

# Intrinsic Motivation in Party Politics: Explaining the full range of political behavior

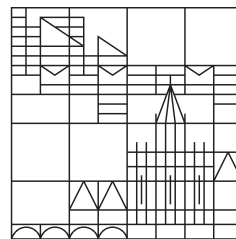
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*To my parents*

# Acknowledgments

More than four years ago, the research presented here started out with the puzzling observation that most elections produce more losers than winners. Thanks to the encouragement, support and critique of my academic supervisors Susumu Shikano, Peter Selb, Peter Gollwitzer, and Christian Martin, this puzzle evolved into the three papers presented here. I am very thankful for the time they took to review, refine, and foster this research. The project as a whole, and the individual papers, greatly benefited from repeated discussions with colleagues in Kiel and Konstanz. For this help, I would like to thank (in order of appearance) Florian Kern, Jonas Schneider, Verena Mack, Constantin Ruhe, Michael Herrmann, and Konstantin Käppner. For academic guidance during the years before my time at the Graduate School of Decision Science, I would like to thank Christian Martin, Katharina Holzinger, and Gerald Schneider.

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# Declaration of authorship

I, Niklas Harder, declare that this thesis titled, “Intrinsic Motivation in Party Politics: Explaining the full range of political behavior” and the work presented are my own, with the exception given below. I have mentioned all used sources and correctly cited them when quoting the work of others. Chapter 2 is co-authored work with Verena Mack. The declaration on the division of work is below.

## **Chapter 2: How strategic is party entry? Evaluating measurement bias in new party counts**

I, Niklas Harder, confirm that my contributions to this paper were the following:

- development of the research question
- writing the paper
- literature review and framing
- data collection and preparation of all data but the financial equalization scheme data
- model building of all models but the multilevel model
- estimation of all models
- preparation of all tables and figures

I, Verena Mack, confirm that my contributions to this paper were the following:

- introducing the idea to use financial equalization scheme data
- data collection and preparation of the financial equalization scheme data
- writing the statistical model for the multilevel model
- writing the code for the multilevel model
- justifying the use of the multilevel model
- estimating previous versions of the multilevel model

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Konstanz, May 30, 2016



Niklas Harder

Konstanz, May 30, 2016



Verena Mack

# Zusammenfassung

Die Entstehung zahlreicher neuer Parteien seit den 1960er Jahren stellt etablierte Modelle des Parteihandelns vor ein Problem: In zu vielen Wahlen verlieren zu viele Parteien. Zwar trägt dieses scheinbar irrationale Verhalten zu einer lebendigen demokratischen Kultur bei, aus der Sicht etablierter Rational Choice Modelle ist es aber schwer einzuordnen. Die vorliegende Dissertation argumentiert, dass die etablierten Modelle durch Ergebnisse der Self-Determination Theorie ergänzt werden können, um die gesamte Breite politischen Handelns zu erfassen. Dieses Argument wird in drei einzelnen Beiträgen entwickelt.

Der erste Beitrag zeigt, dass die bisherige Literatur zur strategischen Wahlteilnahme von Parteien auf verzerrten Daten basiert und viele gefundene Effekte vielmehr Wählerdenn Parteiverhalten abbilden. Durch das Übersehen von kleinen Parteien, werden von der bisherigen Literatur insbesondere die Beobachtungen ausgelassen, die gegen strategisches Parteihandeln sprechen würden. Werden nicht verzerrte Daten und angemessene statistische Modelle verwendet, kann dieser Beitrag kein strategisches Parteihandeln nachweisen.

Der zweite Beitrag verwendet ein E-Mail-Experiment, um zu prüfen, ob erfolgreiche und erfolglose Direktkandidaten unterschiedlich auf extrinsische Anreize reagieren. Das Ergebnis zeigt, dass erfolglose Kandidaten zwar seltener antworten, im Gegensatz zu erfolgreichen Kandidaten allerdings nicht zwischen Antworten mit hohen extrinsischen Anreizen und Antworten ohne Anreizen unterscheiden. Dieses Ergebnis wird mit Erkenntnissen aus der Self-Determination Theorie erklärt. Danach sinkt intrinsische Motivation insbesondere in Konkurrenzsituationen. Unter der Annahme, dass erfolgreiche Kandidaten einem stärkeren Wettbewerbsdruck ausgesetzt sind, erklärt dieser Effekt das stärker selektierende Verhalten der erfolgreichen Kandidaten.

Der dritte Beitrag prüft, ob Erkenntnisse der Self-Determination Theorie zum besseren Verständnis des organisatorischen Überlebens von Parteien beitragen können. Unter der Annahme, dass Parteigründungen auf intrinsischer Motivation beruhen, argumentiert der Beitrag, dass diese Motivation verloren geht je erfolgreicher Parteien werden. Der Verlust von intrinsischer Motivation kann dann nur durch zusätzliche Erfolge kompensiert werden. Die empirische Analyse zeigt, dass das Überleben von Parteien, die von der öffentlichen Parteienfinanzierung profitieren, stark von Wahlergebnissen abhängt. Das Überleben von Parteien, die nicht von der öffentlichen Parteienfinanzierung profitieren, hängt hingegen deutlich weniger stark von Wahlerfolgen ab.



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Die vorliegende Arbeit argumentiert, dass es neben dem *paradox of voting* auch ein *paradox of candidacy* gibt. Erkenntnisse aus der Self-Determination Theorie können helfen dieses Paradox zu lösen. Dabei stellt insbesondere die Interaktion von intrinsischer und extrinsischer Motivation eine vielversprechende Ergänzung existierender Theorien dar.

# Abstract

The proliferation of new parties since the 1960's poses a challenge to established models of party behavior: too often, too many parties lose in elections. This seemingly nonstrategic behavior contributes to lively democratic societies, but is poorly understood by existing theories on political parties. This dissertation argues that insights from Self-Determination Theory can augment existing rational choice models of political behavior, and makes three specific contributions to better understanding the full range of political behavior.

The first contribution shows that the empirical literature on the strategic entry of new parties is based on biased data, and that many findings from the strategic entry literature are likely driven by voter behavior rather than party behavior. The contribution argues that by excluding small and unsuccessful parties, the existing literature is based on data that systematically excludes observations that would contradict the strategic entry hypothesis. Once appropriate statistical models are applied to unbiased data, no support for strategic party entry is found.

The second contribution uses an email experiment to observe whether successful and unsuccessful direct candidates have different sensitivities to extrinsic incentives. The experiment finds that unsuccessful candidates reply less often, but that – in contrast to successful candidates – they do not discriminate between responses that promise extrinsic benefits and those that do not. These findings are explained with the framework of intrinsic and extrinsic motivation from Self-Determination Theory. According to this framework, intrinsic motivation is lost in more competitive environments. Thus, the discriminating behavior of successful candidates is explained by lower levels of intrinsic motivation.

The third contribution examines whether the framework of intrinsic and extrinsic motivation can help to understand party survival. Here, it is argued that party formation is a product of intrinsic motivation, but that once a party receives enough votes to win extrinsic benefit, intrinsic motivation is crowded out. Hence, such parties will only survive if extrinsic motivation can compensate for this loss. The analysis shows that the lifespan of parties that won enough votes to receive public party financing heavily depends on electoral success, while the survival of parties that have never received public financing depends much less on electoral success.

The presented research suggests that, similar to the *paradox of voting*, there is a *paradox of candidacy*. It is argued that the intrinsic–extrinsic motivation framework can help to resolve this paradox and that the crowding-out effect represents a particularly interesting addition to existing theories.

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# 1

## Introduction

“Demokratie ist lustig”  
*Joseph Beuys*

When the polls for the US House of Representatives elections opened on November 4, 2014, 17 of the 435 seats were filled before the first ballot was cast because only one candidate was running in these districts (Haas 2015). Strictly speaking, the voters in these districts did not participate in a democratic election, as competition and choice are part of most modern definitions of democracy (Downs 1957; Schmidt 2004). The problem of unopposed seats is even more serious in US state-level elections. Of the 100 seats in the Virginia House of Delegates that were up for election in 2015, only 29 were assigned through a competitive election: 27 Democrats and 44 Republicans secured a seat just by putting their name on a ballot (Virginia Department of Elections 2015).

Elections to the German Bundestag show a different picture. Many small parties such as the Violet Party (Die Violetten) or the Party for Social Equality (PSG)

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have been running in state and national elections for over a decade without ever winning enough votes to cross the minimum threshold for public party finance. These parties are not hollow organizations; they engage in international networks (PSG) or experiment with time-consuming deliberation techniques (Die Violetten) such as a 75% approval threshold for all party decisions (Haas 2013c; Lewandowsky 2013). Figure 2.1 shows that the phenomenon of unsuccessful parties is common in many established democracies. Spain's political system shows that new parties with uncertain levels of public support are not necessarily bound to the fate of the PSG or the Violet Party. In the 2015 general elections two new parties, Ciudadanos and Podemos, together won more than 33% of the votes and plunged the country into a political deadlock that will require re-elections (Minder 2016; Wandler 22.12.2015).

From a citizen's perspective, the uncontested US seats are certainly not desirable, as electoral pressure is traditionally seen as a voter's main means of ensuring good representation by their respective district candidate (Konisky and Ueda 2011; Mansbridge 2003). While normatively bemoaned, uncontested elections in the United States are well understood by political scientists, who attribute them to strategic candidates who avoid running in elections with very low prospects of winning (Lazarus 2008; Rogers 2015; Squire 2000). Here, the anticipation of voter behavior explains the behavior of political candidates, and similar models exist for political parties (Downs 1957; Cox 1997; Hug 2001). However, outside the United States uncontested elections are much less common. The examples from Germany and Spain show that unsuccessful and risk-taking parties are a frequent observation in established democracies. While populated and lively party systems should guarantee contested elections, the motivation of seemingly nonstrategic parties and candidates to run is much harder to explain.

This dissertation starts with the observation that, if we assume that parties behave strategically, there is a blind spot in the literature on party behavior: too often, too many parties lose in elections. Seemingly nonstrategic political behavior contributes to lively democratic societies, but is poorly understood by existing theories on political parties. Therefore, I argue that theories of party behavior need to consider the whole range of the observed behavior including nonstrategic party behavior. In this dissertation I propose to augment existing rational choice models of political parties

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with insights from Self-Determination Theory (Ryan and Deci 2002) and make three specific contributions to better understanding the full range of political behavior.

Conceptually, unsuccessful parties are similar to the well-known *paradox of voting* (Aldrich 1993; Downs 1957; Riker and Ordeshook 1968). In both cases, we observe political participation that seems irrational from the perspective of rational choice models. Downs (1957, 30) briefly mentions non-vote-seeking parties, but does not elaborate on how they could be reconciled with his theory. Since this brief discussion by Downs (1957), the paradox of unsuccessful parties has received significantly less attention in the political science literature than the *paradox of voting*. Chapter 2 argues that this gap in the literature can be explained by selection bias in most prominent datasets on new parties. As small parties are systematically excluded from this data, the phenomenon of unsuccessful political parties appears to be a minor issue in many descriptive statistics (e.g., Tavits 2006, 107).

Chapter 2 lays the groundwork for the following two Chapters by showing that the empirical literature on the strategic entry of new parties is based on biased data, and that many findings from the strategic entry literature are likely driven by *voter* behavior rather than party behavior. Chapter 2 is based on a coding effort that examined name changes and mergers of German political parties in order to generate a precise count of new parties in German national elections. Comparing the newly coded data to the data used in the literature, the Chapter finds that the party counts used in the literature significantly underestimated the number of new parties. While Germany is only one case from the cross-country literature, descriptions of previous data collection efforts suggest that the data from other countries is likewise biased. The Chapter argues that, by excluding small and unsuccessful parties, the existing literature is based on data that systematically excludes observations that would contradict the strategic entry hypothesis. The Chapter then introduces various biases into the newly coded data to evaluate the problems in the existing literature. The analysis shows that if parties are only counted if they collected a certain amount of votes, party counts reflect *voter* – not party – behavior. Once appropriate statistical models are applied to the unbiased data, the Chapter finds no support for strategic party entry.

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The vanishing support for strategic entry once small and unsuccessful parties are considered poses the question whether small parties are motivated by different incentives than successful parties. To answer this question, Chapter 3 focuses on the micro level and observes successful and unsuccessful direct candidates from three German state elections. It uses an email experiment with different extrinsic incentives to respond to an email. The Chapter then observes whether successful and unsuccessful candidates have different sensitivities to extrinsic incentives. The experiment finds that unsuccessful candidates reply less often, but that they do not discriminate between responses that promise extrinsic benefits and those that do not. Successful candidates, by contrast, respond more frequently, but significantly more to emails that promise extrinsic rewards. Similar experiments have been conducted to test for non-strategic or non-extrinsic behavior (Bol et al. 2014; Broockman 2013). These studies, however, provided no guidance on conceptualizing non-extrinsic motivation. Chapter 3 uses the framework of intrinsic and extrinsic motivation from Self-Determination Theory (Ryan and Deci 2002) to provide a more theoretically grounded concept of non-extrinsic motivation. According to this framework, intrinsic motivation is lost, or *crowded out*, in more competitive environments. In contrast to previous studies, the subject pool of Chapter 3 includes successful and unsuccessful candidates who (arguably) work in more or less competitive environments. Chapter 3 finds that sensitivity to extrinsic incentives increases in more competitive environments, and attributes this finding to the crowding-out effect. The Chapter thereby contributes to a more theoretically grounded and nuanced understanding of intrinsic motivation that allows hypotheses on when and where intrinsic motivation should matter for political behavior.

Based on the finding that unsuccessful candidates are more intrinsically motivated than successful ones, Chapter 4 examines whether the framework of intrinsic and extrinsic motivation can help us understand the influence of electoral success on party survival. Similar to Chapter 3, Chapter 4 examines whether the importance of electoral success for party survival differs depending on the context in which a party acts. The paper argues that party formation is a product of intrinsic motivation, but that once a party receives enough votes to win extrinsic benefits (i.e., money or power), intrinsic motivation is crowded out, and the party will only survive if extrinsic motivation can compensate for this loss of intrinsic motivation. Hence, the

survival of parties that have never won extrinsic benefits through elections should depend much less on electoral success than the survival of parties that have won even minimal extrinsic benefits through elections. Chapter 4 uses survival analysis techniques to examine the lifespan of 87 German parties that competed in national elections between 1953 and 2009. The analysis shows that the lifespan of parties that won enough votes to receive public party financing heavily depends on electoral success, while the survival of parties that have never crossed the 0.5% threshold for public financing depends much less on electoral success. Previously, the persistence of unsuccessful parties was hard to explain using rational choice models of party behavior. Chapter 4 shows that in order to better understand the full range of party behavior, the framework of intrinsic and extrinsic motivation can serve as a meaningful addition to existing models.

In what follows, Section 1.1 provides a brief overview of research on the emergence and number of political parties. The section will close with a brief discussion of why the biased party counts found in Chapter 2 were used and accepted in the previous literature. Next, I will present the framework of intrinsic and extrinsic motivation (Section 1.2), discuss how it has previously been used in political science and show how it can be used to augment existing models on party behavior (Section 1.3). A final section will consider the findings from Chapters 2 to 4 and conclude.

## 1.1 Parties and party behavior

Very few modern democracies or governments function without political parties (Katz 2006b, 34), and the thesis that “the political parties created democracy and that modern democracy is unthinkable save in terms of the parties” (Schattschneider 2004, 1) is now widely accepted and frequently cited by party researchers (White 2006, 7). Despite this general consensus, however, scholars often complain about the lack of a common theoretical approach to party research (Lago and Martínez 2011; Niedermayer 1996; Stöss and Niedermayer 1993; Tavits 2006), and political scientists widely disagree about how parties should be defined, how they behave in practice, and how they *should* behave (Katz 2006b; White 2006). The lack of a common approach

towards the study of political parties can be explained by the multifaceted functions that parties can fulfill. A common heuristic to illustrate the different spheres of activity parties face is the *party tripod* of parties in government, in the electorate, and in their own organizational behavior White (2006, 8).<sup>1</sup>

The party-in-government approach only considers party representatives who are part of a government or legislative body and their policy decisions (Key 1964, 164). More relevant for the study of new parties and the number of parties in a given political system, however, are the party-in-the-electorate and parties-as-organizations approaches. The party-in-the-electorate view refers to the notion that parties implicitly exist as larger groups in society (Key 1964, 164) to fulfill a representational need (Harmel and Robertson 1985, 502) that is present in society. From this perspective, parties are the result of social or regional cleavages in society (Lipset and Rokkan 1967a). New parties and party system change would then be attributed to more fundamental value changes that shift the representational needs of society (Inglehart 1977). The focus on parties as organizations can be seen as a gradual shift from considering the representational needs of groups in society towards focusing on the professionalized part of these representational needs. However, some authors argue that parties are clearly not “associations of [...] voters who support the party candidates,” (Schattschneider 2004, 53) or that candidates – not citizens or societal groups – are the building block of political parties (Chhibber and Kollman 2004, 61). This perspective often focuses on parties as a means of winning elections (Downs 1957) or solving collective action and aggregation problems (Aldrich 1995), or as the result of coordination problems (Cox 1997).

The party-in-the-electorate and parties-as-organizations approaches can serve as a guideline to structure the literature on party emergence and the number of parties. The number of parties is an important research field in the larger field of party systems (Neto and Cox 1997, 149). Here, parties are generally seen as emerging from the electorate and therefore as a consequence of the social structure. Opinions differ, however, about how this structure transfers into political parties (Neto and Cox 1997, 151). One approach stresses the regulatory power of electoral systems that influence

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<sup>1</sup>White (2006, 13) attributes this heuristic to an unpublished Ph.D. dissertation by Ralph Goldman (1951, University of Chicago) and mentions that it was later elaborated by Key (1964).

the number of coalitions that can reasonably run in elections (Duverger 1959; Lijphart 1994; Sartori 1976; Taagepera and Shugart 1989). The other approach sees both electoral systems and parties as consequences of the social structure, and stresses the importance of societal cleavages over institutional settings (Grumm 1958; Lipset and Rokkan 1967a; Inglehart 1977; Rose and Urwin 1970). Both approaches share the notion that parties emerge from a larger societal group. Following this assumption, parties and party formation have to be considered a research field for sociology, while political scientists should take parties and party systems as independent variables explaining political outcomes (Pasquino 2005; Sartori 1969). From this perspective, the behavior of individual parties is less relevant than the impact parties can have on society. Accordingly, party counts that emerged from the party system literature are based on the premise that parties cannot be counted at face value (Sartori 1976, 121), but have to be weighted by their relevance in the respective political system. For this reason, different measures like the *effective number of parties* have been developed in the literature (Laakso and Taagepera 1979).

In stark contrast to the more sociological view on political parties stands the rational-efficient model of political parties (White 2006, 9). Put forward by Downs (1957, 25), this approach understands parties as organizations or teams that aim to control the government by maximizing votes. According to this model, parties do not cater to societal groups from which they emerged, but only formulate policies designed only to win elections (Downs 1957, 28). This approach – and several refined versions of it – had a strong influence on many fields of party research (Grofman 2004; Strom 1990). Downs (1957, 26) conceptualized parties as strategic unitary actors. The consequence of this view is that parties are no longer sociological entities but political actors. Thus, party behavior is no longer a sociological problem but a matter of political participation. For the study of new parties and the number of parties in a political system, this means that voters are no longer an extended party base but instead a resource that conditions party behavior. This perspective requires a clearer separation between party and voter behavior, which theories of strategic party entry seek to do (Cox 1997; Hug 2001; Tavits 2006). On the empirical side, however, the distinction between party and voter behavior is not always clear. Chapter 2 shows that a certain number of votes is often necessary for a party to be considered in party

counts or studies on party entry (Hug 2001; Lago and Martínez 2011; Tavits 2006). Although not originally intended to be used as dependent variables, other studies use system-level variables such as the effective number of parties to study the number of parties (Neto and Cox 1997; Su 2015). While problems of data availability can certainly explain some of the bias found in Chapter 2, the short discussion presented here suggests that the legacy of the party-in-the-electorate approach can also explain why biased party counts were used and accepted by other authors (Tavits 2006; Zons 2013). Not only were biased party counts readily available from the party system literature, this literature's focus on relevant parties might also have helped promote the assumption that small parties can be ignored when studying party behavior.

## 1.2 Intrinsic motivation

Intrinsic motivation as defined by Self-Determination Theory is a well-established concept in psychology (Ryan and Deci 2000). While the term *intrinsic motivation* is quite frequently used by political scientists, only some refer to the concept from Self-Determination Theory (Gerber, Green, and Larimer 2008; Panagopoulos 2013), while others use it as a generic term for non-extrinsic motivation (Aldrich 1993; Broockman 2013). Other social scientists have identified the concept as a theoretical foundation for a theory of preference change (Frey 1994) and applied it to fields such as the effectiveness of monetary compensation (Gneezy and Rustichini 2000) or public policy and collective action (Ostrom 2000).

According to Rheinberg (2010) the term intrinsic motivation was first used by Woodworth (1918, 67). However, most authors refer to White (1959) as the first to examine the concept more closely. White (1959) draws on insights from animal and human psychology, such as "*Funktionslust*" (Bühler 1921), to argue that animals as well as humans show an intrinsic need to develop and display competence. More recently, Ryan and Deci (see e.g., Deci 1971; Deci 1975; Ryan and Deci 2000) elaborated the concept of intrinsic motivation as part of the larger framework of Self-Determination Theory. They define intrinsic motivation as



[...] the doing of an activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards. (Ryan and Deci 2000, 56)

By contrast, extrinsic motivation is defined as “*doing something because it leads to a separable outcome*” (Ryan and Deci 2000, 55). It is important to note that the juxtaposition of intrinsic and extrinsic motivation does not mean that extrinsic motivation is necessarily associated with resentment or the feeling of external control (Ryan and Deci 2000, 55). The Self-Determination Theory framework offers several degrees of “*internalizing*” extrinsic incentives in such a way that the resulting action is perceived as self-endorsed (Ryan and Deci 2002, 169).

Self-Determination Theory conceptualizes intrinsic motivation as the product of every individual’s need to feel competent and self-determined (Deci 1975, 63). Individuals seek challenges and situations that allow them to satisfy the need to prove their competence and autonomy (Deci 1975, 61). Hence, intrinsic motivation evolves in possibly unique combinations of individual capabilities and task requirements (Ryan and Deci 2000, 56). Thus while every human is intrinsically motivated, the actions that follow from this motivation may differ significantly. However, not every action has the same probability to be performed due to intrinsic motivation (Ryan and Deci 2000, 57). Since the need for competence and autonomy drives intrinsic motivation, tasks that are performed with greater autonomy are, on average, more “*intrinsically interesting*” (Ryan and Deci 2000, 56).

These theoretical considerations find empirical support in several experimental results. For example, it has been demonstrated that subject behavior shows more non-systematic deviation if no financial incentives are given (Morton and Williams 2010, 359). This can be interpreted as intrinsically motivated individuals showing a greater preference variation than extrinsically motivated individuals. In a way, this deduction is a reformulation of the induced value theory (see Morton and Williams 2010, 361). Elements of extrinsic motivation, most intuitively pressure but also rewards, decrease feelings of self-determination and autonomy. Accordingly, research on the interaction between extrinsic and intrinsic motivations is an important element

of Self-Determination Theory, and nearly as old as the concept of intrinsic motivation itself (Deci 1971). The assumption that external incentives decrease or “*crowd out*” intrinsic motivation also leads to the hypothesis that weak extrinsic incentives potentially decrease an individual’s overall motivation (Deci 1971, 105). A meta-study (Deci et al. 1999) finds that virtually all tangible rewards can undermine intrinsic motivation. Threats, deadlines, directives and competition pressure in particular are known to cause the crowding-out effect (for a longer discussion, see Ryan and Deci 2000, 59). However, this is not necessarily related to a decrease in an individual’s overall motivation. Strong extrinsic motivation can substitute for the loss of intrinsic motivation, and the “*internalization*” of external incentives (Ryan and Deci 2000, 60 et seq.) can reduce the undermining effect of rewards. Several examples, however, show how the introduction of extrinsic rewards decreases an individual’s overall motivation to perform a task (see e.g., Gneezy and Rustichini 2000). Social scientists often cite a survey that asked respondents in Switzerland whether they would accept a nuclear waste facility in their community. The initial acceptance of 50.8% dropped to 24.6% once compensation was offered for accepting the facility (Frey and Oberholzer-Gee 1997, 749). This study shows that even outside the lab, the crowding-out effect can have a significant impact on human behavior.

### 1.3 An addendum to strategic behavior

In their discussion of the *paradox of voting*, Riker and Ordeshook (1968, 25) complain that it is not satisfactory “to assign a sizeable part of politics to the mysterious and inexplicable world of the irrational.” The many new and unsuccessful parties counted in Chapter 2, and the many unsuccessful direct candidates observed in Chapter 3, pose a similar problem to the assumption that parties are unitary strategic actors. Riker and Ordeshook (1968, 28) tried to make the “irrational” part of voting more understandable by introducing the term  $D$  to the calculus of voting. This term includes different types of satisfaction derived from voting that are independent of a voter’s contribution to the outcome of the election. This term, however, is not based

on any insights of human psychology<sup>2</sup> and hence is rather ad hoc. This section argues that intrinsic motivation can help explain supposedly irrational political involvement and serve as an addendum to existing rational choice models of political parties.

Previous approaches have tried to resolve the *paradox of voting* by including psychological factors. Most prominently, the *expressive political behavior* approach argues that individuals vote because the eventual outcome of an election is less important than expressing themselves in relation to the candidates (Brennan and Lomasky 1993; Copeland and Laband 2002; Hamlin and Jennings 2011; Schuessler 2000). While this approach might offer a “believable resolution to the paradox” (Copeland and Laband 2002, 351), the literature that develops and reviews the concept features a striking lack of references to psychological findings or micro theories (Hamlin and Jennings 2011; Schuessler 2000). Accordingly, the concept has been criticized for being ad hoc, lacking a clear definition, and being too narrowly focused on voting (Hamlin and Jennings 2011, 645).

Another approach is the *Model of Frame Selection*, which is grounded in social psychology and offers an extension of common rational choice models (Esser 2010; Kroneberg 2005; Kroneberg et al. 2010). This approach argues that individuals will deliberately calculate costs and benefits only in certain situations; in other situations, they will act unconditionally by abiding with social norms they have previously internalized (Kroneberg et al. 2010, 4). According to this approach, individuals will try to link their decisions to previously experienced situations for which they are aware of an adequate behavior (Kroneberg 2005, 346). If an individual can find an appropriate *frame* for a given situation, she will chose an appropriate *script* or “program of action” in response (Kroneberg 2005, 348). Here, *frames* are assigned to situations by evaluating the general goal of a decision as well as the associated values and emotions (Kroneberg 2005, 346). The corresponding scripts then offer sequences of actions that an individual deems appropriate based on social conventions and routines (Kroneberg 2005, 346). While this approach is certainly better supported by findings from social psychology (see e.g., Kahneman and Tversky 1979) and applicable to different settings, it depends on the concept of *situations* in which individuals

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<sup>2</sup>Riker and Ordeshook (1968) do not cite a single source when elaborating the substantial meaning of the *D* term.

have limited time to decide on an action (i.e., answer a survey question (Kroneberg 2005, 358)). It is, however, questionable whether all human actions can be seen as the result of a situation in which an individual had to make a quick decision on how to act. Elections, for example, are usually announced well in advance and potential voters face little time pressure in deciding whether to vote. Similarly, decisions about founding or joining a party are not made under time pressure.

Intrinsic motivation can offer a more general way to discriminate between situations in which rational behavior is to be expected and those when other motives are more important. In Political Science Broockman (2013, 523) used intrinsic motivation to explain representative responsiveness. He models a representative's expected utility as a simple sum of extrinsic ( $E$ ) and intrinsic rewards ( $I$ ) whereby intrinsic rewards include all psychological benefits that are independent of extrinsic benefits:

$$EU = E + I. \tag{1.1}$$

A weakness of this approach is that the term  $I$  includes all non-strategic motives and is independent of extrinsic benefits. Psychological effects like the crowding-out effect cannot be modeled using this approach. Panagopoulos (2013, 270) explicitly builds on intrinsic motivation as part of Self-Determination Theory in order to reformulate the calculus of voting as:

$$pB + \beta_1 D_I + \beta_2 D_E + \beta_3 D_I D_E > C. \tag{1.2}$$

Here  $p$  is the probability that an individual's vote is pivotal,  $B$  is the difference in utility an individual expects from one candidate winning as opposed to the other,  $D_E$  are extrinsic benefits that are related to voting but independent of the outcome,  $D_I$  are the intrinsic benefits associated with voting, and  $C$  represents the costs of voting. Panagopoulos (2013, 270) assumes  $\beta_1$  and  $\beta_2$  to be positive constants, while  $D_E$  and  $D_I$  are generally non-negative. Panagopoulos (2013, 270) claims that this equation is flexible enough to allow for possible interactions between intrinsic and extrinsic motivation. However, if  $D_I$  is held constant and  $D_E$  increases, the function

will behave linearly. Hence, without additional assumptions about the relationship of  $D_I$  and  $D_E$ , this equation also fails to model the crowding-out effect.

Gerber, Green, and Larimer (2008, 35) present a different reformulation of the calculus of voting that includes social pressure. Here,  $D_E$  only captures the extrinsic social consequences of voting, such as shame or pride.  $D_E$  then depends on an individual's perceived likelihood that others will learn about his or her decision to vote ( $\pi_r$ ). Gerber, Green, and Larimer (2008, 35) then rewrite  $D_E$  as:

$$D_E = \frac{\pi_r(\alpha + \beta_3 D_I)}{\beta_2}. \quad (1.3)$$

The full calculus of voting is then rewritten as:

$$pB + \beta_1 D_I + \alpha \pi_r + \beta_3 \pi_r D_I > C. \quad (1.4)$$

Here, the terms  $p$ ,  $B$ ,  $\beta_1$ , and  $D_I$  have the same meaning as above, while  $\alpha$  represents a constant indexing the importance of the extrinsic consequences of voting to the individual. The value of  $\beta_3$  represents an individual's sensitivity to social pressure and is to be determined empirically. Depending on the value of  $\beta_3$ , a higher probability that an individual's decision will become known to others can decrease his or her motivation to vote (Gerber, Green, and Larimer 2008, 35). However, if  $\beta_3$  is constant in individuals, the motivation to vote still behaves linearly. Hence, the calculus of voting as presented by Gerber, Green, and Larimer (2008) models an individual's sensitivity to social pressure but cannot model the interaction between intrinsic motivation and extrinsic benefits.

Figure 1.1 presents a stylized version of the interaction between intrinsic and extrinsic motivation for a given task as it is understood here. It is important to note that the exact curvature can vary among individuals. The right-hand side of the graph represents the relationship between extrinsic payoffs and motivation as it is understood in rational choice models. Here, the motivation to perform a given task increases as the level of extrinsic payoffs from executing the task rises. The left-hand side of Figure 1.1 represents the theoretical addition to rational choice models. Here

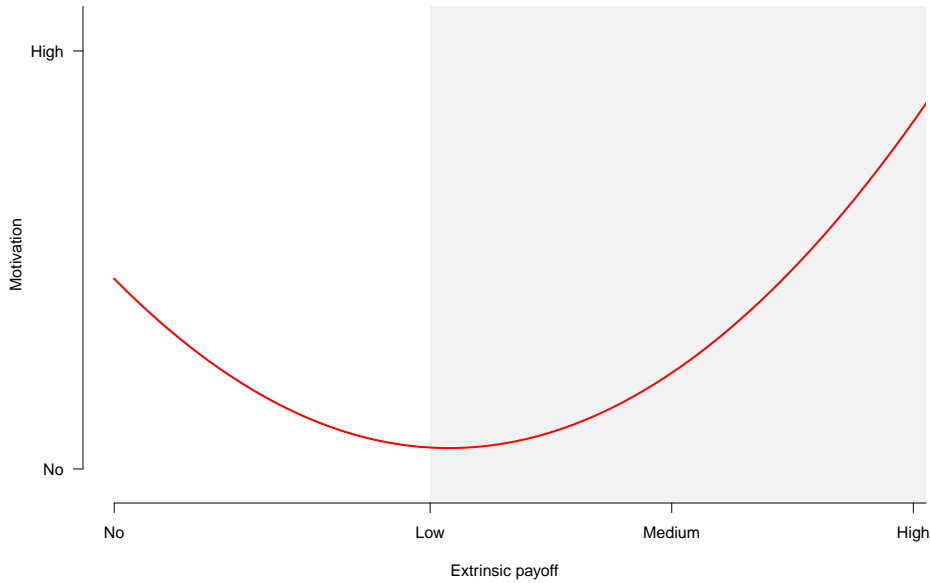


FIGURE 1.1: The crowding out effect as a stylized motivation curve. While the exact curvature depends on an individual's characteristics, the curve shows that a small increase in extrinsic benefits can have adverse effects on motivation. The right-hand side of the figure is compatible with existing rational choice models, while the left-hand side offers an addition to existing models to better understand behavior in low-payoff situations.

it is assumed that in the absence of extrinsic payoffs, individuals have a certain motivation (i.e., an intrinsic motivation) to execute a task. As intrinsic motivation is a function of individual capabilities and task requirements, it may vary among tasks and individuals. With growing payoffs, intrinsic motivation is lost – but not directly compensated – by the available extrinsic payoffs.

In order to formalize the intuition behind Figure 1.1, an individual  $i$ 's motivation for performing a given task  $k$  can be written as the sum of intrinsic motivation  $M_{Ii}$  and extrinsic motivation  $M_{Ei}$ :  $M_{ik} = M_{Ii} + M_{Ei}$ . In order to account for the interaction between intrinsic and extrinsic motivation,  $M_I$  can be rewritten as  $I_{ik} + \beta_{1i}\sqrt{E_k}$ , where  $I_{ik}$  is the intrinsic motivation of individual  $i$  to perform task  $k$  and  $\beta_{1i}\sqrt{E_k}$  captures the sensitivity to extrinsic benefits in  $m_{Ii}$ . The whole equation can then be rewritten as:

$$M_{ik} = I_{ik} + \beta_{1i}\sqrt{E_k} + \beta_{2i}E_k \quad (1.5)$$

Here,  $E_k$  represents the extrinsic benefits associated with performing task  $k$  and is assumed to be positive.  $E_k$  is weighted by  $\beta_{2i}$  which is the importance of the benefits for individual  $i$ . Together the term accounts for  $M_{Ei}$ . As there is no reason to assume that extrinsic benefits should generally decrease an individual's motivation,  $\beta_{2i}$  is also assumed to be positive. Independent of  $\beta_{1i}$ , the term  $\beta_{1i}\sqrt{E_k}$  will lose its importance as  $E_k$  increases; an increase in  $E_k$  will have an approximately linear effect on  $M_{ik}$  after a certain threshold in  $E_k$  is met.  $\beta_{1i}$  determines how individual  $i$ 's motivation will develop below this threshold. If  $\beta_{1i}$  is negative but its absolute value is greater than  $\beta_{2i}$ , a U-shaped curve similar to the curve in Figure 1.1 will be observed. If  $\beta_{1i}$  is negative but its absolute value is smaller than  $\beta_{2i}$ , the effect of extrinsic payoffs will increase with increasing payoffs. If  $\beta_{1i}$  is greater than  $\beta_{2i}$ ,  $i$  will especially value small payoffs and the effect of extrinsic payoffs will decrease with increasing payoffs.

Equation 1.5 captures the intuition behind Figure 1.1. However, for two reasons it should only be seen as a heuristic to guide further theoretical considerations. First, due to the two betas, the equation is extremely flexible. This makes it hard to derive predictions. Second, the equation is only valid for increases in  $E_k$  but not necessarily for decreases. According to the crowding out effect, intrinsic motivation can be lost with increasing extrinsic incentives. However, there is no theoretical basis for the assumption that intrinsic motivation is crowded in again if  $E_k$  decreases again. In fact, Chapter 4 is based on the assumption that intrinsic motivation cannot be crowded in again. This is not expressed in Equation 1.5. Despite these shortcomings, the equation can still guide theoretical considerations.

Chapters 3 and 4 build their theory on the crowding-out effect and accordingly assume a negative  $\beta_{1i}$  with an absolute value that is greater than  $\beta_{2i}$ . This assumption is based on the idea that even small extrinsic payoffs are enough to change the context in which parties and candidates act. Chapter 4 argues that when parties receive public funding, it can be seen as a reward, and thus diminish the sense of self-determination and autonomy. Furthermore, the question of how to distribute the financial help can put candidates in a competitive environment or place greater expectations on those who receive larger shares of the financial support. All of these factors are known to decrease intrinsic motivation (Deci et al. 1999). Accordingly, for the case of political

parties and candidates, a negative  $\beta_{1i}$  is assumed, because small extrinsic payoffs alter the context in which parties and candidates operate.

As intrinsic motivation has mainly been discussed in relation to the *paradox of voting*, it begs the question whether Equation 1.5 can add anything to the existing approaches to solve the paradox. Here, the established  $pB$  term would be part of  $E_k$ , as would all other extrinsic benefits related to voting – but not to the *outcome* of voting. The premise behind the *paradox of voting* is that the term  $E_k$  should be very small and usually lower than the costs of voting. If we make further assumptions about the context in which an individual votes (i.e., secret ballot, low social oversight over who has votes), a very small  $\beta_{1i}$  (positive or negative) can be assumed. This would change, for example, if the context is deliberately changed, as in the experiment by Gerber, Green, and Larimer (2008). Assuming a very small  $\beta_{1i}$ , the only part of Equation 1.5 that could then outweigh the costs of voting would be pure intrinsic motivation  $I_{ik}$ . Intrinsic motivation is derived from feelings of competence and autonomy, both of which allow us to deduce interesting hypotheses. Considering competence, citizens with high levels of political interest and knowledge should vote, while those for which elections are too hard (or too easy) of a decision should be more likely to stay at home. While this deduction is hardly new (Gallego 2010; Hillygus 2005; Smets and Ham 2013), the focus on competence would also allow us to take parties and party positions more into consideration. Here, ambiguous or very similar party positions could decrease the feeling of competence even in educated citizens. As for autonomy, it could be deduced that certain “get out to vote campaigns” that especially stress civic duties should have no (or even a negative) effect on turnout. The small treatment effect of civic duty messages found by Gerber, Green, and Larimer (2008) lends some empirical support to this idea.

The discussion above has shown how the interaction between intrinsic and extrinsic motivation as derived from Self-Determination Theory can add to existing rational choice models. The formal heuristic developed here captures the intuition behind this combination. Chapters 3 and 4 build on this theory and show that some parts of the “mysterious and inexplicable world of the irrational” (Riker and Ordeshook 1968, 25) can be better understood by considering intrinsic and extrinsic incentives.



## 1.4 Conclusion

The famous quote “Opposition ist Mist!” (“being in the opposition is crap”<sup>3</sup>) by former German politician Franz Müntefering (Welt Online 2004) captures the intuition behind many models of political parties (Cox 1997; Downs 1957; Hug 2001; Strom 1990). This dissertation addresses the challenge that the substantial number of opposition parties and candidates poses to these models. It shows that the number of parties that have not gained seats in parliament or governments indeed poses a challenge to existing party models (Chapter 2), provides new data that accounts for previously omitted or understudied parties and party behavior (Chapters 2 and 4), and offers a new theoretical approach to party behavior that draws on existing party models as well as insights from research in psychology (Chapter 3 and 4). The study finds that established models on strategic party entry are not supported once all political parties in a system are considered (Chapter 2), that the utility function of political candidates differs with different levels of success (Chapter 3), and that electoral success is only important for party survival if the party previously won enough votes to realize extrinsic benefits through electoral participation.

Chapters 2 to 4 expand the empirical basis in the corresponding literature. The notorious “others” category in the presentation of election results has prohibited complete party counts in many previous studies (Hug 2001; Lago and Martínez 2011; Tavits 2006; Zons 2013). Chapter 2 presents complete counts of parties and new parties for all German general elections between 1953 and 2013 that were coded with the help of election results (Der Bundeswahlleiter 2015a) and party handbooks (Decker and Neu 2013; Stöss 1983f; Stöss 1984d). Here, Chapter 2 sacrifices the cross-country approach of previous studies (Hug 2001; Tavits 2006; Zons 2013) in order to increase the data quality from a single country. Chapter 3 presents an email experiment with direct candidates in three German state elections. Similar experiments have targeted elected officials (Bol et al. 2014; Broockman 2013). In order to observe the full range of political behavior, Chapter 3 extends the subject pool to successful and unsuccessful candidates. Chapter 4 addresses the fact that in the research of party emergence, *negative* decisions (i.e., decisions not to form a party or to dissolve a party)

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<sup>3</sup>Author’s translation

are often overlooked. In order to better understand the parties' motivations, Chapter 4 codes the emergence and dissolution of all German parties that competed in general elections between 1953 and 2009. With this data, Chapter 4 can then study the effect of electoral success on party survival.

The results that Chapters 2 to 4 infer from the newly coded data challenge some common wisdom on party and candidate behavior. This has implications for the empirical basis of future research. First, Chapter 2 in particular shows that the operationalization of theoretical concepts requires more attention. If party behavior is to be studied, more effort should be put into making sure that a dependent variable measures only party behavior. While concepts like the effective number of parties are certainly of high descriptive and explanatory value, they combine party behavior, voter decisions and institutional mechanisms. Hence, if a change in such a variable is observed, it remains unclear which factor caused the change. Second, in order to study party behavior, it is important to get past the "others" category and to code all running parties and candidates. Since even the most recent release of datasets from the Constituency-Level Election Archive (Kollman et al. 2016) or the party data from the Parliaments and Governments Database (Döring and Manow 2016) do not contain comprehensive party counts, the dissertation stresses the need for further data collection efforts that cover the whole range of political behavior. Third, in order to effectively observe the crowding out of intrinsic motivation, more observations of the same unit over time are needed. Data on candidate behavior over time would be particularly helpful in testing the crowding-out hypothesis.

From a theoretical perspective, Chapter 2 suggests that, similar to the *paradox of voting* in the turnout literature, there is a *paradox of candidacy* in the literature on candidate and party behavior. Chapters 3 and 4 address this problem by introducing and testing the framework of intrinsic and extrinsic motivation. Section 1.3 argues that, compared to *expressive political behavior* (Hamlin and Jennings 2011), this framework is grounded in psychological research. Further, Section 1.3 argues that the intrinsic–extrinsic motivation framework better captures the non-spontaneous nature of decisions to formally get involved in politics than the *Model of Frame Selection* (Kroneberg 2005). The crowding-out effect represents a particularly interesting

addition to existing theories. If intrinsic motivation is crowded out, the relationship between extrinsic benefits and overall motivation does not have to be linear, but small amounts of extrinsic benefits can decrease the overall motivation. This effect, and the potential danger of *insufficient* extrinsic benefits, can guide future research on parties and candidates.

Since the 3% threshold was abandoned in 2014 (Demuth 2014), elections to the European Parliament are now arguably the easiest route to political representation for German parties. This represents an interesting case with which to test the theory that limited electoral success can actually decrease the motivation of parties and party members. While there is evidence that representation in national parliaments strengthens new parties (Dinas et al. 2015), it is questionable whether representation in the less salient European Parliament (EP)<sup>4</sup> has the same effect. In the most recent EP elections, several very small parties like the Human Environment Animal Protection Party (Tierschutzpartei) and the Family Party of Germany won a seat. As these parties were previously not able to win representation in major legislative bodies, their further development offers interesting test cases for the crowding-out theory. Furthermore, different motivations in party members should be considered. Not only should the differences in compensation between party officials and simple party members lead to different motivations, but the effect of measures to increase transparency and oversight over party officials could also have adverse effects on their overall motivation. For such research, the framework of intrinsic and extrinsic motivation offers a theory that not only includes politicians like Franz Müntefering but also leaves room for those such as Henning Bublitz from the German Green Party, according to whom politics is the wrong place for people who only focus on the chance of success (Schwarze 2013).

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<sup>4</sup>The significantly lower turnout for EP elections (2014: 48.1%) compared to elections to the German federal parliament (2013: 71.5%) can be seen as an indicator of the lower salience of the EP among voters (Der Bundeswahlleiter 2015a; Der Bundeswahlleiter 2015b).

# 2

## How strategic is party entry?

### *Evaluating measurement bias in new party counts*

Niklas Harder & Verena Mack

#### **Abstract**

The popularity of strategic entry approaches in party research is puzzling, given the abundance of unsuccessful parties and candidates. We survey the literature and find that the party counts used are censored by vote counts. This measurement bias on the dependent variable systematically excludes observations that would refute the strategic entry hypothesis. Using newly coded, unbiased data from German general elections between 1957 and 2013, we introduce artificial cutoffs to evaluate the impact of biased party counts. We show that censored party counts are likely to measure voter decisions instead of party decisions. We find no support for strategic entry theory once uncensored party counts are introduced and the multilevel structure in the data is explicitly modeled.

## 2.1 Introduction

According to strategic entry theory (Cox 1997), new parties will only run in elections if the probability of receiving considerable electoral support and the potential benefits of holding office outweigh the costs of entering the electoral fray. However, an analysis of the electoral results of 20 OECD countries calls this theory into question. Figure 2.1 shows that in each of the 20 countries, some parties that ran in elections did not gain representation. Furthermore, detailed data from German federal elections shows that, contrary to common predictions (Cox 1997, 5), the number of parties in Germany has increased over time (Figure 2.5a). Also contrary to what strategic entry arguments would predict, most of these competing parties did not win seats in parliament or significant numbers of votes (Figure 2.3). According to the strategic entry approach, such parties would either have to be severely misinformed about their chances of winning or would act irrational<sup>1</sup>.

Despite the puzzling descriptive evidence, there is an extensive literature on new party formation and party system change that supports the strategic entry hypothesis (Cox 1997; Hug 2001; Lago and Martínez 2011; Neto and Cox 1997; Su 2015; Tavits 2006; Zons 2013). However, all large-N studies we are aware of use dependent variables that are censored by votes. This is obvious for studies that use some variation of Laakso and Taageperas' (1979) effective number of parties (Neto and Cox 1997; Su 2015). Other studies that claim to use the raw count of new parties (Hug 2001; Tavits 2006; Zons 2013) fall prey to problems of data availability and exclude parties that do not meet a certain electoral threshold (Hug 2001, 172). If small parties are systematically excluded from party counts, this introduces selection bias on the dependent variable and is likely to bias findings towards the strategic entry hypothesis.

We use newly coded, uncensored data from German general elections between 1957 and 2013<sup>2</sup> to evaluate the bias introduced by censored party counts. By introducing artificial cutoffs to the unbiased data, we show that the use of censored dependent variables essentially changes the research focus from party behavior to voter behavior.

<sup>1</sup>We would like to thank Susumu Shikano, Michael Herrmann, Ulrich Sieberer, Michael Stoffel, Konstantin Käppner, Simon Munzert, and the members of the Chair of Political Methodology at the University of Konstanz for their feedback and comments.

<sup>2</sup>Data from 1953 to 2013 is available, but due to lagged variables the 1953 election drops out.

We further argue that it is more accurate to use the raw count of running parties than the count of new parties to study strategic party behavior.

Using pooled models we find ample evidence that party counts censored by vote shares are more likely to measure voter behavior than party behavior. Multilevel models show that once the data structure is explicitly modeled, only population measures are significantly correlated with the number of new parties and the total number of parties. We conclude that the use of censored dependent variables biased the results of previous studies on new party entry and that the results from the previous literature are most likely driven by voter behavior and cross-sectional differences. Our results stress the urgent need for more thorough data collection and better measurement in the study of political parties. More generally, our results question the use of cross country studies if they can only be realized at the expense of data quality.

Our unit of analysis is German states (*Bundesländer*) in election years. In Germany, parties need to register at the national level, but party lists are compiled separately for each state. Registering to run for election in a specific state requires proof that the party has a certain level of support in that state. Hence, choosing which states to run in is a critical decision for new parties. The focus on federal states in a single country allows us to observe variation between units and over time, and to reduce the problem of dominant inter-variation (Lago and Martínez 2011, 4).

The remainder of the paper is structured as follows. Section 2.2 briefly discusses the strategic entry literature and presents descriptive evidence from Germany to illustrate our arguments. Section 2.3 then presents an empirical analysis that uses the newly coded data to test different hypotheses derived from strategic entry theory. We also simulated measurement problems in order to test how problematic the use of censored data is. In order to stay close to the original literature, Section 2.3.2 estimates pooled regression models. Section 2.3.3 improves on this approach by explicitly modeling the multilevel structure in the data (Steenbergen and Jones 2002). Section 2.4 concludes.

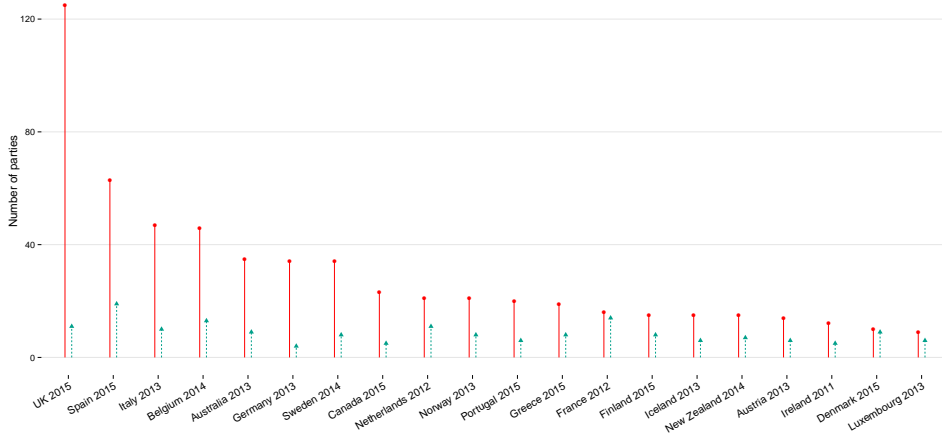


FIGURE 2.1: Number of running parties (solid lines, dots) and number of parties that won a seat in the legislative body (dotted lines, triangles) in the most recent general election in 20 OECD countries (2011-2016). Independent candidates were not counted as parties. Numbers for Finland, France and the UK contain an “others” category of unknown size. Own calculation based on official election results. Detailed sources can be found in Appendix 2.A.

## 2.2 How strategic is entry?

Party systems in democratic countries are generally seen as stable (Lipset and Rokkan 1967b; Mair 1998) or gradually changing (Gallagher et al. 2011, Chapter 9).<sup>3</sup> However, this perception should not obscure the fact that the number of parties in a given political system can be very dynamic (Lago and Martínez 2011; Marinova 2014). Figure 2.5a shows that at least one new party was formed for every German general election since 1953, and that there has been an overall increase in the number of parties since the 1980s. A situation in which there are stable party systems but many new parties suggests that voting behavior and the number of policy dimensions show less variance. If this is the case, the observed new parties are unlikely to attract relevant electoral support and are thus hard to explain from the strategic entry perspective.

Strategic entry theory posits that new parties will only put forward a candidate in an election if the probability of receiving significant electoral support and the potential benefits of holding office outweigh the costs of running (Cox 1997). Hypotheses derived from strategic entry theory have found support in several recent empirical studies (Lago and Martínez 2011; Su 2015; Tavits 2006; Zons 2013). The theory is based on the rational-choice model of parties as introduced by Downs (1957). This model,

<sup>3</sup>Note that in the fourth edition of their book, Gallagher et al. (p. 287) still discuss the surprising persistence of European party systems.

and its more detailed specifications (Strom 1990), is arguably the most prominent approach in current party research (White 2006, 10). Strategic entry theory stands in contrast to the older argument that the formation of new parties and the probability of new party success are independent (Harmel and Robertson 1985, 502). To the best of our knowledge, a possible disconnect between new party formation and new party success is not discussed in the recent large-N literature on new parties (for a similar assessment see Lago and Martínez 2011, 3). It is, however, mentioned in the literatures on party survival (Bolleyer and Bytzek 2013, 775) and party system change (Marinova 2014).

Given the outlined discrepancies in empirical observations and theoretical predictions, it is quite surprising that strategic entry approaches have not faced more criticism. The empirical literature based on strategic entry explanations has, however, been criticized on methodological grounds. Selb and Pituctin (2010) argue that in many studies on new political parties, theory and analysis are conducted on different levels (a point that is also raised by Cox 1997, 12): some variables specified at the constituency level are later transferred to the national level. Yet this approach overlooks regulating mechanisms at the national level and biases the results (Selb and Pituctin 2010, 149). Ignacio Lago and Ferran Martínez (2011) point out another potential problem in the literature. They argue that because many models in the literature focus on institutional variables that seldom change over time, the existing literature can explain differences between countries but not changes over time in the party system of a given country. These critiques, however, do not challenge the foundations of the strategic entry theory. Instead, some authors have disparaged small and losing parties as irrational and lunatic (Jesse 2011, 194; Smith 1991, 23). This approach should be met with caution, as it criticizes observations in order to defend assumptions. Furthermore, describing small losing parties as irrational offers no explanation of the evident temporal and cross-sectional variance.

We argue that most of the evidence used to support strategic entry explanations suffers from conceptual problems and biased measurement. The lack of a single coherent theory on new party emergence is a common complaint in the literature on new parties (Lago and Martínez 2011; Tavits 2006). While certainly true, the



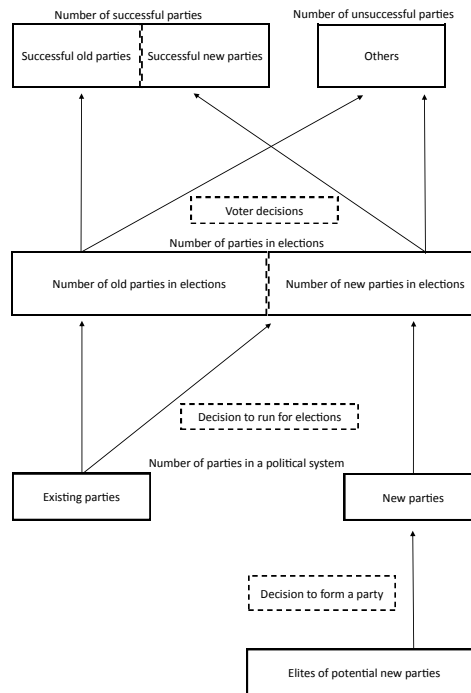


FIGURE 2.2: Different party counts in political systems and the preceding decisions.

lack of common terminology and measurement is even more striking. Interpretations of the term “new parties” mostly differ depending on where in the process of party emergence such parties are observed. Figure 2.2 illustrates different possible stages and the decisions that lead to the observed count. At the very bottom is the decision of potential new parties to form a new party. Hug (2000) notes that such decisions are notoriously hard to study, as parties that are not formed are hard or impossible to observe. The decision to form a party creates a new party that, together with existing parties, comprises the total number of parties in a given political system. Strategic entry theory (Cox 1997) models old and new parties’ decisions about whether to run in a given election; such decisions determine the number of parties running in an election. This count includes both newly formed parties and old parties that have not previously decided to run (see Figure 2.2). To test strategic entry theory, one would ideally want to observe the total number and type of parties in a political system and the number and type of parties in a given election. Once the number of parties running in a given election is set, voters decide whether a party will be successful or end up in the “others” category. In the large-N literature on new parties,

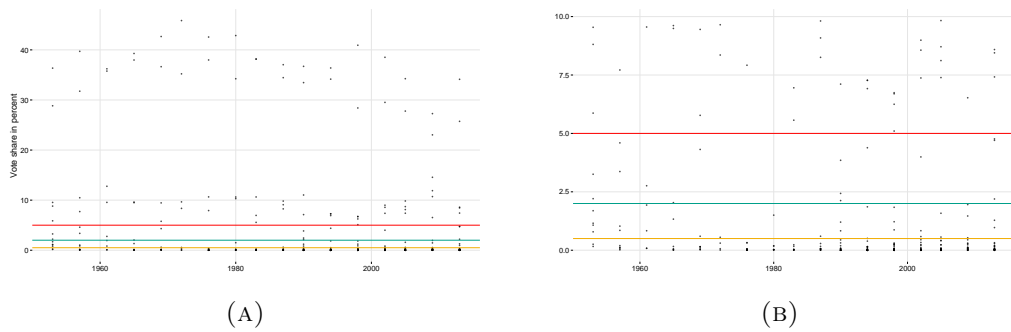


FIGURE 2.3: Scatterplots of party vote shares in German federal elections (1953-2013). The red line represents the 5% level (threshold for representation), the green line the 2% level (threshold often used in the literature), and the yellow line the 0.5% mark (threshold for receiving public party financing). The right panel shows a “zoomed in” version of the left panel.

we identify three different definitions of “new parties.” In his influential work on new party emergence, Hug (2001, 172) defines new parties as those that take part in general parliamentary elections for the first time. According to this definition, new parties are only counted if they decide to take part in a general election. Another approach is to define new parties as those that are newly organized (Zons 2013). Other authors consider new parties to be those that receive a considerable number of votes for the first time (Lago and Martínez 2011).

By counting only successful new parties (see, e.g., Lago and Martínez 2011) or studying the effective number of parties (see, e.g., Chhibber, Jensenius, et al. 2014; Neto and Cox 1997), the number of new parties is defined by voter decisions. This approach is certainly appropriate for understanding dynamics in public opinion and party system fragmentation. However, such approaches systematically exclude unsuccessful parties from their sample and therefore cannot be used to test theories on party behavior in general. Figure 2.3 illustrates the exclusion of unsuccessful parties in Germany, and shows that even a cutoff at the 0.5% mark excludes a considerable number of competing parties.

If party emergence (see, e.g., Zons 2013) is studied, it remains unclear whether newly formed parties also take part in elections. Figure 2.4a shows that party emergence is not necessarily related to subsequent participation in general elections in Germany. Hence, party formation is an interesting topic in itself, but is not an appropriate measure of strategic party behavior (as formulated by Cox (1997)).

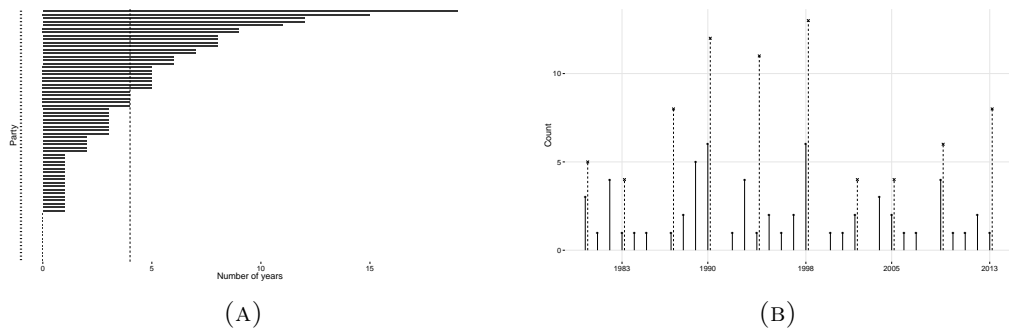


FIGURE 2.4: German party formation and participation in elections. Figure A shows the time span between party formation and initial participation in general elections for German parties that first competed in federal elections between 1980 and 2013. The dashed line is at the four-year mark, which is the longest possible time span between two elections. Figure B shows the number of parties formed each year between 1980 and 2013 (black dots) and the number of new parties running in general elections during the same period (Xs). Data was taken from reports published by the office of the German election supervisor (Der Bundeswahlleiter 2014). Parties are coded as formed when they officially registered as a party. The formation date of three parties (FBU, Demokraten and VAA) could not be determined.

Closest to the strategic entry hypothesis is the approach of defining new parties as those that take part in a general parliamentary election for the first time (Hug 2001; Tavits 2006). Studies that use this definition, however, struggle with data availability. In his seminal work on new parties, Simon Hug (2001) notes that for many elections, a full overview of the competing parties is unavailable. Despite his best efforts, he acknowledges that the data used in his work probably underestimates the incidence of new parties (Hug 2001, 172). In terms of Figure 2.2, Hug’s theory concerns the number of parties in elections. His data, however, only considers new parties that are not in the “other” category. This is especially problematic, as the unobserved parties are most likely very small and unsuccessful, which leads to a systematic bias in the dependent variable. Such bias should work in favor of the strategic entry hypothesis as it excludes all parties that paid formation costs but failed to realize any payoffs. Despite these obvious problems, Hug’s data has been the workhorse of the subsequent literature on new political parties (Stoll 2011; Tavits 2006; Zons 2013). Figure 2.5 illustrates the problems with Hug’s data for the case of Germany and shows that he clearly underestimates the true number of new parties. For a detailed comparison between Hug’s coding and our data, see Appendix 2.B.

In addition to underestimating the number of new parties, there is a second problem with Hug’s data. A comparison between Hug’s data and the data used for Figures 2.5 and 2.3 suggests that the critical vote share for being reported outside the “others”

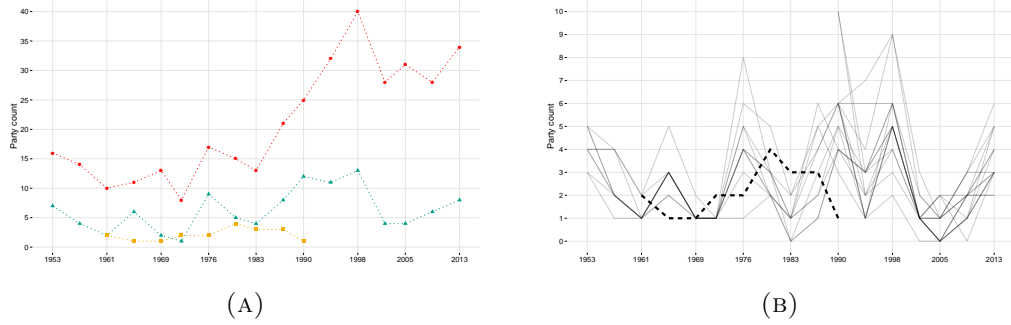


FIGURE 2.5: Number of parties in German federal elections between 1953 and 2013. Figure A shows the overall number of parties running (dots), the total number of new parties (triangles), and the number of new parties (squares) as coded by Hug (2001) (i.e., those that were reported outside the “others” category). Figure B shows the number of new parties that Hug (2001) counted at the federal level. The overall count of parties and the count of new parties was coded by the authors. The data is described in more detail in Section 2.3.1 and Appendix 2.B

category is around 1%. Figure 2.3 shows that in each election between 1953 and 2013, there were parties that could have left the “others” category if they had received enough votes. Given that the number of new parties that voters could have voted for was  $\geq 1$  in each election between 1953 and 2013, voter decisions were crucial for recognizing a new party. Put more generally, if there are always new parties that could be recognized, then variance in the observed count of new parties is to a large extent introduced by voter decisions rather than party decisions. Hence, using new party counts that are explicitly (Lago and Martínez 2011) or implicitly (Hug 2001) censored by vote shares gradually shifts the research focus towards voter behavior.

A third question is why researchers should restrict their observations to new parties. All the studies discussed above observe party counts in elections and use state-level variables to model the emergence of new parties, which effectively models circumstances that facilitate or impede the emergence of new parties. Such a focus on new parties overlooks those that do not form, as well as existing parties that decide to stop competing in elections. Using this approach, if a new party is observed, researchers would conclude that the circumstances positively influenced the decision to form a party. However, if in the same election three existing parties decided not to run anymore, the net count of parties would be negative and the conclusion about explanatory variables the opposite. Of course, considering the total number of parties does not help to understand new parties. However, for testing the hypothesis that

deciding whether to run in an election is a strategic decision, the total count of parties is the more appropriate dependent variable.

## 2.3 Analysis

This section examines the consequences of censored party counts. Using data on all variables presented in the strategic entry literature that show temporal or spatial variance in Germany, we estimate the effect of these variables on different party counts.<sup>4</sup>

The German electoral system offers a unique opportunity to analyze party decisions in different contexts. In every electoral district a simple first-past-the-post system is used to determine one representative to the German legislature, the Bundestag. With a second vote that is aggregated at the national level, voters determine the overall seat distribution in the Bundestag. To be considered for the final seat distribution, a party needs to earn at least 5% of the second votes. While parties need to register at the federal level, competing for second votes in a state requires a certain number of documented supporters in the state, and nominating a direct candidate in an electoral district requires a certain number of documented supporters in the electoral district. Hence, parties not only need to decide *whether* to run, but also in which state(s) and electoral district(s) to run. This offers considerable variation to analyze (see Figure 2.5b).

We will analyze the data in two steps. The aim of the first step is to stay as close as possible to the models presented in the literature. Hence, we will consider a pooled model similar to those used in the literature (Tavits 2006; Zons 2013). In the second step we aim to improve on the pooled model by explicitly modeling the two political levels in a Bayesian multilevel model. Our unit of analysis is German federal states in election years. Here we measure the overall number of parties and the number of new parties. Based on the number of new parties, we also test the impact of censorship

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<sup>4</sup>All analyses and data handling were conducted using the statistical software R Version 3.2.3 and additional packages (Bates et al. 2015; Esarey 2015; Fournier et al. 2012; Fox and Weisberg 2011; Gandrud 2015a; Gelman and Su 2015; Grosjean and Ibanez 2014; Hlavac 2013; Honaker et al. 2011; Ram and Wickham 2015; Sturtz et al. 2005; R. Core Team 2013; Team 2015; Venables and Ripley 2002; Wickham 2007; Wickham 2009; Wickham 2011; Wickham 2016; Zeileis and Hothorn 2002).

by vote shares. Our dependent variables are taken from the empirical strategic entry literature (Lago and Martínez 2011; Tavits 2006). The next section describes the variables in greater detail. Table 2.1 presents descriptive statistics of all variables used.

TABLE 2.1: Descriptive statistics of dependent and independent variables

Statistic	N	Mean	St. Dev.	Min	Max
Total no. of parties	195	10.651	3.841	5	25
No. of new parties	195	2.518	1.837	0	9
No. of new parties 1% cutoff	195	0.497	0.595	0	2
No. of new parties 1.5% cutoff	195	0.415	0.589	0	2
No. of new parties 2% cutoff	195	0.369	0.709	0	2
Party finance	195	0.123	0.523	-1	1
Age of democracy	195	31.426	17.813	4	64
$\Delta$ national unemployment	195	0.070	1.062	-1.722	2.242
$\Delta$ state unemployment	195	0.025	1.251	-4.032	3.300
$\Delta$ national GDP	195	2.140	3.173	-5.600	7.500
Population (log)	195	15.125	0.932	13.396	16.710
Population density (log)	195	5.803	1.037	4.231	8.267
FES (share)	195	-0.004	0.214	-0.686	0.420
Turnout (lag)	195	82.617	6.855	60.472	92.908
Incumbent age	195	6.708	4.237	1	16
East Germany	195	0.185	0.389	0	1

### 2.3.1 Data

We test two different dependent variables that are not censored by arbitrary cutoffs. First, we use the number of new parties per election and state. Relying on different sources (Decker and Neu 2013; Der Bundeswahlleiter 2014; Stöss 1984d; Stöss 1983f; Verfassungsschutz Brandenburg 2015), we coded the number of new parties for each election. This variable represents the number of parties that nominated an individual candidate or party list for federal elections for the first time. For each election, the number of new parties is counted at the state and the federal level. Parties that changed their name between elections are not coded as new parties. A new party that was formed due to a party split is only coded as new if the creation of the new party involved considerable effort in developing new party structures. This is typically the case if a small group split from a larger party in order to form a new party (see, e.g.,

“Die Republikaner” (Kailitz 2013).<sup>5</sup> This coding choice follows the coding practice by Hug (2001) and Bolleyer and Bytzek (2013). Second, we use the overall number of parties that nominated a party list for federal elections in a given state. This variable was coded using the electoral data published by the office of the German election supervisor (Der Bundeswahlleiter 2015a). To evaluate the impact of cutoffs by vote share, we simulate cutoffs at 1%, 1.5%, and 2%.

Previous studies have argued that the availability of public financing decreases the cost of party entry (Hug 2001; Tavits 2006; Zons 2013). Depending on the threshold for receiving public funding, it can also be seen as an alternative payoff for competing in elections. Whether public party financing decreases the costs of party entry or increases the payoff of running in elections, it should increase the expected number of new parties and the overall number of parties competing for office. In Germany, official public party financing was introduced in 1967. Since then, the regulations have changed several times (Koss 2008). To account for monetary incentives directly related to running in elections, we code financial incentives provided by §18 of the German Law on Political Parties (PartG).<sup>6</sup> According to this law, parties that win more than 0.5% of the vote receive a direct cash transfer for every vote won. However, the overall amount that the German state can transfer to political parties is also restricted by the law and is nearly always exhausted (Koss 2008, 143). We use the total amount of direct cash transfers from the federal state to political parties and the electoral threshold for receiving cash transfers to code the financial incentives for participating in elections. We see financial incentives as increasing if the threshold is lowered or if the inflation-controlled overall amount of cash transfers increases. We capture this in a simple -1 (incentives decreased), 0 (no changes), and 1 (incentives increased) variable. Between 1957 and 2013 the financial incentives for political parties rose in four election years, decreased in one election year, and remained stable for all other elections.

Different measures of economic performance have been included in models on new parties (Hug 2001; Müller-Rommel 1998; Tavits 2006; Zons 2013). Either treated

<sup>5</sup>A more in-depth discussion of party splits is given by Marinova (2014).

<sup>6</sup>A great visualization of changes made to the law was tremendously helpful in the coding effort (Aisch 2012).

as mere control variables (Tavits 2006; Zons 2013) or as more theoretically loaded variables (Hug 2001; Müller-Rommel 1998), Gross domestic product (GDP) growth and unemployment have regularly been employed as measures of economic performance. In both cases it is generally expected that poor economic conditions should increase the electoral prospects of new parties, and should therefore increase the number of new parties or the number of parties running. In order to distinguish the state-level effect of economic performance from the federal-level effect, we use four different measures of economic performance.

On the federal level, GDP growth (as presented by R ath (2009, 204)) and the difference in the unemployment rate between successive elections are used as measures of the general economic situation. On the state level, we use the difference in the state unemployment rate between successive elections and data on the *L nderfinanzausgleich* (financial equalization scheme (FES) between the federal government and the states). To measure unemployment, we use data provided by the German Federal Employment Agency (Bundesagentur f ur Arbeit Statistik 2015). Since the method of calculating the unemployment quota has changed over time, to get a comparable measure we take the raw number of persons who registered as unemployed in a given German state and divide this number by the population of that state (Sensch 2008; Statistisches Bundesamt 2016). There are a few missing values in the data provided by the German Federal Employment Agency (Bundesagentur f ur Arbeit Statistik 2015). For example, for the 1965 election there are missing values in 6 out of 10 German states, but values are available for the year directly after the elections. The values in the other states show that the unemployment quota changed only slightly at that time. Using different types of multiple imputation for the missing values produced clearly unrealistic values. As the number of missings is low, we therefore use linear interpolation to account for the missing values.

A special case is the 1990 election for the newly established eastern German states. Germany was reunified in October 1990, and federal elections were held in December 1990. Unfortunately, all available unemployment time series for eastern German states start in 1991. We argue that the 1991 values can be used for the 1990 election for two reasons. First, after 1990 unemployment steeply increased in eastern



Germany. Unemployment in December 1990 was probably lower than in December 1991. However, this difference should be negligible compared to the large increases in 1992 and 1993. As the next reference point in the data is the 1994 election, the difference in unemployment between 1991 and 1994 should be similar to the difference between 1990 and 1994. Second, the steep rise in unemployment was caused by the privatization of formerly government-owned factories and companies. This process had already begun in June 1990, and several historical newspaper sources show that unemployment in eastern Germany was already a topic in the 1990 elections (e.g. *Der Spiegel* 1990).

The FES between the federal government and the states is used to measure the financial strength of individual states.<sup>7</sup> The FES refers to the compensation payments between states within the more complex *Länderfinanzausgleich* system.<sup>8</sup> The FES gives information about the financial power of states, which varies strongly across states and over time. It can be measured in absolute values as well as in shares of net givers and takers relative to the total volume of payment. The different measurements potentially capture different aspects. The absolute value captures economic performance and developments over time. It also captures an increased burden of individual states that arises from the increased number of states that joined the FES. Its drawback is that it might also reflect a time trend due to inflation. Using the share of the total volume as measurement captures the economic asymmetries between states, as it indicates the relative financial power of each state. Moreover, it avoids time trends within data caused by inflation rates.<sup>9</sup> Since not all states joined the FES at the same time, the sum of net givers and takers varies across states. The Saarland joined the FES in 1961 and all new states were included in the FES by 1995. The resulting missing values are relatively unproblematic because, due to the lagged variables (e.g., turnout), the affected elections (1957 for Saarland and 1990 for the new eastern German states) are not considered for the respective states.<sup>10</sup> We assume

<sup>7</sup>The data is published by the German Federal Ministry of Finance (Bundesministerium der Finanzen 2016)

<sup>8</sup>Katz (2006) and Kropp (2010) provide a detailed explanation of this system.

<sup>9</sup>Using the relative share is not only simpler than inflation adjustment; it is also calculated under more constant conditions. This is due to the regular adjustment of the basket of goods that is used to calculate inflation rates.

<sup>10</sup>The Saarland joined the German Federal Republic after 1953. Hence, the first federal elections including the Saarland were held in 1957.

that the change in the economic situation of eastern German states between 1994 and 1995 is only small and use linear interpolation to derive values for the 1994 election in eastern Germany.

If the policy supply offered by existing parties does not match voter demand, new parties might have a chance to gain votes from unsatisfied voters (Lago and Martínez 2011; Zons 2013). Some authors see decreasing turnout as a symptom of such *electoral market failure* (Lago and Martínez 2011). Hence, we use turnout lagged by one election to account for electoral market failure at the state level. We take this data from the official electoral data published by the office of the German election supervisor (Der Bundeswahlleiter 2015a).

Population measures such as population density or a logged population count are commonly applied in the literature. While in most cases they are used as mere control variables (Tavits 2006), some authors attach substantial interpretation to these variables and use them as a measure of new issues (Hug 2001). Here, a positive correlation is to be expected.

In addition to the variables discussed above, we assume that there is a general probability that an incumbent will not be re-elected, and that this probability increases with the number of years he or she is in office. This probability should capture the likelihood that voters will become weary of an incumbent or that political opponents will learn to attack an incumbent's weaknesses. Thus new parties can assume that their chances of receiving votes increase the longer an incumbent has been in office. We include the number of years an incumbent has been in office to control for these processes. This is not a theoretically well-grounded variable, but rather a heuristic capturing different theoretical ideas. We also include the age of democracy measured in years. Following (Tavits 2006, 107) this variable should be negatively correlated with the number of new parties as new parties are more likely to attract votes in young political systems.

To control for the German reunification, we include a dummy for eastern Germany. As the reunification in effect imported many new voters without a long-established party preference, we expect a positive correlation with the number of new parties.

The analysis presented here relies on data from a single country. The focus on federal states introduces variance on most variables of interest. Institutional variables, however, do not vary over time or among states. Variables such as the mean district magnitude (Selb and Pituctin 2010; Tavits 2006) are commonly used in the new party literature. However in Germany these variables are constant over space and time, so we cannot estimate their effect on the number of new parties.

### 2.3.2 Naive pooling

Using the newly coded data from German general elections, our goal is to evaluate whether the empirical findings from the strategic entry literature hold if the dependent variable is not censored by votes. By introducing artificial cutoffs to the dependent variable, we further illustrate the effect of censored dependent variables. Here, a party is coded as new once it for the first time receives at least 1%, 1.5%, or 2% of all votes. These thresholds are selected by estimating the vote share a German party needs to receive in order to be reported outside the “others” category. As this threshold varies by election and reporting institution, we use three different thresholds. Pooled regression models with or without clustered standard errors are commonly applied in the empirical literature on new parties (Lago and Martínez 2011; Tavits 2006; Zons 2013). In order to better compare the results, our first analysis will use similar estimation techniques. Both the number of new parties and the overall number of parties are count variables that can be modeled using a Poisson or Negative Binomial regression (King 1998, Ch. 5). For all models presented here, likelihood ratio tests show that an additional dispersion parameter introduces no added value. We thus use the simpler Poisson distribution to model changes in the count of new parties and in the overall number of parties. There are several reasons to expect dependence within federal states. Clustered standard errors are a typical approach to account for this problem (e.g. Tavits 2006). However, with only 16 federal states, the number of clusters is small and clustered standard errors would likely be downwards biased (Cameron et al. 2008; Esarey and Menger 2016). Hence, in order to account for within-state dependence, we use paired cluster bootstrapped *t*-statistics (PCBSTs) as proposed by Cameron et al. (2008) and implemented by Esarey and Menger (2016).

The arguably most prominent paper in the recent new party literature also includes a lagged dependent variable (Tavits 2006). As they can be problematic in short panels (Keele 2005), the models presented here are calculated with and without a lagged dependent variable. When comparing the effects of individual variables, potential multicollinearity has to be accounted for. As state unemployment and national unemployment are highly correlated (0.88), we use FES data to control for the economic situation of individual states. In our multilevel model we can include both unemployment measures. For the pooled models presented in Tables 2.2 and 2.3 we use variance inflation factors to test for multicollinearity and find no critical values above or close to 10 (Gujarati and Porter 2009, 340).

Tables 2.2 and 2.3 present the results from 10 different pooled Poisson regression models. For party finance we find a positive or no effect for the uncensored variables. For the censored variables, however, we find negative effects. That there is no positive effect for the censored variables is not surprising as voter decisions should not depend on party finance. The negative effect shows that censored variables may not only cause a researcher to miss an effect; they can also drastically change the interpretation of a key variable. The negative effect for the censored variables might be explained by the positive effects for the uncensored variables. If the overall number of parties increases, then it is less likely that one specific new party will attract many votes.

For the age of democracy we mostly find positive effects. Both zero effects are from the models with the highest vote share cutoffs. Again, the different research question might explain this finding. If we assume that vote distributions hardly change in established democracies, the positive effects for the uncensored variables show that parties form independently of voter decisions. Hence, the use of censored dependent variables can lead a researcher to erroneously mistake stable voter behavior for party behavior.

We find that an increase in national unemployment between elections decreases the number of new parties – particularly the number of new parties that can cross the 1% and the 1.5% threshold. Yet changes in the unemployment rate do not affect the total number of parties. We find that GDP growth increases the number of new parties and especially the number of new parties that receive votes. The total number

TABLE 2.2: Pooled Poisson regression results for different party counts with lagged dependent variables

	New parties	New parties above 1%	New parties above 1.5%	New parties above 2%	No. of parties
Party finance	0.08 (-0.19/0.34)	-1.88*** (-2.27/-1.48)	-2.35*** (-2.76/-1.94)	-19.83*** (-22.73/-16.93)	0.10*** (0.05/0.15)
Age of democracy	0.02*** (0.01/0.04)	0.01*** (0.01/0.02)	0.03*** (0.01/0.04)	0.12 (-0.40/0.64)	0.01** (0.004/0.01)
$\Delta$ national unemployment	-0.09** (-0.16/-0.02)	-0.78*** (-0.91/-0.66)	-1.19*** (-1.34/-1.04)	0.28 (-0.40/0.97)	0.01 (-0.01/0.03)
$\Delta$ national GDP	0.11*** (0.06/0.15)	0.19*** (0.18/0.20)	0.27*** (0.25/0.29)	1.04 (-1.64/3.72)	-0.01* (-0.02/0.002)
Population (log)	0.30** (0.01/0.60)	-0.02 (-0.19/0.16)	-0.04 (-0.28/0.19)	-0.03 (-0.73/0.67)	0.12** (0.03/0.20)
Population density (log)	0.10* (-0.02/0.23)	0.005 (-0.14/0.15)	-0.02 (-0.12/0.09)	-0.01 (-0.70/0.69)	0.06 (-0.02/0.14)
FES (share)	0.05 (-0.35/0.44)	0.20 (-0.14/0.54)	0.23 (-0.32/0.79)	0.48 (-0.47/1.43)	0.03 (-0.08/0.14)
Turnout (lag)	0.03** (0.003/0.05)	-0.05*** (-0.07/-0.03)	-0.04 (-0.09/0.02)	-0.19*** (-0.31/-0.06)	-0.002 (-0.01/0.01)
Incumbent age	0.07*** (0.06/0.08)	0.01 (-0.04/0.07)	-0.12*** (-0.14/-0.09)	-0.48 (-2.43/1.46)	0.04*** (0.03/0.04)
East Germany	0.93** (0.23/1.63)	0.10 (-0.57/0.77)	0.45 (-0.65/1.55)	3.14 (-20.58/26.87)	0.29** (0.05/0.52)
New parties (lag)	-0.05* (-0.10/0.004)				
New parties above 1% (lag)		-1.12*** (-1.32/-0.92)			
New parties above 1.5% (lag)			-0.74*** (-1.01/-0.46)		
New parties above 2% (lag)				-18.90*** (-21.75/-16.05)	
Number of parties (lag)					0.02*** (0.01/0.04)
Constant	-8.21*** (-12.36/-4.06)	3.12 (-1.94/8.19)	1.95 (-4.67/8.56)	10.69 (-7.88/29.26)	-0.38 (-1.72/0.96)
Observations	195	195	195	195	195
Log Likelihood	-329.28	-112.96	-112.79	-75.85	-428.22
Akaike Inf. Crit.	682.57	265.91	249.59	175.69	880.43

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01; P-values and 95% confidence intervals (in parentheses) are PCBSTs (Esarey and Menger 2016).

TABLE 2.3: Pooled Poisson regression results for different party counts

	New parties	New parties above 1%	New parties above 1.5%	New parties above 2%	No. of parties
Party finance	0.20* (0.0001/0.39)	-0.62*** (-1.00/-0.25)	-1.75*** (-1.98/-1.52)	-5.13 (-27.39/17.14)	0.05*** (0.05/0.15)
Age of democracy	0.02*** (0.01/0.03)	0.05*** (0.04/0.06)	0.05*** (0.04/0.06)	0.27 (-1.44/1.97)	0.01** (0.004/0.01)
$\Delta$ national unemployment	-0.08** (-0.15/-0.01)	-1.07*** (-1.13/-1.00)	-1.36*** (-1.44/-1.27)	-0.07 (-3.18/3.04)	-0.003 (-0.01/0.03)
$\Delta$ national GDP	0.09*** (0.06/0.12)	0.16*** (0.15/0.18)	0.26*** (0.24/0.28)	1.68 (-7.48/10.84)	-0.004* (-0.02/0.002)
Population (log)	0.26** (0.06/0.47)	-0.08 (-0.22/0.06)	-0.08 (-0.28/0.12)	-0.09 (-1.17/1.00)	0.16** (0.03/0.20)
Population density (log)	0.09* (-0.02/0.21)	-0.04 (-0.09/0.02)	-0.03 (-0.10/0.03)	-0.04 (-0.85/0.77)	0.08 (-0.02/0.14)
FES (share)	0.04 (-0.28/0.36)	-0.08 (-0.82/0.65)	0.04 (-0.80/0.88)	0.47 (-0.60/1.54)	0.03 (-0.08/0.14)
Turnout (lag)	0.02** (0.0003/0.04)	0.06*** (0.03/0.10)	0.04* (-0.01/0.10)	-0.18 (-0.55/0.19)	0.002 (-0.01/0.01)
Incumbent age	0.07*** (0.05/0.09)	0.13*** (0.10/0.17)	-0.07*** (-0.08/-0.06)	-1.12 (-7.07/4.83)	0.04*** (0.03/0.04)
East Germany	0.81** (0.20/1.42)	2.17*** (1.46/2.88)	1.81*** (1.08/2.55)	9.30 (-63.25/81.86)	0.50** (0.05/0.52)
Constant	-6.98*** (-9.76/-4.20)	-8.07*** (-12.63/-3.50)	-5.50** (-10.92/-0.08)	6.26 (-20.74/33.26)	-1.47 (-1.72/0.96)
Observations	195	195	195	195	195
Log Likelihood	-330.54	-134.73	-114.62	-86.64	-431.89
Akaike Inf. Crit.	683.08	291.47	251.24	195.28	885.77

Note:

P-values and 95% confidence intervals (in parentheses) are PCBSTs (Esarey and Menger 2016).

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

of parties, however, is expected to decrease if GDP grows. We find no effect for the FES share. Considering all economic variables, it seems that new party emergence is related to better economic conditions. This finding is surprising because it contradicts theoretical expectations and previous studies based on the strategic entry hypothesis (Tavits 2006). A possible explanation for this finding comes from the literature that emphasizes the representational character of parties (Eldersveld 1964). Here, growing wealth is linked to changes towards post-materialist values that cause new political cleavages and new parties (Inglehart and Rabier 1986).

Population and population density are positively correlated with new parties, yet this effect vanishes once thresholds are introduced. This change is interesting, as the recent literature has treated population variables as a mere controls and found no significant effects. The robust effect on the uncensored variables suggests that population might at least be a proxy for other unmeasured variables.

High turnout in the previous election is consistently correlated with more new parties. The effect on censored party counts, however, is unclear. It vanishes with an increasing threshold in models without a lagged dependent variable but turns negative in the dynamic models. Again, the difference between party and voter behavior might explain this change. While parties are more likely to be formed in regions with higher political participation, they are more likely to be voted for in regions where many voters are dissatisfied with the existing parties. This assumes that not voting is a sign of dissatisfaction with the existing parties.

The longer an incumbent is in office, the more new parties there are and the higher the party count. Here, the variable seems to capture an effect that the literature has not yet accounted for. The effect on the censored variables is unclear, as we find positive as well as negative effects. This shows that the choice of a certain cutoff can drastically change the results and interpretation.

The effects of party finance and population in particular show how censored party counts can change estimation results. The growing importance of voter behavior in censored party counts is a likely explanation for the different findings. We caution against a more detailed discussion of the presented effects. The data used for the

presented models is taken from different layers of the German political system. In this case pooled models are likely to underestimate standard errors and inflate the rate of Type I errors (Steenbergen and Jones 2002). To address this problem, the next section will present a Bayesian multilevel model that accounts for the structure in the data.

### 2.3.3 A multilevel approach

We separately model the variation in new parties and the overall number of parties that competed with a state list using multilevel Poisson regression. The multilevel framework permits the simultaneous estimation of state- and country-level effects in a statistically accurate way (see Steenbergen and Jones 2002). The multilevel approach allows us to investigate if state-level factors as well as the country-specific context of the election year influence how many parties compete in an election. We use the same variables as in Section 2.3.2 and add changes in state unemployment as a additional control. On the individual level our model is defined as follows:

$$y_i = \text{Poisson}(e^{\alpha_{j[i]} + X_i\beta}), \text{ for } i=1, \dots, N,$$

with the country contextual level of an election year defined as:

$$\alpha_j \sim N(\gamma_0 + G_j\gamma, \sigma_\alpha^2), \text{ for } j=1, \dots, J,$$

where  $i$  indicates the state in the federal election  $j$ .  $X$  is a matrix with state predictors. We include the age of democracy, the difference in the state unemployment rate between elections  $j$  and  $j - 1$ , the log population number, the log population density, the share of the financial equalization scheme, state turnout for federal election  $j - 1$ , and a dummy for East German states. With the exception of the dummy, all variables are standardized. The matrix  $G$  contains country predictors for election  $j$ . We include GDP growth, the difference in the national unemployment rate between elections  $j$  and  $j - 1$ , financial incentives for political parties, and incumbent age in years. Again, we need to standardize all variables except party finance in order to

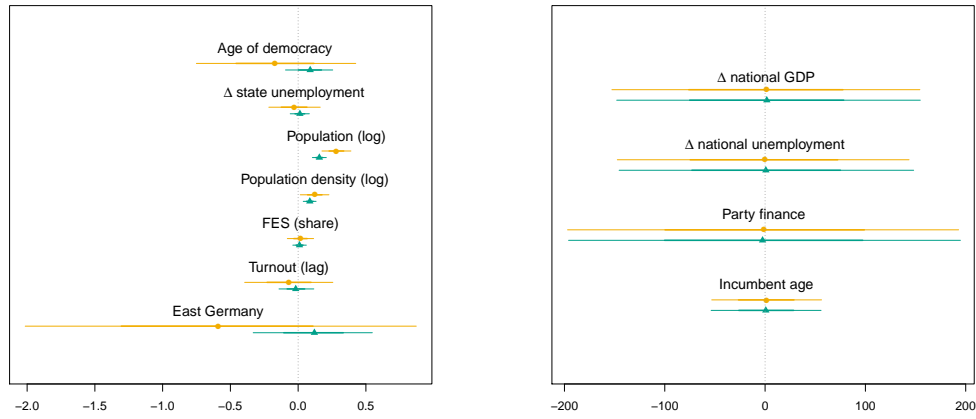


achieve model convergence.  $\alpha_j$  is the estimated intercept of federal election  $j$  and its estimated mean  $\gamma_0$ ,  $\beta$  is a vector with estimated state-level coefficients,  $\gamma$  a vector with the estimated election year coefficient, and  $\sigma_\alpha$  is the standard deviation of the unexplained election-year level errors.

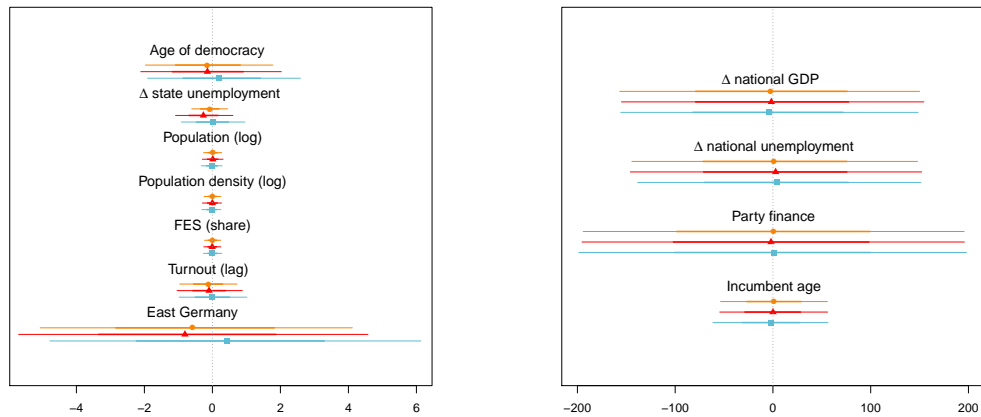
The intuition behind this model is that parties face two decisions: whether to run at all, and where to run. We assume that national factors influence parties' general decisions about whether to run for elections, thus influencing the general number that can be observed in a given state. State-level factors then influence a party's decision about which states to run in. Parties that do not have a seat in parliament prior to a given national election have to collect signatures to prove they have sufficient support in each state they want to run in. This makes the decision about where to run meaningful – and potentially strategic.

German parties that are not represented in parliament have to restart the entire registration process including the collection of signatures for each general election. For these parties the registration costs are only slightly decreased by previous participation in general elections. The aim of our multilevel model is not to make a direct comparison with previous models, but to use a more appropriate model for the given data. Hence, we did not include lagged dependent variables, as we do not consider it as theoretically justifiable for the count of new parties and questionable for the number of parties.

We estimate a multilevel Poisson regression, applying the Bayesian method with uninformative priors. We estimate five separate models for new parties and the overall number of competing parties and the deliberately censored counts of new parties (cutoffs at 1%, 1.5%, and 2%). There is an ongoing debate over whether the Bayesian method should always be used to estimate multilevel models (Stegmueller 2013) or whether the Bayesian method and maximum likelihood estimation are essentially the same if we use the correct model and prior specification (Elff and Shikano 2014). As the maximum likelihood estimations had considerable convergence difficulties, we use the Bayesian method, which further enables us to directly estimate the variation across elections and its uncertainty. For prior specification we follow Elff and Shikano



(A) Unit-/state-level effects for new party count (dots) and total number of parties (triangles). (B) Group/national-level effects for new party count (dots) and total number of parties (triangles).



(C) Unit/state-level effects for new party count censored at 1% (dots), 1.5% (triangles), and 2% (squares). (D) Group/national-level effects for new party count censored at 1% (dots), 1.5% (triangles), and 2% (squares).

FIGURE 2.6: Credibility intervals (95% and 68%) with medians from five Bayesian multilevel Poisson regressions. The upper figures (A and B) present the results for models with uncensored party counts as the dependent variable. Results for the count of new parties are represented by dots ( $N = 195, J = 16, DIC = 598.7, \text{Mean Deviance} = 578$ ). Results for the overall count of parties are represented by triangles ( $N = 195, J = 16, DIC = 881.3, \text{Mean Deviance} = 863.7$ ). The lower figures (C and D) present the results for dependent variables with artificial cutoffs at 1% (dots,  $N = 195, J = 16, DIC = 216.1, \text{Mean Deviance} = 199.6$ ), 1.5% (triangles,  $N = 195, J = 16, DIC = 181, \text{Mean Deviance} = 166$ ), and 2% (squares,  $N = 195, J = 16, DIC = 131.7, \text{Mean Deviance} = 120.1$ ). Except for party finance and East Germany, all variables are standardized. The effects of individual election years are not shown. The code used for estimation can be found in Appendix 2.C. Full results are available upon request.

(2014).<sup>11</sup> Markov chain convergence was fully achieved when setting three chains for each estimation, with 50,000 iterations including a burn-in of 10,000 iterations and thinning the rest by factor 10.

The results are presented in Figure 2.6. They show that nearly all the effects discussed so far vanish in the multilevel framework. Only logged population and population density have positive effects on the count of new parties as well as the number of new parties. The positive correlation between population measures and new parties is expected in the literature (see Hug 2001). However, population measures show very little variance over time. Hence, such variables can help explain cross-sectional differences but are no help in understanding the temporal dynamics of new party formation. The robust null findings for all other variables call into question the validity of strategic entry theory.

## 2.4 Discussion

While the analyses presented here fail to replicate the support for strategic entry as found by Tavits (2006) and Lago and Martínez (2011), this does not imply that strategic entry theory should be discarded altogether. Case selection and sampling error are only two other possible reasons for failed replications.<sup>12</sup> However, the presented evidence resonates with older studies that find no link between new party formation and the probability of new party success (Harmel and Robertson 1985). This should be seen as reason enough to reanalyze new party emergence with more appropriate data that only measures party behavior.

The only robust effects found in this paper are positive correlations between population measures and new parties as well as the overall number of parties. According to Hug (2001), population variables can be understood as proxies for the number of new political issues that need representation. Tavits (2006) criticizes this measure as ad hoc and points out that special interest groups in populous regions might be larger

<sup>11</sup>The authors suggest that the Bayesian posterior can be sensitive to prior choice. The best results were achieved with the  $IG(0.001, 0.001)$  prior for the variance parameter (Elff and Shikano 2014). We follow this approach and use the  $IG(0.001, 0.001)$  as the prior for the variance parameter.

<sup>12</sup>See Gilbert et al. (2016) and the following debate for more on the interpretation of failed replications.

---

in absolute terms but not in relative terms. While this point is certainly true, the robust effects found in this paper might suggest that a certain absolute group size is required for party formation. Such a threshold would be easier to exceed in populous states. A different interpretation can be derived from Farrer (2014), who assumes that political activists do not choose between action and inaction but between different means of pursuing their ambitions. From that perspective, new party formation is just one of several possible choices. If we further assume that the number of political activists correlates with population size, an increase in population would also increase the probability of new party formation. Future research should use these different interpretations to identify new variables that better capture the underlying logic.

The many null findings presented above deserve further consideration as well. Given the strategic entry hypothesis, we cannot identify factors that are able to explain the temporal dynamics in party formation and party competition. The likely dominance of inter-unit effects over intra-unit effects has already been pointed out by Lago and Martínez (2011). We present further evidence of this shortcoming. Two other possible reasons for the many null findings should be considered by future research. First, it is unclear how much parties discount future payoffs. Assuming low discount rates, a potentially high future payoff could motivate political activists to ignore negligible vote shares in the present (also see Adams and Somer-Topcu 2009). Second, participation in national elections might only be a strategy to increase a party's chances in local elections. Here, more data from lower-level elections is needed.

# Appendix

## 2.A Sources for Figure 2.1

TABLE 2.4: Parties in general elections; sources for Figure 2.1

State	Year	Running	Seat	Source
Australia	2013	35	9	<a href="http://results.aec.gov.au/17496/Website/HousePartyRepresentationLeading-17496.htm">http://results.aec.gov.au/17496/Website/HousePartyRepresentationLeading-17496.htm</a>
Austria	2013	14	6	<a href="http://www.bmi.gv.at/cms/BMI/wahlen/nationalrat/2013/End_Gesamt.aspx">http://www.bmi.gv.at/cms/BMI/wahlen/nationalrat/2013/End_Gesamt.aspx</a>
Belgium	2014	46	13	<a href="http://polling2014.belgium.be/en/cha/results/results_tab_CKRO0000.html">http://polling2014.belgium.be/en/cha/results/results_tab_CKRO0000.html</a>
Canada	2015	23	5	<a href="http://enr.elections.ca/National.aspx?lang=e">http://enr.elections.ca/National.aspx?lang=e</a>
Denmark	2015	10	9	<a href="http://www.dst.dk/valg/Valg1487635/valgpg/valgpgHl.htm">http://www.dst.dk/valg/Valg1487635/valgpg/valgpgHl.htm</a>
Finland	2015	15	8	<a href="http://vaalit.yle.fi/results/2015/parliamentary_election/?parties_%20taulukko">http://vaalit.yle.fi/results/2015/parliamentary_election/?parties_%20taulukko</a>
France	2012	16	14	<a href="http://www.interieur.gouv.fr/Elections/Les-resultats/Legislatives/election\L2012\%28path\29\LG2012\FE.html">http://www.interieur.gouv.fr/Elections/Les-resultats/Legislatives/election\L2012\%28path\29\LG2012\FE.html</a>
Germany	2013	34	4	<a href="https://www.bundeswahlleiter.de/de/bundestagswahlen/ETW_BUND_13/ergebnisse/bundesergebnisse/index.html">https://www.bundeswahlleiter.de/de/bundestagswahlen/ETW_BUND_13/ergebnisse/bundesergebnisse/index.html</a>
Greece	2015	19	8	<a href="https://ekloges.ypes.gr/current/v/public/index.html?lang=en">https://ekloges.ypes.gr/current/v/public/index.html?lang=en</a>
Iceland	2013	15	6	<a href="https://kosningasaga.wordpress.com/athingiskosningar/athingiskosningar-2009/althingiskosningar-2013/">https://kosningasaga.wordpress.com/athingiskosningar/athingiskosningar-2009/althingiskosningar-2013/</a>
Ireland	2011	12	5	<a href="https://www.tcd.ie/Political_Science/staff/michael_gallagher/Election2011.php">https://www.tcd.ie/Political_Science/staff/michael_gallagher/Election2011.php</a>
Italy	2013	47	10	<a href="http://elezionistorico.interno.it/index.php?tpel=Ckdtel=24/02/2013&amp;tpa=I&amp;lev=0&amp;levout=0&amp;es0=S&amp;ms=S">http://elezionistorico.interno.it/index.php?tpel=Ckdtel=24/02/2013&amp;tpa=I&amp;lev=0&amp;levout=0&amp;es0=S&amp;ms=S</a>
Luxembourg	2013	9	6	<a href="http://www.elections.public.lu/fr/elections-legislatives/2013/resultats/index.html">http://www.elections.public.lu/fr/elections-legislatives/2013/resultats/index.html</a>
Netherlands	2012	21	11	<a href="http://www.verkiezingsuitslagen.nl/Ma1918/verkiezingsuitslagen.aspx?VerkiezingsTypeId=1">http://www.verkiezingsuitslagen.nl/Ma1918/verkiezingsuitslagen.aspx?VerkiezingsTypeId=1</a>
New Zealand	2014	15	7	<a href="http://www.electionresults.govt.nz/electionresults_2014/partystatus.html">http://www.electionresults.govt.nz/electionresults_2014/partystatus.html</a>
Norway	2013	21	8	<a href="http://valgresultat.no/?type=st&amp;VC3\A5r=2013">http://valgresultat.no/?type=st&amp;VC3\A5r=2013</a>
Portugal	2015	20	6	<a href="https://dre.pt/application/file/70722536">https://dre.pt/application/file/70722536</a>
Spain	2015	63	19	<a href="http://www.boe.es/boe/dias/2016/01/29/pdfs/BOE-A-2016-867.pdf">http://www.boe.es/boe/dias/2016/01/29/pdfs/BOE-A-2016-867.pdf</a>
Sweden	2014	34	8	<a href="http://www.val.se/val/val2014/slutresultat/R/riks/index.html">http://www.val.se/val/val2014/slutresultat/R/riks/index.html</a>
UK	2015	125	11	<a href="http://www.electoralcommission.org.uk/our-work/our-research/electoral-data">http://www.electoralcommission.org.uk/our-work/our-research/electoral-data</a>

## 2.B Comparison with Hug's Data

TABLE 2.5: Comparison of data presented by Hug (2001) and by the authors. Listed are party names, first participation in a general election and additional sources used by the authors.

Party Name	Hug	Harder & Mack	Source
<b>Corresponding Observations</b>			
GVP	1953	1953	Heimann 1984a
GB BHE	1953	1953	Stöss 1984a; Stöss 1984b
DFU	1961	1961	Schönfeldt 1983
NPD	1965	1965	Jesse 2013b
DKP	1972	1972	Jesse 2013a
EAP	1976	1976	Braun 2013a
Die Grünen	1980	1980	Probst 2013
BWK	1983	1983	Der Bundeswahlleiter 2014
FAP	1987	1987	Der Bundeswahlleiter 2014
MLPD	1987	1987	Hüllen 2013
REP	1990	1990	Kailitz 2013
<b>Observed earlier</b>			
Deutsche Zentrumspartei	1969	1949	Thielking 2013c
EFP	1972	1965	Haas 2013a
FSU	1976	1965	Der Bundeswahlleiter 2014
OeDP	1987	1983	Kranenpohl 2013c
<b>Observed later</b>			
UAP	1961	1965	Der Bundeswahlleiter 2014
Deutsche Solidarität-Union für Umwelt- und Lebensschutz (VPD)	1980	1987	Miliopoulos 2013
ASG / ASD	1980	1987	Der Bundeswahlleiter 2014
Frauenpartei	1980	1987	Fischer 2013
Liberale Demokraten	1983	1994	Der Bundeswahlleiter 2014
<b>Not Observed</b>			
Friedliebende Union der Deutschen Friedensbewegung	1983	NA	NA

Information on Hug's coding was taken from his homepage at:

<http://www.unige.ch/ses/spo/static/simonhug/newparty/parties.html>

The authors collected party names from official election results (Der Bundeswahlleiter 2015a).

Coding was verified by the sources listed above.

TABLE 2.6: Additional observations by the authors up to 1990. Listed are party names, first participation in a general election and additional sources used by the authors.

Party Name	Hug	Harder & Mack	Source
DRP	NA	1953	Schmollinger 1983b
DNS	NA	1953	Stöss 1983c
SHLP	NA	1953	Schmollinger 1983a
VU	NA	1953	Schmollinger 1984
PdgD	NA	1953	Stöss 1983e
BdD	NA	1957	Stöss 1983e; Schönfeldt 1983
Mittelstand	NA	1957	Stöss 1983e
DG	NA	1957	Stöss 1983d
WGnD	NA	1961	Stöss 1983d
AUD	NA	1965	Stöss 1983a
CVP	NA	1965	Dingel 1983
ADF	NA	1969	Stöss 1983d
DV	NA	1969	Der Bundeswahlleiter 2014
AVP	NA	1976	Der Bundeswahlleiter 2014
CBV	NA	1976	Der Bundeswahlleiter 2014
5%-BLOCK	NA	1976	Stöss 1984c
GIM	NA	1976	Brandt and Steinke 1984
KPDAO	NA	1976	Baica 1984
KBW	NA	1976	Der Bundeswahlleiter 2014
RFP	NA	1976	Der Bundeswahlleiter 2014
VL	NA	1976	Der Bundeswahlleiter 2014
DFP	NA	1980	Der Bundeswahlleiter 2014
DU	NA	1980	Stöss 1983b
V	NA	1980	Der Bundeswahlleiter 2014
Bürgerpartei	NA	1980	Der Bundeswahlleiter 2014
USD	NA	1983	Der Bundeswahlleiter 2014
KPDML	NA	1983	Der Bundeswahlleiter 2014
HP	NA	1987	Der Bundeswahlleiter 2014
Mündige Bürger	NA	1987	Kranenpohl 2013b
PDS	NA	1990	Neu 2013
B90/Gr.	NA	1990	Probst 2013
DSU	NA	1990	Schulze 2013a
DDD	NA	1990	Schindler 1999
BSA	NA	1990	Haas 2013c
LIGA	NA	1990	Thielking 2013a
CM	NA	1990	Thielking 2013b
GRAUE	NA	1990	Schulze 2013b
KPD (Ost)	NA	1990	Verfassungsschutz Brandenburg 2015
SpAD	NA	1990	Wikipedia 2016c
VAA	NA	1990	Party is listed in the official election results. No other records were found.

Information on Hug's coding was taken from his homepage at:

<http://www.unige.ch/ses/spo/static/simonhug/newparty/parties.html>

The authors collected party names from official election results (Der Bundeswahlleiter 2015a).

Coding was verified by the sources listed above.



TABLE 2.7: Additional observations by the authors from 1994 to 2013. Listed are party names, first participation in a general election and additional sources used by the authors.

Party Name	Harder & Mack	Source
Natugesetz	1994	Braun 2013b
Tierschutzpartei	1994	Lucardie 2013
PBC	1994	Thielking 2013d
PASS	1994	Haas 2013b
STATT	1994	Decker and Hartleb 2013
BGD	1994	Der Bundeswahlleiter 2014
DVP	1994	Der Bundeswahlleiter 2014
FBU	1994	Wikipedia 2016a
LD	1994	Der Bundeswahlleiter 2014
Deutschland	1998	Der Bundeswahlleiter 2014
APPD	1998	Der Bundeswahlleiter 2014
APD	1994	Der Bundeswahlleiter 2014
BFB	1998	Der Bundeswahlleiter 2014
Chance 2000	1998	Der Bundeswahlleiter 2014
DPD	1998	Der Bundeswahlleiter 2014
DVU	1998	Der Bundeswahlleiter 2014
FAMILIE	1987	Der Bundeswahlleiter 2014
DIE FRAUEN	1998	Der Bundeswahlleiter 2014
Pro DM	1998	Der Bundeswahlleiter 2014
FORUM	1998	Der Bundeswahlleiter 2014
AB 2000	1998	Der Bundeswahlleiter 2014
Nichtwähler	1998	Der Bundeswahlleiter 2014
DMP	1998	Der Bundeswahlleiter 2014
FP Deutschlands	1998	Der Bundeswahlleiter 2014
Violetten	2002	Der Bundeswahlleiter 2014
AUFBRUCH	2002	Der Bundeswahlleiter 2014
PRG	2002	Der Bundeswahlleiter 2014
Schill	2002	Der Bundeswahlleiter 2014
AGFG	2005	Der Bundeswahlleiter 2014
50Plus	2005	Der Bundeswahlleiter 2014
PARTEI	2005	Der Bundeswahlleiter 2014
UNABHÄNGIGE	2005	Der Bundeswahlleiter 2014
ADM	2009	Der Bundeswahlleiter 2014
FWD	2009	Der Bundeswahlleiter 2014
PIRATEN	2009	Der Bundeswahlleiter 2014
RRP	2009	Der Bundeswahlleiter 2014
RENTNER	2009	Der Bundeswahlleiter 2014
Freie Union	2009	Wikipedia 2016b
AFD	2013	Der Bundeswahlleiter 2014
BIG	2013	Der Bundeswahlleiter 2014
pro Deutschland	2013	Der Bundeswahlleiter 2014
RECHTE	2013	Der Bundeswahlleiter 2014
FREIE WÄHLER	2013	Der Bundeswahlleiter 2014
PDV	2013	Der Bundeswahlleiter 2014
B	2013	Der Bundeswahlleiter 2014
NEIN!	2013	Der Bundeswahlleiter 2014

The authors collected party names from official election results (Der Bundeswahlleiter 2015a). Coding was verified by the sources listed above.

## 2.C Multilevel code

```
group.predictor.model <- function(){
  #poisson
  for (i in 1:N){
    y[i] ~ dpois(lambda[i])
    log(lambda[i]) <- alpha[jahr[i]] + inprod(beta[],x[i,])
  }

  for(j in 1:J){
    alpha[j] ~ dnorm(a.hat[j], prec)
    a.hat[j] <- g.0 + inprod(gamma[],group[j,])
  }

  for (b in 1:B){
    beta[b] ~ dnorm(0,0.0001)
  }

  g.0 ~ dnorm(0,0.0001)
  for (g in 1:G){
    gamma[g] ~ dnorm(0,0.0001)
  }

  #for inverse gamma
  sigma.a<- 1/prec
  prec ~ dgamma(0.001,0.001) #Disperse gamma
}
```

# 3

## Different motivations in Political Candidates:

### *Are successful and unsuccessful candidates different?*

#### **Abstract**

Most elections produce more losers than winners. So why do candidates without viable chances run for office? This paper presents a field experiment showing that unsuccessful candidates are less sensitive to extrinsic rewards than successful candidates. Based on the concept of intrinsic motivation from Self-Determination Theory, emails were sent to direct candidates from three German state elections. Every candidate received an email with a simple request. The treatment was the sender's origin. The sender either claimed to be from the candidate's electoral district or from a place clearly outside the district. The study is based on the assumption that a direct candidate has clear extrinsic incentives to answer an email from a potential voter, and significantly lower incentives to respond to a citizen from a different constituency. The paper finds that successful candidates are more sensitive to the sender's origin than unsuccessful candidates. It argues that, due to changing contexts, candidates crowd out intrinsic motivation with increasing chances to be successful, and that intrinsic motivation interacts with the extrinsic benefits a candidate faces.

## 3.1 Introduction

Elections naturally produce winning and losing candidates. They often produce more losing candidates than winning candidates, and often the likely losers and winners are relatively easy to predict. However, the existence of losing candidates allows choice and competition, both defining factors of democratic elections (Downs 1957, 24). Unsuccessful political participation is therefore a necessary element of a functioning democratic system. Hence, understanding why potentially unsuccessful candidates compete in elections helps us understand under what circumstances lively democratic cultures form. A look at recent elections in 20 OECD countries shows that unsuccessful political participation is a common phenomenon in modern democracies. In 15 out of 20 cases, the number of losing parties (parties that did not win a seat in the legislative body) was at least as high as the number of parties that gained representation (see Figure 3.1). If votes are the main motivation of parties – or an important means of achieving their goals – then too often, too many political actors receive insufficient support at the polls.<sup>1</sup>

Rational choice approaches are common and valuable in the study of successful parties and candidates, yet they can tell us little about unsuccessful political participation – especially whether unsuccessful candidates merely overestimate their electoral chances or follow different motivations. A more generalized form of this problem has been addressed by approaches to modeling how different contexts can change preferences (Frey 1994; Ostrom 2000). Intrinsic motivation as specified by Self-Determination Theory and the associated crowding in and crowding out of intrinsic motivation (see, e.g., Deci 1971; Deci 1975; Ryan and Deci 2000) has been identified as a potential source of preference change (Frey 1994; Ostrom 2000). However, this approach has not yet been adopted by the political science literature on party and candidate behavior. In this field, unsuccessful candidates (as well as voluntary cam-

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<sup>1</sup>I would like to thank Susumu Shikano, Gijs Schumacher, Scott Desposato, Simon Munzert and Jonas Schneider for valuable feedback. I also want to thank the participants of the GSDS Colloquium, the poster session at the NYU CESS 8th Annual Experimental Political Science Conference, the IBH-Workshop on Political Behavior, the “Candidates and Legislative Behavior” panel at the 2015 EPSA conference, and the members of the Chair of Political Methodology at the University of Konstanz for their feedback and comments.

paigned aides or politicians who act in areas of low salience) are particularly likely to have different preferences than professional politicians.

The paper argues that the context in which political candidates act changes their preferences. Based on the crowding-out effect identified by Self-Determination Theory (Deci et al. 1999), it tests the prediction that unsuccessful candidates are driven by intrinsic motivation while successful candidates follow extrinsic incentives. According to this theory, changes in extrinsic benefits are more likely to change the behavior of successful candidates than the behavior of unsuccessful candidates. The argument is evaluated using an email experiment with 821 direct candidates from three German state elections that tests whether the preferences of political candidates change in different contexts, and especially whether successful politicians are motivated by different incentives than unsuccessful candidates. An email was sent to each candidate asking him or her for an important topic in the coming election. The treatment was the sender's origin, which was either located in the candidate's electoral district, outside of it, or not stated. Despite variation between the states, the responses support the hypothesis that successful candidates are more sensitive to the sender's origin and are thus more sensitive to extrinsic benefits (in this case a possible vote) than unsuccessful candidates. The paper concludes that, depending on success, political candidates follow different preferences – and that this difference can be attributed to the crowding-out effect of intrinsic motivation.

The remainder of the paper is structured as follows. Section 3.2 lays out the concept of intrinsic motivation as defined by Self-Determination Theory and generates the paper's main hypothesis. Section 3.3 presents the experimental design. Section 3.4 describes the data generated by the field experiment and presents the descriptive statistics. Section 3.5 evaluates the paper's main hypothesis, and additional analysis is presented in Section 3.6. Section 3.7 reviews the paper's contribution and concludes.

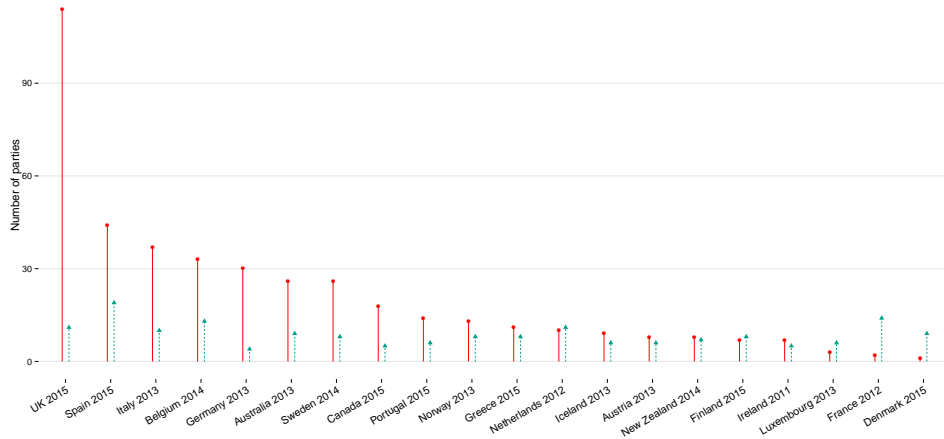


FIGURE 3.1: Number of losing parties (solid lines, dots) and number of parties that won a seat in the legislative body (dotted lines, triangles) in the most recent general election in 20 OECD countries (2011-2016). Independent candidates were not counted as parties. Numbers for Finland, France and the UK contain an “others” category of unknown size. Own calculation based on official election results. Detailed sources can be found in Appendix 3.A.

## 3.2 Intrinsic motivation in political candidates

In modern democracies, active involvement in politics is a deliberate choice. Hence, whenever an individual chooses to run for office, it has to be assumed that this decision was made based on at least the minimum motivation required to run as a candidate. In the case of political candidates, power (or the spoils of power) are usually seen as the main extrinsic benefits that motivate political behavior (White 2006, 10). An abundance of political science literature examines the different ways in which parties and candidates maximize their power given their capabilities (see, e.g., Cox 1997; Downs 1957; Meguid 2010). Yet there is little discussion of candidates and parties that do not gain power.

Political scientists often refer to intrinsic motivation when empirical observations cannot be explained by extrinsic benefits alone (Aldrich 1993; Broockman 2013; Mansbridge 2011; Panagopoulos 2013; Strom 1990). The *paradox of voting* is a classical example of such a situation. Indeed, the turnout literature advanced the idea of intrinsic motivation in political science. Here, intrinsic motivation is seen as part of the  $D$  term in Downs’ calculus of voting (Aldrich 1993; Downs 1957; Riker

and Ordeshook 1968).<sup>2</sup> In this literature, intrinsic motivation is usually used as an additional constant in a utility function, and includes diverse concepts such as expressive political behavior or social pressure (Gerber, Green, and Larimer 2008; Hamlin and Jennings 2011). According to this approach, candidates with virtually no chance of winning critical quantities of votes or power should be intrinsically motivated. However, this assumption – and its generalized form, that an individual who acts in the absence of extrinsic benefits is intrinsically motivated – is hard to test, and close to a tautology (Hamlin and Jennings 2011). Considering the *paradox of voting*, Panagopoulos (2013) presents a more nuanced concept of intrinsic motivation that is grounded in psychological research, which allows for testable hypotheses and an interaction between extrinsic and intrinsic motivation.

Panagopoulos (2013) derives his understanding of intrinsic motivation from Self-Determination Theory (see, e.g., Deci 1971; Deci 1975; Ryan and Deci 2000). In the framework of this theory, intrinsic motivation is defined as

[...] the doing of an activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated, a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards (Ryan and Deci 2000, 56).

In contrast, extrinsic motivation is defined as “*doing something because it leads to a separable outcome*” (Ryan and Deci 2000, 55).

According to Self-Determination Theory, individuals intrinsically seek challenges and situations that allow them to satisfy their general need for competence and self-determination (Deci 1975). Hence, intrinsic motivation evolves between an individual who seeks such challenges and tasks that present such challenges (Ryan and Deci 2000). Following this conceptualization, it can be said that while every individual is intrinsically motivated, the actions that follow from this motivation can differ significantly. This, however, does not mean that every action has the same probability of being performed based on intrinsic motivation (Ryan and Deci 2000). Since the need for competence and autonomy are seen to drive intrinsic motivation, it can be

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<sup>2</sup>Note that Downs (1957, 30) also discussed non-vote-seeking parties, comprised of politicians who simply seek the thrill of political conflict. However, he fails to explain how this thrill could be measured or modeled as part of politicians’ utility function.

assumed that these characteristics – as well as the specific context (Geen 1995) – determine how intrinsically interesting a given task is (Ryan and Deci 2000, 56).

Research on the interaction between intrinsic and extrinsic motivation (and the consequence of this interaction on an individual's overall motivation) is nearly as old as the concept itself (Deci 1971), and is still being researched in various contexts (for an overview, see Morton and Williams 2010, 355 et. sqq.). The assumption is that external incentives “crowd out” (Deci 1971, 105) intrinsic motivation and potentially decrease an individual's overall motivation for a task (often measured in terms of task performance (Morton and Williams 2010, 356)). A meta study (Deci et al. 1999) finds that all tangible rewards undermine intrinsic motivation, as do threats, deadlines, directives and competition pressure (for a longer discussion, see Ryan and Deci 2000, 59). However, these factors do not necessarily decrease an individual's overall motivation. Strong extrinsic motivation can substitute for the loss of intrinsic motivation, and the “*internalization*” of external incentives (Ryan and Deci 2000, 60 et sqq.) can reduce the undermining effect of rewards.

Theoretical considerations, as well as several empirical findings (Bénabou and Tirole 2006; Gneezy and Rustichini 2000), suggest there is a U-shaped relationship between overall motivation and extrinsic incentives. In this case, small extrinsic incentives crowd out intrinsic motivation but are not strong enough to compensate for this loss. Only higher extrinsic incentives can compensate for the loss of intrinsic motivation and even raise the total motivation higher than the level of initial intrinsic motivation. However, since the sensitivity to extrinsic benefits is likely to vary between individuals, it is impossible to derive a general curve that includes the crowding-out effect in the relationship between total motivation and extrinsic motivation (also see Panagopoulos 2013, 270).

Given this concept of intrinsic motivation, the context in which political candidates act is relevant to understanding the degree of their intrinsic and extrinsic motivation. While successful political candidates receive higher extrinsic payoffs than unsuccessful ones, they are also more likely to be scrutinized by the media, voters and their own party. These factors should significantly limit their self-determination and therefore crowd out intrinsic motivation. In general, such candidates should be more likely to



perform tasks that generate extrinsic payoffs. By contrast, intrinsically motivated candidates should be more likely to execute tasks that give them a feeling of competence and autonomy. As the feeling of competence and autonomy associated with a given task should differ from candidate to candidate, the likelihood of performing a given task should vary considerably among intrinsically motivated candidates. In such a situation, the extrinsic payoffs associated with a given task should be of minor concern for intrinsically motivated candidates. However, faced with the same task and the same information about how executing this task will change the probability that they will win the election, extrinsically motivated candidates should show considerably less variance in the likelihood of performing the task. The general likelihood that extrinsically motivated candidates will execute such a task should mainly be driven by the extrinsic payoffs associated with doing so. This can be formulated as the main hypothesis:

*Successful candidates should be more sensitive than unsuccessful candidates to changes in extrinsic incentives.*

### 3.3 Experimental design

To measure intrinsic motivation, one would ideally observe how a person acts in the absence of extrinsic benefits. This, however, is problematic for the case of political candidates, as observation alone can constitute extrinsic motivation. An observer reporting that certain candidates are highly motivated in the absence of extrinsic benefits could increase the candidates' chances at the polls and thereby constitute extrinsic motivation. Furthermore, it is hard to construct a situation in which candidates act politically but associate absolutely no extrinsic incentives with this action. This problem arises from the fact that political actions are, by definition, never just private. I therefore follow Broockman's (2013) approach to extrapolating a candidate's intrinsic motivation by studying his or her sensitivity to a change in extrinsic incentives.

Broockman (2013) uses an email experiment to show that elected black politicians are more intrinsically motivated than non-black politicians to help black citizens.

Similar to other approaches in the field, Broockman conceptualizes the politicians' utility function as the sum of extrinsic and intrinsic (i.e., all non-extrinsic) motivation. Such an understanding does not allow for an interaction between the two types of motivations, and probably includes other non-extrinsic motives. In Broockman's design, different levels of intrinsic motivation are explained by individual characteristics rather than by context factors. It remains unclear why black politicians should feel more competent or self-determined than non-black politicians in answering to black citizens. Here, other non-extrinsic incentives (like motivation derived from social identity (Hogg and Abrams 1988)) are equally likely to drive the results. This paper's main hypothesis explains variation in intrinsic motivation as a product of contextual factors, and does not assume systematic differences in the individual characteristics of successful and unsuccessful candidates. Given the assumption that unsuccessful candidates face less oversight and public attention, higher levels of intrinsic motivation in unsuccessful candidates are explained by their higher levels of autonomy compared to successful candidates.

I sent simple email requests to direct candidates in three German state elections (in Brandenburg, Saxony, and Thuringia). All three states use an electoral system similar to the mixed-member proportional election systems used in German national elections. Voters have two votes: the first is used to determine a district representative (direct candidate) by simple majority; the second is used to choose party lists (Rudzio 2006, 162).

The emails were sent from five different aliases with common German names. The treatment was the sender's origin. The sender either claimed to be from the electoral district the receiving candidate was running in ("In" treatment) or a place clearly outside this district ("Out" treatment). This treatment is based on the assumption that a direct candidate has clear extrinsic incentives to answer an email from a potential voter, and significantly fewer incentives to respond to a citizen from a different constituency. Sensitivity to extrinsic benefits can then be expressed as the difference in response rates depending on treatment condition. Estimated for all candidates, the difference in response rates depending on treatment condition is the average treatment effect of receiving the Out treatment compared to the In treatment.

The main hypothesis can be tested by comparing the conditional average treatment effects of successful and unsuccessful candidates. A general problem with this design is that neither of the two treatment groups can be seen as a placebo or control group. Such an experiment would generate no information on the baseline probability that candidates will respond to emails. In order to estimate such a probability, I included a baseline treatment that did not give any information about the sender’s origin (“Placebo” treatment).

TABLE 3.1: Elections, electoral districts, parties, and candidates

	Date	Elect. distr.	Legislators	Parties 2014	Direct candidates
Brandenburg	14.09.2014	44	88	12	319
Saxony	31.08.2014	60	132	14	537
Thuringia	14.09.2014	44	88	12	279
Total		148	308		1,135

Table 3.1 gives an overview of the three elections and the expected number of candidates. Only email addresses that were made publicly available in the context of a subject’s political function were used. The emailed requests asked the candidates to name a political issue they considered important for the upcoming election. This request was chosen in order to minimize the time a candidate needed to reply. It is assumed that every direct candidate can name one or more political issues that he or she considers important. It is important to note that the request did not ask for the *most important* issue, as such a request would probably be harder to answer. I assume that candidates are generally used to citizen inquiries about important policies and policy areas. In fact, two candidates replied that they regularly receive similar inquiries from local newspapers. Three candidates who received the placebo treatment reacted in surprise that no place of residence was given. They did not, however, question the legitimacy of the request. In all three cases, the candidates gave a general answer and offered more detailed answers if the sender told them where they lived. One candidate politely refused to answer as long as the sender refused to give him an address or place of residence.<sup>3</sup> Figure 3.2 shows a sample email.

<sup>3</sup>Due to privacy concerns, the candidates’ answers cannot be part of a replication dataset.

The emails were sent out at least a week before the election. To control for date and time effects, they were sent on three different days (Tuesday, Wednesday and Thursday one and a half weeks before the election) and at two different times (morning and afternoon). Again, the exact combinations were randomly assigned to each email.

FIGURE 3.2: Sample treatment; phrases in italics were changed depending on treatment, state, and candidate’s name and gender.

**Subject:** Your issue for *Saxony*

Dear *Mr. Tillich*

My name is *Peter* from *Radeberg*. I have an interest in politics in *Saxony*. I would like to get an overview of important issues. Could you name an issue you think is important in *Saxony*?

Greetings,

*Peter*

**Betr:** Ihr Thema für *Sachsen*

Lieber *Herr Tillich*

Mein Name ist *Peter* aus *Radeberg*. Ich interessiere mich für Politik in *Sachsen*. Ich möchte mir einen Überblick über wichtige Themen verschaffen. Können sie mir sagen, was für sie ein wichtiges Thema in *Sachsen* ist?

Viele Grüße,

*Peter*

The name of the sender was one out of five randomized combinations of five common German first and last names.<sup>4</sup> As combining the five most popular German first and last names would result in overly stereotypical names, I chose the five most common first names and the 21st to the 25th most common last names. As there are no official statistics on names in Germany, the first names are taken from a private ranking that evaluated different sources.<sup>5</sup> The last names were taken from a different private ranking that evaluated German phone directories in 2002.<sup>6</sup> For each alias, an email address was created with one out of three popular email hosts.<sup>7</sup> The different names and email addresses were mainly used to obscure the fact that all emails were originated from one sender. Bol et al. (2014) apply a similar strategy and report that they encountered suspicious candidates in a pretest when they used only one alias.

For the case in which the sender came from the candidate’s electoral district, the most populous city or city district from this electoral district was chosen as the sender’s origin. This was done in order to reduce the hypothetical probability of the candidate knowing the sender. For the case in which the sender came from another district, a city in the same state was chosen that was divided into at least two electoral districts. This was done so that the candidate could not refer the sender to the “right”

<sup>4</sup>Peter Braun, Michael Krüger, Thomas Hofmann, Andreas Hartmann, and Wolfgang Lange.

<sup>5</sup><http://www.beliebte-vornamen.de/446-quelle.htm>

<sup>6</sup><http://christoph.stoepel.net/geogen/v3/Infos.aspx>

<sup>7</sup>One at gmail.com, two at gmx.de and two at web.de (publicare 2013).

candidate. Cities that fulfill this requirement are Zwickau, Leipzig and Dresden in Saxony; Erfurt, Weimar, Jena and Gera for Thuringia; and Potsdam and Cottbus for Brandenburg. Of these cities, I always chose the city that was in the same state but furthest away from the constituency of the treated candidate.

Ethical concerns of using deception in field experiments with public officials have been discussed at length by McClendon (2012). Following her guidelines, I only use deception because any knowledge about the experiment would introduce additional extrinsic incentives and make it impossible to answer the research question. Furthermore, the treatment is designed to minimize the effort it takes to read and answer the email. The email was also written in such a way that candidates would not expect a reply to their response; therefore I did not debrief the candidates. According to McClendon (2012, 16), it is common practice in field experiments with public officials not to debrief the participants. The field experiment did not receive explicit support from the institutional review board (IRB), as the IRB at the University of Konstanz did not deem the experiment critical enough to initiate a formal evaluation (see Appendix 3.B and 3.C).

### 3.4 Data

As the names and addresses of unsuccessful candidates are only published shortly before elections, the field experiment had to be conducted near an election. A total of 1,135 candidates competed in the three German state elections that were used for this field experiment. Of these 1,135 candidates, 821 (72.3%) made their email addresses publicly available; I assigned this subset to a treatment group. As some of the published email addresses contained typographical errors or were invalid, not all 821 candidates were treated. Furthermore, due to a connection error between the email program and the database used to generate the treatment emails, 32 emails that were sent to candidates in Thuringia contained a different message, and thus delivered a different treatment. For the emails that were sent to inaccurate email addresses, I did not observe an outcome. For the emails with the wrong text, I did not observe an outcome that is comparable to one of the other treatments. Hence, I

treat all these cases as missing data or attrition. I have full data for a total of 751 candidates. Table 3.2 breaks down these numbers by state.<sup>8</sup>

TABLE 3.2: Number of candidates and response rate

	Total	Intended to treat.	% of total	Treated	% of total	Resp. rate in %
BB	319	235	73.7	217	68	59.9
SN	537	385	71.7	376	70	34.8
TH	279	201	72	158	56.6	42.4
Total	1,135	821	72.3	751	66.2	43.7

BB = Brandenburg; SN = Saxony; TH = Thuringia.

In addition to email addresses, I collected several other covariates. Candidate success is crucial for estimating the conditional average treatment effects. The goal of this variable is to capture all candidates who receive extrinsic payoffs in terms of money, power or prestige after the election and face the corresponding attention by the media, party peers, and political opponents. It is therefore not sufficient to only focus on electoral district winners, since some candidates lost their electoral district but still entered parliament through a party list. It is argued that such candidates deliberately run as direct candidates to increase their visibility (Manow 2015, Chapter 4). Hence, the crowding-out effect should apply to these candidates as well. Following this argument, I coded all members of the new parliaments who also ran as direct candidates as successful. It has to be stressed that candidate success was coded after the elections. The treatment was administered one and a half weeks before the elections. The validity of this proceeding hinges on the assumption that direct candidates have a good understanding of their electoral chances. I justify this assumption with the observation that in state elections, electoral districts are usually dominated by one party. The electoral results show that 90.4% of all unsuccessful direct candidates lost by more than 10 percentage points. Out of all candidates who received either the In or the Out treatment, only 21 candidates lost by less than 5 percentage points. While the district winners were rather predictable, the instant success of the Alternative for Germany AfD, a new populist right-wing party, shifted

<sup>8</sup>All analyses and data handling were performed using the statistical software R Version 3.2.3 and additional packages (Fox and Weisberg 2011; Grolemond and Wickham 2011; Hainmueller 2014; Hlavac 2013; Hothorn et al. 2008; Ram and Wickham 2015; Sekhon 2011; R. Core Team 2013; Wickham 2009; Zeileis and Hothorn 2002; Zeileis 2004; Zeileis 2006).

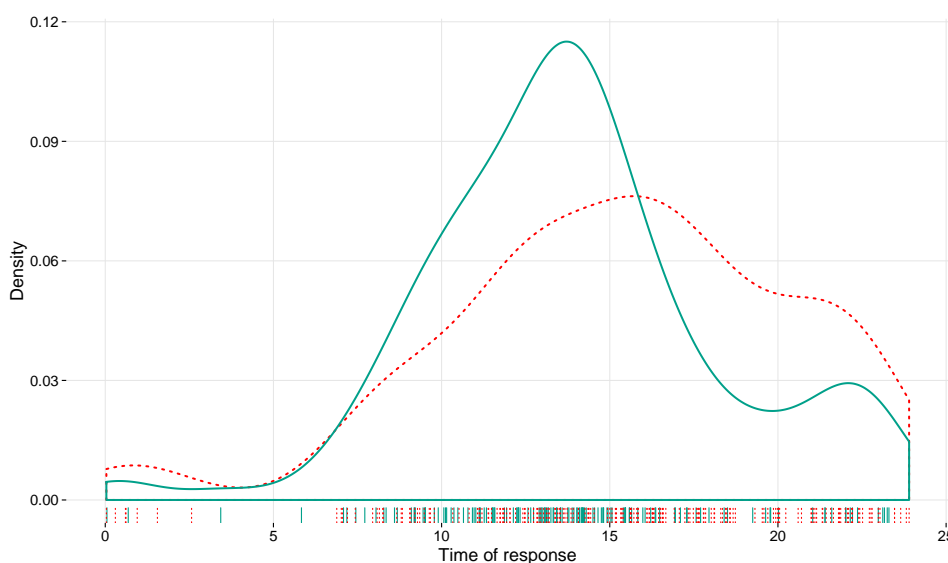


FIGURE 3.3: Time of response for successful (solid line) and unsuccessful (dotted line) candidates from all three states. A Mann-Whitney U test shows that the two samples are not drawn from the same population ( $p = 0.002$ ).

the final seat distributions. However, this success was not unexpected, as different pollsters predicted it six months or more before the elections or earlier (see collections of forecasts by Zicht and Cantow 2015; Zicht and Cantow 2016a; Zicht and Cantow 2016b). Coding errors due to the rise of the AfD would put AfD candidates who did *not* expect to win in the success category and candidates of other parties who *did* expect to win in the unsuccessful category. Both cases would bias the field experiment towards underestimating the difference in conditional average treatment effects and thus refuting the main hypothesis. Figure 3.3 shows that “success” captures behavioral differences. Successful candidates tend to answer emails during working hours, while unsuccessful candidates tend to reply in the late afternoon or evening.

Further covariates are academic titles (dummy variable), gender, age measured by year of birth, party affiliation and the margin by which a candidate’s electoral district was won. The candidates’ individual characteristics were coded using party and candidate homepages as well as lists provided by the respective election supervisors. The district margins were derived from the official election results provided by the election supervisors (Der Landeswahlleiter für Brandenburg 2014; Statistisches Landesamt Sachsen 2014; Thüringer Landesamt für Statistik 2014). The paper makes no assumptions about the behavior of candidates from specific parties. As party

effects are of no primary concern to the paper’s theory (but could trigger political backlash or, in the case of smaller parties, allow inference about the behavior of individual candidates), I control for party membership but refrain from showing the estimated effects of party affiliation.

TABLE 3.3: Balance statistics

	Mean Out	Mean In	Std. Diff. Pooled	Var. Ratio
Success	0.414	0.373	11.835	1.037
Title	0.061	0.063	-1.177	0.970
Gender	0.758	0.766	-2.547	1.023
Year of Birth	1969.049	1967.817	14.468	0.877
District Margin	12.862	14.038	-17.697	0.865
CDU	0.184	0.107	30.995	1.573
SPD	0.164	0.147	6.675	1.094
FDP	0.098	0.139	-17.687	0.742
Gruene	0.172	0.171	0.561	1.007
Linke	0.189	0.171	6.587	1.081
Minor Party	0.193	0.266	-24.597	0.797
Time send	0.545	0.512	9.389	0.993
Tuesday	0.307	0.278	9.194	1.061
Wednesday	0.336	0.357	-6.257	0.972
Thursday	0.357	0.365	-2.507	0.990
web.de	0.393	0.401	-2.122	0.994
gmx.de	0.406	0.405	0.281	1.001
gmail	0.201	0.194	2.262	1.025

Balance statistics for candidates from all states; Placebo treatment excluded

As mentioned above, some candidates were assigned to a treatment but had to be dropped from the sample. Tables 3.2 and 3.9 in Appendix 3.D show the exact numbers by state and treatment group. Due to the technical problem mentioned above, attrition is especially high in Thuringia, where more than 20% of the candidates assigned to a treatment group had to be excluded from the sample. As attrition can bias the estimated treatment effects, it is important to know whether the missing cases are random cases. While there is no theoretical reason to believe that the cases are not missing at random, I use randomization inference in order to test for covariate influence on attrition (Gerber and Green 2012, 220). As documented in Appendix 3.D, the data from Thuringia is clearly biased, while there is no evident bias in Brandenburg and Saxony. Hence, I will exclude observations from Thuringia from the main analysis.

Using randomization inference to test covariate influence on treatment assignment (Gerber and Green 2012, 107), I find no significant influence of covariates on assignment



to the In or Out treatment. This result holds for all three states as well as for the relevant subsample of Brandenburg and Saxony. The same is true for the subsamples of successful and unsuccessful candidates. The detailed results are presented in Appendix 3.E. Checking the balance of individual covariates reveals more troublesome results. Table 3.3 shows covariate balance statistics for all candidates in the In and Out treatment groups. The pooled standardized difference expresses the mean difference in the percentage share of the pooled standard deviation. Several variable means differ by more than 10% of their pooled standard deviation. The imbalance gets worse if the relevant subsamples for estimating the conditional average treatment effects (ATEs) are considered (see Appendix 3.F). These results indicate that the covariates should be controlled for when estimating the difference in conditional ATEs.

### 3.5 Results

I received a total of 347 replies. Excluding all missing cases, this amounts to an overall response rate of 43.7%.<sup>9</sup> Table 3.4 displays the response rates by state and treatment, and presents the ATE between the In and Out treatments. As expected, the response rate drops for the Out treatment but is similar for the In and Placebo treatments. This can be seen as support for my assumption that the candidates' motivation to answer is decreased by the Out treatment rather than increased by the In treatment.

TABLE 3.4: Response rates and ATE

	SN	BB	TH	Total
Response rate	34.8	59.9	42.4	43.7
In	38.7	65.8	49.0	48.8
Placebo	37.8	66.7	44.0	47.8
Out	28.0	45.5	34.0	34.0
ATE (In - Out)	10.7	20.3	15.0	14.8

Response rates in percent, ATE in percentage points.  
BB = Brandenburg; SN = Saxony; TH = Thuringia.

Linear regression models can be used to estimate treatment effects. However, standard errors from linear models are biased if the treatment and control groups are of unequal size (Gerber and Green 2012, 103). I use robust standard errors to avoid

<sup>9</sup>This is surprisingly close to the overall response rate of 42.3% found by Broockman (2013) and comparable to the response rates found by Vaccari (2014).

this bias (Samii and Aronow 2012), and fit additional logistic regressions to better model the binary dependent variable. Table 3.5 presents the results of two linear and two logistic regressions. For each regression type, I fit one model that includes only the main variables of interest and one that includes further covariates.

As linear models allow a direct interpretation of the coefficients, the first model in Table 3.5 allows us to deduce the main effects. The difference in conditional average treatment effects is given by the interaction of success and Out. The first model in Table 3.5 shows that the response rate decrease by the Out treatment is 25 percentage points higher for successful candidates than for unsuccessful ones. This effect is significant for all model specifications. This effect shows that successful candidates react considerably more strongly than unsuccessful candidates to a decrease in extrinsic benefits. Furthermore, Table 3.5 shows that treatment assignment does not significantly influence the response rate of unsuccessful candidates (see *Out Treat.* coefficient). Table 3.6 presents further details based on the coefficients from the first model in Table 3.5. Table 3.6 shows that the response rate from successful candidates in the treatment group roughly equals that of an average unsuccessful candidate. These results allow us to refute the null hypothesis that successful and unsuccessful candidates react similarly to decreasing extrinsic benefits. Furthermore, the results support the paper’s main hypothesis that successful candidates are more sensitive than unsuccessful candidates to changes in extrinsic benefits.

The last two models in Tables 3.5 control for several covariates. I find no substantive or significant effects for age, gender or district margin. The estimated effect of academic titles is substantive (a 14-percentage-point increase in the response rate), but not significant. The last two models in Table 3.5 also control for party membership. As discussed above, I refrain from presenting individual effects. In general, there was only one significant effect of party membership, which showed that candidates from one major party tended to reply more often. Table 3.5 also shows a markedly lower response rate for candidates from Saxony. When controlling for covariates, the effect of the interaction between success and Out decreases to an 18-percentage-point decrease in the response rate. However, the effect remains substantial and significant. Data from Thuringia and missing values were excluded from the presented analysis.

TABLE 3.5: Regression results

	<i>Dependent variable:</i>			
	Response (dummy)			
	<i>OLS</i>	<i>logistic</i>	<i>OLS</i>	<i>logistic</i>
Success	0.26*** (0.07)	1.07*** (0.31)	0.23*** (0.08)	1.03*** (0.38)
Out Treat.	-0.06 (0.06)	-0.24 (0.27)	-0.07 (0.06)	-0.31 (0.29)
Year of Birth			0.0003 (0.002)	0.001 (0.01)
Gender			-0.04 (0.06)	-0.17 (0.30)
Title			0.15 (0.11)	0.65 (0.47)
District Margin			0.002 (0.003)	0.01 (0.01)
Saxony			-0.22*** (0.06)	-1.01*** (0.28)
Suc $x$ Out	-0.25** (0.10)	-1.02** (0.44)	-0.18* (0.10)	-0.82* (0.49)
Constant	0.39*** (0.04)	-0.44** (0.18)	-0.23 (4.21)	-3.26 (19.44)
Observations	388	388	388	388
R <sup>2</sup>	0.06		0.11	
Adjusted R <sup>2</sup>	0.05		0.08	
Log Likelihood		-252.66		-240.35
Akaike Inf. Crit.		513.32		508.70

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Data from Brandenburg and Saxony.

Robust standard errors are given in parentheses.

Controlled for but not shown is party membership.

As this exclusion might bias the presented findings, the next section will present further robustness checks.

TABLE 3.6: Response rates and conditional average treatment effects (CATE) from a linear model with data from Brandenburg and Saxony

	Suc-In	Suc-Out	Unsuc-In	Unsuc-Out
Response rate	0.653	0.347	0.392	0.336
CATE	0.306		0.056	
Difference in CATE	0.25			

### 3.6 Further analysis

Thus far, all cases missing due to attrition have been excluded from the analysis. This might lead to biased results. A better way to understand the potential bias resulting from excluding missing observations is to compute bounds for the respective bias (Gerber and Green 2012, 226). For the high bounds, I coded all missing observations such that only successful candidates responded to the different treatments. For the low bounds, I coded all missing observations from successful candidates as indifferent to the treatments and all missing observations from unsuccessful candidates as sensitive to the treatments. From the resulting data I estimate conditional average treatment effects and standard errors. Using these estimates I simulate 10,000 possible conditional average treatment effects for successful and unsuccessful candidates. The difference between the simulated effects then captures the difference in candidate behavior. Figure 3.4 plots the average difference between the simulated conditional average treatment effects. The results show that the missing values in Thuringia are likely to bias the estimated difference in conditional average treatment effects. The potential bias in Brandenburg and Saxony is much less concerning. This supports the exclusion of Thuringia from the analysis in Table 3.5.

Figure 3.4 also shows that even with high bounds, there is no substantive difference in the conditional average treatment effects for unsuccessful and successful candidates in Thuringia, and large confidence intervals for the effect in Brandenburg. In Saxony the difference is substantive and clearly distinguishable from zero. The results presented

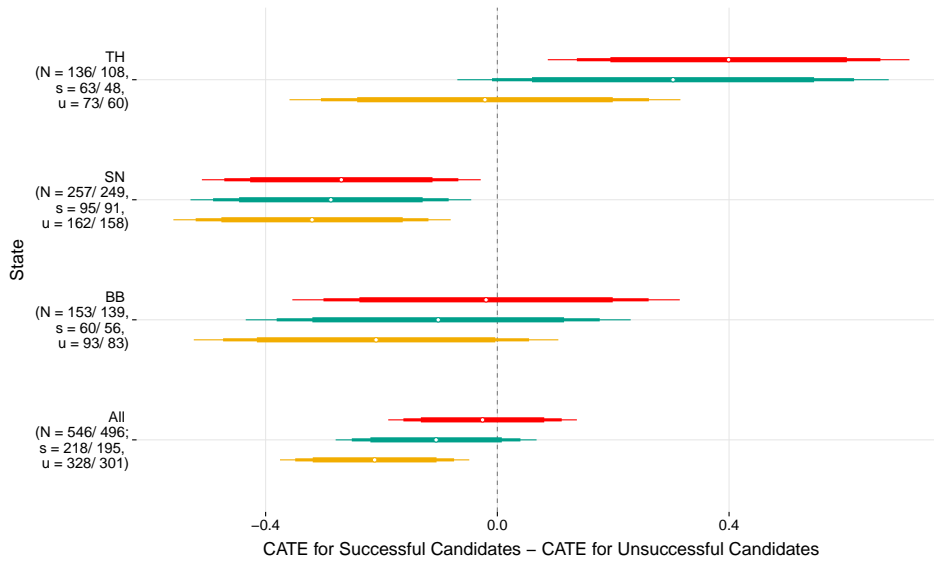


FIGURE 3.4: Simulated differences in the conditional average treatment effects for successful and unsuccessful candidates with extreme bounds for the missing observations. The upper bars represent low bounds, the lower bars high bounds. The bar in the middle indicates the estimate when all missing observations are dropped from the sample. Line thickness indicates 95, 90 and 80% confidence intervals. BB = Brandenburg; SN = Saxony; TH = Thuringia.

in Table 3.5 are therefore driven by observations from Saxony. The small sample sizes in Brandenburg and Thuringia are an obvious explanation for the larger confidence intervals in these states, but there are also systematic reasons to expect smaller effects in Brandenburg and Thuringia. The paper’s main hypothesis relies on the assumption that unsuccessful candidates do not crowd out intrinsic motivation, as they are able to work more independently and face less oversight and pressure from the public and their party. If this assumption is violated, unsuccessful candidates should not behave differently than other candidates.

There are two reasons why this assumption could be violated in Thuringia, one of which also applies to Brandenburg. First, the election in Saxony was carried out two weeks before the other two elections and received special media attention because of an all-time low turnout of 49.2% (Jesse 2015, 7). The low turnout and the instant success of the right-wing populist party AfD were widely interpreted as a sign of dissatisfaction with all existing parties (Jesse 2015, 7). This might have caused candidates from Brandenburg and Thuringia to put extra time and effort into relations with *all* citizens (and not only potential voters). If this were true, the treatment should lose some of its effect and the treatment effect should be smaller.

The generally higher response rates in Brandenburg and Thuringia support this idea (see Table 3.2). Second, the missing effect in Thuringia might also be explained by considerable uncertainty about the outcome of the election. While the elections in Brandenburg and Saxony were relatively predictable (Jesse 2015; Niedermayer 2015), the election in Thuringia involved close competition between two rivaling coalitions and resulted in a relatively unexpected change of government. As the government formation depended on the overall seat distribution, party votes were more important in this election than candidate votes (Oppelland 2015, 45). This means that especially unsuccessful district candidates from parties that secured seats through the party lists felt pressured to work for their party and to be responsive to all voters.

Alternatively, one could argue that closer elections increase the attention that unsuccessful candidates receive, as their votes could be critical in deciding a race between major candidates. In this situation, unsuccessful candidates can take a similar role as blackmail (Downs 1957, 128) or niche parties (Meguid 2005). Put more generally, uncertainty about electoral outcomes could lead to greater extrinsic pressure on all candidates that overpowers intrinsic motives. If this logic explains the null finding in Thuringia, the same logic should be evident in very contested electoral districts in Brandenburg and Saxony. The hypothesis is therefore that a significant difference in treatment effects for successful and unsuccessful candidates can only be observed for candidates from electoral districts that are clearly dominated by one candidate. To test this hypothesis I use the median distance between a district winner and the first runner-up (14.2 percentage points) to split the sample of candidates from Brandenburg and Saxony. Table 3.7 shows the results of two logit regressions that were fit to the respective samples. The results show that the effect from Table 3.5 holds for the sample of electoral districts with clear winners. In the sample with close elections, the effect of intrinsic motivation cannot be observed. This shows that lost intrinsic motivation due to close elections is at least a plausible explanation for the null finding in Thuringia.

TABLE 3.7: Logit regression results for samples split by district margins

	Close districts	Clear districts
Success	0.48 (0.42)	1.96*** (0.55)
Out Treat.	-0.33 (0.40)	-0.23 (0.39)
Suc $\times$ Out	-0.62 (0.61)	-1.71** (0.72)
Constant	-0.08 (0.28)	-0.76*** (0.26)
Observations	190	194
Log Likelihood	-128.31	-116.94
Akaike Inf. Crit.	264.63	241.89

*Note:* \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$   
 Results for candidates from Brandenburg and Saxony.  
 Robust standard errors are given in parentheses.

### 3.7 Conclusion

The field experiment presented in this paper shows that successful candidates' political behavior is sensitive to extrinsic benefits while unsuccessful candidates are largely indifferent towards extrinsic benefits. In contrast to existing studies that explain variance in intrinsic motivation by individual characteristics (Broockman 2013), I attribute this to the different contexts in which the candidates act. Due to higher pressure and attention from the public, successful candidates crowd-out their intrinsic motivation and are then driven by extrinsic motivation. This offers a way to conceptualize preference change in political candidates without changing the assumptions about other individual characteristics.

The paper's main hypothesis is derived from the crowding-out effect. Unfortunately, the cross-sectional design does not allow us to study how crowding out evolves over time in individual candidates. To do so, especially observations in which small extrinsic rewards actually decrease overall motivation (Bénabou and Tirole 2006; Gneezy and Rustichini 2000) would be critical to proving crowding out in political candidates. Here, the often turbulent growth of formerly small parties into major parties (e.g., the Green Party in Germany) suggests how intrinsic motivation can be crowded out

over time. The study of candidates in growing parties and the overall membership structure of such parties offers a promising area for future research on intrinsic and extrinsic motivation in political candidates.

The paper presents a theoretical framework that is well established in psychology and could complement existing rational choice approaches. For the study of intra-party politics, this paper provides a theoretical foundation for the common claim that party members have different preferences than party leaders. The paper also provides insights relevant to the literature on representation. Here, the concept of “gyroscopic” representation (Mansbridge 2011) in particular can be tied to intrinsic motivation. The probable effect of election uncertainty should inspire further research on how context factors (e.g., growing media attention or international pressure) can change politics.

The study of new party emergence or candidate entry could also profit from the idea of intrinsic motivation. If political activity in the absence of direct extrinsic benefits is explained by intrinsic motivation, the research focus should be shifted towards candidate or party exit. As intrinsic motivation emerges from the interaction of individual characteristics and the specific challenges involved in an action, initiating an action due to intrinsic motivation is a highly personalized matter. However, once it is assumed that intrinsic motivation drives an action, the crowding-out hypothesis allows us to identify factors that should influence the duration of such political involvement.



# Appendix

## 3.A Sources for Figure 3.1

TABLE 3.8: Winning and losing parties; sources for Figure 3.1

State	Year	Running	Seat	Source
Australia	2013	35	9	<a href="http://results.aec.gov.au/17496/Website/HousePartyRepresentationLeading-17496.htm">http://results.aec.gov.au/17496/Website/HousePartyRepresentationLeading-17496.htm</a>
Austria	2013	14	6	<a href="http://www.bmi.gv.at/cms/BMI/wahlen/nationalrat/2013/End_Gesamt.aspx">http://www.bmi.gv.at/cms/BMI/wahlen/nationalrat/2013/End_Gesamt.aspx</a>
Belgium	2014	46	13	<a href="http://polling2014.belgium.be/en/cha/results/results_tab_CKRO0000.html">http://polling2014.belgium.be/en/cha/results/results_tab_CKRO0000.html</a>
Canada	2015	23	5	<a href="http://enr.elections.ca/National.aspx?lang=e">http://enr.elections.ca/National.aspx?lang=e</a>
Denmark	2015	10	9	<a href="http://www.dst.dk/valg/Valg1487635/valgpg/valgpgHl.htm">http://www.dst.dk/valg/Valg1487635/valgpg/valgpgHl.htm</a>
Finland	2015	15	8	<a href="http://vaalit.yle.fi/results/2015/parliamentary_election/?parties_%20taulukko">http://vaalit.yle.fi/results/2015/parliamentary_election/?parties_%20taulukko</a>
France	2012	16	14	<a href="http://www.interieur.gouv.fr/Elections/Les-resultats/Legislatives/election\L202012\%28path\29\LG2012\FE.html">http://www.interieur.gouv.fr/Elections/Les-resultats/Legislatives/election\L202012\%28path\29\LG2012\FE.html</a>
Germany	2013	34	4	<a href="https://www.bundeswahlleiter.de/de/bundestagswahlen/ETW_BUND_13/ergebnisse/bundesergebnisse/index.html">https://www.bundeswahlleiter.de/de/bundestagswahlen/ETW_BUND_13/ergebnisse/bundesergebnisse/index.html</a>
Greece	2015	19	8	<a href="https://ekloges.ypes.gr/current/v/public/index.html?lang=en">https://ekloges.ypes.gr/current/v/public/index.html?lang=en</a>
Iceland	2013	15	6	<a href="https://kosningasaga.wordpress.com/athingiskosningar/athingiskosningar-2009/althingiskosningar-2013/">https://kosningasaga.wordpress.com/athingiskosningar/athingiskosningar-2009/althingiskosningar-2013/</a>
Ireland	2011	12	5	<a href="https://www.tcd.ie/Political_Science/staff/michael_gallagher/Election2011.php">https://www.tcd.ie/Political_Science/staff/michael_gallagher/Election2011.php</a>
Italy	2013	47	10	<a href="http://elezionistorico.interno.it/index.php?tpel=Ckdtel=24/02/2013&amp;tpa=I&amp;lev=0&amp;levout=0&amp;es0=S&amp;ms=S">http://elezionistorico.interno.it/index.php?tpel=Ckdtel=24/02/2013&amp;tpa=I&amp;lev=0&amp;levout=0&amp;es0=S&amp;ms=S</a>
Luxembourg	2013	9	6	<a href="http://www.elections.public.lu/fr/elections-legislatives-2013/resultats/index.html">http://www.elections.public.lu/fr/elections-legislatives-2013/resultats/index.html</a>
Netherlands	2012	21	11	<a href="http://www.verkiezingsuitslagen.nl/Ma1918/verkiezingsuitslagen.aspx?VerkiezingsTypeId=1">http://www.verkiezingsuitslagen.nl/Ma1918/verkiezingsuitslagen.aspx?VerkiezingsTypeId=1</a>
New Zealand	2014	15	7	<a href="http://www.electionresults.govt.nz/electionresults_2014/partystatus.html">http://www.electionresults.govt.nz/electionresults_2014/partystatus.html</a>
Norway	2013	21	8	<a href="http://valgresultat.no/?type=st&amp;VC3\A5r=2013">http://valgresultat.no/?type=st&amp;VC3\A5r=2013</a>
Portugal	2015	20	6	<a href="https://dre.pt/application/file/70722536">https://dre.pt/application/file/70722536</a>
Spain	2015	63	19	<a href="http://www.boe.es/boe/dias/2016/01/29/pdfs/BOE-A-2016-867.pdf">http://www.boe.es/boe/dias/2016/01/29/pdfs/BOE-A-2016-867.pdf</a>
Sweden	2014	34	8	<a href="http://www.val.se/val/val2014/slutresultat/R/riks/index.html">http://www.val.se/val/val2014/slutresultat/R/riks/index.html</a>
UK	2015	125	11	<a href="http://www.electoralcommission.org.uk/our-work/our-research/electoral-data">http://www.electoralcommission.org.uk/our-work/our-research/electoral-data</a>

## 3.B Request for IRB approval

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23. Juli 2014

### Antrag auf Begutachtung durch die Ethik-Kommission

Sehr geehrte Frau Schieß, sehr geehrte Damen und Herren,

hiermit bitte ich um die Begutachtung eines Feldexperiments, welches ich als Teil meiner Dissertation an der Graduate School of Decision Science durchführen möchte. Der verantwortliche Erstbetreuer ist Prof. Dr. Susumu Shikano. Im Folgenden werde ich die Durchführung des Feldexperiments sowie den Hintergrund der Forschung darstellen. Anschließend diskutiere ich ethische Bedenken.

Die Zielgruppe des Feldexperiments sind Direktkandidaten für drei deutschen Landtagswahlen. Diesen Kandidaten werde ich eine E-Mail mit einer einfach und schnell zu beantwortenden Frage (z.B. „können Sie mir eine gute Informationsquelle für lokale Nachrichten empfehlen“) schicken. Als Absender der E-Mail wird dabei ein häufiger deutscher Name (z.B. Thomas Schmidt) als Alias verwendet. Je nach Treatmentgruppe wird der Absender der E-Mail behaupten aus dem Wahlkreis des Kandidaten zu kommen oder aus einer weiter entfernten Stadt. Für die Auswertung des Experiments ist allein die Frage relevant, ob ein Kandidat antwortet und welche Wahlchancen er hat. Der Inhalt der Antworten oder die Parteimitgliedschaft der Kandidaten ist für das Experiment nicht relevant und wird nicht ausgewertet. Dieses Forschungsdesign folgt im Wesentlichen einem Design das unter anderem im Paper „Black Politicians Are More Intrinsically Motivated to Advance Blacks' Interests“ von David Broockman (American Journal of Political Science, 2013)<sup>1</sup> verwendet wird.

Ziel meiner Dissertation ist es, Entscheidungen von Politikern aus der „zweiten Reihe“ besser zu verstehen. Mit dem hier vorgestellten Feldexperiment will ich testen, ob sich der

<sup>1</sup>DOI: 10.1111/ajps.12018

aus der Psychologie bekannte *crowding-out* Effekt auch bei Politikern nachweisen lässt. Der *crowding-out* Effekt würde vorhersagen, dass erfolgreiche Kandidaten ihr Handeln eher an strategischen Anreizen orientieren, wohingegen erfolglose Kandidaten intrinsisch motiviert sind und den Nutzen ihrer Handlungen aus der Handlung selbst ziehen. Im Feldexperiment sollten erfolgreiche Kandidaten also sensibler auf den Unterschied zwischen den Treatmentgruppen reagieren als erfolglose Kandidaten. Dabei wird angenommen, dass die E-Mail eines potentiellen Wählers mit strategischen Anreizen verbunden ist, die E-Mail eines Bürgers außerhalb des Wahlkreises jedoch nicht. Das Feldexperiment ist wichtig um die unterschiedliche Motivation politischer Kandidaten zu verstehen. Sollten Politiker abhängig von ihren Erfolgchancen bei Wahlen unterschiedlich motiviert sein und dementsprechend in gleichen Situationen unterschiedlich handeln, hätte die Implikationen für das Verständnis von Parteistrategien und innerparteilichen Prozessen.

Problematisch an dem Forschungsdesign ist, dass die Kandidaten über den wahren Absender der E-Mail getäuscht werden und unwissentlich an einem Experiment teilnehmen. Beide Faktoren leiten sich direkt aus der Forschungsfrage ab. Indem das Feldexperiment die Sensibilität gegenüber strategischen Anreizen misst, soll der Anteil intrinsischer Motivation bei den Kandidaten extrapoliert werden. Dafür werden zwei Treatmentgruppen geschaffen, die sich nur anhand der strategischen Anreize unterscheiden. Eine Eigenheit des politischen Raumes ist es, dass Beobachtung an sich schon einen strategischen Anreiz darstellt. Ist sich ein Politiker der Beobachtung durch einen Wissenschaftler bewusst, so wird er sein Handeln auch daran orientieren, wie der anschließende Report des Wissenschaftlers von möglichen Wählern aufgenommen wird. Eine Treatmentgruppe ohne strategische Anreize lässt sich unter diesen Umständen nicht realisieren. Damit erfüllt das Feldexperiment die in Punkt 8 Abschnitt C.III. der Ethischen Richtlinien der DGPs und des BDP formulierten Kriterien für die Zulässigkeit von Täuschung in der Forschung.

Die mit dem Experiment verbundenen Risiken für Menschen betreffen grundsätzlich zwei Gruppen. Zum einen kann die unwissentliche Beobachtung von den Versuchspersonen als Ärgernis wahrgenommen werden, zum anderen kann dieser Ärger auch zu Problemen für andere Wissenschaftler führen. Da die möglichen Folgen für andere Wissenschaftler eine direkte Konsequenz aus dem Ärger der Versuchspersonen sind, wird besonders versucht diesen Ärger zu vermeiden.

Für Feldexperimente ist es grundsätzlich wichtig, eine natürliche Handlungssituation zu schaffen. Die Kandidaten sollen also bei einer alltäglichen Handlung beobachtet werden, die sich aus ihrer Eigenschaft als Direktkandidaten ergibt. Es ist wichtig festzustellen, dass hierbei keine privaten Handlungen oder Meinungen beobachtet werden. Das Experiment bezieht sich allein auf Handlungen, die in unmittelbarem Bezug zu der öffentlichen Funktion als Direktkandidat stehen. Um dies sicherzustellen, werden in dem Feldexperiment allein E-Mailadressen verwendet, die im Zusammenhang mit der Kandidatur veröffentlicht sind. Die zu beobachtende Handlung, in diesem Fall das Beantworten der E-Mail, soll die Kandidaten zudem möglichst wenig Zeit kosten. Die Anfrage in der E-Mail ist so gestellt, dass sie in weniger als 5 Minuten beantwortet werden kann. Damit erfüllt das Feldexperiment die in Punkt 6.1 Abschnitt C.III. der Ethischen Richtlinien der DGPs und

des BDP formulierten Kriterien für Experimente ohne eine auf Aufklärung basierende Einwilligung in die Forschung.

Für die Auswertung des Experiments ist allein der Unterschied zwischen den Antwortquoten erfolgreicher und erfolgloser Kandidaten relevant. Somit ist der Inhalt der Antworten für das Experiment nicht relevant und wird nicht ausgewertet. Ebenfalls irrelevant für die Auswertung sind Name, Partei und Wahlkreis der einzelnen Kandidaten. Diese Eigenschaften müssen für die Sammlung der Kontaktadressen zwar erhoben werden, in allen Auswertungs- und Replikationsdatensätzen werden sie aber genauso fehlen wie die E-Mailadresse der Kandidaten. Damit folgt das Feldexperiment den Kriterien der Absätze b und c, Punkt 6.1 Abschnitt C.III. der Ethischen Richtlinien der DGPs und des BDP.

Ein Debriefing der Kandidaten ist derzeit nicht geplant. Damit folgt das hier diskutierte Forschungsdesign dem bisher bei ähnlichen Feldexperimenten üblichen Vorgehen. Dieses Vorgehen stützt sich auf Sektion B, Abschnitt III der IRB Guidelines des Department of Health & Human Services (U.S.A.).<sup>2</sup> Demnach soll auf ein Debriefing verzichtet werden, wenn das Debriefing selber zu Stress oder Ärger führen könnte. Von diesem Vorgehen kann abgewichen werden, sollten einige Kandidaten, z.B. aufgrund interner Kommunikation, den Verdacht schöpfen Opfer einer Täuschung zu sein.

Aufgrund der hier diskutierten Bedenken bitte ich Sie um eine Prüfung des dargestellten Feldexperiments. Diesem Schreiben angehängt sind ein Lebenslauf des verantwortlichen Betreuers Prof. Dr. Susumu Shikano sowie eine ausführliche Beschreibung des Feldexperiments. Für Rückfragen stehe ich jederzeit gerne zur Verfügung.

Mit freundlichen Grüßen

Niklas Harder

Anlage:

CV Prof. Shikano  
Projektbeschreibung

---

<sup>2</sup>[http://www.hhs.gov/ohrp/archive/irb/irb\\_chapter3.htm](http://www.hhs.gov/ohrp/archive/irb/irb_chapter3.htm)

## 3.C IRB response

Re: Antrag auf Genehmigung durch die Ethik-Kommission

<https://sogo.uni-konstanz.de/SOGo/so/pop212691/Mail/0/folderINBO...>

**Betreff:** Re: Antrag auf Genehmigung durch die Ethik-Kommission  
**Von:** Sabine Schieß <Sabine.Schiess@uni-konstanz.de>  
**Datum:** Mittwoch, 06. August 2014 08:36 CEST  
**An:** Niklas Harder <Niklas.Harder@uni-konstanz.de>  
**Antwort an:** Sabine Schieß <Sabine.Schiess@uni-konstanz.de>

Lieber Herr Harder,

im Auftrag des Vorsitzenden der Ethikkommission, Herr Prof. Leist, teile ich Ihnen mit, dass nach unseren Richtlinien hier kein Ethikvotum notwendig ist. Wir initiieren den Prozess nur, wenn dies aufgrund von Grant- oder Publikationsrichtlinien notwendig sein sollte.

Herzliche Grüße  
Sabine Schieß

Am 04.08.2014 11:27, schrieb Niklas Harder:  
> Liebe Frau Schieß,  
>  
> vielen Dank für die Rückmeldung.  
>  
> Mit freundlichen Grüßen,  
>  
> Niklas Harder  
>  
>

--  
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### 3.D Attrition

TABLE 3.9: Attrition by state, treatment and success

	BB				SN				TH			
	In		Out		In		Out		In		Out	
	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc
Intended	34	44	26	49	41	86	54	76	28	39	35	34
Treated	32	41	24	42	40	84	51	74	22	33	26	27
Share	0.94	0.93	0.92	0.86	0.98	0.98	0.94	0.97	0.79	0.85	0.74	0.79

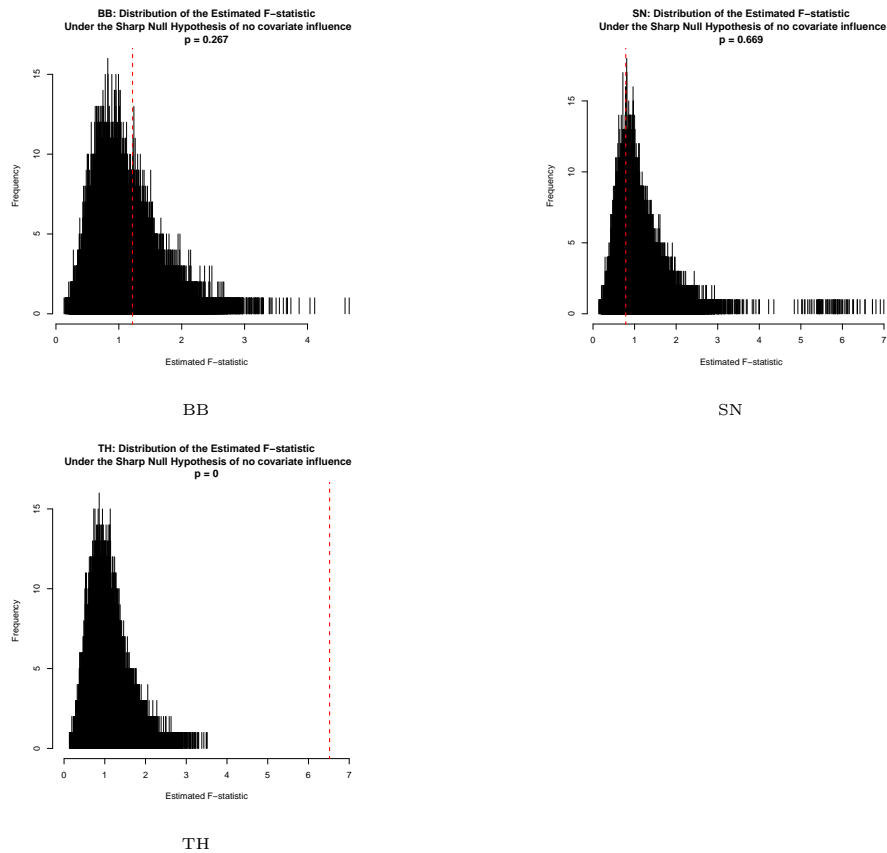


FIGURE 3.5: Randomization inference to test covariate influence on attrition (Gerber and Green 2012, 220). Values shown are F-statistics from linear regressions of attrition on covariates (treatment group, success, academic title, gender, age, district margin, party affiliation, time of day email was sent, day email was sent, email provider). Regressions were estimated using the sample of all candidates in the In and Out treatment groups. Values for the solid lines are taken from 100,000 simulated random assignments of attrition. The dotted line marks the F-value from the treatment assignment used in the field experiment. For the case of Thuringia, the null hypothesis of no covariate influence on attrition has to be refuted.

### 3.E Covariate influence on treatment

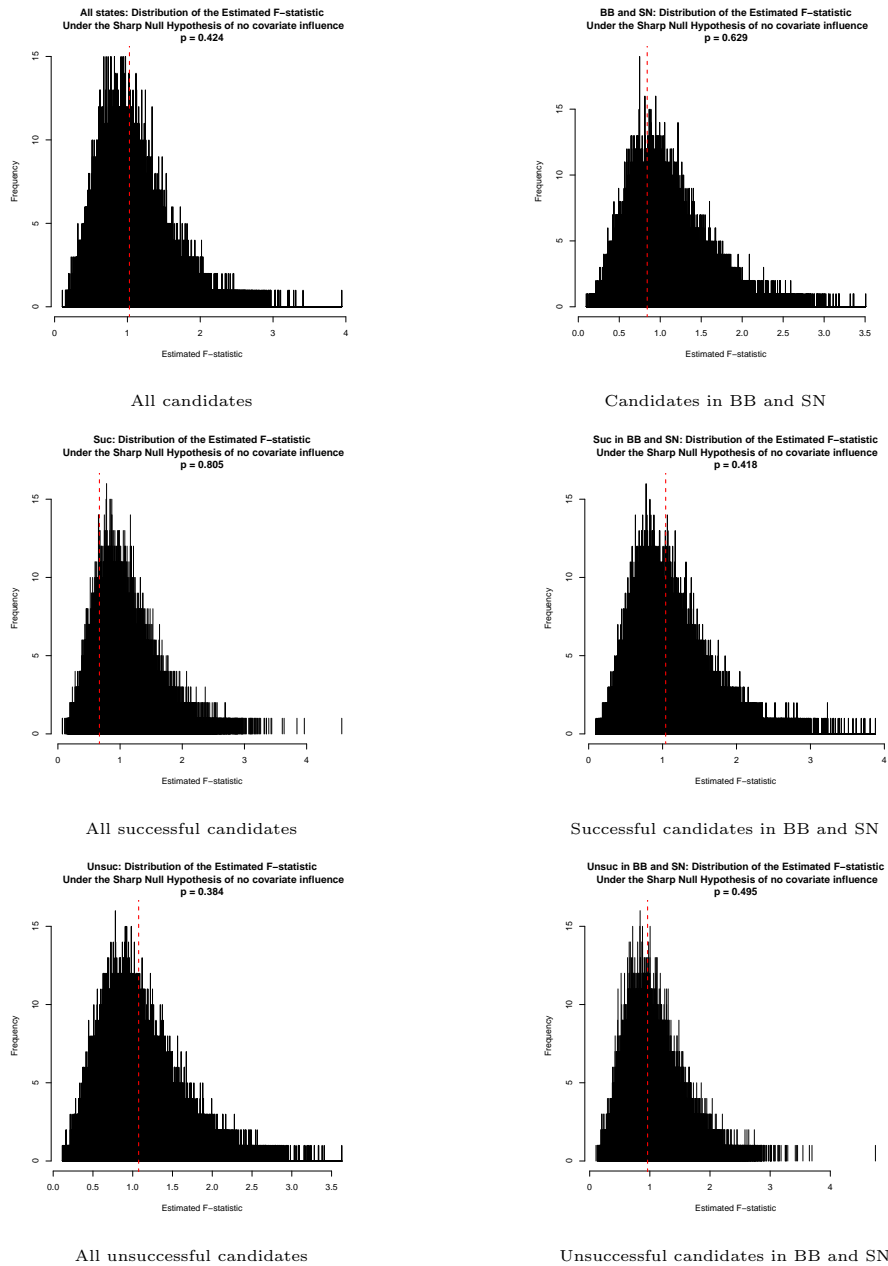


FIGURE 3.6: Randomization inference to test covariate influence on treatment assignment (Gerber and Green 2012, 107). Values shown are F-statistics from linear regressions of treatment assignment on covariates (academic title, gender, age, district margin, party affiliation, time of day email was sent, day email was sent, email provider, and, in the upper two panels, success). Values for the solid lines are taken from 100,000 simulated random treatment assignments. The dotted line marks the F-value from the treatment assignment used in the field experiment. The null hypothesis of no covariate influence on treatment assignment cannot be refuted.



### 3.F Covariate balance

TABLE 3.10: Balance statistics

	Mean Out	Mean In	Std. Diff. Pooled	Var. Ratio
Title	0.067	0.097	-15.728	0.709
Gender	0.800	0.667	42.564	0.720
Year of Birth	1966.040	1966.444	-5.275	0.980
District Margin	13.479	12.585	14.330	1.047
CDU	0.373	0.250	37.488	1.247
SPD	0.160	0.264	-35.893	0.691
FDP	0.067	0.083	-8.928	0.814
Gruene	0.053	0.125	-35.575	0.461
Linke	0.280	0.194	28.311	1.286
Min. Party	0.067	0.083	-8.928	0.814
Time send	0.467	0.500	-9.401	0.995
Tuesday	0.333	0.361	-8.225	0.963
Wednesday	0.373	0.333	11.791	1.052
Thursday	0.293	0.306	-3.761	0.976
web.de	0.440	0.361	22.683	1.067
gmx.de	0.387	0.458	-20.453	0.955
gmail	0.173	0.181	-2.668	0.968

Balance statistics for successful candidates from BB and SN  
Placebo treatment excluded

TABLE 3.11: Balance statistics

	mean.Tr	mean.Co	sdiff.pooled	var.ratio
Title	0.060	0.056	2.621	1.073
Gender	0.767	0.840	-25.916	1.330
Year of Birth	1970.905	1968.864	22.780	0.781
District Margin	14.577	16.407	-26.894	0.899
CDU	0.052	0.024	20.636	2.095
SPD	0.138	0.072	30.516	1.781
FDP	0.138	0.200	-23.313	0.744
Gruene	0.216	0.200	5.401	1.057
Linke	0.138	0.112	11.085	1.196
Min. Party	0.319	0.392	-21.515	0.912
Time send	0.560	0.488	20.441	0.987
Tuesday	0.336	0.272	19.719	1.128
Wednesday	0.310	0.360	-14.835	0.930
Thursday	0.353	0.368	-4.276	0.983
web.de	0.353	0.416	-18.134	0.941
gmx.de	0.422	0.392	8.738	1.024
gmail	0.224	0.192	11.185	1.122

Balance statistics for unsuccessful candidates from BB and SN  
Placebo treatment excluded

# 4

## Context and Motivation in Party Politics:

*How important is electoral success for party survival?*

### **Abstract**

Small party research is typically biased towards successful new parties. Consequently, elite decisions to disband a party or not to form one in the first place are commonly overlooked. This represents a significant gap in the research on the behavioral roots of party politics. This paper argues that party motivation depends on context and relies on Self-Determination Theory to reconcile extrinsically motivated vote-seeking parties with intrinsically motivated small parties. The paper tests the hypothesis that parties are only vote seeking once they have secured a minimum amount of electoral success by modeling party survival as a function of the votes and public financial support received by a party. It finds that the survival of very small parties is much less dependent on electoral success than the survival of more successful parties.

## 4.1 Introduction

Party formation and dissolution are consequences of decisions made by party elites. Since at least the 1960s, established democracies have experienced the formation of many new parties, some of which have proven persistent and successful, while others have dissolved (Beyens et al. 2015; Marinova 2014). The formation, breakthrough, and establishment of new parties, as well as the behavioral roots of party decisions, have received great attention in political science (Bolloyer, Spanje, et al. 2012; Bolloyer and Bytzek 2013; Dinas et al. 2015; Downs 1957; Harmel and Robertson 1985; Kitschelt 1989; Spoon 2011). The literature on new party entry is a part of this literature (Cox 1997; Hug 2001; Neto and Cox 1997; Tavits 2006; Zons 2013) and has been troubled by selection bias on the dependent variable for two reasons. First, it is biased towards successful parties. For Germany, Chapter 2 shows that the frequently used dataset provided by Hug (2001) grossly underestimates the incidence of small parties. Hug (2001, 172) admits that he most likely underestimates the number of small new parties in his data collection effort. Hence, the finding of Chapter 2 probably holds for other countries as well. Beyens et al. (2015, 258) argue that case studies on specific new parties or party groups are also biased towards successful new parties. Chapter 2 analyzes the consequences of this selection bias and demonstrates that strategic entry explanations (Cox 1997; Tavits 2006) no longer hold once all parties are considered in the analysis. Second, the sample of new parties is *self-selected* in the sense that parties are only observed if party elites decide to form a new party (Hug 2000). Decisions *not* to form a new party are not observed. Beyens et al. (2015, 258) make a similar point in arguing that little can be learned about party survival if party dissolution is not observed as well.

This paper addresses a gap in the literature, which neglects elite decisions to disband a party or not to form one in the first place, by studying the importance of electoral success for party survival. In this research design, party formation is assumed to be exogenous. However, once a party has formed, decisions to dissolve or maintain it can be observed. Instead of observing parties that decide not to form at all, assessing party survival incorporates the decision not to run anymore. Chapter 2 shows that strategic entry explanations do not hold once all parties are accounted for. Therefore, the

paper also introduces a new theoretical approach. Based on the results of the previous chapters and insights from Self-Determination Theory (Deci 1971), I argue that once a party has gained a minimum of electoral success, intrinsic motives for party formation are lost and party survival will depend on future electoral success. However, small parties that fail to achieve even minimal electoral success will keep their intrinsic motivation and will be much less dependent on electoral success. It is important to note that I do not assume there are different party types. Instead, building on intrinsic and extrinsic motivation, different sensitivities to electoral success are explained by changing contexts rather than fundamentally different actor assumptions. This theoretical approach can integrate previous research that describes parties as not strategic (Harmel and Robertson 1985) or slowly becoming more strategic (Kitschelt 1989; Spoon 2011) with existing rational choice models of political parties (Strom 1990).

The paper considers all parties that nominated a party list for at least one German general election between 1953 and 2009.<sup>1</sup> Building on recently published records of the German election supervisor and party handbooks (Decker and Neu 2013; Der Bundeswahlleiter 2014; Stöss 1984d; Stöss 1983f), I was able to code election results and party survival for all 87 parties that fall into this category.

Using Cox regression models, the paper finds that party survival only depends on election results if a party previously crowded out intrinsic motivation by generating at least minimal extrinsic payoffs by participating in elections. By contrast, electoral success hardly influences the survival of parties that never realized extrinsic payoffs in elections. The results show that parties can follow different preferences depending on the context.

The remainder of the paper is structured as follows. Section 4.2 introduces the concept of intrinsic motivation and develops the paper's hypotheses. Section 4.3 presents the research design and the data used for the analysis. Section 4.4 estimates the influence of electoral success on party survival and discusses the results. Section 4.5 concludes.

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<sup>1</sup>While data from the 2013 election was coded, we cannot observe party death after this election. Hence, the six new parties from the 2013 election are not considered in the analysis.

## 4.2 Party motivation and party survival

Chapter 2 shows that strategic entry theory is not supported when all new parties are considered in the analysis. This finding is quite intuitive, as the empirical literature on strategic entry mostly relies on data that systematically excludes parties that did not receive a significant number of votes (Hug 2001; Tavits 2006; Zons 2013). Hence, most observations contradicting the strategic entry hypothesis were not included in these studies. The vanishing support for strategic entry theory applies more readily to older findings, according to which party formation is not related to new party success (Harmel and Robertson 1985). Case studies also find that new parties only slowly adopt a more strategic approach towards elections and politics over time (Kitschelt 1989; Spoon 2011). Frey (1994) argues that insights from Self-Determination Theory can help reconcile such preference changes with rational choice models. According to Frey, intrinsic motivation (and its crowding out) can explain why actor preferences can change depending on the context. Such an approach would be compatible with the existing rational choice literature on successful party behavior, and provide a more systematic understanding of unsuccessful parties.

Intrinsic motivation is a well-established concept in psychology (Ryan and Deci 2000) and is not alien to political science or social science in general (Ostrom 2000). In political science, intrinsic motivation is mainly discussed as a possible solution to the *paradox of voting* (Gerber, Green, and Larimer 2008; Panagopoulos 2013). Richard Ryan and Edward Deci (see, e.g., Deci 1971; Deci 1975; Ryan and Deci 2000) elaborated the concept of intrinsic motivation and integrated it into the larger framework of Self-Determination Theory. According to these authors, intrinsic motivation is the consequence of every individual's need to feel competent and self-determined (Deci 1975, 63); it is not derived from the *consequences* of an action, but from the satisfaction inherent in its *execution* (Ryan and Deci 2000, 56). As feelings of competence and autonomy are crucial for intrinsic motivation, the intensity of an actor's intrinsic motivation to perform a specific task depends on the context and the match between his or her capabilities and the requirements of performing that action. Contextual factors such as external rewards, threats, deadlines, directives, and competition pressure have been shown to decrease intrinsic motivation (Deci et al. 1999). Although sensitivity

to such factors can differ between individuals, this crowding-out effect can mean that increased external rewards decrease an actor's overall motivation (Bénabou and Tirole 2006; Gneezy and Rustichini 2000). The intuition here is that if an actor is executing a given task due to intrinsic motivation, pressure or rewards can decrease intrinsic motivation without providing enough extrinsic motivation to rationalize the continued execution of the task.

According to typical rational choice models of political parties, parties act rationally in their pursuit of power, policy, or plurality (Strom 1990). While these models draw different conclusions, they share the assumption that votes are a critical means of attaining the desired payoffs. According to this logic, payoffs can only be generated by participating in elections; party formation in itself generates no payoffs. The costs of party formation must then be seen as an investment in future electoral success. If this success cannot be realized, parties should decide to dissolve. This approach is different from the strategic entry approach (Cox 1997; Tavits 2006) as it assumes that parties only learn about their chances of winning votes after they have participated in elections.

Introducing intrinsic motivation and two additional assumptions allows us to develop more nuanced hypotheses on the link between electoral success and party survival. First, it has to be assumed that party formation in advanced democratic systems is a voluntary act. One might argue that this is a hard assumption to make, as adverse policies might pressure citizens into forming a new party. However, party formation is neither the only (nor necessarily the most promising) approach citizens can take to change a given policy (Farrer 2014). Especially if there are no imminent elections, petitions, protest, lobbying campaigns, or joining an existing party are arguably more promising ways to change policy. Second, extrinsic factors that can decrease intrinsic motivation increase with the number of votes a party receives. Such factors can include the extrinsic rewards generated by electoral success as well as increasing expectations or media attention.

Given the assumptions that parties seek external payoffs through participating in elections and that party formation is a voluntary act, the process of party formation generates no extrinsic benefits for party members. I therefore propose to explain the

process of party formation as sustained by intrinsic motivation. This has the drawback that, due to individuals' very specific determinants of intrinsic motivation, party formation is hard to predict. However, once a party is formed, intrinsic motivation and the crowding out of intrinsic motivation allow new hypothesis on the relationship between party survival and electoral success. The basic idea is that if party formation is driven by intrinsic motivation, electoral success can threaten party survival if the generated payoffs are not high enough to compensate for the intrinsic motivation that was crowded out by electoral success. There are at least two ways in which electoral success can crowd out intrinsic motivation in party members. First, if a party generates payoffs such as political offices or monetary benefits (e.g., from public party funding or donations), the question of how to distribute the payoffs can lead to unequal rewards and rising intraparty competition. Second, electoral success will usually lead to increased attention from the media and the general public, which can create outside pressure and limit the feeling of self-determination. Both mechanisms are captured in a quote by the former director of the German Pirate Party Marina Weisband. In the general elections of 2009 and 2013 the party won around 2% of the vote (Der Bundeswahlleiter 2015a). This was enough to receive public party financing and considerable media attention, but not enough to gain political representation. Asked if she would consider running for the position of party director again, she explained that, due to the long working hours, limited flexibility and a quarreling party, the job was not desirable at all (Zeit Online 2013).<sup>2</sup>

If party formation is driven by intrinsic motivations and electoral success crowds out intrinsic motivation, there are two ways that party entry can develop after the first election. First, if a new party wins only a very few votes, no extrinsic benefits are realized, intrinsic motivation is not crowded out, and the party can continue to be sustained by intrinsic motivation. Second, if a party wins enough electoral support to realize extrinsic payoffs, intrinsic motivation is crowded out; the motivation from the extrinsic payoffs must then replace the lost intrinsic motivation in order for the party to survive. The party should thus adopt a strategic approach to elections: its survival will depend on future electoral success. Hence, electoral success should only

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<sup>2</sup>The original indirect quote read "Der Posten sei auch alles andere als attraktiv: Die Vorstände müssten extrem viel Zeit aufbringen, hätten aber wenig Gestaltungsfreiheit. Außerdem habe man 'keine motivierte Partei, die hinter einem steht, sondern eine in sich zerstrittene und mäkelige.' "

determine party survival after a party has received extrinsic payoffs from participating in elections. Yet the survival of very small parties that have never received extrinsic payoffs from running in elections should not depend on electoral results.

Following a classical rational choice approach as described above allows us to formulate the simple hypothesis that:

*H<sub>1</sub>: The greater a party's electoral success, the longer it will survive.*

The introduction of intrinsic motivation allows us to formulate a more qualified hypothesis:

*H<sub>2</sub>: Party survival only depends on electoral success if a party previously gained enough electoral support to realize extrinsic payoffs.*

Note that  $H_2$  does not assume two fundamentally different party types. Instead, electoral success changes party preferences by changing party motivation. I assume that intrinsically motivated parties seek to maximize the feelings of competence and autonomy. Extrinsically motivated parties, on the other hand, seek to maximize their extrinsic payoffs. Here, the model is open to the different rational choice models specified in the literature (Strom 1990). A critical question is whether parties can transition from one preference set to the other. Building on the theory from above, the transition from an intrinsically motivated party to an extrinsically motivated party is not problematic. There is no reason to assume that only the first election should determine party preferences. Instead, as soon as a party realizes extrinsic payoffs for the first time, its preferences are expected to change. The transition from an extrinsically motivated party to an intrinsically motivated one is a different problem. Building on Self-Determination Theory, extrinsic incentives crowd out intrinsic motivation. However, there is no basis for the assumption that removing extrinsic incentives can 'crowd in' intrinsic motivation. Hence,  $H_2$  works in only one direction. An intrinsically motivated party can change its preferences to extrinsic benefits. Once this transition happens, the party's survival will depend on electoral success and intrinsic motivation cannot be crowded in again.



### 4.3 Research design and data

Studying party survival introduces parties as the unit of observation and allows us to include party-specific characteristics instead of contextual variables. Recently published records of the German election supervisor and party handbooks (Decker and Neu 2013; Der Bundeswahlleiter 2014; Stöss 1984d; Stöss 1983f) make it possible to observe party survival for all German parties that ran in general elections between 1953 and 2009. To date, party entry has usually been studied using the count of new parties at elections (Hug 2001; Tavits 2006; Zons 2013). These studies did not look at individual parties, but rather at the circumstances that influenced the aggregate count of new parties in elections.

In addition to introducing parties as the unit of analysis, studying party survival also addresses a common selection bias in the literature on new parties. Hug (2000) argues that new parties are a self-selected sample, as parties that did not form remain unobserved. Although examining party survival cannot address this specific problem, by observing party *death* we can observe a similar decision. Instead of observing parties that decide not to form at all, assessing party survival incorporates the decision not to run anymore. From the perspective of strategic entry theory, a focus on party survival changes the research question from “when does it pay off to form a party” to “when does it no longer pay off to sustain a party”. While the questions are clearly not the same, they both consider *negative* decisions that have been overlooked by previous research. Bolleyer, Ibenskas, et al. (2016) make a similar attempt in their study of the termination of party mergers. They argue that party mergers are similar to new parties, and find that merger termination depends on the electoral success of mergers. This paper tests whether this finding holds for parties in general.

Next to the available data, the German party system has two other desirable characteristics for testing the outlined hypotheses. First, it is important to define the point when a party won enough votes to crowd out intrinsic motivation. Intrinsic motivation is crowded out by rewards and outside pressure (Deci et al. 1999). It is unclear how many votes are necessary to attract outside attention, and whether this number is constant over time. However, the German regulations for public party

finance provide an exact minimum threshold for realizing monetary payoffs in an election. According to § 18 of the German Law on Political Parties (PartG), parties that win more than 0.5% of the vote receive a direct cash transfer for every vote won. Even for small vote shares the amount of this transfer can be quite substantial. When the German Animal Protection Party (Die Tierschutzpartei) won 0.53% of the votes in the 2009 general election they received around 61,500 Euro in public party finance (Deutscher Bundestag 2010). As this money represents an extrinsic payoff, and the question of how to distribute the money might put extra pressure on party members, I assume that all parties that receive public party finance crowd out intrinsic motivation. Since public party finance was introduced in 1967 (Koss 2008), all parties that received at least 0.5% of the votes after 1967 are coded as extrinsically motivated; before 1967, only parties that won a seat in parliament are coded as extrinsically motivated. Following these coding guidelines, I find 69 out of 87 parties that never won enough votes to crowd out intrinsic motivation. In the group of intrinsically motivated parties I observe 46 party deaths, and in the group of extrinsically motivated parties I observe seven party deaths. Second, there is a possibility that crossing the 0.5% threshold does not crowd out intrinsic motivation. Instead, it could be the case that only parties that are extrinsically motivated cross this threshold, while other parties do not even seek to cross the threshold. However, before a small party is allowed to run in national elections its seriousness is evaluated by the election supervisor (Der Bundeswahlleiter 2016). Before the 2013 elections 20 parties did not satisfy this criterion and were not allowed to run in the elections (Egeler 2013a; Egeler 2013b). This selection mechanism should sort out parties that show no effort to win votes.

Several conceptual issues have to be addressed before the data can be analyzed. In order to test the influence of electoral results on party survival, the terms “party” and “survival” need clarification. The critical vote share for realizing extrinsic benefits also has to be discussed.

Parties defined as “organization[s] that seek[s] benefits derived from public office by gaining representation in duly constituted elections” (Strom 1990, 574)<sup>3</sup> should be

<sup>3</sup>Also see Downs (1957, 25).

of a certain size and demonstrate an ambition to compete in elections. The aim to participate in elections is important, as it is the first prediction about party behavior according to Stroms' definition. While parties may form for other reasons and never run in elections, they should be excluded from the sample according to the definition presented above. Hence, this paper only considers parties that ran in general elections. In the German mixed-member proportional election system voters have two votes. The first vote is used to determine a district representative (direct candidate) by simple majority, while the second vote is given to party lists (Rudzio 2006, 162). Parties may choose to nominate direct candidates but no party lists. In order to make sure the observed parties are really "organizations" and not a loose network of individual candidates, parties that have never nominated party lists are excluded from the analysis. In 1956 the German Communist Party (KPD) was banned and forced to dissolve (Staritz 1984). As it was not the party's decision to dissolve, it is not considered in the analysis. Following this coding scheme, the lifespans of 87 parties are coded. A complete list of these parties is provided in Appendix 4.A.

Using party survival to examine strategic party behavior relies on the idea that surviving as a party incurs costs that need to be balanced by successful participation in elections. If existence as a party were not associated with any costs, party survival should not depend on the benefits a party receives. Founding a party in Germany requires an inaugural convention where prospective party members use simple majority votes to decide on a name, approve statutes, formulate an agenda, and elect an executive committee. Statutes, agendas, and the names of the executive committee members then need to be sent to the office of the German election supervisor (Der Bundeswahlleiter 2015c). While this is enough to call an organization a party, it is not enough to participate in elections or benefit from special tax regulations for political parties. For this, a party has to prove that it meets the legal definition of a political party stated in §2 of the PartG, which states that the organization's size, cohesion, and public appearance need to convincingly prove a party's serious aim to contribute to public policy. Before each election the electoral commission decides which parties satisfy these criteria. Arguably, this bureaucratic procedure is costly for new or small parties. Once a party is legally accepted as such, running for elections generates additional costs. In order to nominate candidates, parties that are not represented

in a state parliament or the national parliament need to document a certain level of popular support. Nominating a party list in a federal state requires 2,000 documented supporters from the state, and nominating a direct candidate requires 200 documented supporters from the relevant electoral district (Der Bundeswahlleiter 2016). Hence, party survival is only costly if a party regularly takes advantage of its legal rights to compete in elections or claim tax breaks.

The analysis presented here relies on a coding method that follows the definition of party survival used by the German election supervisor. Here, party age is measured in years and parties are dropped from the records if they made no legal use of their party status for more than six years (Der Bundeswahlleiter 2014). Parties are also considered “dead” if the office of the election supervisor was unable to contact members of a party’s executive board, if a party reported its dissolution, or if a party was banned. As the official records only date back to 1969, I use party handbooks to code older cases (Decker and Neu 2013; Stöss 1984d; Stöss 1983f). Here, I code a party as dead if it is reported to have ceased its political activities. A stricter approach would be to code a party as dead as soon as it misses one general election, and then count it as a new observation if it runs again in a later election. The problem of this approach is that for very small parties, this coding would not only measure party behavior but also decisions of the election supervisor. The criteria applied to convincingly prove a party’s serious aim to contribute to public policy can differ from election to election. For example, in 2009 a new election supervisor applied stricter criteria and several small parties that wanted to run were not recognized as parties and were excluded from the election (Hipp 2009). In order to avoid measuring third-party decisions instead of party behavior, I use the arguably less precise (but more party focused) coding applied in the records of the German election supervisor.

A possible problem with the outlined coding approach is that parties can appear unsuccessful and intrinsically motivated on the national level while generating extrinsic payoffs in state-level elections. This would be problematic if good results in state-level elections could sustain an extrinsically motivated party that looks small and intrinsically motivated at the national level. Unfortunately, including all electoral results from state-level elections is beyond the scope of this paper. While data from

state-level elections would certainly add to the analysis presented here, I argue that the measurement bias on the intrinsic/extrinsic variable introduced by not observing state-level elections is acceptable for two reasons. First, if good results in state-level elections could make a party look indifferent to national election results, this could be the case for all parties in the sample. If this were a major problem, we would not expect to find a strong main effect of electoral results on party survival. However, Table 4.1 shows that electoral results have a large and significant effect on party survival. Second, the threshold for accessing public party finance through federal elections is winning 1% of the votes in a federal election. Parties that can win 1% or more in several states should also win more than 0.5% in national elections. However, parties with very specific regional strongholds can win substantial amounts of votes in one state and only a few votes in national elections. Two rather obvious cases of such parties are the Bavarian Party (BP) and the party of the Danish minority in Schleswig-Holstein (SSW). Table 4.3 in Appendix 4.B shows that the estimation results presented in Table 4.1 hold if these two cases are dropped from the sample.

According to different rational choice models, parties do not seek to maximize votes; rather, they seek the various payoffs that are realized through attracting more votes. These payoffs are not necessarily linearly correlated with vote shares (Strom 1990). For example, if a German party seeks to maximize policy influence, a change from 30 to 31% of the vote share is not as important as a change from 4 to 5%, which is the threshold for parliamentary representation (Rudzio 2006, 120). To control for the non-linear influence of electoral success on party motivation, I take the natural logarithm of a party's vote share to measure electoral success.

Based on the outlined coding rules, I can model party survival as a function of motivation and electoral success. To do so, I use survival analysis techniques with time-varying covariates. As I am mainly interested in the influence of covariates on party survival and not aware of any theoretical or empirical guidance on the hazards of party survival, I make no assumptions about their functional form and use the Cox proportional hazards regression model (Box-Steffensmeier and Jones 2004, Chapter 4). As the main costs of party formation occur when parties decide to run in elections, I include parties as soon as they run in a general election. Strictly speaking, the 1949

election was the first German general election after the Second World War. This election was still heavily influenced by the pre-war party system and did not have a 5% threshold for representation (Rudzio 2006, 111). The 5% threshold was introduced in 1953 and this election is often described as the first real post-war election (Rudzio 2006, 116). Following this assessment, the 1953 election is the first election observed here. Public party finance was discussed above as a source of extrinsic motivation for parties. Therefore a time-varying dummy is introduced that controls for the introduction of public party finance in 1967. The inclusion of further covariates, such as the number of party members or a party's income through donations, would be desirable. However, not only is such information hard to collect, the relatively small sample size of 87 parties and 53 party deaths does not allow a more complex model. This is why the two rather parsimonious models presented in the following section should be interpreted as a first step; future research should collect more data on party survival.

## 4.4 Results

Table 4.1 presents the estimates of two Cox regression models with time-varying covariates and standard errors clustered by party (Box-Steffensmeier and Jones 2004, 115). Proportional hazards assumptions were tested for all included variables using the scaled Schoenfeld residuals (Box-Steffensmeier and Jones 2004, 120). The test found no violation of the proportional hazards assumption.<sup>4</sup>

The first model in Table 4.1 shows a strong and significant main effect for electoral success. The negative coefficient for the log vote share indicates that higher vote shares decrease the parties' hazard rate or increase their lifespan. A better understanding of the effect size can be derived from computing the percentage change in the parties' hazard rate.<sup>5</sup> Here, an increase in the vote share from 0.5–1.5% would decrease the

<sup>4</sup>All analyses and data handling were conducted using the statistical software R Version 3.2.3 and additional packages (Broström 2015; Gandrud 2015b; Hlavac 2013; Ram and Wickham 2015; R. Core Team 2013; Team 2015; Therneau and Grambsch 2000; Therneau 2015; Wickham 2007; Wickham 2009).

<sup>5</sup>I use Formula 4.11 presented by Box-Steffensmeier and Jones (2004, 60):  $\% \Delta h(t) = \left[ \frac{e^{\beta(x_i=X_1)} - e^{\beta(x_i=X_2)}}{e^{\beta(x_i=X_2)}} \right] * 100$ .

TABLE 4.1: Cox proportional hazard models of party survival

	<i>Dependent variable:</i>	
	Party survival in years	
Log vote share	-0.26*** (0.09)	-0.62*** (0.18)
Small party dummy (< 0.5%)	-0.20 (0.52)	0.54 (0.63)
Party finance dummy	-0.03 (0.52)	-0.10 (0.51)
Log vote share * Small party		0.45*** (0.20)
Observations	292	292
Log Likelihood	-192.45	-189.83
Wald Test	15.24*** (df = 3)	30.46*** (df = 4)
LR Test	15.21*** (df = 3)	20.46*** (df = 4)
Score (Logrank) Test	14.40*** (df = 3)	16.01*** (df = 4)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors clustered by parties in parentheses.

hazard rate by 24.85%. The effect of the log-transformed variable becomes evident when calculating the effect of a one-unit change in higher vote shares. Increasing the vote share from 30–31% would only decrease the hazard rate by 0.85%. Neither the introduction of party finance nor the characteristic of being a very small party has an independent effect on party survival.

The results of the first model in Table 4.1 support  $H_1$ . However, the second model shows that the effect of electoral success does not hold for all parties: it introduces an interaction effect that separates the effect of electoral success between (1) parties that never won at least 0.5% of the vote share and (2) all other parties. As in the first model, the introduction of party finance and the characteristic of being a very small party still have no effect on party survival. However, the second model shows that the effect of electoral success is even more pronounced for parties that won 0.5% or more of the vote share in at least one election (and supposedly crowded out intrinsic motivation). In this case, an increase in the vote share from 0.5–1.5% would decrease the hazard rate by 49.39%. Interpreting the effect of electoral success on very small parties is harder; the coefficient for the interaction term and the coefficient for electoral success have to be considered. To facilitate the interpretation, Figure

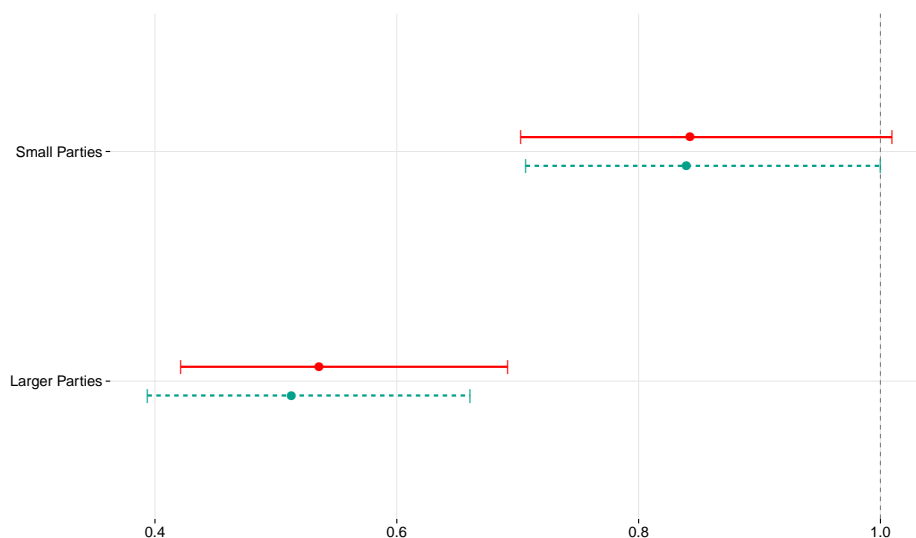


FIGURE 4.1: Distributions of simulated multiplicative effects of log vote share for very small parties and larger parties (Gandrud 2015b). Horizontal bars represent 95% confidence intervals and points indicate the median estimate. The dashed horizontal lines were computed excluding all parties that are currently in the Bundestag (see Table 4.4 in Appendix 4.B). The dashed vertical line indicates 1, which is equivalent to no effect.

4.1 presents the multiplicative effect of a one-unit change in the log vote share on small and larger parties separately. The figure is based on the distribution of 5,000 simulated coefficients and shows the exponential of the simulated coefficients, which is the multiplicative effect on the hazard ratio (Gandrud 2015b). It shows that electoral success has a significantly lower influence on the hazard of small parties, and that this influence is barely discernible from ‘no effect.’ This difference in the effect of electoral success on party survival was formulated by  $H_2$  and supports the idea that party motivation differs depending on the context.

Since the most successful German parties are also among the oldest, these parties may be driving the estimated effect of electoral success. To control for this possibility, I estimate the models presented in Table 4.1 on a sample that excludes all parties that are represented in the German legislature (see Table 4.4 in Appendix 4.B). Still, the main results hold and Figure 4.1 shows that the difference in the effect of electoral success on party survival is still considerable and significant.

The estimation results presented above show that a party’s survival only depends on electoral success once it has gained enough votes to realize some extrinsic payoffs. I argue that this is due to the fact that party formation is driven by intrinsic motivation,



and that this motivation is crowded out by even minimal electoral success. While the estimation results support the paper's main hypothesis, I still do not observe the process in which intrinsic motivation is crowded out. Hence, I cannot rule out the possibility that very unsuccessful parties represent a fundamentally different type of party that seeks no electoral success even when it becomes more successful. To rule out this possibility, I would ideally want to observe the behavior of parties that did not gain enough votes to crowd out intrinsic motivation in their first election, but later became more successful. Unfortunately, the data at hand contains only three such cases that do not allow any substantial inference.<sup>6</sup> However, to avoid tautology, the assumption that two fundamentally different party types explain the estimation results would require a theoretical basis. A simple typology according to which rational choice models only apply to successful parties would confine the scope of such models to cases that are in line with its assumptions. Instead, the framework of intrinsic and extrinsic motivation allows to derive testable hypotheses as to when parties should act in concordance with established rational choice models. Furthermore, there is substantial qualitative evidence that parties gradually adopt a more strategic approach towards elections (Kitschelt 1989; Spoon 2011). Kitschelt (1989) studies the emergence of ecology parties in the 1980's. At that time such parties secured their first noteworthy election results in different European countries (Kitschelt 1989, 11). According to this paper's framework the success should have led to the crowding-out effect. Kitschelt (1989, 278) describes the 1980's ecology parties in Europe as characterized by candidates that did not seek a professional political career and an internal structure that stressed decentralization and individual autonomy. The external behavior of these parties, however, moved slowly towards accepting the logic of party competition (Kitschelt 1989, 281). While intrinsic and extrinsic motivation are not explicitly mentioned by Kitschelt (1989), the descriptions fit to parties in the process of crowding out intrinsic motivation. The continued professionalization of the German Green party in in the early 1990's (Probst 2013, 168) can be seen as the continuation of this process.

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<sup>6</sup>The German Peace Union (DFU), the National Democratic Party of Germany (NPD), and the Animal Protection Party (Tierschutz).

## 4.5 Conclusion

The paper proposes and supports a theoretical model of political parties that allows for preference change over context. By modeling the change from intrinsically motivated parties to extrinsically motivated parties, the proposed model can integrate findings from the case study literature that describe similar processes (Kitschelt 1989; Spoon 2011). By allowing for strategic behavior once intrinsic motivation is crowded out, the proposed model also supplements existing rational choice models.

A better critical test for the crowding out hypothesis would be an even closer look at the crowding out process. This would require case studies of parties that for the first time realized extrinsic benefits through participation in elections. While several case studies on green parties touch on this issue (Beyens et al. 2015; Spoon 2011), more research on different party families that specifically focuses on a possible crowding out mechanism would be desirable. Here, the potentially differing motivations of party elites and party members offer additional variance to explore. The paper at hand conceptualizes party motivation as the motivation of party elites. However, even in professionalized and successful parties uncompensated party activists are not uncommon. The different preferences of party members and party elites have also been discussed in the rational choice literature (Coleman 1971; Grofman 2004). Party members and elites act in different contexts and face different payoffs. Hence, the framework of this paper could guide future research on this topic and identify situations and issues in which the difference between party members and elites should be more or less pronounced. The crowding out of intrinsic motivation in party members in the absence of sufficient extrinsic benefits should be especially worrisome for parties. For example, the phenomenon that the professionalization of the German Green Party was accompanied with by the loss of longtime members (Probst 2013, 168) could be explained by the crowding out effect.

While the estimation results support the paper's main hypothesis, much remains to be done in order to test the crowding out hypothesis in party behavior. To improve the paper's statistical model, two further sources of extrinsic benefits could be included. First, electoral success in state-level elections should be considered. Second, hard-

to-measure income from donations should also be included in the model. While it is likely that most unsuccessful parties collect few donations, there are some cases (e.g., the Marxist–Leninist Party of Germany (MLPD) (Hüllen 2013)) that receive substantial donations. Therefore it should be tested whether such parties really seek electoral success or whether they view politics as a form of income generation.

# Appendix

## 4.A Observed parties

TABLE 4.2: Names and survival time of all parties considered in this paper.

Party	Start	End	Event	Reference
SPD	1945	2013	0	Heimann 1984b
CDU	1945	2013	0	Schmidt 1983
FDP	1948	2013	0	Dittberner 1984
CSU	1946	2013	0	Mintzel 1983
BP	1946	2013	0	Kranenpohl 2013a
DP	1945	1980	1	Pfahl-Traugber 2013
Zentrum	1945	2013	0	Thielking 2013c
SSW	1948	2013	0	Stöss 1983e
GB BHE	1950	1977	1	Stöss 1984a; Stöss 1984b
GVP	1952	1957	1	Heimann 1984a
DRP	1950	1964	1	Schmollinger 1983b
VU	1949	1966	1	Schmollinger 1984
BDD	1953	1968	1	Stöss 1983e; Schönfeldt 1983
Mittelstand	1957	1958	1	Stöss 1983e
DG	1949	1965	1	Stöss 1983d
DFU	1960	1984	1	Schönfeldt 1983
NPD	1964	2013	0	Jesse 2013c
AUD	1965	1980	1	Stöss 1983a
CVP	1965	1970	1	Dingel 1983
FSU	1950	2013	0	Der Bundeswahlleiter 2014
UAP	1962	2013	0	Der Bundeswahlleiter 2014
EFP	1965	1995	1	Haas 2013a
ADF	1968	1970	1	Stöss 1983d
DKP	1968	2013	0	Jesse 2013a
AVP	1975	1984	1	Der Bundeswahlleiter 2014
CBV	1976	1993	1	Der Bundeswahlleiter 2014
EAP	1974	2013	0	Braun 2013a
5%-BLOCK	1976	1977	1	Stöss 1984c
GIM	1969	1982	1	Brandt and Steinke 1984
KPDAO	1970	1980	1	Baica 1984
KBW	1973	1985	1	Der Bundeswahlleiter 2014
VL	1976	1982	1	Der Bundeswahlleiter 2014
V	1979	1987	1	Der Bundeswahlleiter 2014
Bürgerpartei	1979	1993	1	Der Bundeswahlleiter 2014
Grüne	1980	2013	0	Probst 2013
USD	1980	1985	1	Der Bundeswahlleiter 2014
BWK	1980	1994	1	Der Bundeswahlleiter 2014

Party	Start	End	Event	Reference
KPDML	1968	1988	1	Der Bundeswahlleiter 2014
FAP	1979	1995	1	Der Bundeswahlleiter 2014
ASD	1982	1990	1	Der Bundeswahlleiter 2014
PDS	1989	2013	0	Neu 2013
DSU	1990	2013	0	Schulze 2013a
DDD	1989	1990	1	Schindler 1999
BSA	1971	2013	0	Haas 2013c
LIGA	1985	1995	1	Thielking 2013a
CM	1988	2013	0	Thielking 2013b
VPD	1978	1996	1	Miliopoulos 2013
GRAUE	1989	2008	1	Schulze 2013b
Mündige Bürger	1975	1991	1	Kranenpohl 2013b
REP	1983	2013	0	Kailitz 2013
FRAUEN	1979	1998	1	Fischer 2013
KPDO	1990	2013	0	Verfassungsschutz Brandenburg 2015
OeDP	1982	2013	0	Kranenpohl 2013c
SpAD	1990	1996	1	Wikipedia 2016b
VAA	1990	1991	1	Party is listed in the official election results. No other records were found.
Naturgesetz	1992	2004	1	Braun 2013b
MLPD	1982	2013	0	Hüllen 2013
Tierschutz	1993	2013	0	Lucardie 2013
PBC	1989	2013	0	Thielking 2013d
PASS	1993	2012	1	Haas 2013b
STATT	1993	2012	1	Decker and Hartleb 2013
Deutschland	1997	2007	1	Der Bundeswahlleiter 2014
APPD	1998	2013	0	Der Bundeswahlleiter 2014
APD	1988	2000	1	Der Bundeswahlleiter 2014
BFB	1994	2000	1	Der Bundeswahlleiter 2014
Chance 2000	1998	2002	1	Der Bundeswahlleiter 2014
DPD	1995	2002	1	Der Bundeswahlleiter 2014
DVU	1987	2012	1	Der Bundeswahlleiter 2014
FAMILIE	1981	2013	0	Der Bundeswahlleiter 2014
DIE FRAUEN	1995	2013	0	Der Bundeswahlleiter 2014
HP	1984	2012	1	Der Bundeswahlleiter 2014
Pro DM	1998	2008	1	Der Bundeswahlleiter 2014
FORUM	1990	2006	1	Der Bundeswahlleiter 2014
AB 2000	1998	2005	1	Der Bundeswahlleiter 2014
Nichtwähler	1998	2013	0	Der Bundeswahlleiter 2014
Violetten	2001	2013	0	Der Bundeswahlleiter 2014
AUFBRUCH	1998	2012	1	Der Bundeswahlleiter 2014

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Party	Start	End	Event	Reference
PRG	1996	2009	1	Der Bundeswahlleiter 2014
Schill	2000	2007	1	Der Bundeswahlleiter 2014
AGFG	2005	2010	1	Der Bundeswahlleiter 2014
50Plus	2004	2009	1	Der Bundeswahlleiter 2014
PARTEI	2004	2013	0	Der Bundeswahlleiter 2014
ADM	2004	2012	1	Der Bundeswahlleiter 2014
FWD	2009	2013	0	Der Bundeswahlleiter 2014
PIRATEN	2006	2013	0	Der Bundeswahlleiter 2014
RRP	2007	2013	0	Der Bundeswahlleiter 2014
RENTNER	2002	2013	0	Der Bundeswahlleiter 2014

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## 4.B Additional regression models

TABLE 4.3: Cox proportional hazard models of party survival; SSW and BP excluded

	<i>Dependent variable:</i>	
	Party survival in years	
Log vote share	-0.24** (0.09)	-0.64*** (0.18)
Small party dummy (< 0.5%)	-0.02 (0.53)	0.78 (0.63)
Party finance dummy	-0.21 (0.52)	-0.35 (0.51)
Log vote share * Small party		0.50*** (0.20)
Observations	278	278
Log Likelihood	-190.55	-187.36
Wald Test	14.60*** (df = 3)	28.89*** (df = 4)
LR Test	13.92*** (df = 3)	20.30*** (df = 4)
Score (Logrank) Test	13.05*** (df = 3)	15.15*** (df = 4)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Robust standard errors clustered by parties in parentheses.

TABLE 4.4: Cox proportional hazard models of party survival; only parties below 5%

	<i>Dependent variable:</i>	
	Party survival in years	
Log vote share	-0.24*** (0.09)	-0.67*** (0.22)
Small party dummy (< 0.5%)	-0.32 (0.51)	0.65 (0.77)
Party finance dummy	-0.21 (0.51)	-0.19 (0.51)
Log vote share * Small party		0.49*** (0.24)
Observations	209	209
Log Likelihood	-186.94	-184.86
Wald Test	8.17** (df = 3)	33.36*** (df = 4)
LR Test	8.41** (df = 3)	12.58** (df = 4)
Score (Logrank) Test	8.41** (df = 3)	12.34** (df = 4)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Robust standard errors clustered by parties in parentheses.



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