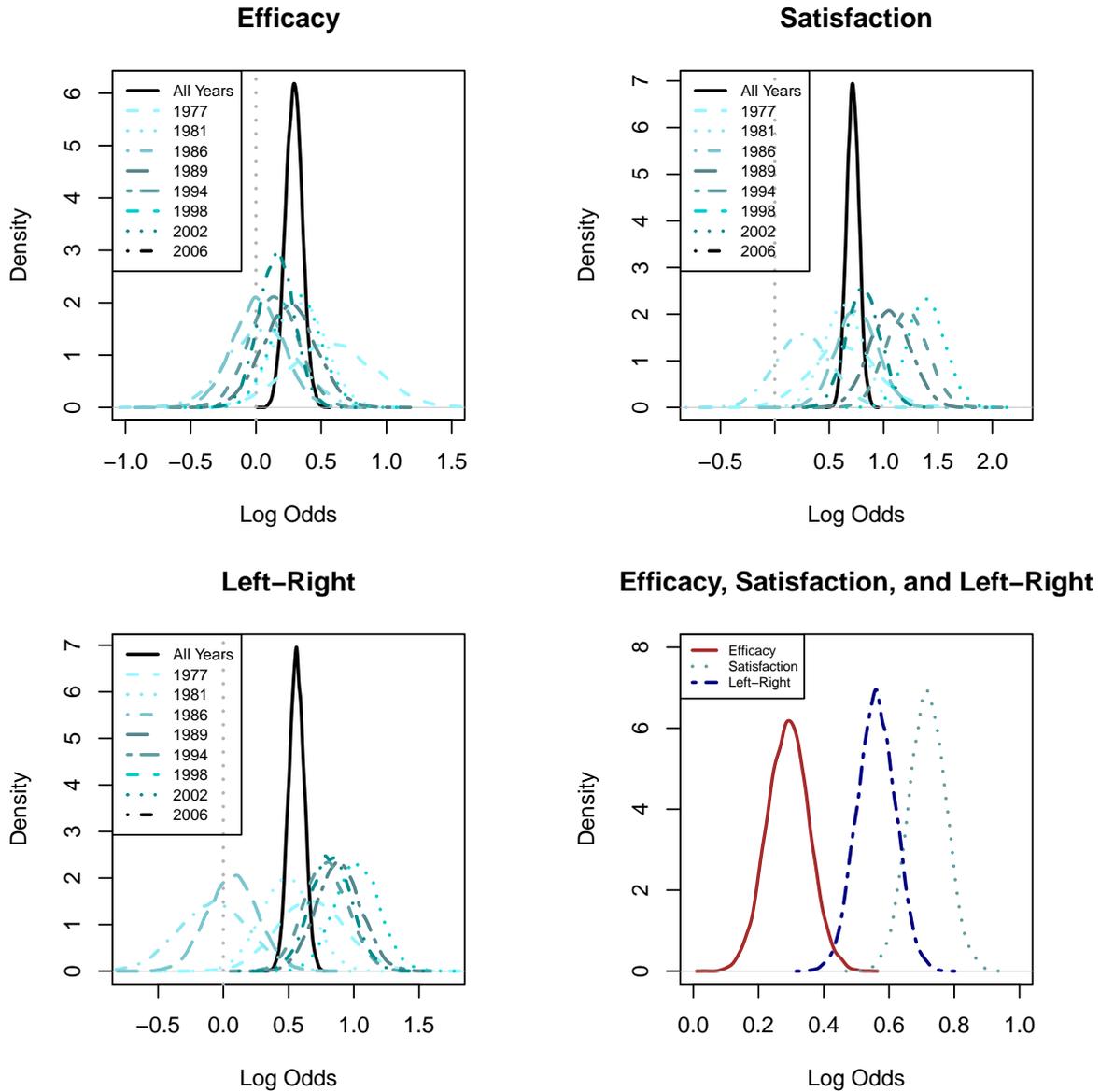
Although mainstream support in 1986 was likely unaffected by efficacy, it may have been a sign of things to come. There was a shift in the electoral dynamics that did not manifest in large outsider party gains, but there were large number of vote switching, with the CDA and PvdA making unexpected gains, and the VVD taking large losses (Van Der Eijk et al. 1986). The 1986 elections proceeded the decline in mainstream support, in which the respondents in future studies indicated support for PvdA, CDA, and VVD in lower numbers; after 1986, all following DPES studies had a lower vote share for the mainstream. The 1986 election may be a case in which large numbers of voters switch parties as a form of restorative action, and when it was unsuccessful, turned to outsider parties. There may have been a progression in the unconventional repertoire, in which larger numbers of the Dutch electorate engage in untraditional voting behaviors follow the 1980s.

Posterior Predictive Diagnostic

Table 12 is the instances of misclassification between the PPD and the observed result, regressed on the model’s variables. The regression gives information of the linear combination of predictors that tend to produce either a false positive or a false negative in the simulations of the PPD. That is, for a false positive, what regressors are most likely to predict an individual will vote for a mainstream party when they did not; for a false negative, which variables are related to falsely predicting an individual will not support PvdA, CDA, or VVD when they do. Logistic regression was used, and the coefficients are in log odds. An increase in efficacy, satisfaction, and left–right placement decrease the odds of a false positive; each variable increases the odds of false negatives, with satisfaction the largest effect, ideology the next, and efficacy the least. In 99% of simulations from the PPD, these variables will be significantly related to misclassification. The regression suggests that the inefficacious, unsatisfied, and liberal individuals are the largest source of false positives. Figure 10 depicts the differences between efficacy and satisfaction of

liberal and conservative voters. Ideology was dichotomized into more left–leaning than average—a self–placement less than 0—and more conservative than average. Likewise, satisfaction and efficacy were divided into more and less satisfied or efficacious than the average. The differences between the proportion of above–average levels of dissatisfaction and inefficacy between liberal and conservative voters is examined with Fisher’s exact test for contingency tables in a Bayesian context. The posterior distributions of the conser-

Figure 9: Posterior Distribution of Regression Coefficients



vative proportion, subtracting the liberal proportion, appear displayed in 10. As with the χ^2 test of independence, a value of zero indicates that the two are the same. The distribution for the difference density of the inefficacy proportions is centered around zero; therefore, conservative and liberal voters most probably have the same rates of inefficacious voters. For dissatisfaction, the distribution is negative, and does not include zero. Liberal voters almost surely have a higher rate of above-average dissatisfaction than conservative voters.

In the Bayesian framework, the test is constructed as follows:

$$y_1 \sim \text{Binomial}(n_1, \theta_1) \quad \text{and} \quad y_2 \sim \text{Binomial}(n_2, \theta_2)$$

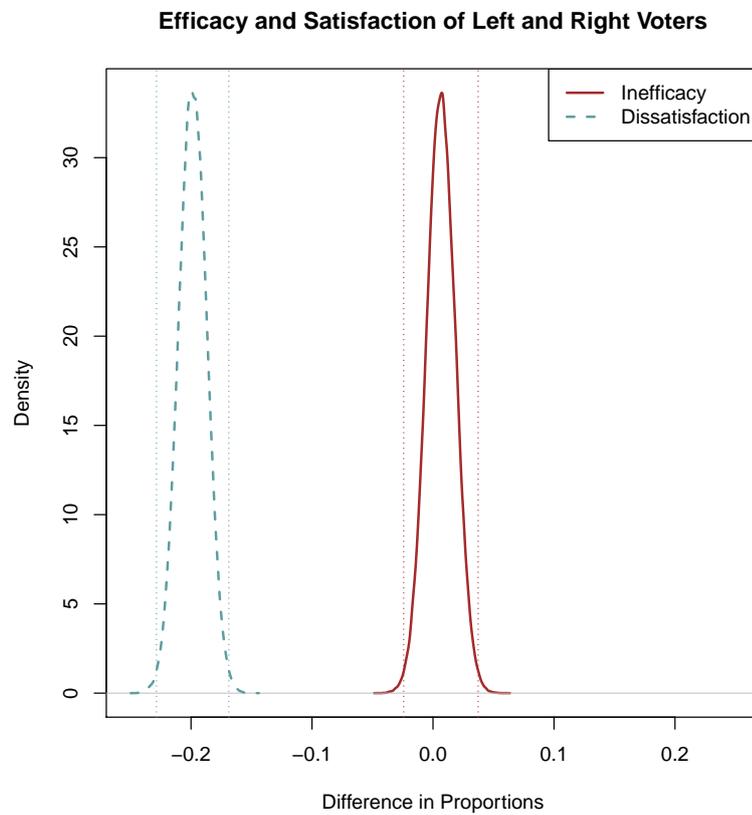
A uniform prior is used for both parameters, which is a $\text{Beta}(1, 1)$ distribution. From the conjugacy of the Beta Binomial distribution,

Table 12: Posterior Predictive Distribution Misclassification

	False Positive (1)	False Negative (2)
Efficacy	-0.203*** (0.061)	0.431*** (0.062)
Satisfaction	-0.235*** (0.056)	1.184*** (0.058)
Left-Right	-0.231*** (0.057)	0.747*** (0.059)
Income	0.030 (0.060)	0.544*** (0.061)
Class	0.023 (0.070)	-0.300*** (0.071)
Education	0.315*** (0.069)	-1.104*** (0.072)
Age	-0.372*** (0.061)	0.925*** (0.063)
Constant	-1.212*** (0.029)	1.004*** (0.031)

*p < .1; **p < .05; ***p < .01

Figure 10: Efficacy and Satisfaction of Left and Right-Leaning Voters



$p(\theta_1 | y_1, n_1) = \text{Beta}(\theta_1 | y_1+1, n_1-y_1+1)$ and $p(\theta_2 | y_2, n_2) = \text{Beta}(\theta_2 | y_2+1, n_2-y_2+1)$
 The posterior distribution is sampled from $\vartheta = \theta_1 - \theta_2$, giving the convolution:

$$p(\vartheta | y, n) = \int \text{Beta}(\theta | y_1 + 1, n_1 - y_1 + 1) \text{Beta}(\theta - \vartheta | y_2 + 1, n_2 - y_2 + 1) d\theta$$

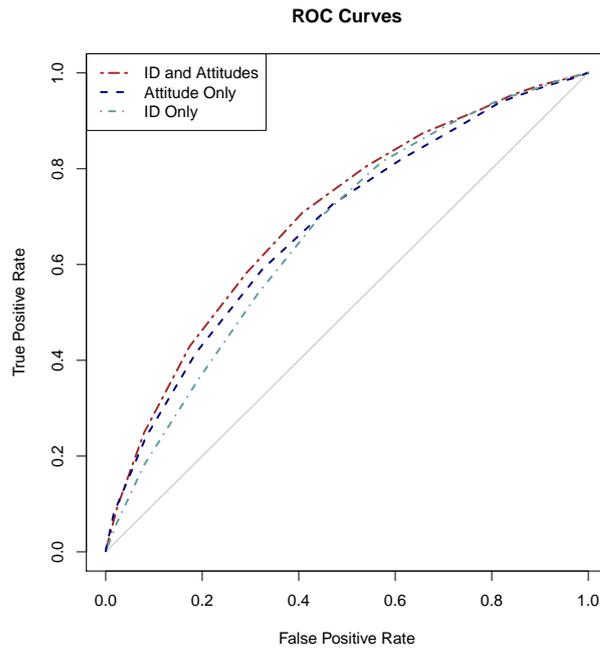
Where the Beta distribution has the following form, as y and n are both integers:

$$f(x; n, y) = \int \frac{\Gamma(\alpha + \beta)}{\Gamma(\alpha)\Gamma(\beta)} x^{\alpha-1} (1-x)^{\beta-1}, \quad \alpha = y + 1 \quad \beta = y - n + 1$$

The probability that the difference of proportions is not zero is given by $p(\vartheta > 0)$. Figure 10 is the estimated density of $p(\vartheta)$, using 100,000 samples.

Attitudinal–Ideology Compared to Ideology–Only Model

The model of mainstream voting with efficacy, satisfaction, and ideology outperforms the model with only left–right positioning. While the attitudinal model has a PCC of .7315965, the PCC for an ideology–only model is .7278557. The pre ideological model also increases the rate of false–positives at 26.37%, which over–predicts mainstream voting more so than the attitude–ideology model, with a 25.4% false positive rate. Differences in the classification ability can be seen in the ROC Curve figure. When comparing two frequentist models, the AIC for the ideology–only model is 7510.844, while the attitude–ideology model’s is lower, with an AIC of 7317.934. The pattern is the same for the Bayesian Information Criteria, with the ideology’s BIC 7551.832, as compared to the combined model’s at 7372.584.



8.4 Appendix D: Frequentist Regression Results

Table 13: Frequentist Regression Tables

	Vote Switch	Vote Mainstream
	(1)	(2)
Efficacy	-0.456*** (0.066)	0.290*** (0.064)
Satisfaction	-0.398*** (0.059)	0.717*** (0.058)
Policy	0.150** (0.065)	-
Left-Right	-	0.559*** (0.060)
Income	-0.128* (0.066)	0.316*** (0.064)
Class	0.143* (0.077)	-0.171** (0.074)
Education	0.446*** (0.074)	-0.787*** (0.073)
Age	-0.530*** (0.069)	0.591*** (0.066)
Constant	-1.292*** (0.032)	1.107*** (0.032)
N	6,845	6,845
Log Likelihood	-3,476.510	-3,650.967
AIC	6,969.021	7,317.934

*p < .1; **p < .05; ***p < .01

Vote Choice Frequentist Regression

	CDA	VVD	Undecided
	(1)	(2)	(3)
Efficacy	0.400** (0.191)	0.105 (0.232)	0.403* (0.212)
Satisfaction	-0.310*** (0.074)	-0.068 (0.089)	0.133* (0.079)
Left-Right	0.654*** (0.033)	0.864*** (0.043)	0.444*** (0.036)
Policy	-0.324*** (0.053)	-0.256*** (0.065)	-0.087 (0.059)
Income	0.071*** (0.022)	0.167*** (0.026)	0.075*** (0.024)
Class	-0.278*** (0.067)	-0.783*** (0.088)	-0.219*** (0.075)
Education	0.209*** (0.049)	0.261*** (0.060)	0.274*** (0.055)
Age	0.015*** (0.004)	-0.005 (0.005)	-0.010** (0.004)
Religion	-0.444*** (0.041)	0.186*** (0.054)	-0.171*** (0.047)
Constant	1.565*** (0.228)	1.857*** (0.283)	0.797*** (0.253)
AIC	6,253.714	6,253.714	6,253.714

	GroenLinks	SGP	ChristenUnie	LPF	SP	Other	Undecided
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Efficacy	0.143 (0.442)	0.003 (0.563)	-0.134 (0.429)	2.139*** (0.605)	0.651 (0.468)	0.567 (0.430)	-0.046 (0.302)
Satisfaction	-0.080 (0.163)	0.579*** (0.205)	0.536*** (0.160)	0.806*** (0.205)	0.236 (0.175)	0.411** (0.161)	0.089 (0.118)
Left-Right	-0.564*** (0.084)	1.064*** (0.114)	0.512*** (0.075)	0.443*** (0.103)	-0.391*** (0.087)	0.020 (0.075)	0.239*** (0.054)
Policy	-0.369*** (0.137)	-0.320** (0.151)	-0.364*** (0.125)	0.211 (0.195)	-0.093 (0.155)	0.100 (0.132)	-0.135 (0.095)
Income	-0.103** (0.045)	0.040 (0.063)	-0.090* (0.046)	-0.161** (0.063)	-0.141*** (0.051)	-0.163*** (0.047)	-0.062* (0.034)
Class	-0.181 (0.163)	0.240 (0.198)	0.097 (0.158)	-0.460* (0.235)	0.272 (0.172)	0.109 (0.155)	0.219* (0.113)
Education	0.262** (0.124)	0.073 (0.149)	0.320*** (0.116)	0.366** (0.157)	0.436*** (0.133)	-0.172 (0.117)	0.051 (0.084)
Age	0.018** (0.009)	-0.004 (0.011)	0.010 (0.008)	0.033*** (0.012)	0.048*** (0.010)	0.017* (0.009)	0.016** (0.006)
Religion	-0.079 (0.091)	-1.918*** (0.391)	-1.296*** (0.129)	0.103 (0.134)	0.300** (0.118)	-0.197** (0.092)	-0.038 (0.066)
Constant	-0.293 (0.493)	-5.689*** (0.999)	-1.597*** (0.523)	-1.432** (0.729)	-2.322*** (0.559)	-1.365*** (0.497)	0.392 (0.355)
AIC	3,611.065	3,611.065	3,611.065	3,611.065	3,611.065	3,611.065	3,611.065

*p < .1; **p < .05; ***p < .01

8.5 Appendix E: MCMC Diagnostics

Sensitivity Analysis

The prior for the regression coefficients is a multivariate normal with p parameters: $\beta \sim \mathcal{N}_p(\vec{\mu} = \vec{0}, \Lambda = 10^{-1} * \mathbf{I}_{pxp})$, where $\Lambda = \Sigma^{-1}$ is the precision matrix. The density is as follows:

$$f(\mathcal{X} | \vec{\mu}, \Lambda) = \frac{1}{(2\pi)^{np/2} |\Lambda|^{n/2}} \exp\left\{-\frac{1}{2}(\mathcal{X} - \vec{\mu})^T \Lambda (\mathcal{X} - \vec{\mu})\right\}$$

As the sample size increases, the influence of the prior on the posterior decreases; Bayesian asymptotics concurs with frequentist, following the Law of Large Numbers and Central Limit Theorem. As an example, for a normal distribution in which σ is known, $\beta \sim \mathcal{N}(\mu, \sigma)$. The prior is $\beta_0 \sim \mathcal{N}(\mu_0, \sigma_0)$, leading to an updated posterior of $\beta_p \sim \mathcal{N}(\mu_p, \sigma_p)$, where:

$$\mu_p = \frac{\sigma^2}{N\sigma_0^2 + \sigma^2} \mu_0 + \frac{N\sigma_0^2}{N\sigma_0^2 + \sigma^2} * \frac{1}{N} \sum_{i=1}^N x_i \quad (5)$$

$$\sigma_p^2 = \left(\frac{1}{\sigma_0^2} + \frac{N}{\sigma^2}\right)^{-1} \quad (6)$$

From (7), as $n \rightarrow \infty$, $\mu_p \rightarrow \mu_{MLE}$, where μ_{MLE} is the Maximum Likelihood Estimate, $\frac{1}{N} \sum_{i=1}^N x_i$. Following from (8), as $n \rightarrow \infty$, $\sigma_p^2 \rightarrow 0$. Similar to the MLE, the Bayesian estimators are asymptotically unbiased and efficient, converging to a normal distribution. Given that $N > 6,000$ for my analysis, $\mu_p \approx \mu_{MLE}$.

Diagnostics Results

Vote Switch Diagnostics

Geweke Statistics

	.2, .2	.4, .4	.1, .5	.5, .1
Intercept	-0.624	-0.792	-0.606	-2.343
Efficacy	-0.457	-1.614	-0.689	-0.358
Satisfaction	-1.144	-0.031	-0.050	-0.548
Policy	0.824	0.859	-0.565	1.308
Income	0.675	0.764	1.163	0.371
Class	-0.471	-0.748	-0.599	0.578
Education	-0.137	0.767	0.490	0.540
Age	0.485	-0.374	-0.069	0.894

Heidelberger–Welch Test

	Stationarity	CVM
Intercept	0.360	0.001
Efficacy	0.199	0.001
Satisfaction	0.790	0.001
Policy	0.310	0.001
Income	0.623	0.001
Class	0.450	0.002
Education	0.471	0.001
Age	0.949	0.001

Cross-Correlation

	Intercept	Efficacy	Satisfaction	Policy	Income	Class	Education	Age
Intercept	1.000	-0.040	0.096	-0.017	-0.037	-0.041	-0.277	-0.092
Efficacy	-0.040	1.000	-0.157	0.110	-0.031	-0.100	-0.100	0.196
Satisfaction	0.096	-0.157	1.000	-0.211	-0.037	-0.085	0.035	-0.011
Policy	-0.017	0.110	-0.211	1.000	-0.031	-0.052	0.043	-0.138
Income	-0.037	-0.031	-0.037	-0.031	1.000	-0.264	-0.164	0.096
Class	-0.041	-0.100	-0.085	-0.052	-0.264	1.000	-0.406	-0.122
Education	-0.277	-0.100	0.035	0.043	-0.164	-0.406	1.000	0.153
Age	-0.092	0.196	-0.011	-0.138	0.096	-0.122	0.153	1.000

Autocorrelation

	Intercept	Efficacy	Satisfaction	Policy	Income	Class	Education	Age
Lag 0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lag 20	0.243	0.246	0.251	0.244	0.242	0.241	0.233	0.253
Lag 100	-0.013	0.016	-0.005	0.012	0.003	0.004	0.010	-0.012
Lag 200	0.007	0.001	-0.013	0.002	0.000	-0.018	0.005	-0.019
Lag 1000	0.008	0.000	0.002	0.001	-0.011	-0.002	0.020	-0.013

Mainstream Vote Diagnostics

Geweke Statistics

	.2, .2	.4, .4	.1, .5	.5, .1
Intercept	-0.952	-0.794	-0.954	-1.718
Efficacy	1.445	-0.039	0.695	2.079
Satisfaction	-0.363	-0.031	0.030	1.476
Left-Right	0.809	0.450	-0.135	0.105
Income	0.701	0.512	0.589	-0.385
Class	-0.603	-0.169	0.561	0.951
Education	0.000	0.383	0.178	-0.412
Age	0.894	-0.283	1.006	1.253

Only variables with a statistics greater than two included

Heidelberger-Welch

	Stationarity	CVM
Intercept	0.455	0.001
Efficacy	0.248	0.001
Satisfaction	0.750	0.001
Left-Right	0.897	0.001
Income	0.879	0.001
Class	0.685	0.002
Education	0.878	0.001
Age	0.543	0.001

Cross-Correlation

	Intercept	Efficacy	Satisfaction	Left-Right	Income	Class	Education	Age
Intercept	1.000	-0.089	0.116	0.128	-0.012	-0.044	-0.292	-0.103
Efficacy	-0.089	1.000	-0.131	0.091	-0.034	-0.102	-0.081	0.226
Satisfaction	0.116	-0.131	1.000	-0.216	-0.016	-0.057	-0.032	-0.002
Left-Right	0.128	0.091	-0.216	1.000	-0.054	-0.141	0.129	0.009
Income	-0.012	-0.034	-0.016	-0.054	1.000	-0.248	-0.186	0.072
Class	-0.044	-0.102	-0.057	-0.141	-0.248	1.000	-0.412	-0.100
Education	-0.292	-0.081	-0.032	0.129	-0.186	-0.412	1.000	0.139
Age	-0.103	0.226	-0.002	0.009	0.072	-0.100	0.139	1.000

Autocorrelation

	Intercept	Efficacy	Satisfaction	Left-Right	Income	Class	Education	Age
Lag 0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lag 20	0.255	0.246	0.250	0.240	0.238	0.233	0.240	0.256
Lag 100	-0.004	-0.007	0.005	-0.000	-0.007	0.005	0.008	-0.003
Lag 200	0.003	0.004	-0.007	-0.009	-0.001	0.011	0.002	0.007
Lag 1000	-0.016	0.006	0.002	0.002	-0.017	-0.005	0.002	-0.000

Mainstream Party Choice Diagnostics

Geweke Statistic				
	g1.z	g2.z	g3.z	g4.z
(Intercept).CDA	-0.926	-1.010	-0.569	-0.705
(Intercept).PvdA	-0.601	-0.928	0.200	0.927
(Intercept).VVD	-0.799	-0.448	0.264	0.958
Efficacy.CDA	1.151	0.676	1.135	0.554
Efficacy.PvdA	1.309	1.221	0.278	1.067
Efficacy.VVD	1.375	2.024	0.624	0.927
Satisfaction.CDA	0.567	1.257	0.045	0.909
Satisfaction.PvdA	-0.431	-0.396	-0.162	0.178
Satisfaction.VVD	-0.349	0.404	0.172	0.046
Left-Right.CDA	0.358	0.155	0.144	1.244
Left-Right.PvdA	1.186	-0.212	1.032	1.199
Left-Right.VVD	0.509	-0.411	-0.652	0.364
Policy.CDA	0.487	1.643	1.062	0.113
Policy.PvdA	0.546	1.894	0.458	0.435
Policy.VVD	0.240	-0.065	1.243	0.211
Income.CDA	-0.848	-1.620	-1.339	-0.252
Income.PvdA	-0.679	0.245	-1.366	0.222
Income.VVD	-0.707	-0.948	-1.034	-0.903
Class.CDA	0.115	-0.162	-1.540	-0.345
Class.PvdA	1.024	0.779	-1.171	0.791
Class.VVD	1.281	0.818	-0.196	0.285
Education.CDA	-1.116	-0.909	0.212	-1.013
Education.PvdA	0.847	-0.041	1.575	-0.314
Education.VVD	-1.051	-1.244	0.168	-1.926
Age.CDA	0.558	0.291	1.265	0.621
Age.PvdA	1.230	0.860	0.914	0.223
Age.VVD	0.285	1.141	0.308	0.499

Heidelberger-Welch		
	Stationarity	CVM
(Intercept).CDA	0.430	0.001
(Intercept).PvdA	0.294	0.001
(Intercept).VVD	0.527	0.001
Efficacy.CDA	0.526	0.001
Efficacy.PvdA	0.474	0.001
Efficacy.VVD	0.360	0.002
Satisfaction.CDA	0.415	0.001
Satisfaction.PvdA	0.708	0.001
Satisfaction.VVD	0.985	0.002
Left-Right.CDA	0.319	0.002
Left-Right.PvdA	0.387	0.002
Left-Right.VVD	0.976	0.002
Policy.CDA	0.676	0.002
Policy.PvdA	0.620	0.002
Policy.VVD	0.434	0.002
Income.CDA	0.694	0.001
Income.PvdA	0.604	0.001
Income.VVD	0.609	0.002
Class.CDA	0.836	0.002
Class.PvdA	0.458	0.002
Class.VVD	0.857	0.002
Education.CDA	0.486	0.002
Education.PvdA	0.770	0.002
Education.VVD	0.148	0.002
Age.CDA	0.735	0.001
Age.PvdA	0.636	0.001
Age.VVD	0.782	0.002

Cross-Correlation

	Intercept	Efficacy	Satisfaction	Left-Right	Policy	Income	Class	Education	Age
Intercept	1.000	-0.084	-0.127	-0.252	-0.122	-0.062	-0.027	-0.204	-0.030
Efficacy	-0.084	1.000	-0.160	0.010	0.087	-0.044	-0.109	-0.078	0.212
Satisfaction	-0.127	-0.160	1.000	-0.052	-0.045	-0.015	-0.056	0.010	0.012
Left-Right	-0.252	0.010	-0.052	1.000	-0.163	0.030	-0.010	0.102	0.005
Policy	-0.122	0.087	-0.045	-0.163	1.000	0.015	-0.001	-0.025	-0.064
Income	-0.062	-0.044	-0.015	0.030	0.015	1.000	-0.204	-0.200	0.056
Class	-0.027	-0.109	-0.056	-0.010	-0.001	-0.204	1.000	-0.378	-0.084
Education	-0.204	-0.078	0.010	0.102	-0.025	-0.200	-0.378	1.000	0.094
Age	-0.030	0.212	0.012	0.005	-0.064	0.056	-0.084	0.094	1.000

Only CDA cross-correlations

Autocorrelation

	Intercept	Efficacy	Satisfaction	Left-Right	Policy	Income	Class	Education	Age
Lag 0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lag 20	0.015	0.009	-0.010	0.002	0.000	0.005	0.001	-0.020	0.006
Lag 100	0.013	0.005	-0.010	0.001	0.002	0.014	0.009	0.001	-0.001
Lag 200	0.002	0.006	-0.018	-0.007	-0.003	-0.005	-0.003	-0.010	0.015
Lag 1000	-0.006	0.002	-0.004	0.010	-0.007	-0.000	0.005	0.000	0.006

Only CDA autocorrelations

Outsider Party Choice Diagnostics

Geweke Statistics

	.2, .2	.4, .4	.1, .5	.5, .1
Efficacy.Other	2.125	1.704	0.558	0.864
Satisfaction.GroenLinks	-1.212	-0.262	-0.873	-2.404
Policy.D66	1.660	0.282	1.903	2.412
Policy.GroenLinks	2.305	1.709	1.336	1.569
Policy.Other	2.038	-0.631	0.568	1.140
Class.Other	-1.185	-1.187	-0.311	-2.103
Education.ChristenUnie	1.221	-0.016	2.013	1.236
Education.GroenLinks	-1.500	-1.289	-2.532	-2.479
Education.SP	-2.376	-0.850	-1.318	-1.350
Age.D66	-2.059	-0.803	-2.211	-2.742
Age.LPF	-1.706	-0.330	-3.183	-1.119

Only variables with a statistics greater than two included

Heidelberger–Welch

	Stationarity	CVM
Class.ChristenUnie	0.350	0.003
Age.Other	0.962	0.002

All variables passed stationarity test;

Only variables that failed half-width test included.

Cross-Correlation

	Intercept	Efficacy	Satisfaction	Left–Right	Policy	Income	Class	Education	Age
Intercept	1.000	-0.185	0.147	-0.371	-0.463	0.039	-0.006	-0.369	0.017
Efficacy	-0.185	1.000	-0.195	0.055	0.080	-0.016	-0.074	-0.060	0.194
Satisfaction	0.147	-0.195	1.000	-0.143	0.009	0.031	-0.061	0.005	0.025
Left–Right	-0.371	0.055	-0.143	1.000	-0.296	0.025	-0.062	0.181	0.010
Policy	-0.463	0.080	0.009	-0.296	1.000	-0.040	-0.043	0.098	-0.095
Income	0.039	-0.016	0.031	0.025	-0.040	1.000	-0.214	-0.197	0.073
Class	-0.006	-0.074	-0.061	-0.062	-0.043	-0.214	1.000	-0.367	-0.092
Education	-0.369	-0.060	0.005	0.181	0.098	-0.197	-0.367	1.000	0.150
Age	0.017	0.194	0.025	0.010	-0.095	0.073	-0.092	0.150	1.000

Only Christen Unie cross-correlations

Autocorrelation

	Intercept	Efficacy	Satisfaction	Left–Right	Policy	Income	Class	Education	Age
Lag 0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lag 20	0.020	0.022	0.016	0.012	0.018	0.024	0.033	0.028	0.030
Lag 100	-0.010	-0.008	0.016	-0.006	0.001	-0.011	-0.003	-0.010	0.006
Lag 200	0.006	0.013	-0.000	0.000	-0.000	0.001	-0.003	0.009	0.003
Lag 1000	-0.000	0.009	-0.007	0.008	0.018	0.006	-0.012	-0.007	-0.009

Only Christen Unie autocorrelations

8.6 Appendix F: Diagnostic Test Statistics

Geweke Statistic: Uses two specified portions of the Markov Chain—one at the beginning and the other from the end—and compares the two sections of the chain’s mean to test for convergence. If the two means are similar, then the chain has converged. I ran the Geweke diagnostic four times per model, with the beginning and ending quantiles specified as follows: .2, .2; .4, .4; .1, .5; and .5, .1.

Let $\{\theta^t\}$ be a Markov Chain, with $\{\theta_1^t : t = 1, \dots, n_1\}$ and $\{\theta_2^t : t = n_a, \dots, n\}$ two portions of the chain, where $1 < n_1 < n_a < n$, and set $n_2 = n - n_a + 1$. Let $\hat{s}_1(0)$ and $\hat{s}_2(0)$ be the respective spectral densities estimated at zero frequency. Then $\bar{\theta}_1 = \frac{1}{n_1} \sum_{i=1}^{n_1} \theta^t$ and $\bar{\theta}_2 = \frac{1}{n_2} \sum_{i=n_a}^n \theta^t$.

The Geweke Statistic is the difference of means test:

$$Z_n = \frac{\bar{\theta}_1 - \bar{\theta}_2}{\sqrt{\frac{\hat{s}_1(0)}{n_1} + \frac{\hat{s}_2(0)}{n_2}}}$$

The null hypothesis—equality of distributions—is rejected with a large absolute value of the z-score, that is, a z-score greater than 1.96. (Cowles & Carlin 1996, Geweke 1991).

Heidelberger–Welch Diagnostic: A two-part test. First, it test whether the Markov Chain is from a stationary distribution, or, for a time series, $X(t)$: 1) $E[X(t)^2] < \infty$, 2) $E[X(t)] = \mu \forall t$, and 3) $\gamma(t, t+h) = \gamma(h)$. Second, it tests whether the chain has adequate iterations to estimate the posterior mean. The test uses a $(1 - \alpha)$ confidence interval about the mean, dividing the half-width by the sample mean, based on the Cramer–von Mises test statistic:

$$\omega_n^2 = \int_{-\infty}^{\infty} (F_n(x) - F(x))^2 dF(x)$$

Given $\{\theta^t\}$, set $S_0 = 0$ and $S_n = \sum_{t=1}^n \theta^t$. Construct a sequence:

$$B_n(S) = \frac{S_{[ns]} - [ns]\bar{\theta}}{\sqrt{n\hat{p}()}}$$

With $[\]$ the rounding operator and $\hat{p}()$ the spectral density estimated at zero frequency.

As $n \rightarrow \infty$, $\int_0^1 B_n(S)^2 ds = CVM(B_n)$, the standard Cramer–von Mises distribution.

The iterations, less the stationary portion of the chain—that which passed the first test—is tested with the half-width test. For a $(1 - \alpha)$ significance level, the test statistics is:

$$\frac{Z_{1-\frac{\alpha}{2}}(\sqrt{\frac{s_{[n]}}{n}})}{\hat{\theta}}$$

A variables passes the second test if the proportion between the two is less than some ϵ (Cowles & Carlin 1996, Heidelberger & Welch 1981, Heidelberger & Welch 1983).

Autocorrelation: Given a time series θ^t , the autocorrelation function (ACF) between θ^t and θ^{t+h} is given by:

$$\hat{\rho}(h) = \frac{\hat{\gamma}(h)}{\hat{\gamma}(0)}$$

Where the auto-covariance function (ACVF) is the covariance between the current iteration and an iterations h steps ahead. The ACVF is estimated by:

$$\hat{\gamma}(h) = \frac{1}{n} \sum_{t=1}^{n-|h|} (\theta^{t+h} - \bar{\theta}^t)(\theta^t - \bar{\theta}^t)$$

Effective Sample Size: Tests how well the Markov Chain mixes. Given the autocorrelation, the ESS is the effective amount of information gained from the iterations. A high ACF implies that each iteration contributes less information.

$$ESS = \frac{n}{1 + 2 \sum_{k=1}^{\infty} \rho_k(\theta)}$$

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