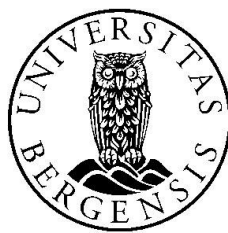# Rising Tide or Skilful Manoeuvring?

Comparison of classical theories on elections and parties applied to a novel case: The Green Parties

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Abstract

There has been a steadily increasing interest in the study of the phenomenon of "niche" parties in the last decade. The resulting literature has predominantly focused on populist right-wing parties, and while this is vital, the case of the Green party has never been more relevant than today. This thesis examines the rise of Green parties through a rigorous theoretical framework including sociological, strategic and institutionalist theories with a strict case-selection approach. It aims to analyse theoretically different processes addressing why Green parties gain votes in the same empirical model. To this end, a logistic multi-level regression model is applied to data from 14 elections in north-western Europe. The results largely align with theory and current literature: both long-term sociological factors and the more immediate manoeuvring of political parties structure voting behaviour in relation to Green parties. The most significant finding of this thesis is a substantial interaction between how Green parties position themselves relative to the party-system mean at the party level, and post-materialist values at the individual level, in determining the likelihood that individuals will vote for a Green party. On the one hand, the more the Green party separates itself from the party-system mean the less they incentivise individuals to vote for them. On the other hand, in interaction with post-material values at the individual-level the effect is reversed. While concurrent with theory, the greatest implication of this finding is the fact that scholars who wish to analyse the effects of party manoeuvring and the values and attitudes of the electorates in tandem, must be sensitive to the interactions between these levels, especially in the ever more relevant case of the Green parties.

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1 Introduction

1.1 Research question

The past decade brought multiple upheavals, realignments and surprise elections in the electoral politics of western-European countries. This change has in part been facilitated by previously peripheral parties gaining significant ground in the party-political landscape, even gaining pivotal positions in both local and national polities. The full extent of the role of these newcomers is yet to be fully grasped. What is the role of the so-called niche parties in the current era of change? Previously discredited as fringe phenomena, Populists and Greens, and in some cases regionalist-parties, have become mainstays in the party-political landscapes of several European countries. The following study will focus on one particular party family. The aim is to gain a deeper understanding of one fragment of a larger trend, namely the Green Parties and the driving forces of their success.

From school strikes and youth activism to international summits on end, seemingly without conclusion, the environmental issue has never been more visible in civil society and on the world stage. Maybe not surprisingly in such circumstances, the Greens experienced their best election yet to the European parliament in 2019. The Austrian Green Party is in government while the German Green party increasingly appears like a permanent coalition option. In Denmark and Norway, where more traditional parties covered the role of the Green party until recently, purely green parties are on the rise. While international politics seem in perpetual deadlock, the environmental movement is continuously institutionalising in north-western Europe, and beyond. The aforementioned cases alone merit a deeper examination of what must now be considered a newcomer carving its space within traditionally rigid party systems. What are the forces driving the growth and spread of Green parties? Are they related to structural societal trends or do they simply gain from the ever-growing urgency of environmental issues?

There is an abundance of literature on what makes political parties, including what is often referred to as niche parties, succeed in elections. Much of this literature has been preoccupied with Populist parties, while Green parties have received significantly less attention, despite being viewed as similar type of party. Existing research on Green parties has to a large extent either focused on the individual-level characteristics of individuals voting green (Poguntke 1989, 177-187), or on the aggregate level party-system contexts favouring Green parties (Meguid 2005). While it has been studied with regards to populist parties, these theoretically

different influences on the success of a party has not been jointly studied for Green parties. The contribution of this thesis is to explicitly measure and compare metrics of value structures and party manoeuvring in the same empirical model. Discussions of Ronald Inglehart's (1971, 1977) "silent revolution" and cleavage structure theory, combined with spatial and issue competition perspectives on democratic competition are combined to produce a comprehensive framework for addressing the question of what drives Green party success. The approach of this study is largely inspired by Hanspeter Kriesi's (2008; Kriesi et. al 2012; Kriesi and Hutter 2019) latest works, which emphasizes the importance of a combination of short-, medium- and long-term factors both at individual and society level, when studying the context of electoral change. Thus, this thesis will be answering the question: *To what extent can cross-national variation in Green party vote shares be explained by (a) composition of national electorates and, (b) party-political context?*

1.2 Empirical framework and results

The thesis applies new measurement techniques innovated by Daniel Bischof (2015) on how political parties (and specifically niche parties) position themselves politically compared to the overall party-system and compares these measures to values and social characteristics within populations. The following study shows that both electoral-circumstance and the longer-term social developments of societies matter for Green party vote shares. Specifically, Inglehart's post-materialist value dimension is related to the Green vote, and furthermore, party positions interact with post-materialism to produce different vote incentives for different individuals. These results are provided by performing a multi-level logistic regression analysis, predicting whether individuals intend to vote for Green parties based on their social characteristics, but also characteristics relating to the policy position of their national Green party and overall party-system.

1.3 Structure

Chapter 2 starts off with presenting a large theoretical framework for answering the research question. Classical sociological, party strategy and institutional theories are all presented and related to Green parties. Conceptual literature on the questions of: "what is a Green party" and "what is a niche party?" is reviewed, before conceptual clarifications are made. Lastly, relevant literature on the subject of Green party and niche party success is reviewed before presenting a series of hypotheses relevant for the research question at hand.

Chapter 3 addresses data and measurement decisions. The analysis is mainly based on survey responses provided by the World Values Survey Association (WVSA), the Eurobarometer surveys and the Manifesto Research on Political Representation (MARPOR) dataset. Chapter 4 addresses analytical strategy, including logistic regression, multi-level regression, multiple imputations method and more. Lastly, chapter 5 presents the findings of the analysis and chapter 6 discusses the implications of the findings for theory and current research.

2 Theory

2.1 Theoretical framework

In the USA in the 70s the study of social and political movements in interaction with their immediate situation based a framework called "political opportunity structures" became popularized, with the phrase being coined by Peter K. Eisinger (1973). Later theorists have effectively enlisted this concept as a sort of conceptual superstructure (Arzheimer and Carter 2006; Arzheimer 2009; Kitschelt 1995; Kriesi et. al 1992; Kriesi 2008; Kriesi and Hutter 2019, 3-6) analysing movements and parties in their immediate strategic context like the original use but adding the European tradition of analysing long-term societal trends and institutional framewoks and how they shape political context as well. In other words, adding sociological factors.

Utilizing the superstructure of a political opportunity structures framework (see figure 2.1), the theoretical perspectives presented will be based on a three-pronged approach. In short, these overarching categories can be summarized as (1) the effect of voter demand for certain issues, which will be referred to as the sociological dimension, (2) the effect of spatial competition and issue salience among parties, which will be referred to as the party strategy dimension and (3) the effect of institutional structures, which will be referred to as the institutional dimension. The sociological dimension accounts for the composition of electorates by asking: "who votes green, and why?", while the party strategy dimension will account for the dynamics of inter-party competition and within-party positioning. How do parties differentiate their programmatic offer and what kind of effects does this have? Lastly, the institutional dimension accounts for the institutional framework establishing the rules of the game, that is, the democratic institutions these dynamics operate in and more specifically the electoral systems.

The central point of the political opportunity structures framework is the point that several different contextual factors are related to the electoral performances of political parties, be it the character of society at large or the immediate circumstances party actors and operate in. In this manner, the framework of political opportunity structure is a loose conceptual superstructure which ties together theoretically and ontologically different processes which have but one thing in common: they shape political parties' opportunities for success. Different theories addressing different short-, medium- and long-term processes will be presented, where the processes themselves are theoretically independent of one another, however they are all

theorized as central in shaping the electoral fortunes of political parties and are therefore components within the political opportunities structure.
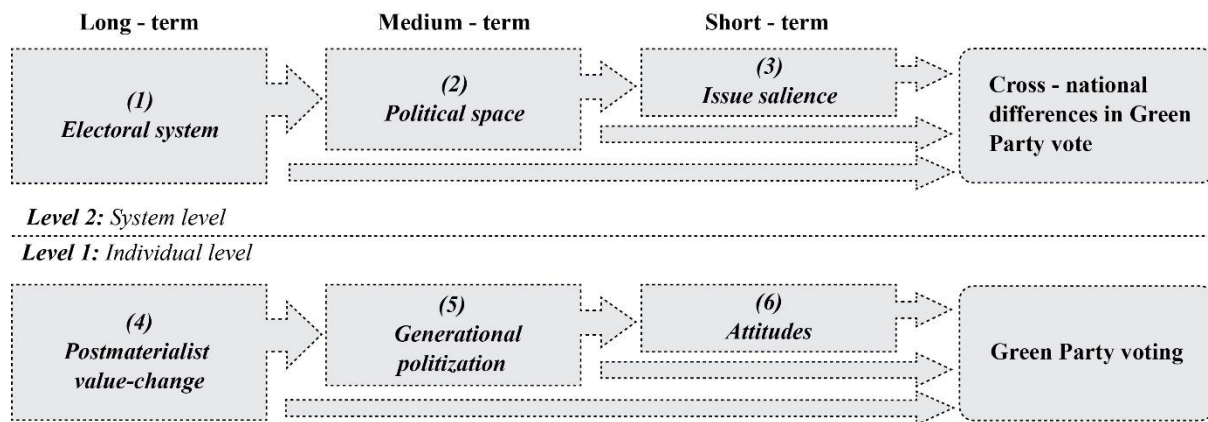
Figure 2. 1 Political opportunity structures framework for Green parties.

Most prominently within the sociological dimension is the research done by Ronald Inglehart (Inglehart 1971; Inglehart 1977; Inglehart 1997; Inglehart 2018) on systematic value changes in western societies. His theories on postmaterialist value-systems has at the individual level time and again been correlated with voting green (figure 2.1, box 4) (Inglehart 1997, 243-245). A central causal mechanism in Inglehart's theory is the role of generational differences driven by early life socialization. Generational differences will be discussed as an issue in itself, due to its importance both in popular and academic discourse (figure 2.1, box 5). The basis for the party strategy dimension will be Anthony Downes' (1957) spatial theory and Donald E. Stokes (1963) theory of issue competition (figure 2.1, boxes 2 and 3). Both of these classic theories have been utilized by contemporary scholars to study how the manoeuvring of Green parties and their competitors influence subsequent electoral results. Lastly, the institutional dimension captures the extent to which electoral systems shape national party systems (figure 2.1, box1). Indeed, Erik Weber and Inge De Bal (2018) argue that the way electoral systems shape national party systems may be as close to a law-like relationship the science of comparative politics has ever gotten, and any cross-country comparison of election results would be amiss if it did not consider the role of institutions. A synthetization of these three dimensions is presented in the following thesis, with a major goal being the joining of all three factors in a single model, and in so doing, contributing to the growing literature on the nature of electoral politics and its manifestations in our time.

Another way to frame the point that there are actors and processes at different levels operating in a competitive space with several important contextual forces at work is the commonly used market-analogy in electoral studies (Cox 1997, 7). The competitive landscape political parties find themselves in makes the application of economic terminology effective in describing the different forces shaping electoral fortunes. The sociological dimension shapes political demand (figure 2.1, level 1), the party strategy dimension political supply (figure 2.1, level 2) and these forces may find themselves in both equilibrium and disequlilibrium. Framing the theoretical discussion of electoral competition like an equilibrium-analysis common among economists can yield significant insights into the forces shaping electoral competition (Cox 1997, 8). The following theoretical discussion will therefore also be framed in terms of these market analogies.

2.2 The Sociological Dimension

2.2.1 Value systems and cleavages

The demand side of the economic analogy is what is here referred to as the sociological dimension. That is, the social relations and interactions in the electorate, shaping its values and attitudes and thus constituting its political preferences. These preferences are in turn what political parties seek to cater to. The following section will present different perspectives on value- and attitude change in today's societies, relating them to the act of voting for a Green party; but also, how they shape party-systems in the long-run and by extent how they shape Green parties' opportunities for success.

One of the most comprehensive works of social science aiming to chart and structure individual values in contemporary western societies is Ronald Inglehart's (1971, 1977, 1997, 2018) theories of post-modernization and "the silent revolution". The crux of Inglehart's argument is that macrosocial trends can shape entire societies, leading to systematic changes in the values of their inhabitants (Inglehart 1997, 27-28, 43). In this manner, Inglehart's theories are firmly planted in the traditions of classical sociologists such as Marx and Weber. What these three have in common is that they aim to analyse how macrosocial concepts such as culture, the economy and politics interact in shaping the trajectories of culture, the economy and politics in different societies. In *Capital,* Marx (1867, 10) for instance seeks to explain political and

cultural change by examining economic trends (industrialization)[1]. While Weber in *The Protestant Ethic and the Spirit of Capitalism* (Weber 1930, 38-40) seeks to explain economic and political change through cultural trends (religious reformation). Inglehart himself is explicit about this theoretical heritage, but emphasizes his own view, namely that these macrosocial factors in the long-run and in the grand scope have reciprocal relationships (Inglehart 1997, 8-11). However, in trying to present what he characterizes as value systems in the post-war western world, Inglehart clearly attempts to explain cultural change by examining economic and political phenomena.

The basic theory of Inglehart's work states that a new dimension of values has developed in the western world. Inglehart calls this trend the materialist-postmaterialist dimension (Inglehart 1971, 911; Inglehart 1977, 12-15). This new value system is the result of a multitude of long-term trends, some of them being de-industrialization, feminization of the labour force and steadily increasing levels of education (Inglehart 1977, 6-10). As these long-term changes has taken root in western societies, they have simultaneously changed the outlooks and expectations of an increasing number of individuals' lives, and with it, also changed their values (Inglehart 1971, 911; Inglehart 1977, 21-24). The core of what separates a materialist from a postmaterialist is the degree to which they value material well-being and economic security (Inglehart 1971, 911-912; Inglehart 1977, 22-23). For instance, highly valuing freedom of expression is within the domain of postmaterialist values, while valuing job security is within the materialist domain. In other words, the cause of post-materialism is material well-being. In his early works, Inglehart (1971, 911; 1977, 22-24) explicitly discusses post-materialism as a value system related to the new middle-classes of post-war western Europe. In later works, Inglehart (2018) demonstrates how these processes of value change are visible in broader contexts as well, applying the framework to countries outside western Europe. In the long-run however, the intermediating factor of stickiness of values slows down the pace of change which makes this value change a very long term process. Generally, the individuals who are most susceptible to new values are younger people; they have not completely formed their values and are still going through early-life socialization (Inglehart 1971, 991-992; Inglehart 1977, 21). For this reason, the causal mechanism material well-being is working through is the effect of different socialization contexts on different generations. Whole

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[1] In Marx's own words: "… and the ultimate aim of this book, to lay bare the economic law of motion of modern society". This is an explicit goal repeated throughout *Das Kapital,* here referencing it's mention in the preface to the first German edition.

generations are influenced and shaped by the cultural, political and economic environment of their politically formative years.

Inglehart's approach to social change at the national level also ties well together with classical comparative politics, in the form of the Rokkanean concept of social cleavage structures (Flora et. al 1999; Lipset and Rokkan 1967; Rokkan 1970). A cornerstone of Stein Rokkans theories is the role of long-term social change in producing new forms of social conflict that shape national politics and national party systems. Hanspeter Kriesi and Swen Hutter (2019, 7) draw directly on Rokkans approach in their book on structural party-system change in Europe after the Great Recession. Their main argument is that prompted by the economic crisis of 2008, disillusionment with mainstream parties grew, which in turn
propelled an alternative social cleavage to take on a greater role in the political conflict of many European countries (Hutter and Kriesi 2019, 3, 7-8, 20-22). Kriesi has written several books on the topic and broadly refers to the new cleavage as the demarcation-integration cleavage (Kriesi 1995; Kriesi 2008; Kriesi 2012 et. al; Hutter and Kriesi 2019). It is the cleavage driving a wedge between people whose livelihood and work security is threatened by globalization, and those who stand to gain from it. It is also the cleavage dividing people who are culturally cosmopolitan and culturally nativist (Hutter and Kriesi 2019, 8). It has originated from two separate processes of macrosocial change, the first being Inglehart's "silent revolution". As mentioned, the transition from an industrialized economy based on arduous labour to a more physically forgiving service-economy, the opening up of higher education and the feminization of the work force are all processes that accelerated in western countries in the 70s (Hutter and Kriesi, 8, 12). These processes laid the foundation for a new urban middle class, which became the basis for several new progressive movements like the various Green movements and subsequent parties (Inglehart 1997, 243-252), but also the transitions of the social bases of several leftist parties to the new urban middle class (Hutter and Kriesi 2019, 12). The other process is globalization, that is, the opening of national boundaries both economically, politically and culturally. Picking up its pace by the end of the 80s, globalization has increased international economic competition, migration and motivated political harmonization at an institutional level such as the EU and its continuous integration. These processes in turn created economic "winners" and "losers" of globalization, those who stood to lose job security to international competition and those who stood to gain from it. There is also the culturally nationalist response to increasing multiculturalism (Hutter and Kriesi 2019, 8). The social basis for this cleavage is quite heterogenous and its political manifestations are similarly so but can

generally be referred to as the New Right (Hutter and Kriesi 2019, 12). To summarize, there is ample theoretical grounds to argue that a new cleavage structure has materialized in western countries, one that crosscut the traditional class- and religion-based cleavage structures. One which on the one hand is related to the middle-class and Inglehart's silent revolution, and on the other hand is related to the increasing economic precariousness and cultural protectiveness of the less educated.

Considering Inglehart's postmaterialist value system these values are clearly part of a wider political context. The new cleavage has been theorized by many different scholars, the postmaterialist-materialist value dimension only being one such conceptualization. There is of course Kriesi's demarcation-integration concept, but other scholars have also named it the libertarian-authoritarian cleavage (Kitschelt 1994, 131-139; Kitschelt and McGann 1995). There is also the famous GAL-TAN scale (Green, Alternative, Libertarian – Traditionalist, Authoritarian, Nationalist) (Hooghe, Marks and Wilson 2002, 966; Hooghe and Marks 2018, 121-125). What is common for all is that they are socio-culturally defined. Economy plays a significant part in these theories, in Kriesi's demarcation-integration cleavage and its emphasis on globalization, or in the postmaterialist-materialist emphasis on material-wellbeing to name some. Still, the central social component of these cleavage definitions revolves around how different social groups associate with different cultural values. This is what makes this new cleavage predominantly a cultural cleavage.

More recent conceptual work on cleavage theory emphasizes that an established social cleavage must fulfil three necessary conditions in order to be considered a cleavage: a distinct socio-structural basis, specific values and beliefs and a political organization and mobilization (Bartolini and Mair 1990, 215; Bartolini 2005; Kitschelt 1994, 131). Arguably, at least in north-western Europe, the green movement fulfils these criteria. If we accept Inglehart's post-modernization thesis we know that there are systematic sets of values related to a specific socio-structural basis. That is, the steadily increasing priority of self-realization, ecological well-being and freedom of expression related to the increasing material security of the urban middle-class. Furthermore, although Inglehart's own research does not focus on the green movement, one of the most consistent correlates of postmaterialist values is the act of voting green and associating with the green movement (Inglehart 1997, 243-252; Norris and Inglehart 2017, 446). In other terms, the green movement envelops both empirical, normative and institutional components, and is firmly placed within the broader cleavage structure.

Inglehart's post modernization theory is not without its flaws. As with Marx and Weber, these comprehensive sociological theories seek to explain so widely that a margin of error unavoidably exists related to how far the theories can actually be generalized. The vast spatial and temporal scopes seek to explain the trajectories of entire societies – or indeed, as is the case with Marx, the entire industrialized world. Weber's comprehensive comparisons of catholic and protestant towns in late 1800s and early 1900s Germany suggests for instance that protestants at the time embraced modern capitalism more hole-heartedly than Catholics (Weber 1930, 40). While this undoubtedly tells us something about the relationship between culture and economy, however tempting this cannot be taken to mean that contemporary protestant countries are more productive than catholic countries. This would be to seriously overdo the temporal implications of the theory and jumping to conclusions. While we now know the temporal limitations of Weber's theory the case is not as clear for Inglehart's because history has yet to fully test post-modernization theory. While the more comprehensive generalizations of the classical sociological theories have not stood the test of time, they have left a legacy of theoretical concepts that shape scholarly debate even today. With regards to Inglehart, we do not know whether material well-being always leads to post-material values, and most likely it does not. Despite this, values can change in a systematic fashion influenced by macro-trends, and it is an empirical fact that we have observed shifts between material and post-material values in western societies over the past fifty years. To this point, the theory is spatio-temporally stable. Furthermore, one does not have to accept the entire theoretical framework of post modernization to still maintain that structured, post-material values exist and may well exist for a long time in western societies.

2.2.2 On generations

Generational socialization differences are an essential driving force in Inglehart's theory. The very concept of generations and politics merits a discussion in itself. Generational differences in political preferences has been linked to several of the new political trends of the current century, including the new left (Milburn 2019), the new right (Guth and Nelsen 2019, 2), and not least environmental movements (Alber 1989, 200-201). Popular discourse abounds with references to boomers, zoomers and millennials, all terms meant to denote a certain generation. In other words, generations seem to be an ever more present feature in the public imagination, age may matter for how you vote.

As a critique of his academic predecessors in 1927, sociologist Karl Mannheim sought to give the first sociological account of what he saw as the problem of generations. That is, how can we say that there is such a thing as "the generation" and that it has real life consequences? On the one hand you had the positivists, who deduced from the biological truths of life, death and the passing of time that generational change must be related to the pace of social, cultural and intellectual change (Mannheim 1927, 278). The problem of this approach is that it reduces the idea of generations to merely a rhythmic passing of time. On the other hand, was the romantic-historical school which views generations as a category of purely qualitative experience (Mannheim 1927, 281). A generation, in other words, is a subjective condition based on subjective experience of time and place. This notion leads to the conclusion that there may be a uniquely defined unity of consciousness called the generation, which is categorized based on the experience of being a certain age and living in a certain historical context. However, we cannot measure it, nor can we conclude anything from it, due to its subjective nature (Mannheim 1927, 281). Mannheim wished to bridge the gap between the biological and the metaphysical spheres by studying the sphere of social forces; what is the role of generations in structuring relationships of human interaction, community and social change (Mannheim 1927, 284-285, 288)?

Mannheim deconstructs the concept of generations as it relates to social interactions into three essential components: the generation as a location, the generation as an actuality and the generation as a unit (Mannheim 1927, 289, 303, 305, 311). The generation as a location describes how the generation defines individuals in relation to society at large. It is an indicator of social location. Like the concept of social class places the individual in a broader fellowship based on economic conditions, similarly the concept of generation places the individual within a fellowship based on age. It is not a concrete social group, but an abstract collective fact. It is not a voluntary membership, and neither is it binding. It does not have to be a conscious membership, but as with social class, social location may shape the way you relate to society and the way society relates to you (Mannheim 1927, 288-289). Generation as an actuality relates to whether the fact of belonging to a generation, or, co-presence in the same historical and cultural moment results in being subject to certain social impulses. The generation is not automatically actualized, just like the working class is not necessarily aware of its economic position and how it relates to society at large. It has the potential of materializing as a social entity, but it does not necessarily do so. As an actuality, the generation only exists when there

is a concrete bond of identity between the individuals in it. This bond may be formed by historical incidents, social upheavals or other forms of destabilization (Mannheim 1927, 302-304). Lastly, there is the generational unit. The generational unit is the category relating to how different individuals of the same generation may relate to the experiences of being of that generation differently (Mannheim 1927, 304-306). In other words, other integrative and formative features such as social class and ethnicity may influence an individual to experience the same historical context in a different way, forming different generational units within the same actualization. One or several units may become predominant of an era. Mannheim's main example is the European generations of intellectuals after the French revolution, where a significant conservative and liberal faction formed within the same age group, both as a reaction to the French revolution.

To introduce the contemporary parlance of the social sciences to the concept, historical events are the causes of the formation of a generation as a social identity, and your placement with regards to other social indicators are antecedent factors determining whether you are part of the actualization of the generation and a specific unity within it. As a hypothetical example, the dramatic increase in youth unemployment during the great recession could be such a cause. If you were a non-homeowning student with huge student loan debt, it is not unreasonable to assume that you would be inclined toward leftist policies such as strict housing regulation and free education. This especially applied if you lived in an urban centre such as London or New York where job competition and housing prices are high. If this was the case you would be in a very specific predicament mainly as a consequence of your age, and your reaction to it arguably a consequence of your social position. This is a basic version of Keir Millburn's argument in his book *Generation Left* (2019). Conversely, if you were of the same age group but lived on a farm, or of the same age group but from a wealthy family, this might generate another response. You would either not be part of the actualization due to your placement outside the scope of the crisis, or part of its unity because of your probable different political response to the problem. That is, you share the generational location, but not the actualization or the unity.

Age – or what Mannheim (1927, 290) and predecessors would call the biological rhythm – is the cause, but experience is the causal mechanism. Social location causes the individual to experience the historical process differently. Differences in age shapes the individuals' predispositions to different modes of political thought and reaction (Mannheim 1927, 291).

This is strikingly similar to Inglehart's socialization thesis, specifically his argument that there is a generational lag in value change because younger people are more susceptible to value change (Inglehart 1971, 991; Inglehart 1977, 21). There seems to be agreement that early life is when individuals are most capable of forming a unique political or attitudinal identity, and this may be a more general dynamic than the one defined by post-modernization theory. Mannheim does stress the point that due to the generation as an actuality component, we are only describing a generation's mere potential of materializing (Mannheim 1927, 313). Generations are only parts of a complex nexus of changing causal relationships in the historical process, and thus the generation is first of all a social group which can acquire special significance at a particular time through which it is able to make its mark on history. As with several sociological theories mapping out long-term processes, the theory must be viewed in terms of its vast complexity. According to Mannheim, the generation is first of all a potentiality, not an inherent component of the historical process.

2.3 The Strategic Dimension

As previously discussed, constructing a political opportunities structure framework for a political party involves discussing processes and dynamics that are ontologically completely different from one another, but still relevant in their own terms. In this section, the supply-side dynamics, or party strategy dimension of party politics is discussed. This dimension revolves around how parties as actors operate in their competitive landscapes to gain votes and possibly win elections. Here, the focus is on the parties and what they offer in terms of ideology, policy and competence. With regards to the political opportunity structures, we are now at the short- to medium-term, and at the party level.

2.3.1 Spatial competition

In 1957 Anthony Downs formalized the first theory of political space. In order to do this, he applied a range of economic concepts such as supply and demand, equilibrium, rationality and uncertainty, likening the dynamics of competitive party systems with those of economic markets (Downs 1957, 3-4, 11-14, 115-117). The base of Downs' argument is the assumption that political parties' main goal is to win political office, and by consequence of being organizations of rational actors, they will adopt behaviour accordingly (Downs 1957, 97). To maximize votes, political parties offer policies they think can win them elections. These different policies can be distributed along issue dimensions. Downs discusses these dimensions

in terms of ideology, and for the sake of argument restricts his discussion to the classic left-right dimension (Downs 1957, 98, 100, 116).

Say there is a set distribution of ideological preferences within the electorate, one may start predicting how parties should manoeuvre along the issue dimension in order to gain the most votes and possibly win elections (Downs 1957, 115). Downes argues, for instance, that with a unimodally distributed electorate, a two-party system should see convergence on the centre by the two parties. With a bimodal distribution the parties should be more static and occupy the two modes of the issue-dimension (Downs 1957, 118-119). A polymodal distribution should lead to several parties, with at least one party present at each mode (Downs 1957, 125-126). The fundamental implication of this theory is that given long-term stability the party system and electorate should tend toward a state of equilibrium and become predictable. Individual preferences, party positions, party number and which segments of the population different parties compete for are all part of an interpretable equation. Ultimately, Downs' *An Economic Theory of Democracy* is a theory of party system composition and party manoeuvring.

Presented above is the basic supply-demand relationship which constantly pushes party systems toward equilibrium. Having said this, party systems are rarely, perhaps never, in perfect equilibrium. Downs attributes this to the mechanisms of uncertainty, ideological immobility and elastic demand. Uncertainty clouds the judgement of both party and voters (Downs 1957, 97-102, 111). No one can be entirely certain which policies are the best solution to any given problem. Both parties and voters must make running judgements regarding which policies will win elections and which policies will be most beneficial to the individual. To Downs, ideology is the mechanism parties and voters use to circumvent the problem of uncertainty (Downs 1957, 98, 100). It allows voters to make a decision without full knowledge and it enables parties to formulate the sales pitch they believe will attract the most voters (Downs 1957, 98-99, 100-102). Because of uncertainty neither faction will ever know which ideology is the best one, and parties can thus strategically fashion their ideology to gain the most from voters' distribution along the ideological dimension, in turn a process obscured by uncertainty.

Though a tool of manoeuvrability, ideology also restrains parties. Because voters judge parties on ideological terms ideological coherence becomes important. Attributes of reliability, responsibility and integrity are central to how parties are gauged (Downs 1957, 97, 109-111).

An ideology cannot be internally contradictory; it has to be linked to its ideological past and present to some degree. It must link to the past through staying responsible for its ideological legacy, and to the present through being reliable in implementing election promises. Together, variation in responsibility and reliability makes up the integrity of a party. Uncertainty produces a degree of ideological diversity within the party and party members variance in reliability and responsibility determines a party's ideological integration. The ultimate consequence of this is ideological immobility: the assumption that a party will never radically shift its political position to the other end of the issue dimension, even if a space opens at the other end. Bound by responsibility and reliability, party integrity dictates that it mainly manoeuvres within the ideological sphere which is set by party legacy.

Lastly there is elastic demand. Elastic demand assumes that since voters do not have to vote, then if a party shifts too far from its base voters at either end of the ideological spectrum may choose to abandon their party (Downs 1957, 117). This becomes consequential when unmet demand significantly shifts the party system toward disequilibrium. Not only do parties risk losing voters by straying too far, they additionally risk new parties appearing to cater to the unmet demand of the disillusioned voters. The distribution of voters along the issue dimension itself may also change (Downs 1957, 129-131), often as a consequence of radical circumstance, such as broadening of enfranchisement, The Second World War or a social revolution such as industrialization. This is where Downesian theory ties together with the sociological theories discussed earlier: when demand changes. The point is that both shifts in the distribution of voters and party manoeuvring may drive the party system toward disequilibrium, and this is the context where new parties are most likely to appear (Downs 1957, 128). If they do, it means that demand is being met again and the party system most likely is back on its inherent long-term trajectory toward equilibrium.

2.3.2 Issue competition

In 1963, Donald E. Stokes wrote a paper critiquing and revising Downs' spatial model, a critique which laid the foundation for a theoretical field of its own. His critique revolved around three key issues: the axiom of unidimensionality, the axiom of fixed structure and the axiom of ordered dimensions. The first critique is the most evident one, namely the argument that politics is never reduced to a single dimension of competition (Stokes 1963, 370). While the assumption of unidimensionality in Downs' model is mainly done for the sake of simplicity of

argument, it is arguably at fault for being an oversimplification. As any spectator of politics would know, political parties rarely define their political platform (or in Downs' terms, ideology) based on one dimension alone. Even if they do, the complexities of social conflict inevitably force them to take stances on several dimensions. Politics is predominantly multidimensional. This is not a fatal blow to Downs' model, since one could argue that you simply have to account for multidimensionality. However, it vastly complicates the process of analysing the competitive behaviour of political parties. Not only do different dimensions suddenly pull parties in different directions, but one must weigh the importance of different dimensions as well.

At the centre of the critique relating to fixed structures are the arguments that multidimensionality is not only manifested at the party level but also in the electorate, and which of these dimensions are of primary concern is highly variable. This makes it harder to assume that a predictable preference distribution exists within the electorate (Stokes 1963, 371-372). Based on which issues are salient within the electorate, different issues take centre stage from election to election, and in turn the calculations political parties must make shift more rapidly than a mere observation of the electorates ideological distribution would account for. To add further complexity, the critique of the axiom of ordered dimensions introduces the idea that the form and degree of multidimensionality may vary between issues (Stokes 1963, 372). This is where Stokes introduces the concepts of positional issues and valence issues, which also establishes the greatest contribution of Stokes' paper. Some issues, he argues, are clearly competitive and parties and voters take clear and opposite stances. One example would be the degree of government intervention in the economy. Other issues, however, are issues most people agree upon, and the challenge for parties is to make voters associate them with the solution, and to avoid blame. These are the valence issues, and the classic example is corruption (Stokes 1963, 373). The point is that valence issues counters Downs' assumption that voters' preferences can be distributed along dimensions. Some political dimensions do not have preference distributions because everyone basically agree on the identity of the problem, albeit not necessarily on who is fit to solve it. For such issues, competence is more important than ideology, and issue ownership is much more likely to determine an election.

Stokes' critique has by no means falsified Downs' spatial model, on the contrary, the spatial model inspired an entire subfield of its own called spatial theory. The appliance of concepts such as equilibrium and supply and demand to the competitive landscape of elections is today

standard practice for many scholars (Abou-Chadi 2014, 418-420; Meguid 2005, 349-350). Stokes himself is the first to admit that a bit more attention to the complexities of politics and the spatial model is generally a good conceptualization of political competition (Stokes 1963, 376-377). The idea that the dimensional (whether uni- or multidimensional) space political parties manoeuvre in is an important factor in determining elections is fundamental in our reading of politics. However, a simple reading of spatial theory would suggest that for a political party gaining space is inherently a good thing because it would steal voters from other parties. But electoral politics is not always that simple, it is as much about offering competence as representing one side of a social conflict. To summarize, the main implication of Downs' theory is that if a party system shifts toward disequilibrium there is potential for parties, old or new, to gain votes by shifting their policy toward the open policy space. Nevertheless, catering to a new space may not win you votes in the long run, because other parties can take ownership of the issue, and if so, the dynamic is reversed. You may end up losing votes to an issue-owner by drawing attention to an issue they own.

2.4 The Institutional dimension

Lastly, we turn to the institutional dimension. As the oldest among the theoretical fields presented here, the idea that the institutional frameworks of different polities shape the way politics function within them is more or less accepted knowledge; the question is how. With respects to our field of interest, post-war liberal democracies, the main interest is how permissive the institutional setup is to newcomers. In other words, the proportionality of the electoral system. In terms of political opportunities structures we are now situated at the very-long term, at the system level.

2.4.1 Duverger's law, proportionality and party number

There has been a longstanding debate in the field on the exact role and nature of electoral systems in shaping national politics. In his book *Making Votes Count*, Gary W. Cox (1997) gives a thorough review of this debate. Cox then sets out to analyse the logics that shape the behaviour of individuals and parties in various electoral systems, with an emphasis towards how different electoral systems mechanically produces ranging results and incentives. The starting point of the debate is what has come to be known as Duverger´s law. The French social scientist Maurice Duverger (1959, 217, 249-252; 1986, 69-71) made three simple propositions in 1959, namely that simple-majority single-ballot systems favour the two-party system; proportional representation favours a multi-party system, and the majority system with a

second-round runoff favours a multi-party system. Though it seems a simple statement on an empirical regularity, the claim is controversial mainly for two reasons. Firstly, for its claim of theoretical law-hood, which is a tough claim to make for any social-scientific theory. Secondly, a critique may be based on the causal validity of the claims (Cox 1997, 14-15). Critics argue that proponents of Duverger´s law, and the subsequent theoretical tradition of electoral institutionalism, are mistaken with regards to the causal direction of the process. They argue that party systems shape electoral systems, not the other way around. Others argue that even if electoral institutions may have an *ex-post* effect in relation to social structure, the effect is irrelevant and insignificant compared to that of social structure (Cox 1997, 16). Duverger himself, and subsequent scholars accordingly (Cox 1997, 29-30; Duverger 1959, 224; Weber and De Bal 2017, 86) point to two central causal mechanisms when arguing why electoral systems in fact do have an independent effect. These are what Duverger called the mechanical effect and the psychological effect (Duverger 1959, 224). In short, the mechanical effect is the disproportionality any electoral system produces when translating votes to parliamentary seats, and which is intensified by simple-majority single-ballot systems. The psychological effect is the incentives expectations of who will win and lose creates. This is what Cox (1997, 27) refers to as strategic voting, and Duverger (1959, 225) strategic desertion. The theories also state that electoral systems that are liable to produce inflated majorities progressively increase the impact of these mechanisms (Cox 1997, 31). Cox argues that both electoral structures and social structures interact in producing party systems (Cox 1997, 23, 33). Particularly politicized cleavages may produce a third party, even in rigidly majoritarian systems (Cox 1997, 24), and social structure conditions the party system greatly (Cox 1997, 19). Equally, electoral systems can create an upper bound on the number of parties in a given social structure (Cox 1997, 30-32; Lijphart 2012, 140-141, 144-146). With regards to the discussion of law-hood, it is well beyond the scope of the following analysis to enter the epistemological debate. Erik Weber and Inge De Bal (2018) do formulate a solid defence of why Duverger's law deserves to be called a law, arguing that the fundamentals of what makes a scientific law is spatio-temporal stability and a clear argument of a valid causal process (Weber and de Bal 2017, 86-89). It is indeed an empirical regularity throughout the history of democracy, and across the democratic world that majoritarian systems tend to produce two parties, and proportional systems several parties (Lijphart 2012, 131-137; Weber and de Bal 2017, 86-87). Also, considering exceptions to the rule, they argue, the relationship is first and foremost probabilistic and not deterministic; Duverger himself states the relationship as a tendency not a dependency.

This paper follows the tradition which assumes that electoral systems indeed do have an independent and significant effect on party systems. The strongest and most widely used indicator of how proportional an electoral system is, is its mean district magnitude (Cox 1997, 56; Lijphart 2012, 137-140). The relationship is quite straightforward: the more seats to allocate within a district, the smaller the percentage of the vote a party needs to win at least one of the seats, the greater the incentive for smaller parties or candidates to run. Again, the greater the permissiveness of the electoral system to smaller parties or candidates, the lesser is the pressure on voters to vote strategically. This leaves us with the assumption that the more proportional the electoral system, the more likely it is that smaller parties both exist and perform better in elections.

2.5 Conceptualization and operationalization

We now turn to the dependent variable of the analysis, or in terms of the market analogy, the output of the different factors shaping the electoral future of green parties. The dependent variable here is cross-national differences in green party electoral success. Conceptual clarification is essential in order to thoroughly analyse the relationship between the different elements of the previous theoretical discussion. It serves the purpose of both enhancing our understanding of the domain the current discussion is situated in, as well as fostering empirical consistency and not least differentiating the discussion and its concepts externally (Gerring 2012, 116-127). In the social sciences one may easily fall into the trap of solely discussing concepts for what they do and not what they are, a problem not foreign to the topic of political parties (Mair and Mudde 1998, 211-212). It is by first defining the ontology of a concept we can identify its relations to its surroundings, and employ a rigorous epistemology thereafter (Goertz 2006, 27-28). As we shall see the literature on political parties generally, and on green parties specifically, includes a vast array of definitions; these are consequential to perspectives on how parties relate to the different domains they interact in, such as electoral competition, civil society, history and politics.

2.5.1 Categorizing the dependent variable – Green Parties as a party-family

A common way of categorizing different parties is through the concept of party-families. It is a concept with a high degree of resonance, due to its relation to how parties are categorized in everyday discourse. The strength of highly resonant concepts is that they easily make sense and are intuitive. The pitfall of course being conceptual laziness and scholars not properly

addressing the need for a rigorous definition of the actual core and boundaries of the concept (Gerring 2012, 116-118). This was the case for the aforementioned concept of political space before Downs formulated a thorough theory of the concept. In a paper published in 1998, Peter Mair and Cas Mudde does the same for the party-family concept, which they argue suffer from the same theoretical ambiguity. Until then it had only been vaguely defined, before being operationalized differently resulting in several empirical inconsistencies between studies.

Mair and Mudde (1998, 214-215, 223-225) point to four approaches to party categorization common among scholars and conclude that two of them are superior in the aim of producing an ontologically sound and operationalizable concept. The different approaches can be listed as: the sociological approach, identifying parties by their origins; the international federations approach, grouping parties by how they group themselves across national borders; the policy approach, grouping parties by their common policy goals and/or ideology and finally, the party name approach, simply grouping the parties by party names.

According to Mair and Mudde, the two inferior approaches are the international federations approach, and the party-name approach (1998, 217, 220-221). Firstly, basing categorization on the parties' self-identification run the risk of not observing parties that are substantively "part of the family" but do not explicitly state so, or engage in international federations. (Mair and Mudde 1998, 217). This is especially problematic for more heterogenous party-families, such as the populist radical right[2] (Mudde 2007, 32-41). Secondly, it leads to a weak internal consistency which at worst might cause serious inferential fallacies (Mair and Mudde 1998, 223). For instance, if a liberal-conservative party in a given country suddenly switched membership of international federations to a nationalist-conservative federation, one might be misled to believe that liberalism was in decline in said country, an inference which most likely would be a clear overgeneralization based on a conceptual inference.

The strengths of the sociological approach are that it revolves around what the concept is. In focusing on party origins, the sociological approach often draws on the process in which different social movements and social units of society at various points in history organized into political parties (Mair and Mudde 1998, 215). It is once again the classic theories of Stein

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[2] A party-family which hard even to label given its heterogeneity, however its existence is becoming increasingly evident, resonant and relevant (Kriesi and Hutter 2019, 12-13; Mudde 2007, 41-46)

Rokkan on the formation of the European national party-systems which inspires this approach. Thus, categorizing parties comes down to when, where and for whom they originally mobilized. The advantage of such a strategy is that it is firmly theoretically situated (Mair and Mudde 1998, 223). Literature and theory on the origin of political parties is extensive, especially for western democracies, which in turn gives the concept a more holistic relation to the social forces shaping it. Also, categorizing a party based on why and for whom it materialized arguably directly addresses the core of its existence. The policy and ideology approach for its part follows an inductive logic of categorizing in gauging what political parties are from what they do. The most common approaches are those of compiling manifesto data or expert opinions, and from it inferring what kind of a party one is observing (Mair and Mudde 1998, 217-220). This approach has the advantage of being able to measure how much emphasis a party that for instance is pertaining to be a green party puts on ecological policy compared to other policy areas. This introduces a degree of dynamism to the concept, broadening its possible extension beyond cases that simply originated from the same social forces by possibly including other parties that pivoted to ecological prioritization at a later point. The consequence of this is to broaden the possible analytical domain of the concept (Gerring 2012, 119, 122), however it also risks conceptual stretching (Sartori 1970, 1041), that is, broadening a concepts extension without attention to the fact that this reduces its intention, in the worst case obscuring the concept. As for the ideological component, this is more of a novel suggestion from Mair and Mudde to specify ideologies through groupings of policy areas, and also self-identification because addressing the core identity of a party would plausibly yield a more holistic conception of what a party is while also relating it to policy.

The two superior categorization approaches are not without their drawbacks. The sociological approach, for all its rigour, is based on a theoretical framework largely constructed around Western European politics, which renders the concept obsolete the further away from this domain the given analysis is situated (Gerring 2012, 119-121; Mair and Mudde 1998, 216). Another drawback related to the sociological approach is that it yields a time-invariant dichotomous category which is highly inflexible (Collier and Adcock 1999, 541-542; Mair and Mudde 1998, 223). The consequence of this is that the concept is most useful when it comes to studying long-term processes in interaction with the concept, such as elections. But the concept itself is static. Scholars cannot study variations within party- families using this conception, because either the party is part of the family, or it is not. The policy-based approach is more flexible given its graded logic (Collier and Adcock 1999, 542-543). While it does

enable the study of internal variation in the concept and thus a more fine-grained approach to its relation to other concepts, too much flexibility can hamper the concepts consistency. Specific policies are inextricably related to the contingencies of given elections, or at the least national contexts (Mair and Mudde 1998, 219). Too much flexibility in measuring a party for what it does, and the danger becomes that really one is measuring different country-contexts and not the same kinds of parties in different countries.

The following analysis will base its categorization of the dependent variable on the sociological approach to party families, it has the advantage of the greatest theoretical fit. Also, it is the approach which is ontologically the most at the core of the concept. It is the approach based on when, why and how the green parties appeared. Considering Giovanni Sartori's (1970, 1040-1041) ladder of abstraction, which describes the trade-off between a concept's intention and extension, the sociological approach is the more intensive of the two approaches. It utilizes a high degree of specificity and clarity in case selection, but what it yields in clarity it suffers in extension. While it is a time-invariant categorization approach this is, like Collier and Adcock (1999, 537, 539) argues, not a problem as long as dichotomous concept is justified by its broader theoretical context. The assumption here being that given the strict spatio-temporal domain of the following analysis, and its theoretical justification, one can assume that a green party is fundamentally a green party for the entire period under study. The following paragraph will elaborate exactly how the sociological approach is the superior theoretical fit and present a working definition of the green party-family, but the policy approach will not be fully abandoned as it relates to another concept often associated with the green parties, namely the niche party type.

As has been established in section 2.1.1, the domain of Inglehart's silent revolution is the democracies of the western world. Not only did de-industrialization, the opening of higher education and feminization of the labour force first occur in this region, it happened like a wave, simultaneously changing societies across borders (Inglehart 1971, 911; Inglehart 1977, 12-15, Inglehart 1997, 27-28). Furthermore, because of the relative openness of democratic institutions, the cultural changes saw political institutionalization and mobilization along the new cultural trends (the third component of the emergence of a social cleavage, also discussed in section 2.1.1) (Hutter and Kriesi 2019, 8). These trends have been associated to green parties time and again, and scholars trace the origins of the first green parties to this period (Alber 1989 200-203; Inglehart 1997, 243-252; Müller-Rommel 1989, 5-6, 15-16; Poguntke 1989,

186-187; Rootes 1995, 234-236). The origins of the green party-family are, in other words, firmly planted within the cleavage structure framework of the contemporary western world. To recognize the rigid connection between our concept of green parties and this theoretical tradition a minimal working definition of green parties based on two necessary and sufficient conditions is constructed (Gerring 2012, 135; Goertz 2006, 28-29, 36). Green parties are: *(1) parties that mobilized in the era of the silent revolution to represent ecological interests or parties with the intention of representing similar interests and, (2) parties which hold these interests as their main policy priority.* The first criterium is a necessary component of categorizing a party as a green party, consisting of two singularly sufficient subcomponents. The reason for the first sufficient subcomponent is to firmly place the concept in its theoretical era and context of origin. The reasoning for the second sufficient subcomponent is to introduce a measure of temporal flexibility (Gallagher et. al 1995, 187-190). While most of the frontrunners of the green parties did institutionalize in the 80s in the period of the silent revolution not all current green parties did appear in that period. The latecomers are however clearly representatives of a specific social group and side of the cleavage structure, qualifying them to also be counted thorough the origins and sociology approach to party classification (Mair and Mudde 1998, 215). Other parties, however, are amalgamations of already existing parties/interests and the novel socio-cultural dimension, most common among these are the *red-green* parties. For reasons of clarity and ensuring homogeneity within the case selection these cases are excluded from the analysis by the second necessary component of the working definition of green parties. Examples of such parties are the Norwegian *Sosialistisk Venstreparti* and the Danish *Enhedslisten*. While these parties have a clear green policy agenda, they are also clearly socialist. Several of them also evolved from a variety of left-wing, communist or socialist parties, thus not principally originating from the period of institutionalization of the green movement. It is not clear that they relate as directly to the same origins as the more classic cases of green parties, and given the weight of sociological factors and not least the theory of post-materialism in the following analysis they do not fit the relationship between values and parties this study intends to investigate. Socialist policy clearly falls within the materialist-values domain as it relates so thoroughly to material wellbeing and economic security. On the other hand, research shows that the Dutch *GroenLinks* (GreenLeft) to a larger extent resemble Green parties than socialist parties both sociologically and demographically, in spite of their name (Otjes and Krouwel 2015, 1006-1008). Thus, the Dutch *GroenLinks* are included as a Green party.

2.5.2 The Niche Party type

There is another common way to conceptualize green parties which is based on a different theoretical category, the Niche Party Type. The niche party is the latest of range of theoretical categories ordering parties in types by different characteristics that cross-cut party families. Generally, these types are defined by the parties' modes of organizational operation, or various ways parties operate to differentiate their appeal (Katz and Mair 1995; Krouwel 2006). For niche parties, definitions usually revolve around the fact that they have a narrow issue appeal (Adams et. al 2006, 513; Bischof 2015, 220-223; Ezrow 2008; Ezrow et. al 2010; Meyer and Miller 2013, 261; Meguid 2005, 347-348; Wagner 2012, 847). Typical parties that get categorized as niche parties are the green parties, the populist right-wing parties and regionalist parties, whichever way one operationalizes the concept. However, since Bonnie Meguid (2005) for the first time used the concept to analyse the strategic interactions between niche parties and mainstream parties, exactly how the niche party concept is best operationalized and utilized has been up for debate.

The first issue of operationalization of the niche party concept relates to that of operationalization of party-families, namely whether to utilize a dichotomous or graded definition. In her seminal study Meguid (2005, 347-348) defined niche parties as a party which (a) rejects the traditional class-based orientation of politics (a party-family related sociological criterium), (b) raise new issues which does not coincide with existing lines of political division (a Stokesian criterium) and (c) they differentiate themselves by limiting their issue appeal (a Downesian criterium). When categorizing parties, she then implicitly bases the entire operationalization on the party-family concept on a policy basis when analysing European green and radical-right parties (Meguid 2005, 351). Parties with a main policy emphasis on either ecological issues or immigration are consequently categorized as niche parties. Ultimately, this results in a necessary and sufficient conditions (Goertz 2006, 35-36) approach of conceptualizing niche parties, resulting in a dichotomous category. Either, a party's main policy emphasis is on an issue which is different from the traditional class-based orientation of politics and thus it is a niche party, or, it has a clear policy emphasis on the traditional class-based orientation of politics and thus it is not a niche party. Subsequent scholars have operationalized the concept in different but ways common to several of them is the use of a dichotomous conceptualization (Adams et. al 2006, 513; Ezrow 2008; Ezrow et. al 2010). Some focus on the Downesian point, that a niche party should be regarded as a party which does not represent the mode of a Downesian preference distribution (Adams et. al 2010; Ezrow

2008). Others focus on the sociological argument that the party should not prioritize the economic left-right dimension (Meguid 2005, 347-348; Wagner 2012, 847). Some include regionalist parties (Wagner 2012, 855-859), some include communist parties (Adams et. al 2006) and some include none of the former (Meguid 2005). Common for all the aforementioned studies is that they employ a dichotomous conception of niche parties, but the differences theoretical criteria for operationalization leads to differing samples of parties being discussed.

Later work on conceptualizing niche parties suggests that the party type should be regarded as a matter of degree, or nicheness. Since parties can change their policy platforms over time, nicheness should not be defined as a fixed category. Markus Wagner (2012, 847, 849), like Meguid, defines nicheness in relation to the traditional left-right axis by defining nicheness as the degree to which a party emphasizes non-economic issues. Meyer and Miller (2013, 261) defines the concept in spatial terms defining it as *a party which emphasizes issues neglected by its competitors*. This definition disconnects the concept from specific issues such as the left-right axis and introduces a graded concept by focusing on the degree of other parties' neglect of the niche party's issue. In other words, the more a party occupies a Downesian issue-dimension by itself, the more niche it is. The latest contribution comes from Daniel Bischof (2015) which introduces condensed messages. Not only do parties vary in comparison to other parties on which issues they emphasise, but parties' specialization within certain topics can also vary (Bischof 2015, 220-221, 231). This last addition adds internal variation within a niche party, it relates to Stokes conception of issue ownership as one could argue that the actor with the most condensed message should be associated with the issue, or at least gain from its salience.

The second related issue of operationalization relates to what it ontologically means to be niche. Some scholars, such as Meguid or Wagner, define it as an issue cross-cutting the traditional left-right organization of politics. While one uses a dichotomous concept and the other a graded one, shared in both scholars' definitions is the fact that that being niche in character is dependent on relation to specific policies or ideologies. Subsequent papers criticize this operationalization, drawing on both Downesian theory and issue salience theory, arguing that being niche is not a matter of emphasis on specific issues but the character of the issue itself within party-systems (Bischof 2015; Meyer and Miller 2013). That is, an issue or a policy dimension which is not broadly discussed or represented in the party system is a niche issue.

By this logic, even an economic issue can be niche if it is not widely discussed, and emphasis on ecological sustainability or immigration does not have to be niche if it is widely discussed.

The discussion on the different conceptualizations of niche parties relates to the same issues as that of the sociological and policy-based approaches to party-families. One produces a dichotomous concept based on a set definition of necessary conditions, the other a graded measurement by induction from certain policy-related indicators. It is again necessary to reiterate Collier and Adcock's point that (1999, 537) conceptualization strategy should depend on theoretical context. It is clear that for the following analysis Daniel Bischof's (2015) concept of the niche party is superior. All of the authors discussed above relate their concept to spatial and issue salience theories but Bischof's is the one that is the most consistent with theory from a measurement point of view, since it is both responsive to how issues are contested in a spatial sense, but also the condensation of messages from an ownership point of view. The concept of nicheness is thus strongly related to the party strategy dimension of the current analysis. While the dichotomous concept of the green-party family will be used as a mechanism for categorization of the dependent variable, the niche party concept as a continuous characteristic will be utilized as a dependent variable.

2.5.3 Measuring postmaterialism

Inglehart's 4-item index will be utilized to measure post-materialism. During the period of origin of the post-materialism thesis, a series of surveys was conducted, serving as the basis for Inglehart's seminal paper and subsequent book on the subject. The surveys contain what is called a four-item battery containing four specific values which respondents are asked rank with regards to priority (Inglehart 1971; Inglehart 1977, 27-29). Two of these items are meant to tap postmaterialist values, and two materialist values. If a respondent ranked both postmaterialist values at the top they would be coded as a postmaterialist and the reverse for materialist values; if the top two choices were mixed the respondent would be coded as mixed. Subsequently surveys were expanded to contain 12-item indices divided into three batteries to further extend the operationalization of the concept (Inglehart 1977, 39-42). After the breakthrough of Inglehart's theories into the academic mainstream work on the subject, and utilization of the indices has been extensive. The World Values Survey (WVS) has committed to measuring both postmaterialism indices in every wave of surveys they have conducted since their foundation in 1981. The Eurobarometer surveys, conducted on behalf of the European

Commission, has also committed strongly to recording the indices at regular intervals in EU countries. The WVS 4-item index of post-materialism will be the basis of measurement for the current analysis. However, during its near 50-year lifespan some important criticisms have been directed toward the index. Before utilizing the measure, three key criticisms of the measurement, indexing and consequently validation of the concept will be addressed in the current section.

The first critique relates to the temporal stability of the concept's indicators, and more broadly how enduring the values it is supposed to measure are. The second critique relates to how the index is constructed, with emphasis on its inherent assumption that there actually is structure to people's value responses. Third, and related to both of the former, is the point that indexing value systems is at its core less parsimonious approach to what is essentially the measuring of people's attitudes toward different subjects. The main proponents of the first critique are Clarke and Dutt (1991); and Davis and Davenport (1999). Their main issue is the operationalization of fears of rising inflation as one of the main indicators of materialist values (Clarke and Dutt 1991, 905-906). Clarke and Dutt argue that the fears of inflation indicator is too sensitive to period effects, as worries over inflation were highly salient issues during the oil shocks of the 70s (Clarke and Dutt 1991, 907-910). They argue that the effect of increasing post-materialism and decreasing materialism between the 70s and 90s may simply be a function of lower fears over inflation. Furthermore, substituting inflation for unemployment they show that using a different operationalization the trend is seriously weakened (Clarke and Dutt 1991, 913-914). Davis and Davenport (1999) expand upon this critique, while also adding a critique of how the index is constructed. They argue that by asking respondents to rank what they value; respondents are forced to choose between values which if asked individually the response could very well be "important" or "very important" for all (Davis and Davenport 1999, 649). Consequently, the survey may be artificially constructing a value structure where there might not be one. The third criticism is really more of a difference in analytic strategy. In a paper aiming to investigate whether the support for Green Parties has a normative, structural basis, Martin Dolezal (2010, 539) discusses post-materialism as one such possible basis. However, directly citing the criticisms presented above, Dolezal opts for the more parsimonious analytical strategy of simply measuring attitudes as effective markers of underlying values (Dolezal 2010, 540). Even if the first two criticisms were to be conclusively rebutted, the final one maintains its relevance as parsimony of measurement is always important in science, especially quantitative science. Thus, the final critique argues that even if the post-materialist

index maintains its validity it may just be a convoluted way of measuring effects which might just as clearly be grasped by the measurement of simpler attitudes.

In direct response to the first two critiques Inglehart and Abramson (1999, 666, 673) contend that (1) of course changing an indicator substantively changes the measures of the index and (2) forcing respondents to rank priorities is the actual intended purpose of the survey method. They argue that period effects which inflates or deflates the distribution of materialists and postmaterialists do indeed exist but if anything, this relationship validates the theory, that is, that peoples values change according to their situation. Critically, they argue that the important factor is that the long-term the trend of value change based on intergenerational population replacement persists, and according to empirical evidence it does (Inglehart and Abramson 1999, 675). As for the second critique, Inglehart and Abramson (1999) argue that numerous factor analyses of the indexing show that there are structured relationships with regards to which items are the most probable choice if the first is either postmaterialist or materialist, strengthening the hypothesis that there is an underlying value structure (Inglehart and Abramson 1999, 666). The response to both critiques is solid, but neither is conclusive. Because the critiques are fundamentally critiquing the data-generating process, that is, how the data is collected and compiled, analysis of the data itself cannot conclusively answer these questions. A strong and simple argument for the index, also made by Inglehart and Abramson (1999, 665, 676-677), is that the index has been the basis of an enormous field of research which more often than not has validated the existence of empirical trends relating to the concept and its measurement. However, that researchers such as Dolezal (2010) opt for other measures explicitly because of these critiques is indicative of how fundamental the question of validity relating to the index is. The current analysis will strike a compromise when measuring demand side factors relating to the Green Party vote. The post-materialism index will be used as proposed by Inglehart and measured by the WVS and Eurobarometer mainly due to its theoretical rigidity and relevance, while at the same time acknowledging the critiques by controlling for a range of relevant metrics to be presented in chapter 3. The ideal control would be to measure attitudes toward environmental issues at as well as post-materialism scores, however, data availability simply does not allow this.[3]

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[3] This was indeed the original design for the analytical model; however, the Eurobarometer survey only survey the question asking respondents whether they would prioritize the environment over the economy six times which unfortunately is not a large enough sample for the following analytical model.

2.5.4 Spatial conditions for case selection

To maintain consistency between theory, concept and empirical context the spatial scope of the following analysis will be restricted to the sphere of north-western Europe. There are mainly two reasons for this conservative approach to spatial scope. First, as previously discussed, cleavage structure theory which the case selection for the dependent variable is based on is largely constructed around western-European countries. Furthermore, the new socio-cultural cleavage already appeared as a cultural trend in the early 70s, a point in time when southern European countries were not yet democracies or had just started on their path toward democratization (Hutter and Kriesi 2019, 8-9, 14; Rootes 1995, 233). So, while some north-western European frontrunners were experiencing the early phases of institutionalization of the new socio-cultural cleavage, southern Europe had yet to adopt an institutional framework capable adopting these civil society currents into their political systems. Secondly, literature on institutionalization and volatility of electoral systems show that it is only the oldest among democracies which are the most effective at integrating new political cleavages into their politics. While younger democracies are more prone to crisis of legitimacy and complete systemic overhauls exactly because of their lack of institutionalization of political conflict (Hutter and Kriesi 2019, 9-11; Chiaramonte and Emanuele 2017, 377-378). One of Kriesi's conclusions in his book on the effects of the Great Recession on the European party systems is that because north-western Europe already had integrated the new cleavage structure into their political systems these countries only experienced an economic crisis. Southern-Europe however, experienced an economic crisis which catalysed a political crisis (Kriesi and Hutter 2019, 14-15). Where the populist right wing had been virtually non-existent in these countries, and the populist left-wing marginal, both were prompted to take a larger role in the politics of southern-Europe as a consequence of the crisis (Hutter and Kriesi 2019, 14-15). This is an example of the socio-cultural cleavage being forced into the political arena through a legitimacy crisis, in countries that previously had been unable to integrate it into their politics. This especially applies to the populist right. Even as we are currently observing the appearance of a significant amount of parties along the socio-cultural dimension in southern-Europe, in some cases also green parties (Hutter and Kriesi 2019, 15), it is not readily apparent how to situate this change in political culture, and whether it has yet to be fully integrated in some cases. Thus, instead of constructing a form of arbitrary temporal cut-off point, the following

analysis will take a conservative approach to spatial case-selection and restrict itself to the sphere of north-western Europe in the aim of guaranteeing consistency in empirical context.

2.6 Literature Review

2.6.1 Cultural cleavage politics in contemporary Europe

As defined in section 2.1.1, the concept of a political cleavage structure is commonly understood to include the fulfilment of three necessary conditions: a distinct socio-structural basis, specific values and beliefs and a political organization and mobilization (Bartolini and Mair 1990, 215). A growing body of literature provides evidence to indicate that an extensive divide between the young, educated, cosmopolitan, multiculturalist and the service-sector-employed, and the old, less educated, rural, nationalist and industrial- and agricultural-sector-employed, is becoming increasingly profound (Ford and Jennings 2020, 2, 14-15). Empirical studies show to an increasing extent that rising education levels and the cultural divide are inextricably linked. Graduates of higher-education institutions are more likely to have positive views toward ethnic minority-groups (Storm et. al 2017). They are more likely to support open borders and liberal migration policies (Hainmueller and Hopkins 2014) and to support the European Union (Hakhverdian et. al 2013). Higher education is also consistently a strong indicator of voting for Green parties (Dolezal 2010; Grant and Tilley 2019). At the other side of the cleavage are typically, the culturally nativist and economically nationalist populist right-wing parties, and again, lower levels of education is consistently identified as the core of their socio-structural basis (Norris and Inglehart 2019; Mudde 2007; Wagner and Meyer 2017). The emergence of the populist right-wing is another strong case in point for the emergence of a new cleavage in Europe, as it has such a strong socio-structural basis, specifically related values and an institutionalization in the form of the populist right-wing parties. Current literature thus points to education level as an important socio-structural factor shaping people's values which evidently has implications for political beliefs. Focusing more on the long-term, it may seem that the massive increase in education levels since the 70s drive the sociocultural-liberal side of a potential new cleavage structure (Ford and Jennings 2020, 7-8). This does strengthen some of the fundamental assumptions of "the silent revolution", and its fundamental implication: that education and economic security are driving value change in western countries.

Geography is also often pointed to as a key socio-structural factor. Scholars often point to the role of economic globalization in attracting high-skill labour to urban centres while at the same

time draining peripheral areas for both human and economic capital (Ford and Jennings 2020, 17). Again, empirical studies suggest that individuals living in economically depressed regions are more likely to vote for the populist right-wing; living in rural regions correlates with values such as anti-immigration and Euroscepticism (Carreras et. al 2019; Patana 2018). At the same time, the younger, more ethnically diverse and more educated populations of larger urban centres are more likely to hold socially liberal values (Jennings and Stoker 2016). Rising housing prices and the requirement of high-skill labour in larger cities again underscore the vital role of education as determining factor of increasing importance, also for the geography of the socio-cultural divide.

Age is the last of the commonly discussed socio-structural indicators of the new socio-structural cleavage. The two main empirical regularities related to age is that older people tend to vote more (Blais and Rubenson 2013) and individuals tend toward the political right as they get older (Tilley and Evans 2014). Exactly how age relates to the socio-cultural cleavage, if it does, is not yet fully understood. One reason is that it is not easy to separate the effects of age and education, as both are strongly correlated (Ford and Jennings 2020). With the expansion of higher education, the increasing amount of people who receive higher education are always young. Consequently, there is an empirical regularity between age and the new socio-cultural cleavage, but the effects of education and geography confounds the relationship so much so that the actual effect of age is still hard to determine. This means that the relevance of age to the socio-cultural cleavage is still mostly theoretical. Age does matter for values and opinion. Inglehart's original study of post materialism looked at value distribution among age cohorts, showing that there indeed were differences in values between age groups in the 70s (Inglehart 1971, 999-1005). The age cohort approach is utilized a lot in contemporary studies as well, one recent study shows that younger cohorts may value democracy less than older cohorts (Foa and Mounk 2016, 8-11). The question for the current analysis, however, is whether age is an actual component of the new European cultural cleavage, and the answer is yet unknown. However, given the continuous ageing of western populations, driven by both increasing life expectancy and lower birth rates (Ford and Jennings 2020, 305-306), any differences between age groups would presumably expand over time, if there are systemic differences.

Kriesi et. al (2008, 2019), and Hooghe and Marks (2018) both show how parties change their issue appeal over time to accommodate issues relating to the new trends of values and beliefs in contemporary society. In other words, party systems in Europe accommodate the new

political cleavage. Party systems of contemporary Europe have indeed changed and presumably this change should be ascribed to the new socio-cultural cleavage. All of the literature and empirical evidence presented above show that there are (1) systematic differences in values and beliefs related to different political issues with (2) systematically related social bases and, (3) these social trends have mobilized and institutionalized in the party systems of western Europe. Central social markers are education, geography and possibly age. Related are specific values and beliefs regarding globalization, immigration, sustainability and nationalism. Parties that are inextricably linked to this cleavage are the greens and the populist right-wing. Party-systems more broadly have also responded and accommodated the new cleavage. To summarize, a review of the contemporary literature on the party politics of western Europe firmly support the view that there has emerged a new socio-cultural[4] cleavage structure in western Europe.

The foremost writer on the subject of post-materialism is Ronald Inglehart himself, whose latest work: *Cultural Evolution: People's Motivations are Changing, and Reshaping the World* (2018) has extended his theoretical framework to an ever greater set of contexts. Inglehart (2018, 36-37) shows how the value shifts hypothesized by his theory are also observable in contemporary societies in the middle of transition from agrarian society to industrial society. It also suggests that the cultural change is not only long-term and generational, but between-individuals as well. Societies may reach a "tipping point" where norms and conformity pressure individuals to join in on or react to value changes (Inglehart 2018, 85). Inglehart (2018, 171, 200; Inglehart and Norris 2017, 445-446) also discuss the recent realignment from class-based to cultural-based politics, but frames the "populist-right" side of the realignment, or cleavage, as "the authoritarian reflex", namely a reaction to the decline in existential security and a backlash against the trend of post-material value change. Inglehart points to the fact that the real income and life security of the less educated in western societies has mostly been in decline the previous forty years (Inglehart and Norris 2017, 448). This, he argues, is part of the reason for the current surge in populist right-wing support and a resurgence of materialist values (Inglehart and Norris 2017, 450, 452).

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[4] The «new» cleavage has been labelled differently by different scholars. This analysis follows Krisi and Hutter (2019) in referring to it as the "socio-cultural cleavage" to emphasize its relation to cultural questions such as immigration, globalization and nationalism, while also highlighting its clear socio-structural basis.

2.6.2 Literature on the spatial and issue dynamics of Green and niche-parties

Aside from the methodological debate on how to best conceptualize and measure niche parties research on the subject has found several consistent patterns relating to the concept. The goal of Meguid's (2005, 347-349) study was to analyse whether there is a relationship between how mainstream parties respond to niche challengers and the prospects of success for niche parties. Meguid does indeed find that whether mainstream parties take an accommodative, adversarial or dismissive approach to niche parties is significant to the success of niche parties in subsequent elections. Most relevant for this study is the argument that if both mainstream parties are jointly accommodative or dismissive of the niche party's policies the niche party's subsequent success will decrease, while an adversarial approach will increase their success (Meguid 2005, 354). Thus, already with the formation of the niche party as a theoretical concept evidence strengthens the assumption that behaviour of the party-system at large, the domain of the strategic dimension, is a significant influence on the subsequent success of niche parties.

Further utilization of the concept has generated a large subfield in electoral studies focusing on niche parties and how they relate to the party-systems at large, politics at large and voters. Research shows that niche party are less responsive to public opinion and that voters tend to punish them to a greater extent if they shift policy stance to accommodate general public opinion (Adams et. al 2006, 525) or shift closer to the centre in a spatial sense (Ezrow 2008, 206, 211-215). The key findings here being that how niche parties specify and differentiate their "product" is significant, and that niche parties gain less by moving to the centre of a classical spatial dimension than what mainstream parties do. In some cases, having more distinct, or niche, policy platform is what consolidates support for niche parties. Subsequent literature has divided its attention to two separate but equally important dimensions. First, the spatial dynamics between niche party and the party-system at large, secondly the spatial dynamics between niche parties and their most spatially proximate parties. Though often rigid in their policy stance compared to the party system at large, research indicates that niche parties do respond strategically to more proximate parties, that is, when parties of a more similar ideology in a spatial sense moderate their policy niche parties often do too (Tromborg 2015, 189, 196). However, when entire party-systems accommodate the issues of niche parties, they may respond by shifting their policy stances further away from the party system. Wagner and Meyer (2017, 91-93, 98) argue that this has been the main trend among the European radical right for the past decade. Adding further nuance, studies also show that the effect of the

nicheness of the party platform changes with the age of the niche party (Bischof 2015, 230-231; Zons 2016, 1223). Bischof (2015) notes that niche parties often enjoy early electoral success with niche platform because of what he calls "the first mover advantage". Early on niche parties' platforms are often characterized by higher degrees of nicheness, which gives them electoral advantage in a spatial sense. However, Gregor Zons (2016, 1223) demonstrates that the more elections a niche party partake in, the weaker the advantage of a more niche platform becomes, which incentivises niche parties to diversify their platforms. Bergman and Flatt (2019, 4) argue that Populist right-wing parties are not as dominant issue owners as green parties, and thus have larger incentives to diversify their portfolios. They do indeed empirically prove that populist right-wing parties are the only niche parties that significantly gain electorally from diversifying their portfolios (Bergman and Flatt 2019, 13). Lastly, Kyung Joon Han (2019, 536) nuances Adams' et. al (2006) findings that niche parties often are bound to their niche, arguing that this effect is conditioned by the salience of the party's niche-issue within the electorate. If the issue is highly salient, the party should not diversify its issue position. Issue salience thus serves as a causal mechanism determining whether a niche party should and will expand or condense their message (Han 2019, 542). This at least applies in the context of populist right wing-parties, which are the niche parties that Han studies.

Given the conceptual discussion of section 2.2.2, a brief note must be made on the comparability and generalizability of these studies. They do vary in their operationalization of the concept, mostly with regards to the utilization of a dichotomous categorization or the use of "nicheness" as a continuous measurement. However, as Bischof (2015) points out, either way of conceptualizing does to a large extent overlap empirically and the results of several of the studies prior to Bischof's, Miller's and Meyer's conceptual innovations are robust to both conceptualization strategies. The main difference is that with the "nicheness" operationalization the concept is much more useful as an independent variable. The different approaches are largely in agreement that the typical cases of niche parties are green parties, regionalist parties and populist right-wing parties. That is, whether one takes the party-family/origins-based approach or the inductive approach of measuring nicheness from party manifestos, greens, regionalists and populist right-wing parties are the typical cases (Bischof 2015; Meyer and Miller 2013; Wagner 2012).

Issue salience is a vital concept in all the literature on niche parties and nicheness. The literature utilizing the nicheness measure explicitly tries to measure salience by measuring how much

the party-system at large focuses on the given issue. As Han (2019, 543) and others point out, there are two related but distinct types of issue salience. There is systemic salience which is the kind of salience that the niche party literature and this study is predominantly focused on, and there is individual level salience. That is, the salience of issues within the population. It is with individual level salience, Stokes' concepts of ownership and competence is the most relevant; and Walgrave, Lefevre and Tresch (2012, 772-773) add association to the list. In studying the Belgian Green parties Walgrave et. al (2012, 776-778) show that there are separate and highly significant interactions between evaluations of issue association (associating a specific party with a specific issue), evaluations of competence, and issue salience on whether individuals are inclined to vote for the Green party. In other words, these findings suggest that associative and competence issue ownership is important for electoral performance when issue salience is high at the individual level. Another study of individual level salience demonstrate by analysing textual data from user comments on articles from 81 German newspapers, that key words associated to the socio-cultural dimension saw a large increase and overtook the salience of traditional left-right (economic) key words in the period from 2014 to 2016 (Ademmer and Stöhr 2019, 13-14). This indicates that policies of the new socio-cultural cleavage are increasing in salience also at the individual level, with the caveat that 2014-2016 is the period of the European refugee crisis, which became highly salient in Germany. In other words, this may be a spurious and/or one-off case.

2.6.3 The broader perspective – combining the society- and the party-perspective

As discussed from the outset, the goal of the current analysis is not primarily to analyse on the one hand sociological factors and on the other hand party strategy factors. As the literature review has underscored there is already extensive, high quality research on these subjects. What is still somewhat lacking, which is the goal of this analysis to initiate, is research which assess the relative significance of the approaches at the same time with regards to Green parties. Filling this absence in the research is the goal of this analysis. Before synthesising and summarizing the theory, and formulating hypotheses thereof, a brief review of three studies utilizing a somewhat similar design will be presented.

Kai Arzheimer (2009) expands on contemporary statistical modelling strategies for explaining support for populist right-wing parties by employing a more comprehensive analytical framework. This is the explicit goal of his study. Specifically, he seeks to test the relationship

between individual level variables such as education level, employment status and dissatisfaction with democracy, while at the same time measuring the effect of context variables such as level of unemployment and level of immigration (Arzheimer 2009, 260-261, 267). The main results of the study are indeed that individual level characteristics are highly significant for voting for populist right-wing parties, such as being employed in manual labour or being dissatisfied with democracy. However, context variables such as level of immigration, level of unemployment and salience of the immigration issue are also independently significant (Arzheimer 2009, 269). The point here is that the study shows how context variables can have an effect on parties' vote shares independently of individual level effects. Arzheimer also tests a series of complex interactions between context level variables, finding some of them significant (Arzheimer 2009, 270), further strengthening the notion that processes at the context level have an independent effect. The following analysis will take the same approach but applying it to Green parties while also further nuancing the context level variables to be compatible with the party strategy and niche party literature. Lubbers, Gijberts and Scheepers (2002) apply a similar kind of design, again focusing on populist right-wing parties. They present different theories on social structure, public opinion, country conditions and institutional conditions (Lubbers et. al 2002, 347-354). Again, the focus is on how individual level theories and characteristics interact with country-level processes in shaping what people vote for at the individual level, consequently explaining cross-national differences in voting. They find agreement with Arzheimer in that individual characteristics such as sector of employment are significant, while at the same time level of immigration at the country level also make up part of the explanation. However, contrary to Arzheimer's findings, unemployment is not significant (Lubbers et. al 2002, 364). Lubbers et. al also measure the effect of political space for populist-right wing parties, and interestingly find that political space does not affect cross-national vote shares, but the salience of the immigration issue does (Lubbers et. al 2002, 365). This study is another example of how both individual level attributes and the context level shape electoral outcomes with regards to populist right-wing parties.

The closest example of a study utilizing this approach but focusing solely on Green parties is one conducted by Zack P. Grant and James Tilley in 2019. It combines theories and perspectives on voter demand, party strategy and institutional constraints quite similar to the approach presented in the current study (Grant and Tilley 2019, 497-500). To name some examples of commonalities, the study draws on both Inglehart, Meguid and Duverger in its theoretical motivation. However, while these are the theoretical underpinnings of the analysis,

their model and operationalization are somewhat underspecified with regards to the theory. This may be a consequence of data availability[5]. The main variables relating to voter demand are rate of unemployment and rate of the country's electricity being based on nuclear power (Grant and Tilley 2019, 502-503). While these measures are related to Green party support and post-material values, they are no substitute for measuring post-material values or attitudes toward ecological policy. They are first of all measures of salience at the national-level but does not work as proxies for the intricate individual-level processes discussed above. The study does of course yield some interesting results. The operationalization of the party strategy dimension is based on Meguid's study, that is, measuring whether the mainstream parties take accommodative, dismissive or adversarial approaches to the issues raised by the Green party (Grant ant Tilley 2019, 503). They find that the different strategies pursued are next to insignificant when the indicators related to voter demand are controlled for (Grant and Tilley, 496, 504-507). That is, the only significance of party strategy is when mainstream parties accommodate Green parties' party programs while the Green parties are relatively young. However, this result is not entirely relevant for the theoretical design of this study, as their measures of what is here discussed as the sociological dimension are really indicators of system-level salience. Thus, seen through the theoretical setup of this study, what they find is that party-system behaviour is next to insignificant when compared to system-level salience. Consequently, party-system behaviour compared to individual level-processes such as values and attitudes is yet to be tested in relation to Green parties. Furthermore, Grant and Tilley's analysis finds the same effect for Green parties which Zons (2016) finds for populist right-wing parties, that there is an interaction between party age and the effect party strategies. The older the Green party is, the less party strategies matter (Grant and Tilley 2019, 507). While utilizing much the same theoretical approach as Grant and Tilley, the design of the following analysis differs from their study in two important ways: (1) the voter demand, or, sociological dimension will be measured by drawing directly on measurements of post-materialist values and other indicators recorded at the individual level in the population by (i) aggregating survey data and (ii) utilizing an additional multi-level model, and (2) party strategy will be will be operationalized by using Bischof's (2015) nicheness concept instead of measuring mainstream party behaviour. In so doing, the following analysis will hopefully present an even more

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[5] An issue which is a serious obstacle for the current analysis as well, which will be addressed in the third chapter.

nuanced analysis of how individual level characteristics and context level factors interact in producing cross-national vote share differences for Green parties.

2.6.4 Summary and conceptual diagram

The above chapters highlight the enormous theoretical complexities regarding the studies of electoral politics. Before formulating the hypotheses, which form the basis of analysis for the subsequent chapters, a theoretical summary will be given to highlight how the different theories interact. This is done in order to clarify the relationship between theory and the main goal of the thesis, which is comparing a multitude of long-term, medium-term, short-term, contextual and individual-level processes and their effect on Green party support. Figure 1 visualizes the theoretical interrelatedness to help structure and synthesize the different theoretical perspective. Arrows (A) and (B) are possible interactions which will be addressed in the "hypotheses" section.
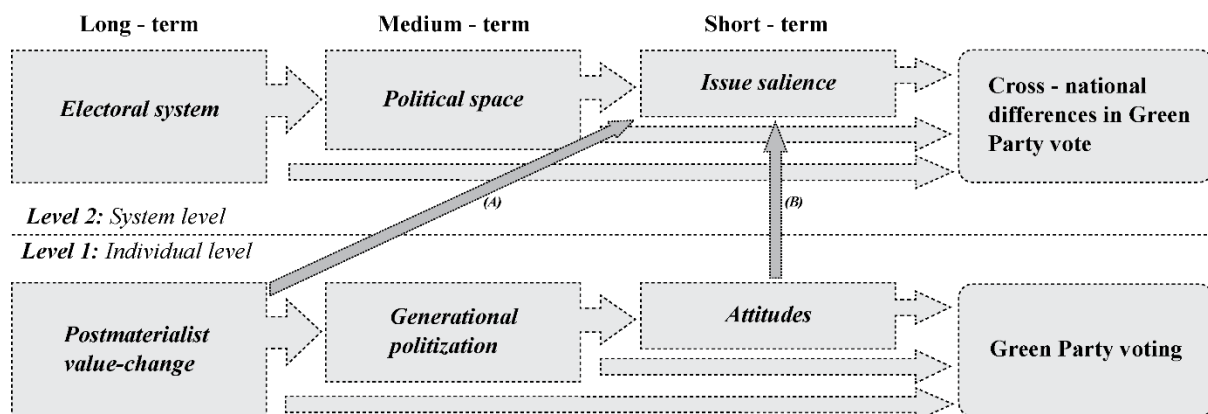
Figure 2. 2 Integrated theoretical model.

The quintessential historical factor shaping the forces under study in the current analysis is the expansion of human welfare in the mid-20th century western world. This includes welfare as the expansion of education, welfare as the rapid expansion of economic security, welfare as the increasing inclusiveness of societal institutions; welfare as the unprecedented peace and prosperity and the historical process which Inglehart (1977) identifies as the cause of the silent revolution. This is a historical process much larger than the scope of the current analysis, but it is also the antecedent factor to cultural post-modernization which culminated in the materialization of post-material value structures in the 70s, according to Inglehart's thesis. This is a highly long-term process which manifests itself at the individual level in systemic value structures, constituting the first component of the demand side of green politics. More specifically, both Inglehart and Kriesi point to the expansion of the urban middle class

culminating in the 70s as the social basis of this change. For Inglehart the urban middle class are the drivers of post-materialism through their better living standards, for Kriesi, the urban middle class is the first component of the modern socio-cultural cleavage structure.

Generational differences are integrated into the theory of post modernization. During early life socialization is when most individuals form their values, thus one should expect a generational lag in value changes. In his theory on generations, Karl Mannheim puts a great deal of emphasis on the fact that it is the young that are more likely to foster cultural change. In his concept of the generation as an actuality Mannheim points to historical incidents as causes of generations forming an explicit political bond of identity. For Mannheim such incidents are mainly social upheaval and destabilization, which makes sense given that his context is Weimar Germany, possibly the most violent and volatile period of the western world if not human history. Conversely, turning the argument on its head it is also conceivable that unprecedented peace and prosperity could be such a historical context. If so, Inglehart's and Mannheim's theories are in agreement on the cultural and political potentials of the generation as a concept. However, the main lesson from Mannheim is that politically the generation is first and foremost a potentiality. While Inglehart view generations as facilitators of continuous change, Mannheim stresses that as a political unit the generation is not an inevitability, merely a possibility. Thus, the generation in itself is placed at the individual level in the medium-term.

Another theory which points to historical circumstance as a factor is Downs' spatial theory. Downes' main focus is on stable preference distributions, but he also makes the point that every once in a while, historical incidents may radically change these distributions. He argues that parties will adapt and shift positions to attract voters, but at the same time they are bound by their respective legacies which restricts them to only accommodating ideologically proximate positions. Downes' theory is first of all a theory of stability, predicting party behaviour in stable conditions. Sometimes however, historical processes may alter preference distributions in the electorate. This is when the theory predicts that either the party system will find a new equilibrium or see an appearance of challenger parties. The appearance of post-materialist value systems may be one such historical process, and the extent to which party systems are responsive to this will be integral to the success of Green parties, and the reason why this is a supply-side theory at the context level. Given the role of historical context in changing otherwise stable preference distributions, this process is placed at the medium-term. It is not as long-term as the overall historical forces shaping the trajectories of societies, but more long-

term than the more immediate impact of the manipulation of issue salience which may change from election to election. Issue salience, or issue ownership, is the more immediate process of how parties operate, differentiate and manipulate their narratives and offers on certain issues to gain confidence and votes from election to election based on Stokes' discussion of issue competition. It is a short-term supply-side theory at the context level.

Attitudes are included because of the critiques of post materialism as a convoluted measure of people's preferences and beliefs. It is the immediate short-term attitudes people hold that may influence how they vote, a factor situated at the individual level in the short-term. If post-materialism indeed is a poor and convoluted measure of the demand side of politics as it relates to the Green party vote, simple attitudes toward ecological policy may take the role of post-material value structures as a demand side-indicator in the current theoretical framework. However, due to lack of data, attitudes are not included in the following analytical model but still kept in the theoretical model due to its relevance.

Lastly, electoral system is a context factor situated at the long run. Electoral systems are highly rigid institutional constructs which rarely change. Nevertheless, they do shape political space by influencing how many and consequently which kinds of parties a party system contains. Regardless of the "chicken and egg" discussion of cause and effect relating to social structure and electoral systems, this analysis follows the tradition which assume that electoral systems do have an effect on political space, independent of social structure.

Generally, the nexus of complexities and interactions between these historical processes are too vast to thoroughly test and measure in a quantitative manner. Conceptually however, they are all integrated. The concept encompassing the most of these processes at the same time is the concept of social cleavage structures. It assumes the existence of a socio-structural basis (the urban middle class), the connection to specific beliefs and values (post materialism) and institutionalization of these political trends (the appearance of green parties in European party systems). All the theories above discuss different processes relating to the formation and opportunities of politization of these three criteria. If the success of Green parties can be related to the above conceptual model, this strengthens the notion that a politicised socio-cultural cleavage structure exists in contemporary Europe, and that Green parties are inextricably linked to it.

2.7 Hypotheses

Based on the previous discussions, some concrete formulations of what the following analysis should show are in order. The first hypothesis relates to the demand side at the individual level. It examines the key relationship in the sociological dimension of the theoretical framework, that post-materialist values are systematically related to the green vote, thus the first hypothesis is:

Hypothesis 1: A higher level of post-material values by an individual has a positive effect on the likelihood of an individual voting for a Green party.

The second hypothesis relates to the party system dimension and to the basic assumption of Downesian theory and the concept of niche parties. It follows the findings of Adams et. al (2006) and Ezrow (2008) that niche parties get punished for moving out of their niche in a spatial sense and apply it to Green parties. Thus, the second hypothesis is:

Hypothesis 2: More specialized policy platforms among Green parties has a positive effect on the likelihood of an individual voting for a Green party.

The third hypothesis relates to issue salience theory and the niche party concept. Lower levels of nicheness as conceptualized by Meyer and Miller (2013) and Bischof (2015) should indicate higher degree of system-level salience with regards to green policy. Given that Green parties generally enjoy high levels of issue association as demonstrated by Walgrave, Lefevrere and Tresch (2012), they should gain electorally the higher the salience of the issue, and reversely lose ground the lower the issue salience. Thus, the third hypothesis is:

Hypothesis 3: Higher levels of party platform nicheness among Green parties has a negative effect on the likelihood of an individual voting for a Green party.

The fourth hypothesis assumes an interaction between the individual-level and the system-level salience related to Han's (2019) findings regarding interactions between system-level and individual-level salience. In this hypothesis we ask whether post-material values are more likely to cause an individual to vote Green given higher level of nicheness in their national Green party (Arrow A in Figure 2.1). Thus, the fourth hypothesis adds an interaction:

Hypothesis 4: When party platform nicheness is higher, individuals with higher levels of post-material values has a higher likelihood of voting for a Green party.

The fifth hypothesis tests Bischof's (2015) and Zons' (2016) findings that the older the niche party, the less effect a niche policy platform has on electoral success. This may also be seen as a test of the Downesian assumption that party systems tend toward equilibrium. Thus, the fifth hypothesis presents a second interaction:

Hypothesis 5: The fewer elections a Green party has partaken in the higher the effect of Green party platform nicheness on the likelihood of an individual voting for a Green party.

Lastly, testing the key assumption of the institutional dimension is the sixth hypothesis:

Hypothesis 6: Higher proportionality among electoral systems has a positive effect on the likelihood of an individual voting for a Green party.

The larger purpose of this analysis which is to gauge the effects of individual-level factors and party-system factors at the same time must be approached in a more holistic fashion. That is, if H1 stands while H2 through H6 are tested, with the inclusion of control variables presented in the next chapter, this should be a strong indication that individual level factors are important in determining Green party support. The same is true for system- level factors, if either of H2 through H6 stands while H1 and control variables are tested. Highlighting another key theoretical relationship is H4. H4 assumes an interaction between the individual- and system- levels, which is a central theoretical discussion in this study.

Testing the possible effect of specific generations unfortunately remains outside the realm of possibilities for the current data analysis. However, since the assumption of a generational effect is integrated into the theory of post-materialism, H1 should be seen as a hoop-test for the role of generations. If H1 is confirmed, this does not necessarily confirm the existence of a generational effect. However, if H1 is rejected this weakens the assumption of the existence of a generational effect in relation to the success of Green parties. Furthermore, age will be included as a variable, which again would not prove the existence of a generational effect if its

effect is significant, however its insignificance would weaken the assumption of such an effect existing.

3 Data and measurement

3.1 Case selection

The current chapter will present the datasets and variables which form the basis of the analytical model presented in chapter 4 and 5. Before this, however, the case selection and its effect on data structure must be remarked upon. The strict emphasis on consistency between theory and methodology in this study has resulted in a limited case pool. As discussed in section 2.5.1 and 2.5.4, only the clearest cases of Green parties are included, and only north-western European countries are studied. Adding further restrictions, surveys which investigate the particular value structures of interest to this study are only sporadically administered, yielding survey-years and election-years that do not overlap to a great extent. In short, the case pool of the current study is quite limited at the national level, consisting only of 15 elections, where one is a significant outlier. This yields a sample size for the analytical model of only 14 elections (see table 3.1 for complete sample overview). With such a low-N at the national level, a purely national level analytical model would be likely to render weak estimates and the sample would hardly be sufficient to generalize tendencies.

While one of the central aims of this study is to analyse elections, it is also to look at how individual level processes interact with country-level processes in shaping electoral outcomes. Consequently, a significant amount of the data presented in this chapter is generated at the individual level, and therefore this data it is most naturally observed in its disaggregated form. By disaggregating the dependent variable from election results to voting intentions, external validity of the analytical model suffers, because we are no longer directly observing election results. While the methodological benefits of analysing actual election results are clear, there are both theoretical and statistical arguments to be made for why the current design is stronger, especially in terms of internal validity. The specifics of data structure and its relation to the analytical model are discussed more thoroughly in chapter 4, the relevant point here being why the data is observed at different levels, and how the rigid case selection criteria have affected the richness of the data at hand. Regarding the individual level, the model is based on a solid 20 744 observations based on survey responses. This chapter will in turn present the datasets which form the basis for the analysis, the dependent variable, individual-level explanatory variables, system-level explanatory variables and control variables.

It must be reiterated that the small sample size at the national level does pose challenges in relation to the ability to generalise at the national level. Nonetheless, the study aims to compensate for what the data (and consequently, analytical model) may lack in external generalizability due to sample size, with solid theoretical foundations and internal validity. Additionally, if the internally strong analytical model identifies processes theorized in chapter 2, the strong theoretical consistency may indicate a greater external generalizability than the mere sample of 15 elections will.

Country – Year, Party	% Post-materialists	% Intending to vote Green	Survey responses (N)
Germany – 1983, The Greens	19 %	8,6 %	1049
Germany – 1987, The Greens	27 %	10,3 %	993
Germany – 1990, Alliance 90/ The Greens	20 %	8,5 %	1070
Germany – 1994, Alliance 90/ The Greens –	10 %	8,6 %	2052
Germany – 2005, Alliance 90/ The Greens	17 %	7,5 %	2064
Germany – 2013, Alliance 90/ The Greens	24 %	9,6 %	2046
Germany – 2017, Alliance 90/ The Greens	36 %	14,2 %	3698
Ireland – 1989, The Green Party	13 %	1,5 %	1006
Ireland – 1992, The Greens	15 %	5,3 %	1001
Belgium – 1991, Live Differently	18 %	7,7 %	1061
Belgium – 1991, Ecolo	18 %	7,3 %	1061
The Netherlands – 1994, Green Left	20 %	6,1 %	1047
The Netherlands – 2017, Green Left	24 %	12%	2404
Switzerland – 2007, The Green Party	24 %	12,3 %	1241
Sweden – 2006, The Green Party	26 %	8,9 %	1003

Table 3. 1 Sample table displaying vote intention and post-materialism percentages at the national level. Source: Inglehart (et. al 2018, 2020) round three, four, five, six and seven, and *Commission of the European Comminities (2012):* Eurobarometer 19, 27, 31, 33, 35.0, 37.0 and 39.0.

3.2 Outliers

It is worth noting how in table 3.1 levels of post-materialism steadily increase over time within countries, already indicating a substantial linear relationship at the country level. Note also that there are two exceptions, including one which is an enormous deviation from the general trend, namely the German election of 1994 where Germany sees a large drop in post-material values. There is a theoretically consistent and obvious explanation for this deviation, which is that this is not long after German reunification. This occurred when Eastern-Germany was economically under-developed compared to western-Germany and had no post-war era democratic experience, which contributes greatly towards explaining the radical drop in post-materialism. Due to this highly theoretically consistent explanation for the strong deviation, the German election of 1994 is safely removed from the analytical model as a strong outlier case. For a visualization of the distribution of post-materialism over Green party vote shares between elections see Appendix A, which is a scatterplot with a trend line. This graph further establishes the impression that Germany in 1994 is a clear outlier.

3.3 Datasets

To analyse the sociological factors which are all situated at the individual level, a combination of data from the Eurobarometer survey and the World Values Survey (WVS) is used. The Eurobarometer survey is conducted several times a year in most European countries. This yields rich data both in cross-national and temporal terms. Unfortunately for the current study they stopped measuring post-materialism after 2010, which is a critical period with regards to the growth of Green parties. The Eurobarometer data is therefore supplemented with data from the World Values Survey precisely because the WVS has collected rich European data from this exact period (with the publication of their latest wave of survey results in July 2020). Thus, the WVS data is added to enrich the temporal coverage. Researchers should always be mindful when compiling survey data from different organizations in this manner, as methodologies may differ between survey organizations, resulting in unaccounted-for clusters of observations between surveys (Gelman, King and Liu 1998, 846). As will be illustrated when discussing the different survey questions, coding methodologies and descriptive statistics for the three variables which draw upon both surveys, I take the view here that the results of the surveys are cross-survey comparable.

Data from the Manifesto Research on Political Representation (MARPOR) is used to analyse the party strategy dimension. The Manifesto Project Dataset provided by the MARPOR organization provides coded party manifestos covering over 50 countries spanning from 1945 to the present. Their explicit aim is to track the policy preferences of democratic parties to enhance knowledge relating to the role of political parties in the democratic process. Bischof's (2015) nicheness measure is constructed on this dataset, and since Bischof's contribution the MARPOR project has included his measurement of nicheness in their dataset[6]. Use of the Manifesto Project Dataset for measuring political space has occasionally been criticized as a weaker indicator than for instance expert surveys (Benoit et. al 2009, 495-497; Laver 2001, 66-75). However, Bischof (2015, 226) and predecessors (Mayer and Miller 2013, 263-264; Wagner 2012, 852) in the nicheness literature argues that nicheness, while it relates to political space, is first and foremost a concept related to issue salience, and for measuring issue salience, the Manifesto Project Dataset is far more appropriate.

The Database of Political Institutions (Cruz, Keefer and Scartascini 2018) is used to provide cross-national data on electoral systems. In particular their measure of mean district magnitude. Initially compiled by the World Bank Development Research Group, the database is now run by the Inter-American Development Bank. It is a commonly cited source for data on issues such as electoral institution checks and balances, as well as government stability and much more, covering about 180 countries for over 40 years.

The Varieties of Democracy (V-Dem) database is used to provide guide in coding different types of electoral systems. V-Dem is a collaborative research project by a range of universities, managed by the University of Oslo and the Lund University.

3.4 Dependent variable

All elections between the first occasion of a Green party reaching parliamentary representation within north-western Europe until the present are theoretically within the realm of analysis. The sampled countries and elections can be seen in table 3.1[7]. The Swiss parliamentary election of 1979 marks the theoretical starting point of measurement for the dependent variable, as it

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[6] Not available in their basic dataset but through their custom designed R-package "manifestoR" (Lewandowski et. al, 2020) which calculates "nicheness" scores for all party manifestos based on Bischof's (2015) methodological design.

[7] Austria, France, Norway and the UK are omitted due to lack of corresponding surveys and elections, Iceland and Luxembourg due to lack of data and Denmark due to lack of a clear-cut Green party.

marks the first election where a north-west European purely Green party won parliamentary representation. However, this merely marks the theoretical starting point, due to data availability, empirically the starting point of the analysis is the German election of 1983 (see Table 3.1 for a complete overview).

As mentioned, the dependent variable of the analysis is situated at the individual level, where it measures voting intention. In the respective surveys the question is phrased as:

Eurobarometer: *"If there was a general election tomorrow which party would you support?"*

WVS: *"If there was a national election tomorrow, for which party on this list would you vote?"*

The phrasing of the questions is not entirely identical, but for all intents and purposes they do measure the same phenomena which is voting intention. The only conceivable factor which could be skewing the observations of either survey would be if one of them did not judge a Green party a "major electoral party"[8] while the other did, however, cross-referencing with the election data from the Manifesto Project there is no election where a Green party gained parliamentary representation where either of the surveys failed to mention the Green party as a voting option. In both surveys individuals who intend to vote for Green parties are given unique party codes indicating both country and party, which is recoded to 1 where individuals intend to vote for a Green party and 0 if they do not. This yields a dichotomous variable indicating the presence or absence of the intention to vote for a Green party.

3.5 Individual level explanatory variables

3.5.1 The postmaterialist values index

Post-materialist value priorities are measured by both the Eurobarometer survey and the World Values Survey following the questioning and indexing procedures suggested by Ronald Inglehart (1977, 27-34, 39-53). However, the Eurobarometer survey has predominantly only surveyed the 4-item index and thus, to cover as many elections as possible, only the 4-item index is used in measuring post-materialism in the following analysis. The measure is produced

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[8] Which is the exact phrasing for the criteria of inclusion by the WVS, the Eurobarometer survey simply deems any party with national representation big enough.

by asking respondents to identify which two policy priorities they value the most and second most out of a list of four items. Again, the questions are more or less identically phrased in both surveys:

Eurobarometer: *"There is a lot of talk these days about what this country's goals should be for the next ten of fifteen years. On this card are listed some of the goals that different people say should be given top priority (show card). Would you please say which of them you yourself consider most important in the long run? (one answer only). And what would be your second choice?".*[9]

WVS: *"People sometimes talk of what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? (code one answer only under "first choice") And which would be the next most important? (code one answer only under "second choice")".*[10]

The 4-item list is completely identical for both surveys:

Number	Issue of priority	Theoretical domain
1	Maintaining order in the nation	Material value-domain
2	Giving people more say in important government decisions	Post-material value-domain
3	Fighting rising prices	Material value-domain
4	Protecting freedom of speech	Post-material value-domain

Table 3. 2 List of values priorities. Source: Inglehart (et. al 2020) WVS round 7.

The index is coded by a simple procedure based on which combination of values a respondent chooses. If the respondent chooses a combination of both material values (1 and 3) they are coded "1", which is defined "materialist". If the respondent chooses a combination of a material and a post-material (1 and 2 or 3 and 4 for instance) they are coded "2" which is defined as

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[9] A small number of the Eurobarometer surveys do have deviating operationalizations of the post-material value orientations, thus, the ones used for this analysis exclusively the ones with this exact operationalization. These are surveys number: 19, 27, 31, 33, 35.0, 37.0, 39.0 and 42. See References section for full names and DOI for the different surveys.

[10] For the WVS it is worth noting that they also measure the 12-item post-materialism index which means that this question is asked together with two additional 4-item lists, where one is asked prior to this one. Since the lists are kept separate however this should not interfere with the respondent's priorities with regards to the 4-item index.

"mixed". If the respondent chooses a combination of both post-material values (2 and 4) they are coded "3", which is defined as "post-materialist". This is the exact indexing scheme proposed by Ronald Inglehart in his original works, which both survey organizations follow in its original proposition.

3.5.2 Age

As aforementioned in the mentioned in the hypotheses section there is no effective way to aggregate age to a measurement of generational politization at the country-level without utilizing too arbitrary cut-off points, at least not without a more comprehensive theoretical conception than what the current analysis offers. Thus, as discussed in section 2.7, if one accepts the post-materialism thesis, generational change is already integrated into the post-materialist measure and should by proxy at least be able to disconfirm inter-generational differences. Confirming it, however, would require a more nuanced form of analysis.

While there is not a straightforward approach to measuring generational politization differences at the individual level either, age is easily applicable as a variable at this level. Age is also inextricably linked to the socio-cultural cleavage, and existing research on Green parties, and should if anything be added as a control variable. However, it is also added as a hoop-test. If inter-generational differences do indeed exist, age should at least be a significant factor. In other words, its significance will not validate the existence of inter-generational politization, but absence of a relationship between age and voting for Green parties will suggest an absence of inter-generational politization. Accordingly, age is added as a hoop-test variable in the multi-level model. Age, being in most regular circumstances a more easily and objectively operationalizable measure, is assumed to be cross-survey comparable.

3.6 Country-level explanatory variables

3.6.1 Green Party issue-specialization

For his seminal 2015 paper Daniel Bischof calculates two theoretically different measures of parties "nicheness" which he subsequently adds together to form an aggregate "nicheness" index. For the purposes of the current analysis the dis-aggregated versions are kept to independently analyse the effect of issue-specialization and party platform-nicheness. The variable of issue specialization is calculated based on the within-topic homogeneity of issues raised in party manifestos across five different issue dimensions which are typical for niche

parties, namely the ecological dimension, agrarian dimension, regionalist dimension, extreme right dimension and Eurosceptic dimension. Of course, the lower the score of a party across all five dimensions, the higher the issue-specialization score, but also the higher the concentration within a few, and moreover a single dimension, the higher the issue-specialization score[11] (Bischof 2015, 227). The index runs from .0 to 1 where the lower end represents a heterogenous issue appeal and a higher score represents homogenous, or condensed, political message. To ease the interpretation of odds ratios presented in the analytical model in chapter 5 the variable is rescaled to run from 1 to 10.

3.6.2 Green Party nicheness appeal

The second component of Bischof's nicheness index measures how much a given party differs from the party system overall in a given niche policy area, for instance ecological policy (Bischof 2015, 226). Bischof labels this variable "niche segment appeals", but also following the economic parlance of electoral studies "market shares score", to emphasize its theoretical attribute of securing electoral market advantage. Roughly, the measure equals a party's standard deviation in issue appeal to the overall party-system mean, subtracting a given party's niche issue appeal from the party-system mean (Bischof 2015, 226). The niche segment appeal-score runs from -1 to 1, where a negative niche segment appeal-score means that a party's niche segment appeal is below party-system average and a positive score the opposite. This scale is rescaled to run from -5 to 5.

3.6.3 Overall nicheness and party age

The overall two-dimensional nicheness index is also included to maintain comparability with earlier studies, in particular Bischof (2015) and Zons (2016). The nicheness index is constructed in an additive manner (Bischof 2015, 226; Goertz 2006, 50-53), and the niche-segment appeal variable is standardized to match the issue-specialization variable, thus the nicheness index runs from .0 to 2. Party age is included for the purpose of testing H5 and operationalized by manually calculating the number of prior elections participated in for each Green party based on observations in the MARPOR data. This scale is rescaled to run from 0 to 10.

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[11] The calculation procedure is based on a version of Shannon's entropy, a mathematical procedure which rewards high uncertainty (or in our case heterogeneity) which yields a high score, this score is in turn reversed so that a high score represents high issue-specialization (Bischof 2015, 227, 233).

3.6.4 Mean district magnitude

In accordance with the institutional dimension and H7 mean district magnitude is used to measure proportionality of electoral systems. To ensure cross-country comparability, mean district magnitude of lower house seats is measured. In countries with bicameral parliamentary systems the lower chamber is typically the one that strives for proportionality. The upper chamber is typically geared toward disproportionality to enhance representation of certain geographical units, such as in the US and Switzerland, or linguistic groups such as in Belgium (Lijphart 2012, 194). Thus, if proportionality of electoral systems increases citizens propensity to vote for smaller parties as theory suggests, this effect will be most visible in lower chamber elections in bicameral systems. Mean district magnitudes rarely change as it usually involves constitutional change which is a rare occurrence in contemporary democracies. For this reason, this variable is mostly fixed across the temporal scope of the analysis. Data is collected from the Database of Political Institutions. The mean district magnitudes, and by extension, the proportionality of electoral systems across all the sampled countries in the following analysis are displayed in the Table 3.2.

	BE	CH	DE	FI	IE	NL	SE
Mean district magnitude 1975-	7,5	9,5	11,2	14,2	4	150	13,9
Year of redistricting	1985	2008	1999	1999	-	1989	1998
Mean after redistricting	13,65	7,7	1,9	13,33	-	8,3	11,6

Table 3. 3 Mean district magnitudes 1975 – present. Source: The Database of Political Institutions (Cruz, Keefer and Scartascini 2018).

3.7 Control variables

3.7.1 Education

The first, and most essential control variable is that of education. As discussed in the literature review, education is the most consistent indicator of the new and growing political divide of western Europe. It is also an integral part of post-modernization theory. Accordingly, to be sure that it is the actual effect of postmaterialist values that is measured and not just the confounding effect of education, education level is implemented in the analytical model.

The variable is recorded from a question asking the respondent how old they were when they finished their full-time education, ranging from 14 years or younger to 22 years or older. The variable is then rescaled so that 14 or younger receives 1, 22 or older receives 9, and the range between gets 2 to 8. The variable is identically phrased and coded by the WVS and the Eurobarometer.

3.7.2 Unemployment

Unemployment is also a vital factor to account for in the following analysis. Not only does economic insecurity relate strongly to the materialist side of the post-materialist value structure, but unemployment has an almost unique force in its ability to shape elections. That Grant and Tilley (2019, 497-498) use unemployment levels as one of their main proxies for the effect of post-materialist trends in society is indicative of the importance of the indicator. However, as one of the main goals of the design of the current analysis is indeed to measure actual post-materialist values in their relation to the green vote, it is important to control for the effect of unemployment as well. Not only does this strengthen the internal validity and possibly explanatory power of the models, it also serves the purpose of increasing cross-study comparability.

Unemployment is also an important control from an issue salience perspective. As Stokes (1963) emphasizes time and again, politics is fundamentally multidimensional. While being more niche relative to the party system at large means in Downesian terms that the competition for voters in your policy space is lower, it may also mean that demand and salience draws other parties to the classic left-right dimension which is to a large degree occupied with economic questions. Thus, salience of the left-right dimension is controlled by implementing unemployment in the analytical procedure both for the country-level and the individual level model.

Unemployment data is gathered from the OECD database (OECD 2020). Procedures for cording and reporting unemployment data vary from country to country, consequently, simply using national unemployment statistics for a cross-national analysis is not sufficient. For this reason, the OECD calculate their own unemployment estimates, based on their own definition which is: "the unemployed are people of working age who are without work, are available for

work, and have taken specific steps to find work" (OECD 2020). While disagreement exists on what is the best definition of unemployment, the main importance for the current analysis is that the estimate is cross-country comparable. Unfortunately, thorough estimates for all countries do not exist for the entire period. In particular, the Swiss cases will see a significant omission due to the application of unemployment in the analysis. However, unemployment is theoretically such an important indicator that any model which fails to include it risks being seriously underfitted.

3.7.4 Mixed-model electoral systems

Although the most commonly used indicator for proportionality of electoral systems is the mean district magnitude, this measure does not completely cover the cross-national nuances of electoral systems. Some systems can be classified as using mixed-models, and thus while they would seemingly be majoritarian by their district magnitude, they also employ different forms of mechanisms to enhance representative proportionality (Lijphart 2012, 130-137. These countries are given 1 in a "mixed-models" dummy variable. The coding is done according to the V-Dem institute's classification of electoral systems where the German and the French models are classified as mixed-models.

4 Analytic strategy and methods

The following chapter presents the analytical strategy of the subsequent analysis, that is, how the statistical model applies to the theoretical design and empirical setup of the current study. The analysis is mainly based on a multilevel logistic regression model. To aid the discussion of methodological and statistical design, Table 4.1 summarizes the research question, it's theoretically related hypotheses and their empirical expression in the form of variables. This serves as a frame of reference regarding how the statistical model measures the relationships of interest.

Research question:
To what extent can cross-national variation in Green party vote shares be explained by (a) composition of national electorates and, (b) party-political context?

		Hypothesis	Variables
Individual level	H1	*A higher level of post-material values by an individual has a positive effect on the likelihood of an individual voting for a Green party*	• Post-material values index
Country level	H2	*More specialized policy platforms among Green parties has a positive effect on the likelihood of an individual voting for a Green party*	• Party manifesto issue-specialization
	H3	*Higher levels of party platform nicheness among Green parties has a negative effect on the likelihood of an individual voting for a Green party*	• Party manifesto niche-segment appeal
	H5	*The fewer elections a Green party has partaken in the higher the effect of Green party platform nicheness on the likelihood of an individual voting for a Green party*	• Green party age • Party manifesto niche-segment appeal
	H6	*Higher proportionality among electoral systems has a positive effect on the likelihood of an individual voting for a Green party*	• Mean electoral district magnitude
Multi-level	H4	*When party platform nicheness is higher, individuals with higher levels of post-material values has a higher likelihood of voting for a Green party*	• Post-material values index • Party manifesto niche-segment appeal

Table 4. 1 Hypotheses table.

4.1 Data structure and method

The theory, data and research question of this study are all tailored toward a cross-sectional analysis, that is, the study of variation between spatial units (Kellstedt and Whitten 2018, 95-97). While there are aspects where time is a theoretical component in the expected relationships between the measured phenomena in the model, such as age of Green party or post-material value changes, the effect of time in itself is not an essential component of the analysis neither theoretically, empirically nor statistically. As expressed by the research question (see Table 4.1) we are first and foremost interested in what different levels of post-materialist values or age of Green party can tell us about Green party support in a given election, not how these phenomena relate over time. Another design component that aids the assumption that a simple cross-sectional approach is sufficient is the conservative case selection discussed in sections 2.5.1 and 2.5.4, where strict criteria are set to ensure that we only observe parties of a similar nature in countries characterized by being in a similar political-historical epoch. Regression models lend themselves easily to cross-sectional designs and thus fit this aspect of the theoretical and empirical setup well.

With regards to multilevel models one of their main strengths lies in their application to data structure. This particularly applies to data clustering at different analytical levels, that is, when some variation in data at a lower analytical-level can be explained by the fact that the data is nested within at a higher analytical-level. A classic example is students, who are nested within classes, nested within schools, where part of the students' performance can be explained by the student herself, but in part also by her class and school, a feature she shares with some other individuals but not all (Finch, Bolin and Kelley 2014, 23-24; Hox, Moerbeek and van de Schoot 2018, 4). When disaggregating the dependent variable to the individual level, such an analytical model allows for a much more nuanced study of the relationship between individual characteristics and the voting intention of the individual, in other terms, the effect of X on Y for respondent i; but crucially a multilevel model also allows for the analysis of effects of X on Y for respondent i, in election j (Sommet and Morselli 2017). Where j in this case is the analytical level expected to have a clustering influence on the individual level. The data of the current study is hierarchically structured and will most likely require a multi-level approach.

4.2 Beyond data structure: Theoretical and Statistical motivations for Multilevel Analysis

The theoretical motivations for applying an analytical model sensitive to the effects of different analytical levels are abundant. The research question at hand explicitly points toward processes at two different levels of theoretical importance. The previous theoretical discussion and review of current literature relating to the subject further strengthens the assumption that there are different processes operating at different levels shaping the same outcome, that is, cross-national levels Green Party electoral support. It is clear that individual characteristics of voters do shape electoral outcomes, and that these processes are somewhat similar across national boundaries. Education, economic-security and post-material values are all found to shape how individuals vote, irrespective of their context. However, spatial- and salience-theory both advocates that the operations of specific parties and party-systems at large also shape electoral outcomes, indicating that country specific processes are also active. Theoretically, the motivations for a multilevel analysis are strong.

Statistically, the most common way of testing the necessity of a multi-level structured analytical model is by measuring Intra-Class Correlation (ICC). This procedure estimates a correlation coefficient among observations on the dependent variable within the level-2 units (countries in our case) (Finch et. al 2014, 23). Higher correlation between observations within countries is indicative of between-country differences structuring the outcome variable. In basic regression models the assumption of independence between observations is essential and neglecting this assumption typically results in overconfident standard errors (Hox, Moerbeek and van de Schoot 2018, 4). In a multi-level model such between-observation relationships are assumed to exist, and the ICC coefficient indicates to what extent it is present in the data. The coefficient runs from 0 to 1. A score of 1 indicates complete within group correlation whereas 0 indicates an absence of any group effects. There is debate in the field of multilevel statistics whether the ICC coefficient should be used as a threshold criterion for the utility and necessity of multilevel models. Some researchers set a threshold at 0.02 (Theall et. al 2011, 689) and others at 0.05 (Christophersen 2013, 112). Yet others (Nezlek 2011, 53-54) argues that if data structure and theory so suggest, a multilevel model should be applied regardless of ICC. For this analysis, a specific ICC threshold will not be set, however, ICC is reported for all analytical models to assess the scale and impact of the multilevel structure. The ICC levels of the dependent variable for this analysis is .066.

Regardless of ICC there is a point to be made with regards to internal validity and multilevel models. Because they allow for the observation of processes at the level of analysis where they are naturally generated, between-level inferential problems such as *ecological fallacy* (Gerring 2012, 90-91; Hox, Moerbeek and van de Schoot 2018, 3; Nezlek 2011, 7) are easily ruled out. If a researcher found a very low ICC score in her data and decided to aggregate or disaggregate variables, inference of the exact relationship between variables would be harder to make. With a multilevel model however, the necessity for aggregation is removed in a lot of cases, and problems of ecological fallacy can be avoided.

4.3 Logistic regression

As discussed in section 3.2, the dependent variable of the analysis is dichotomised. For dichotomous variables logistic regression models are typically preferred method. Contrary to the basic linear regression models which measure mean changes in continuous relationships, the predictive range of logistic regression models is restricted to 0 and 1, making them the favoured models for dichotomous dependent variables (Skog 2004, 353; Sommet and Morselli 2017). While the logics of logistic regressions are based on linear regressions, the absence of continuity in the dependent variable requires some fundamental changes in the calculation and consequent interpretation of these models.

The coefficients of logistic regressions are expressed as log odds. Log odds is calculated from odds[12] through a logit transformation (Sommet and Moriselli 2017, 205) which converts the relationship between the dependent and independent variables into a line (despite the absence of continuity) making the coefficient linear. In other words, when converted to log odds the coefficient can be interpreted similarly to the coefficient of a basic linear regression. The coefficient is the log odds change in the dependent variable when the independent variable is increases by one unit (Sommet and Moriselli 2017, 205). From here we can interpret the direction of the coefficient as well as the relative effects of different independent variables given that they are standardized. However, log odds are still hard parameters to interpret when considering the actual size of the effect of individual independent variables on the dependent variable. This is why it is common practice to once more convert the coefficient from log odds to odds ratios. Odds ratio is the conditional odds of an outcome occurring divided by the

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[12] Odds is the conditional probability of an outcome occurring. In other words, the ratio of 1 divided by the ratio of 0.

conditional odds of it not occurring, yielding the factor of probability of an event occurring (Sommet and Moriselli 2017, 205). Thus, the coefficient is recalculated to represent the factor of probability of an event occurring when X_i increases by one unit. To provide an example: if a one-unit increase in post-material values yields an odds ratio for the probability of voting for a Green party of 1.50, this means that the probability that an individual votes for a Green party increases by 50% as a result of a one unit increase in post-material values. Moreover, if a one-unit increase in post-material values yields an odds ratio of 0.70, this means that the probability that an individual votes for a Green party decreases by 30% as a result of a one-unit increase in post-material values. For the purposes of ease of interpretation and in alignment with common practices in the field, all coefficients in the following analysis are converted to odds ratios. A fundamental weakness of odds ratios is that for negative effects they only run from 0.99 to 0.01 (or some very small decimal above 0) while in theory positive effects can be infinitely high[13] (Sommet and Moriselli 2017). Thus, if the model a includes large negative effects, the level of log odds for the given variable must also be addressed.

4.4 Interaction terms

As indicated by hypotheses 4 and 5, there are two expected interaction effects/conditional relationships in the following analysis. An interaction effect occurs when the effect of an independent variable (X) on the dependent variable (Y) is a product of the function of a second independent variable (Z) and the first independent variable (X) (Midtbø 2016, 136). In simpler terms, when different levels of variable Z condition the effect of variable X on Y. To add an interaction term, one simply adds a variable where the coefficients for variables X and Z are multiplied to make the effects of the variables dependent on each other, and then one can test if this relationship is significant. For multilevel models this can involve cross-level effects, where a level-2 variable is expected to influence the effect of a level-1 variable (Finch, Bolin and Kelley 2014, 52). As discussed in the hypotheses section, the following analysis involves two such relationships: (1) the effect of post-material values on Green party vote intention given Green party nicheness levels and (2) the effect of Green party nicheness on Green party vote intention given Green party age. In other terms, for the first interaction (1), post-material values is the focus variable (X) while party nicheness is the moderator variable (Z); for the

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[13] In other words, they are bounded to zero at one end but runs to positive infinity at the other. This is the reason why the coefficient is converted from odds to log odds in the first place.

second interaction (2), party nicheness is the focus variable (X) while party age is the moderator variable (Z).

4.5 Random slope terms

Another strength of multi-level models is that they allow specifying random slopes for a variable at the individual level. Specifying a random slopes term for an independent variable effectively means that the independent variable of interest can have a different effect for each level-2 unit, ensuring a more nuanced analysis of the effects of the variable (Sommet and Morselli 2017). In the following analytical model the post-materialist values variable is given a random slope term measure country-specific effects of post-materialism. Nevertheless, when applying it, whether or not it improves the explanatory power of the model is crucial to assess.

4.6 Assumptions

When performing regression analysis, it is important to be conscious about some key assumptions related to data and the relationship between variables that must be upheld in order for the analysis to be reliable. However, because of the specific type of regression analysis that is performed here, namely multilevel logistic analysis, there are also some common assumptions that do not apply to the current model.

One common assumption has already been addressed with regards to data structure, which is the assumption of independence of observations (Gerring 2012, 213). Because this is a multilevel analysis, the assumption is reversed, we actually assume that observations are not always independent of one another but clustered within predefined groups – or level 2-units, which in turn has to uphold the independence assumption (Sommet and Moriselli 206-207). Two additional assumptions which are typical for linear and cross-sectional models (Verbeek 2017, 100) but not relevant for logistic models, are those of homoskedasticity and a normally distributed residual term. This is because logistic models do not rely on residuals. While linear models try to predict actual values, and residuals represent the distance between predicted and observed values, logistic models only predict the probability of 0 and 1 and thus there are no residuals (Sommet and Moriselli 2017, 206). Lastly, there is the assumption of linearity between independent and dependent variables. While logistic models relies upon constructing linearity between the independent variables and the log odds of the dependent variable, this does not presuppose a linear relationship between the dependent and independent variables in the same way a linear regression model would (Sommet and Moriselli 2017, 204-205). In short,

the common assumptions of constant and linear relationships in linear models do not apply to logistic models.

A common problem which does apply to multilevel and logistic models like any other multiple regression model is the problem of multicollinearity. This occurs when an independent variable has a strong linear relation to one or several other independent variables. If this is the case the analysis will yield poor coefficients and standard errors (Finch, Bolin and Kelly 2016, 9). A common way for testing multicollinearity is to estimate the variance inflation factor (VIF) for the independent variables. Acceptable VIF-scores are typically < 5 or < 10 (Finch, Bolin and Kelly 2016, 9). Two of the variables in the following analytical model does in fact produce high VIF-scores, one exceeding 5 and the other 10 (see Appendix B for complete VIF-test results), these variables are an interaction term (interaction 1 as defined in the above section) and one of its component variables. Multicollinearity is a common in interaction terms because they are constructed by two independent variables. Despite this, multicollinearity is not necessarily a critical problem for interaction terms (Friedrich 1982). The reason is that in the worst case, multicollinearity will inflate standard errors leading to possible loss of significance and consequently misleading conclusions (Friedrich 1982, 799), however, if theory suggests a conditional relationship and thus necessitates an interaction term the only way to fit a valid model to the data is to include the interaction term. If the expected conditional relationship is well founded it should be visible in the analysis despite the presence of multicollinearity (Friedrich 1982, 803-804). Furthermore, if the presence of multicollinearity were to cause statistical inferential errors, it would cause a type II error, which is commonly viewed as the lesser evil of inferential errors[14]. On the contrary, if the interaction term is significant despite multicollinearity one should conclude that it was absolutely necessary to include the interaction term, because an interaction term assumes an ontologically different relationship between variables which renders a lacking model weakened in terms of external validity if such a relationship actually is present.

There is a discussion in the field of multilevel-modelling whether there is a threshold of level 2-untits that should be met in order for the analytical model to yield generalizable results. Some

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[14] Type II error is statistical parlance for accepting a null-hypothesis which should be rejected, whereas a type I error is rejecting a null-hypothesis which should be accepted, which in turn is statistical parlance for accepting that a relationship does not exist where it actually does and accepting that a relationship exists where it does not (Gerring 2012, 441).

argue they should exceed 50 cases (Maas and Hox 2005, 90-91; Hox 2010, 233-234) and others 40 cases (Schoeneberger 2016, 389). Gelman and Hill (2009, 275) argue that setting a specific threshold is not necessary and in the worst case misguided, as a multi-level structure will perform better than alternatives given sufficient theoretical and empirical necessity. They do stress that very few level-2 units (<5) will make it harder to estimate differences between groups. As this study relies on 14 level-2 units, this is not an issue here.

4.7 Explained variation: AIC and BIC

Because logistic regressions do not have residuals, there are no straightforward measures for explained variation such as R^2. Furthermore, there are no universally agreed upon measures of explained variation for multilevel models either. A common measure is Akaike's Information Criterion (AIC) (Hox, Moerbeek and van de Schoot 2018, 38-39; Lander 2017, 311; Midtbø 2016, 103). AIC is simply a measure of model deviance added to the number of model parameters times 2[15]. Higher levels of AIC indicate less explained variation, while lower levels the reverse. However, AIC is first and foremost a tool for model comparison. The models explanatory power (AIC) is penalized the more variables (complexity) that is added to the model, given the role of number of parameters in measuring AIC. However, the model deviance component rewards models that explain the data better, thus decreasing AIC as deviance decreases (Hox, Moerbeek and van de Schoot 2018, 38-39). In short, if AIC decreases between models this indicates a better fit, if AIC decreases while complexity is added, this especially indicates a good fit.

Another similar measure of explained variation which is often reported alongside AIC levels is Schwarz's Bayesian Information Criterion (BIC)[16]. Similar to AIC, BIC penalizes model complexity. Hox, Moerbeek and van de Schoot (2018, 39) do remark that the calculation of BIC involves number of observations (*n*), which is an ambiguous parameter in multilevel modelling because the model involves observations at different levels. Resultingly, of the two AIC is generally the suggested model-fitness measurement for multilevel models. In the

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[15] Formally: AIC = *-2ln(L) + 2p,* where: *ln(L)* is the maximized log-likelihood and *p* is the number of coefficients in the model. Thus, on the one hand, as the model fitness increases log-likelihood increases but AIC is reduced because the log-likelihood is negated. On the other hand, as more variables are added, AIC increases because *2p* is added (Lander 2017, 311).

[16] Formally: BIC = *-2ln(L) + ln(n)*p,* where: *ln(L)* is the maximized log-likelihood, *p* is the number of coefficients and crucially, *n* is the number of observations (Lander 2017, 311).

following analysis both AIC and BIC levels will be reported for all models, mainly to see if they are in agreement, while AIC levels will be attributed the most importance.[17]

4.8 Missing data – Multiple Imputations Method

The dataset for the analysis contains a substantial 6,6% missing data points. 18% of the vote intentions variable is missing, 3,4% of the post-material values variable and 4,97% of the education variable. While it has yet to become standard practice, an increasingly favoured way of handling missing data in the field of political science is by performing multiple imputations (Lall 2016, 415). Simply put, multiple imputations allow the analyst to replace missing values in the data with several values estimated from observed data (Lall 2016, 414; van Buuren 2018, 29-30). An increasing amount of evidence indicates that doing so creates less biased estimates than what the most common alternative does, which is listwise deletion (Lall 2016, 419-420, 431-432; van Buuren 2018, 30-33). Listwise deletion simply means deleting all observations with missing values (which here would constitute 24% of the data). Of course, as with any statistical method, there are key assumptions that must be met before one can run a proper multiple imputations model.

Theoretically there are three kinds of missingness that are consequential for how one can approach the problem. These were all defined in the 70s by Donald B. Rubin, a statistician and inventor of the multiple imputations method, as missingness mechanisms (van Buuren 2018, 8). These are (1) missing completely at random (MCAR), (2) missing at random (MAR) and missing not at random (MNAR). MCAR characterizes missing data where the probability of any data point being missing is exactly the same, which implies that there is no structural cause for the missingness. A classic example is computer malfunction during recording of observations. This would cause some observations to be missing, but the cause is completely by random accident. MAR occurs when the probability of missingness is the same only within predefined groups of observed data. This can often be the case for questions regarding income in surveys, respondents can feel that income is sensitive information, especially those at the higher and lower ends of the distribution. However, income is most of the time strongly related to level of education or primary occupation, and thus, income is often structurally related to

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[17] Because the following model is based on multiply imputed data (to be discussed in section 4.7), the reported AIC and BIC levels are actually mean across all 25 imputation models. AIC and BIC levels for the analytical models in all imputed datasets are displayed in Appendix C.

observed data. MNAR on the other hand, occurs when data is missing due to non-random reasons that are unknown to the analyst, in short, when missingness depends on missing data (Lall 2016, 416, 418-419; van Buuren 2018, 8-9, 36-38). The point of classifying these missingness mechanisms is that multiple imputations is only advisable during MAR, and cautiously under MNAR. Under MCAR circumstances, simply applying listwise deletion will not bias your analysis in any way, because the missingness is truly random. Deleting these observations will not skew the sample away from being representative of the intended population in any way. In practice, MCAR is always highly unlikely. Under MNAR, multiple imputations may cause bias. This is because multiple imputations estimate values based on relationships between missingness and observed data, but if the causes of missingness are fundamentally unobserved, this method will never be accurate. However, Ranjit Lall (2016, 418-419) argues that contrary to common misconceptions most of the time you can still perform multiple imputations on MNAR missingness because while the complete causes of the missingness are not known there may also still be observations that predict missing values very well. The evidence is growing that data based on multiple imputations will still be less biased than data based on listwise deletion. For MAR however, the case is clear. If the probability of missingness is structurally related to observed values, one should in theory be able to estimate the values of the missingness[18] (van Buuren 2018, 36-39). Because of the strong relationship between the individual-level variables of the following analysis the missingness here is assumed to be mostly MAR.

It may seem strange and biased to estimate values for the dependent variable based on values from the independent variables, however, this is the exact strength of multiple imputations as a method. Not only does it measure the relationship between observations and missingness, but it reproduces uncertainty as well. Meta-studies, also in the field of political science, illustrate

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[18] Unfortunately, there are no good statistical tests to distinguish MAR from MNAR missingness. This is because the information needed to distinguish these categories is itself missing. There are tests for MCAR, but these tests are of limited value since any data with a substantial amount of missingness is highly unlikely to be MCAR (van Buuren 2018, 37). Nevertheless, Little's MCAR test was performed on the data for this study. It returned a significance of < 0.05 indicating that the missingness is not completely random (Enders 2010, 19-21; Garson 2015, 12). This leaves the decision on which missingness mechanism to assume up to the analyst, based on theoretical knowledge and not least the data generating process. While it is not completely certain, the missingness in the data at hand seems more MAR than MNAR. More or less all the missingness is within the vote intention variable, and presumably, the simplest explanation for why a substantial share of respondents has not answered, is because they view vote intentions as sensitive information. However, it is strongly linked to the indicators of education and age, and possibly even post-material values. Thus, it is possible there are so-called *unknown unknowns* also shaping the missingness, but most likely a large portion of missingness is strongly related to observed data.

that when studies which originally utilized listwise deletion are reproduced using multiple imputations the most common result is that important analytical estimates often lose their significance (Lall 2016, 414-415, 427-432). Consequently, if applying multiple imputations to your data were to lead to an inferential error, it is most likely to cause a type II error, which again, is commonly viewed as the lesser evil of inferential errors. However, when done properly, it is more likely that the imputed sample is more representative of the population than an incomplete sample. This is due to the method's emphasis on reproducing uncertainty.

There are several methods for imputing missing values. What makes multiple imputations unique is its ability to reproduce uncertainty within the data. This is what makes it superior to other methods when it comes to minimizing the potential bias created from missing data handling, be it mean imputation, regression imputation or listwise deletion (van Buuren 2018, 11-15). An axiomatic goal in data analysis is to always strive to analyse a sample that is representative of the intended population, and the argument states that if there are relationships between observed and missing data that your missing data handling is not sensitive to, the analysis will always be biased. Even as simple metrics as means or modal distributions are no longer representative, because the sample is no longer representative of the population (van Buuren 2018, 33-34, 41). When imputing, the challenge lies in neither underestimating nor overestimating the relationship between observed and unobserved values, and this is why reproducing uncertainty is key. The way multiple imputation ensures this is by estimating several, or $m > 1$, datasets. Each dataset contains plausible values for the missing observations which differs based on estimation uncertainties between and within the imputed datasets (van Buuren 2018, 19-20, 30-31). This is the fundamental contribution of Rubin's method: if you pool the dataset following a procedure called Rubin's rules, you maintain both within-dataset and between-dataset variance, ultimately producing estimates for the missing values that better represents the true population than what any other method would, given correct assumptions about the data (van Buuren 2018, 41-44). The exact method used in the current paper is called multiple imputations by chained equations, a statistical tool developed by Stef van Buuren (et. al, 2020) which is an algorithm that runs a series of estimations (chained equations) based on the procedures initially proposed by Rubin (van Buuren 2018, 119-121). The main choices the analyst has to make when applying this tool is how many datasets to estimate (m), how to estimate the different variables and whether the imputation results looks realistic or not. For the number of imputed datasets there is a simple rule of thumb: the number of imputed datasets

should be similar to the percentage of incomplete observations (van Buuren 2018, 60)[19]. Following recommended practices, predictive mean measures will be applied to the continuous variables, and logistic regression to the dichotomous variable[20]. Because we can never know the true values of the missing observations, diagnosing the imputation results is never entirely conclusive. A practical way to do it is to compare what the implications of the procedure is for the analytical model compared to other missing data handling procedures, such as listwise deletion. Another diagnosing procedure is to see whether the model produces any unrealistic values. Both evaluations will be made based on a listwise deletion robustness test presented along with the results of the analysis.

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[19] However, theoretically, the more imputed datasets the better, thus $m = 25$ for the following analysis.
[20] Though based on means, predictive mean matching (PMM) is not to be confused with linear regression. PMM identifies a replacement value based on comparing a set of complete observations with predictor values closest to those of the missing observation, and randomly draws a replacement value from one of these complete cases (van Buuren 2018, 77). This is the commonly agreed upon best estimation procedure for continuous variables when performing multiple imputations.

5 Results

5.1 Inspecting key relationship at the country level
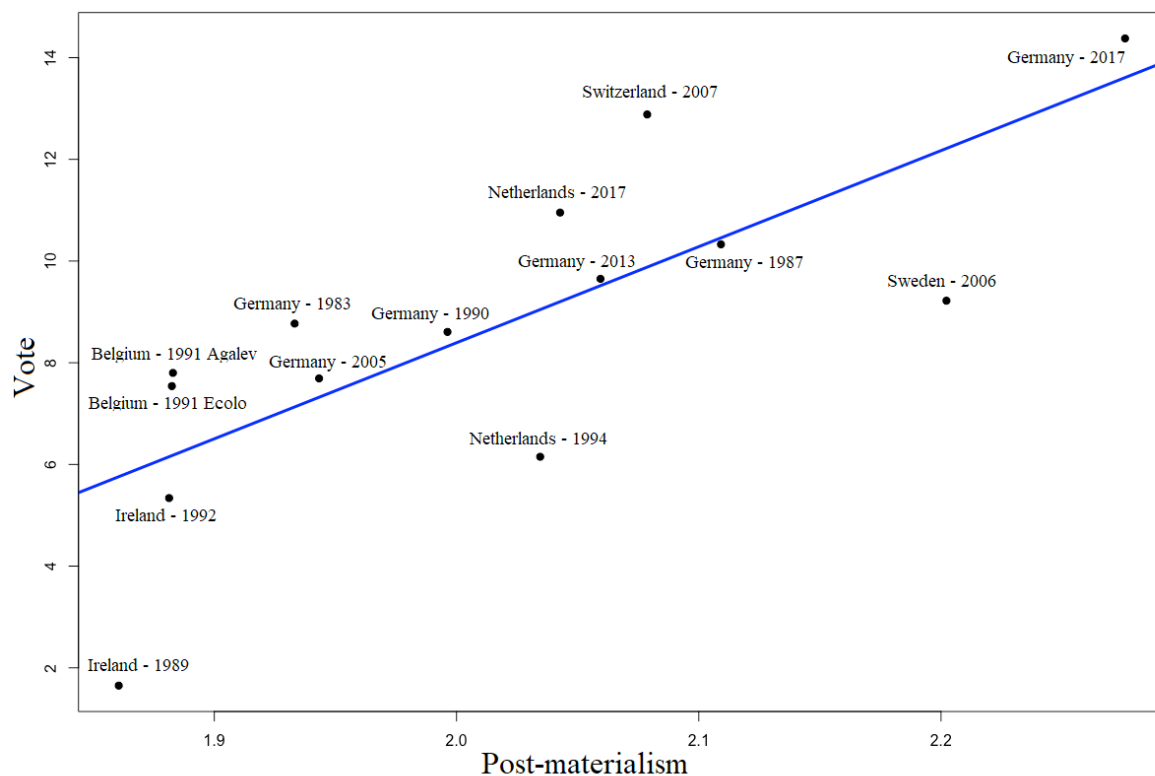
Figure 5. 1 Scatterplot of post-materialist values over vote intention at the country level. Regression line fitted using linear regression. Source: Inglehart (et. al 2018, 2020) round three, four, five, six and seven, and *Commission of the European Comminities (2012):* Eurobarometer 19, 27, 31, 33, 35.0, 37.0 and 39.0.

Figure 5.1 describes the bivariate relationship between two of the main variables of interest at the country level. There is a clear tendency in the graph, indicating that countries with higher mean post-material values tend to see higher support for Green parties. There are notable within-countries cases that show jumps in Green party support without a substantial increase in post-materialism, specifically Ireland between 1989 and 1992, and the Netherlands between 1994 and 2017. If the theory is correct, this may be because the development of post-material values is highly long-term. While a mere bivariate distribution never provides a complete overview, this indicates that there must be other forces shaping the levels of vote shares in these cases, and presumably in all cases. There is nonetheless one very important takeaway from this graph apart from the clear trend, which is that there are no clear outliers in either of the top-left or bottom-right corners, indicating that the relationship between post-materialism

is constant and very consistent (the regression line yields a coefficient of 18,9, significant at the 1% level). Even the clearly deviating outlier in Germany – 1994 discussed in section 3.3 – it is only at the middle of the spectrum in terms of vote shares and not directly contradicting the pattern between aggregate post-materialist values and Green party vote shares (Appendix A).
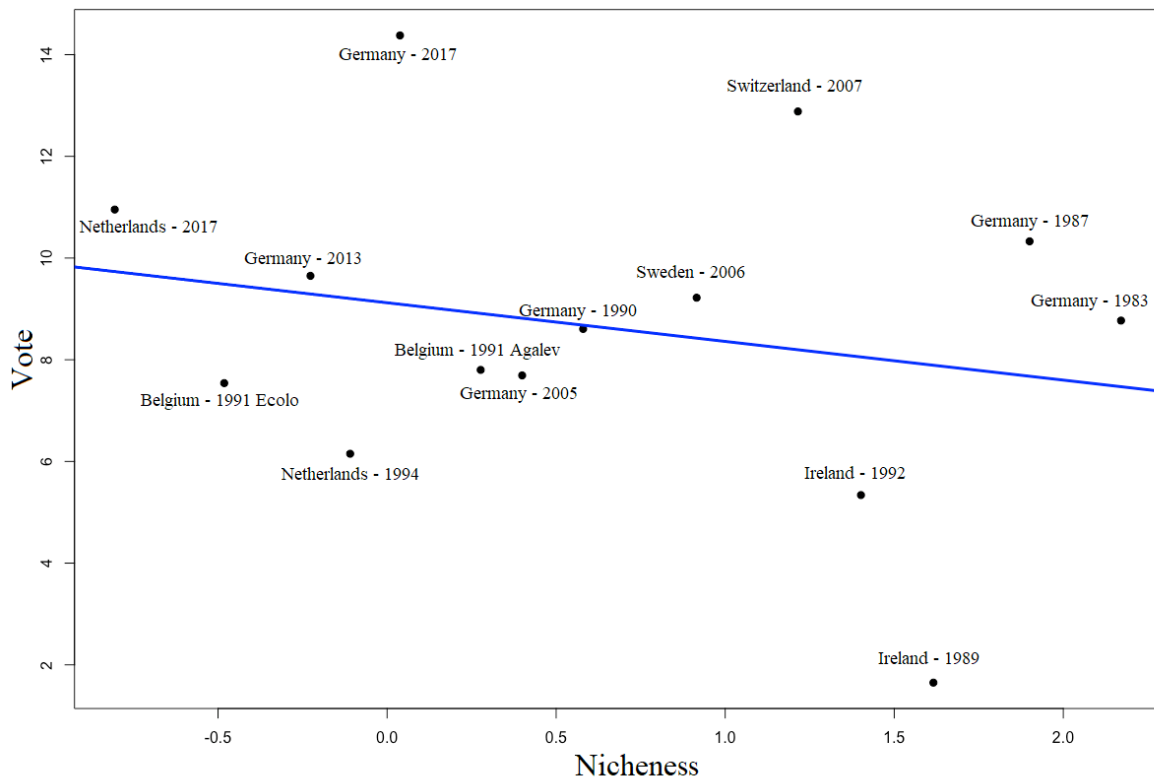
Figure 5. 2 Scatterplot of party platform nicheness over vote intention at the country level. Regression line fitted using linear regression. Source: Inglehart (et. al 2018, 2020) round three, four, five, six and seven, and *Commission of the European Comminities (2012):* Eurobarometer 19, 27, 31, 33, 35.0, 37.0 and 39.0.

Concerning the second key relationship of interest figure 5.2 is much more uncertain. There is some convergence around the regression line, especially at the lower levels of party platform nicheness. Despite this, based on this graph alone it is not possible to point to a clear relationship between nicheness and vote shares. Overall, the trend is negative. That is, the more niche the party of platform of the Green party, the fewer respondents intend to vote for them (a non-significant regression line with a -0,76 coefficient). Notably, there are some strong outliers, particularly Switzerland in 2007 and Germany in 1987 and once more in 1983, which all see high levels of party platform nicheness and moderately high to high levels of vote intention. The descriptive country-level statistics are not very informative in this case, and the

following regression analysis will determine whether this relationship holds better under *ceteris paribus* conditions.

5.2 The empty model

When performing a multilevel analysis, the first model to be examined is the empty model. The empty model contains solely the dependent variable, and the point of analysing it is to get ICC scores for the distribution of the dependent variable across level-2 units. This allows us to observe change in ICC as the model gets more complex. Critically, if ICC lowers while level-2 variables are added, this is a sign that the added variable explains parts of within-country variance on the dependent variable. For the current model, we see from table 5.1 that individuals on average correlate 6,6% with regards to how likely they are to vote for a Green party. While this is somewhat low when attempting to identify influential level-2 factors, this result is not altogether surprising for the current analysis, given the significant emphasis put on analysing highly similar countries and Green parties. On the one hand both post-modernization theory and cleavage structure theory (the sociological dimension) suggest that these countries are to a large degree homogenous with regards to the potential of rallying a Green vote. On the other hand, spatial and salience theory (the strategic dimension) argue that country-specific and not least election-specific should have an impact. Thus, it remains to be seen whether these 6,6 percentages can be explained by strategic and institutional dimension variables. Generally, a 6,6% ICC score means that most of the variance in Green party support is explained across countries, not within them. This is by no means a negligible ICC score and does indicate that if you are interested in analysing why individuals vote for Green parties in the current sample you must analyse level-2 factors as well.

Table 5. 1 Empty model.

	Model 0: Empty model	
	Odds ratio	Standard error
Constant	0.087***	.1325
ICC	.066	
AIC	12874,32	
BIC	12890,19	
N (respondents)	20744	
N (countries)	14	
*** = p < 0.001; ** = p < 0.01; * = p < 0.05		

5.3 Some notes on model comparison and explained variance

The following regression model is constructed as in a stepwise manner to distinguish the effects of different variables by observing how distinctive parameters change when a new variable is added. The model results should be read from is the one with the greatest complexity while at the same time retaining explained variance scores. In the following analysis that is model 13. While model 14 sees a decrease in AIC from model 13 of .22 such a low difference is completely insignificant. This means that model 14 adds complexity without explaining more, rendering it weaker than model 13[21]. The BIC and ICC scores agree on favouring model 13. BIC is at its lowest in model 13 and ICC indicates that model 13 explains more level-2 variance than any other model. Unless otherwise specified when results are presented in the following sections, it is the results from model 13.

5.4 Individual level Results

5.4.1 Post materialist values

As expected, post-material values have a consistently strong effect on the likelihood of voting Green throughout all the models, and the effect is significant at the 0,1% level. Model 13 displays an odds ratio of 1.96. This signifies that, with all else held constant, increasing on the post-materialism scale from "materialist" to "mixed", or from "mixed" to "post-materialist" increases the likelihood that an individual votes for a Green party by 96%. This is by far the largest effect of a one-unit increase in the entire model, with the caveat that it is only a three-point scale. An aspect that speaks to the relative importance of the effect is the fact that theoretically, individuals do not often move between these very often. Whereas other factors might change over time, theory suggests that due to early life socialization values are highly sticky. If so, this means that post-materialistically oriented individuals are consistently 96% more likely to vote Green than mixed individuals, and almost three times as likely as materialists.

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[21] Because this is based on multiply imputed data, the AIC scores are actually means across all 25 datasets. When the difference between the two models is this marginal, the more nuanced and thus proper approach is to inspect AIC scores individually within all 25 imputations to inspect whether this uncertainty is consistent across all imputed datasets. For this reason, AIC and BIC scores for all models across all 25 datasets are displayed in Appendix C. The AIC table indeed shows that there is little separating the two models across all 25 datasets. While the datasets don't agree on the direction of change, the change is still minimal within all imputed datasets. This underscores the impression given by the mean change across all datasets, that model 14 does not add explained variance to the analytical model.

Models 1 through 3 calculate the overall effect of post-materialist values, whereas model 4 has an added random slopes term. While not huge, model 4 sees a drop in AIC levels, indicating that specifying a random slopes term increases the explanatory power of the model. This indicates that the effect of individuals post-material values levels on their likelihood of voting for a Green party is different between country-years/elections, albeit not very much. Another metric which supports this notion is the fact that ICC increases by .005 between model 3 and 4, a sign that model 4 exposes more between-election differences than model 3. Theoretically, this is once again not a surprising find, given the vast amount of theoretical arguments for why within country factors may influence the Green vote. This ranges from electoral system to unemployment levels or party strategies. What is more surprising is that the difference is so minor that allowing for a random slope term only makes individuals half a percentage point more similar to their fellow electorates than individuals from in other elections. However, the random slopes term does add explanatory power, and is thus kept for the post-materialist values variable.

Table 5. 2 Individual level regression models.

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE
Individual level								
Post-material values	2.399***	.047	2.288***	.048	2.077***	.049	2.113***	.088
Age			0.977***	.002	0.977***	.002	0.977***	.002
Education					1.165***	.013	1.164***	.013
Model Diagnostics								
AIC	12385,11		12088,51		11891,64		11888,14	
BIC	12408,93		12120,27		11931,34		11943,72	
ICC	.050		.076		.071		.076	
N(respondents)	20744		20744		20744		20744	
N(countries)	14		14		14		14	

Note: *** = p < 0.001; ** = p < 0.01; * = p < 0.05

5.4.2 Age

Age is the most robust predictor throughout the analytical models. Neither odds ratios nor standard errors change by a single point at the thousandth decimal between any two models. It is also consistently significant at the 0,1% level. It has an odds ratio of .977, meaning that for every year older the observed individual is, it is 2,3% less likely to vote for a Green party. In other terms, this means that there is a 69% lower rate of Green-voting 45-year olds than 15-year olds and two and a half times lower rate of Green-voting 80-year olds relative to 15-year olds, all else held constant. This result is also highly consistent with theory and previous research. From early research on Green parties in Müller-Rommel (1989) and Rootes (1995) to current research by Kriesi and Hutter (2019) youth has always been identified as a strong predictor of voting for a Green party.

5.5 Country level results

5.5.1 Issue specialization

Issue specialization in empirical terms refers to how narrow the issue appeal of a given party is. In the theoretical terms of the current analysis it is predominantly seen as an indicator of the extent to which the party stays within its niche, or segment, in a spatial conception of political competition as expressed by H2.

Neither model 13, nor any other analytical model find any significance for the issue specialization variable. There is no evidence in the current data to indicate that a narrow or wide issue appeal in the Green party platform has any effect on whether or not individuals vote for Green parties. While operationalizations are different, this is contrary to the findings of Adams et. al (2006) and Ezrow (2008) who argue that niche parties get punished electorally for moving away from their niche. At least in relation to Green parties, this is not the case in the current data. Bischof (2015, 228) finds in his conceptualizing paper that issue-specialization is only weakly related to electoral market-shares gains by niche parties. While Bischof's operationalization of market-shares and vote shares are not the same, these results are indicative of the same pattern: that how condensed an electoral message is matters little to nothing with regards to the electoral success of Green parties.

Table 5. 3 First multi-level regression table.

	Model 5		Model 6		Model 7	
	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE
Individual level						
Post-material values	2.028***	.087	2.033***	.103	1.984***	.096
Age	0.977***	.002	0.977***	.002	0.977***	.002
Education	1.164***	.013	1.164***	.013	1.162***	.013
Country level						
Party nicheness	0.650 **	.159	0.658 *	.181		
Issue specialization			1.014	.168		
Overall niche					0.642	.229
Model Diagnostics						
AIC	11885,44		11887,8		11888,68	
BIC	11948,96		11959,26		11952,2	
ICC	.071		.072		.115	
N(respondents)	20744		20744		20744	
N(countries)	14		14		14	

Note: *** = p < 0.001; ** = p < 0.01; * = p < 0.05

Table 5. 4 Second multi-level regression table.

	Model 8		Model 9		Model 10	
	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE
Individual level						
Post-material values	2.033***	.103	2.065***	.096	2.050***	.081
Age	0.977***	.002	0.977***	.002	0.977***	.002
Education	1.164***	.013	1.161***	.013	1.162***	.013
Country level						
Party nicheness	0.658 *	.181	0.893	.173	0.887	.160
Issue specialization	1.014	.168	0.943	.144	0.928	.113
Unemployment			0.908 **	.034	0.903**	.032
Mean district magnitude					0.968	.021
Model Diagnostics						
AIC	11887,8		11881,49		11881,95	
BIC	11959,26		11960,89		11969,29	
ICC	.072		.047		.031	
N(respondents)	20744		20744		20744	
N(countries)	14		14		14	

Note: *** = $p < 0.001$; ** = $p < 0.01$; * = $p < 0.05$

Table 5. 5 Third multi-level regression table.

	Model 11		Model 12		Model 13		Model 14	
	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE
Individual level								
Post-material values	2.054 ***	.080	2.061***	.076	1.935***	.078	1.947***	.080
Age	0.977 ***	.002	0.977***	.002	0.977***	.002	0.977***	.002
Education	1.162 ***	.013	1.161***	.013	1.162***	.013	1.160***	.013
Country level								
Party nicheness	0.868	.190	0.739	.273	0.569 *	.272	0.443 *	.319
Issue Specialization	0.938	.119	1.005	.136	1.057	.088	1.149	.102
Unemployment	0.909 *	.045	0.927	.050	0.892 **	.039	0.918 *	.041
Mean district magnitude	0.972	.028	0.968	.028	0.959	.027	0.952	.027
Green party age	1.008	.042	1.011	.040	0.996	.039	0.993	.036
*Green party age * Party nicheness*			1.043	.051			1.062	.041
*Post-material values * Party nicheness*					1.224 **	.072	1.221 **	.073
Model Diagnostics								
AIC	11883.80		11884.64		11873.29		11873.07	
BIC	11979.08		11987.86		11976.51		11984.23	
ICC	.041		.036		.026		.028	
N(respondents)	20744		20744		20744		20744	
N(countries)	14		14		14		14	

Note: *** = p < 0.001; ** = p < 0.01; * = p < 0.05

5.5.2 Party nicheness

Empirically, party nicheness measures how much the Green party focuses on niche issues compared to the party system mean. Recall that a nicheness score over 0 means that the party focuses more on a subject than the party system mean, whereas a nicheness score below 0 means that the party focuses less on a subject than the party system mean (revisit figure 5.2 for a visualization of the different parties nicheness scores between elections). Theoretically, it is taken as a measurement of party system issue salience, assuming that low nicheness indicates a high degree of system level salience for green policy. Also, assuming that Green parties are issue owners (an argument made by aforementioned literature) the party nicheness variable asks whether low system-level issue salience in the form of high party nicheness scores has a negative impact on the likelihood that individuals will vote for a Green party. Indeed, the analytical model supports this notion. The relationship is significant at the 5% level, which by norms of modern social science is an acceptable significance level (Kellstedt and Whitten 2018, 165). Not only is it significant but the direction is in line with prediction. A one-unit increase in Green party nicheness reduces the likelihood that an individual in the current sample votes for the Green party by 43,1% all else held constant, according to model 13. It must be said that while the nicheness scale runs from -5 to 5, Bischof (2015, 228) finds that most Green parties are situated within two deciles of each other in terms of nicheness. For our scale, that means two points on the -5 to 5 scale. In other terms, a one-unit increase is quite a radical shift in terms of nicheness and the comprehensive effect should thus not be surprising in itself. Interestingly, the party nicheness variable is only significant until unemployment levels are controlled for (models 5 and 6 contrary to models 9 through 12) and only gains significance again in model 13 where the interaction between party nicheness and post-material values is accounted for. In other words, the effect of party nicheness cannot be observed without accounting for the interaction between party nicheness and post-material values[22]. Summarily, party nicheness has a somewhat strong influence on whether or not individuals choose to vote for them in its own right. This finding is in line with previous research relating to the issue ownership of Green parties (Walgrave, Lefevre and Tresch 2012). Bischof (2015, 230) observes a similar pattern: that for most Green parties their nicheness levels seem to decrease over time, without hampering their electoral performance.

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[22] This finding is affirmative of Friedrich's (1982) methodological point discussed in section 4.6 that the assumptions about relations between variables in conditional models are fundamentally different from those a regular regression model makes, and if such relationships are present one has to account for such relationships for the overall model to be accurate.

5.5.3 Mean district magnitudes

Mean district magnitudes do not have a significant effect on vote intentions in any model. Though p-values are close to 5% in some of the more complex models, the effect must be rejected. While this finding does not undermine the entirety of the analytical model, it does illuminate its weaknesses. This result is contrary to a broadly accepted relationship in the field of comparative politics, namely that proportionality of electoral systems should structure electoral results. The most apparent reason for the absence of such an effect in this model must be that electoral results are disaggregated to the vote intentions measurement, and thus election results is not really what is analysed. That being said, there are possibly valid conclusions to be drawn from this result, but these are discussed in the next chapter.

5.5.4 The first interaction term: Green party age and party platform nicheness

The interaction between Green party age and party platform nicheness is also not significant. This is contrary to the findings of several of the findings in the niche party-literature. Again, this is most probably attributable to weaknesses of this model and not the literature in general. Both Bischof (2015) and Zons (2016) find strong indications of such a relationship, and they handle a much richer dataset than what the current analysis offers. While this analysis spans from the 70s to the 2010s, there few repeated observations within countries. It may also be that the dominance of Germany within the sample biases this variable. As can be observed in table 3.1 in section 3.1, the German Green party has seen more of a "U"-shaped cure than the more linear growth in election results common in other countries.

5.5.5 The second interaction term: party platform nicheness and post-material values

One of the key discussions in the proceeding chapters has been whether there is an interaction between the system-level salience and individual level salience (values related to the Green vote). Indeed, the analytical model supports such a claim. Model 13, where the interaction term introducing post-material values as a focus variable and party nicheness as treatment variable is included, sees the largest drop in AIC scores between any two models with country level variables included, and the second biggest drop in ICC level. The interaction term is significant at the 1% level. As illustrated by figure 5.3, the predicted probabilities that an individual will

vote for a Green party related to post-material values rises as party nicheness rises. In other

CI(Max - Min): [0.251, 1.185]
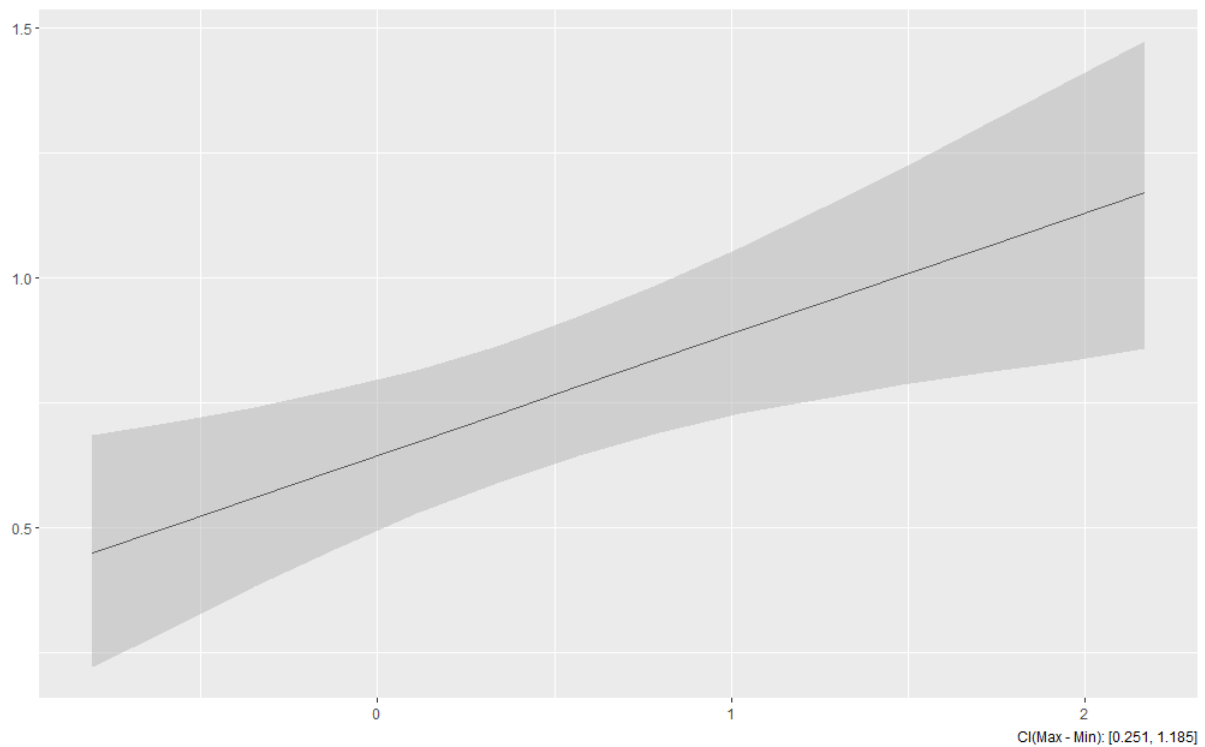
Figure 5. 3 Interaction plot displaying the predicted probability of individuals with different levels of post-materialist values in relation to growing Green party nicheness.

words, there is evidence of an interaction between country-level salience and individual level characteristics. People who hold values related to voting for a Green party are more inclined to vote for the Green party when their issue is not salient at the party level, that is, when the platform of the niche party is more niche. Or, to phrase it in empirical terms rather than theoretical terms: the more the Green party focus on green issues relative to the rest of the party system, the more inclined post-materialists to vote for the Green party. This evidence goes a long way in truly proving that post-materialism and voting for a Green party actually is related. Furthermore, it also illustrates how system level and individual level interacts in producing voting incentives and by extension electoral outcomes.

5.6 Comparing country level results by changes in ICC

Statistically, comparing ICC levels between models can contribute to our understanding of how much different country-level factors explain within the current model. When all individual level variables are accounted for, ICC is at 7,6% meaning that individuals on average correlate 7,6% within countries as opposed to across countries in how much they vote for Green parties. When the party nicheness variable is added, this parameter falls 0,5%. While not a large number, this makes out 6,5% of within-country variance. This is in no manner a negligible

entity. However, when unemployment levels are added (the next significant country-level variable) ICC drops a solid 2,4%. In other words, unemployment levels account for 31,5% of within-country variance which makes it a highly influential control variable. Lastly, when the interaction term is added, ICC drops by an additional 2,1%. This contributes towards reducing within-country variance by 27,6%. Though this last ICC drop cannot be attributed to party nicheness at the country level alone, as it consists of a cross-level interaction. Overall, these ICC levels mistaken for real effects. As with any statistical measure they are vulnerable to unaccounted-for factors. Yet they do indicate the relative size of effects, at least internally in the model.

5.7 Summary

To summarize, both sociological dimension explanatory variables are highly related to the dependent variable. One of two party strategy dimension explanatory variables are related to the dependent variable. The institutional dimension explanatory variable is not related to the dependent variable. Lastly, the cross-level interaction is also related to the dependent variable. This shows that several of the predicated theoretically different but inter-related relationships between are in play in the studied sample. As discussed, there are also weaknesses in the empirical model. In chapter six the implications of this empirical model and uncertainties with regards to theory, research and policy are discussed more thoroughly. First however, two alternative operationalisations of the empirical models are presented as robustness checks.

5.8 Robustness checks

Two different operationalizations of the analytical were run as a robustness check. Both are represented in Appendix D where the model with the largest explanatory power in both cases is displayed. The first, a model where the data from Germany in 1994 are included, shows that significance levels would not have altered had this case been included. I could still be producing biased estimates, the differences would not have been dramatic. The second represents a model based on listwise deletion handling of the missing data. This model show that indeed if there is an inferential error made form the multiple imputations, it would be a type-II error. The listwise deletion model displays significant p-values for the effect of mean district magnitudes whereas the rest of the model is similar in terms of significance.

6 Discussion and conclusion

6.1 Causation and validity

It must be stated from the outset that the findings of the current analysis do not claim causality, regardless of how strong the correlations may be. Granted, there are several cases of strong and theoretically expected co-variation, but causal direction is not guaranteed in all cases. In example, there is no guarantee that party nicheness happens before voting considerations in time. In this sample, they are simply recorded the same year and thus there is no guarantee that the causal direction does not run through individuals' vote considerations to the policy formations of political parties. Hypothetically, it could be the case that party nicheness scores are generated by parties' anticipation of voter intentions, and that this relationship is what causes the correlation between the two.

Another crucial factor when considering causation and theory-testing in general is whether alternative explanations are ruled out. With the enormous theoretical scope of this analysis, such a claim is impossible to make. Long-term societal and sociological trends are simply too complex for a simple regression analysis to grasp their scope and implications. However, the goal of the current analysis is first and foremost to compare pieces of this large and moving puzzle in the same model. Do sociological forces and party strategy function irrespective of one another, or is one factor so dominant as to rule out the other? Do they function in tandem? And what is the role of institutions? The full answer is not given by this model, but important fragments of it is indicated by its theoretically set parameters.

Lastly, there is the question of external validity. The following discussion takes place on a general level, framed in terms of the theoretical concepts under study; however, it is important to keep in mind that the evidence is based on a sparse sample of 14 elections.

6.2 Implications for hypotheses

With the above caveats in mind, the internal results and implications of the analysis can be summed up by their implications for the hypotheses. In all, three of the hypotheses were supported and three rejected (table 6.1):

Table 6. 1 Analytical consequences for the hypotheses.

H1	*A higher level of post-material values by an individual has a positive effect on the likelihood of an individual voting for a Green party*	• Supported
H2	*More specialized policy platforms among Green parties has a positive effect on the likelihood of an individual voting for a Green party*	• Rejected
H3	*Higher levels of party platform nicheness among Green parties has a negative effect on the likelihood of an individual voting for a Green party*	• Supported
H4	*When party platform nicheness is higher, individuals with higher levels of post-material values has a higher likelihood of voting for a Green party*	• Supported
H5	*The fewer elections a Green party has partaken in the higher the effect of Green party platform nicheness on the likelihood of an individual voting for a Green party*	• Rejected
H6	*Higher proportionality among electoral systems has a positive effect on the likelihood of an individual voting for a Green party*	• Rejected

6.3 Does the sociological dimension determine whether people vote for Green parties?

In terms of post-material values the pattern is evident. People identified as post-materialists intend to vote for Green parties far more often than those who are not, a trend which is also visible at the country level. While this is still just an association empirically, it is a strong and stable relationship, across countries and election years. This finding is in agreement with a large body of scientific work on the different effects of what has been seen as the continuous spread of post-material values in the western world, but also expanding to other geographical and political spheres. It suggests that there indeed is a specific set of norms and values related to people voting for Green parties, and by extension the proliferation of the Green parties themselves.

The big question with regards to this relationship is not whether it is true but the validity of the post-materialism index itself, as discussed in chapter 2. Empirically, the index rests on arbitrary assumptions of value priorities, and its constituent components does seem dated in 2020,

especially the emphasis on fears over economic inflation. It could be that peoples' fears over inflation have steadily declined while their concern for the environment has increased during the same period, and this is what we are really observing. While an exaggeration (the post-materialism index does not only focus on inflation after all), if one accepts the argument, this implies that we are observing an entirely different phenomenon. What speaks in favour of post-materialism is the vast body of literature already relating post-materialism to real world processes, and not only the index, but also related indicators such as education levels, material affluence and security. Even more so in the current analysis, the relevance of the other sociological factors, their basis in similar theoretical domains and the size of their joint impact on predicting voting behaviour imply that there is a structural process in operation. One indicator that directly strengthens the assumption of the relevance of post-material values is the significance of unemployment levels, and the significance of post-materialism despite its presence. Unemployment was included specifically to test post-materialism against an indicator of material insecurity. The significance of both in the same model supports the ground premise of post modernization theory.

Age is indisputably linked to Green vote intentions. Whether this is because younger people are more malleable towards value change, as Inglehart suggests, or because the predicament of their political situation is different, as a Mannheimean reading would suggest, is not for the current study discuss. However, there can be little doubt about the strength of the relationship. For one, there is simply no way that intending to vote for a Green party causes people to get younger. Furthermore, the empirical relationship is too steady throughout its comprehensive testing against other theoretically relevant factors for it to be irrelevant.

The significance of education adds to the impression that there is a structural process occurring in terms of the sociological dimension. Post-materialist values, age and education goes far in confirming the relationship of Green parties to Kriesis' socio-cultural cleavage, in this sample as well. The relative importance of these factors, also in the complex model underscores this impression. While there are elements related to the socio-cultural cleavage not recorded in this model, such as sector of employment and rural/urban habitation, the evidence in hand still points toward the socio-cultural cleavage. Albeit, if you do not accept the results of the post-materialism index there should be less emphasis on the cultural component and more on the social in reading the results of this specific study.

Summarily, the evidence of this study largely supports the general sociological literature in the field that there are long-term and medium-term societal trends such as economic and cultural change related to how people align politically, and in this instance these trends relate to a cross-national alignment of Green parties.

6.4 The party strategy dimension and value systems as a causal mechanism

The first finding relating to the party strategy dimension is quite conclusive and clear: the original understanding of Green parties as highly specialized niche parties simply does not grasp fully how they function. The specialization of their messaging is not related to why people vote for them, and if people do not vote for them because they have (or do not have) narrow messages, this surely is not part of the meaning of being a Green party. The second finding is highly interesting. On average, the niche parties appeal less to voters when they deviate from the party system mean in their issue emphasis, which must be an indication that conditions where other parties discuss their issues of interest in similar magnitude is favourable to Green parties. In other words, high system salience for environmental policy is inherently a good thing for Green parties. They should not care if other parties accommodate their policies, as the Green party will gain from environmental issues being discussed more frequently. As it is in accordance with literature on the subject this finding is not surprising in itself, but it is further proof that Green parties truly are special. Not special in the sense that they have special messages, but that when they are un-special people vote for them more, indicating that on average people rate them higher on environmental policy than other parties.

The truly interesting finding is the positive interaction between party nicheness and post-material values. The indicates that system level salience influences different individuals differently, and the key factor is the values they hold. Some individuals are more likely to vote for a Green party if green policy is higher on the general agenda, other individuals are more likely to vote for a Green party if green policy is higher on the agenda of the Green party than the general agenda. From a party strategy perspective this means that how the values individuals hold causes the relevance of relative party positioning to shift. This is a clear indication that the values people hold might serve as a causal mechanism directing the relevance and effect of party nicheness. That is, if this relationship is causal, which is in no way guaranteed but the implications of the current findings strengthens that belief. Individuals

values and the system salience context they are situated within form an intricate relationship determining what they vote.

On a more general and theoretical note the first finding pushes back against the Downesian notion that having a clearly defined political space of one's own is important for a party. The second finding clearly supports issue salience theories. The third finding interestingly, implies that how issue salience matter is conditional on the distribution of voters values, which takes us back to the Downesian argument that parties manoeuvre within a predetermined preference distribution of voters and that how parties separate or assimilate is influential. Moving towards or away from the distributional centre can both punish and reward, so can moving toward the periphery.

On an empirical level it is interesting to note the size of the relative effects of the country-level variables. Internally in the model, party nicheness and the party nicheness and post-materialist values interaction make up 2,5% of the explained intra-class correlation of the dependent variable. This means that the election specific variables which constitute the party strategy dimension (again with the caveat that all possible explanations may not be accounted for) do not make up a great deal of explained variation compared to cross-national trends. While 2,5% is not the true number of the effect of party manoeuvring on vote shares (it is only the estimate of an imperfect analytical model related to one case based on a small sample) it makes sense that the effect of party strategies is relatively small compared to the large trends that are the macro-social trends of sociological theory. Most political operators should probably look favourably at the number 2,5% as their scale of influence on the democratic process considering the societal forces they are up against (again emphasising that the number 2,5% is not the true effect, it merely serves to illustrate a point). Questions of external validity aside, the comparison of the effects of party strategies and sociological trends in this study does provide an impression of their relative consequence. Indeed, this discussion goes to the core of what was the original research question of the study, namely: *To what extent can cross-national variation in Green party vote shares be explained by (a) composition of national electorates and, (b) party-political context?* Where we can tentatively answer that (1) the composition of electorates understood as sociological long-term forces and individual relationships to them matter a great deal, (2) significantly, so does party manoeuvring both by the Green party itself and its fellow national parties. Crucially (3) the two levels seem to be in direct interaction from election to election.

6.5 The institutional dimension, the psychological effect and external validity

The institutional dimension is the greatest weakness of the analytical model. It only includes one indicator from this dimension, and theory strongly suggests that this indicator should be relevant, but it is not. The most parsimonious explanation relating to why it fails to be significant would be that it is not significant. The second most parsimonious explanation would be that the relationship observed by the analytical model is not the actual theorized relationship but a proximation, which is partially true. Duverger and others point to two causal processes which stem from the way electoral institutions, and by extension voting district magnitudes, influence electoral results. The psychological effect, which is at the individual level, should be visible in this model also. Thus, we can conclude that effects from the psychological effect is not present in the data. However, the full extent of the effect of voting institutions can only be grasped at the electoral level where both causal processes are present and the questions around the external validity of this factor must be maintained.

There is an argument to be made, that due to the emphasis on observing highly similar countries in the design of this study, in part specifically to observe countries with similar degree of institutional responsiveness, that the institutional dimension in fact does not matter in this sample. However, we can only rule out the effect of institutions if the relationship is tested at the electoral level where both the psychological and the mechanical effects are in play. Thus, we are back to the conclusion that the results of this model in this regard are unsatisfactory.

6.6 Implications for research

Generally, the contributions of this study have largely been in line with expectations based on theory and literature, the weakness of the institutional dimension aside. In this regard, the current study to a large degree confirms the relevance of classical theories. The results are to a great extent quite intuitive. Of course, people vote based on where they come from culturally and socially, that is the way democratic politics has always worked. Of course, party platforms and positioning against other parties matter for electoral results, that is why parties formulate them. This analysis has proven once again that this is the case for Green parties also. The real contribution of this study has been to provide a fresh view on how these processes matter when compared, based on new data and a stricter operationalization. On the one hand, the intuition

and resonance of these findings are testament to the actual likelihood that they are real. On the other hand, one must never accept that a finding is real just because it is intuitive.

The larger and more practical implication is the one suggested by the indicated conditional relationship between system level issue salience and values at the individual level. If this relationship is true any research aiming to analyse both levels at the same time must account for this interaction, if not, the analysis simply will not be sensitive to the nuances of how the processes affect each other. If values truly is a causal mechanism directing the effect of system level salience, this conditional relationship must be accounted for in any analysis aiming to investigate the two in tandem.

6.7 Suggestions for research

The above discussed weaknesses and findings of this analysis suggest several aspects that can be expanded upon. First of all, due to the critiques of the post-materialism index new research can test the above findings in relation to indicators of post-materialism. Whereas this analysis serves as a starting point based on the actual original survey index, subsequent scholars can analyse other factors relevant to the theory. Examples are de-industrialization, attitudes toward sexual freedom and material wellbeing, or simple attitudes toward environmental protection and its importance. Moving away from the original index would also open up possibilities with regards to using different, broader and richer data. The ESS, though its data only dates back to the year 2002 have tracked environmental attitudes since and could yield a larger scope of elections to analyse. And this is also a crucial topic for further research: to test the findings of this analysis outside of this analysis.

To get a more nuanced impression of the concepts of nicheness and issue salience within-elections studies could be conducted, comparing polling data, election results and nicheness scores to gain a more fine-grained impression of how these concepts interact in producing election results. To be sure, the large-scale perspective of the above analysis could be downplaying the importance of political manoeuvring from election to election. More qualitative work could also analyse how and why system level salience motivates individuals in different ways between elections. Important media debates around election time could be compared and contrasted to the thoughts of environmentally minded individuals, or individuals identified as changing their votes between elections.

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Appendix

Appendix A: Scatterplot with Germany – 1994 outlier
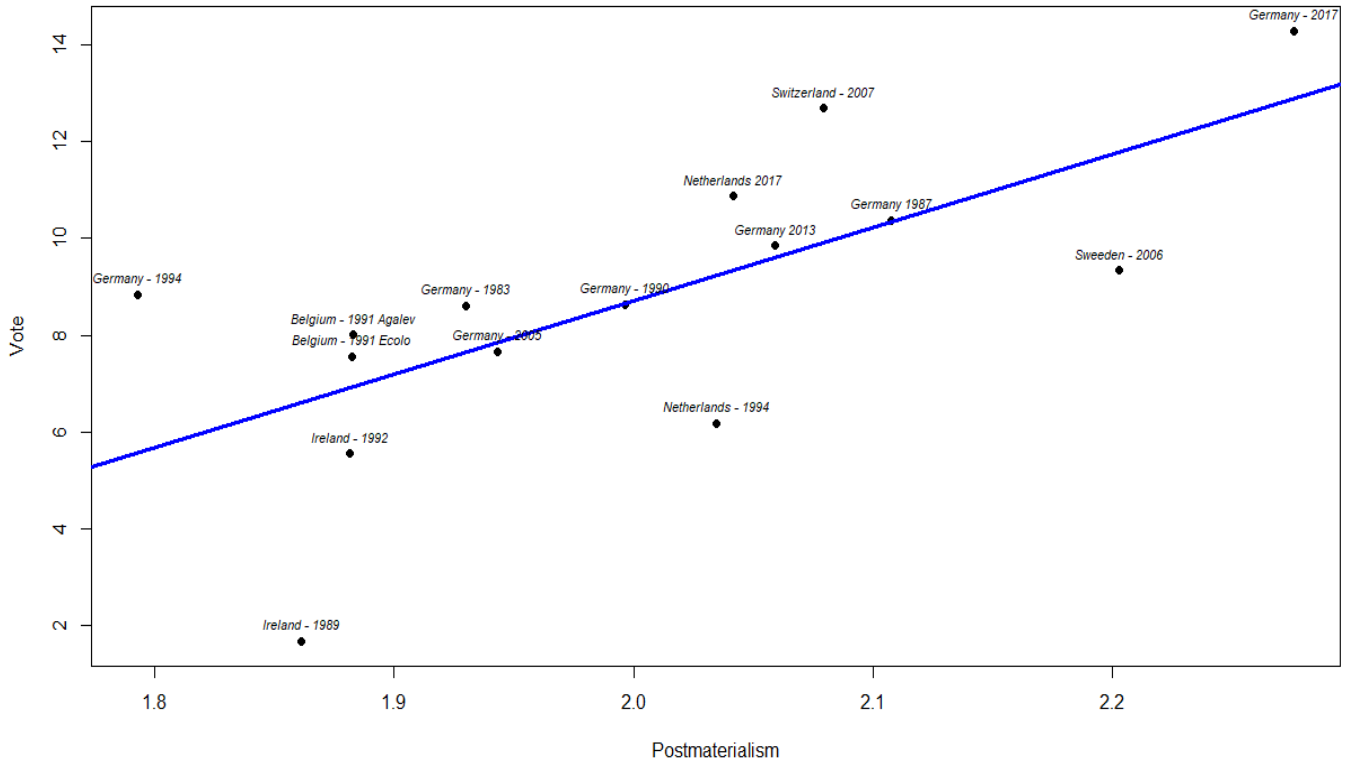
Figure A. 1 Scatterplot of vote intentions over post-materialist values with Germany – 1994 outlier

Appendix B: VIF scores for model 11 and model 13

Table B. 1 VIF scores.

Variables	VIF scores M11	VIF scores M13
Post-material values	1,089045	1,38861
Age	1,005926	1,020393
Education	1,024938	1,033788
Party nicheness	2,936728	12,175691
Issue specialization	2,097445	4,408871
Unemployment	3,419136	3,326539
Mean district magnitude	2,546597	3,007528
Green party age	3,427254	3,899171
Post-material values*Green party nicheness		8,555672
mean		

Appendix C: AIC and BIC scores across imputed datasets

Table C. 1 AIC scores across imputed datasets.

m imputations	AICtom	AICm1	AICm2	AICm3	AICm4	AICm5	AICm6	AICm7
imp1	12815,937	12298,78	12031,96	11811,41	11807,11	11804,25	11804,84	11811,36
imp2	13167,412	12695,45	12380,25	12183,67	12180,43	12178,97	12186,79	12188,01
imp3	12902,37	12430,73	12135,15	11895,82	11890	11888,49	11887,61	11886,44
imp4	12805,553	12338	12044,05	11876,32	11869,34	11867,85	11866,51	11867,26
imp5	12783,201	12275,58	11992,2	11768,08	11767,91	11764,82	11766,05	11768,08
imp6	12889,064	12376,95	12094,63	11890,49	11888,27	11886,63	11892,29	11894,73
imp7	12822,833	12371,4	12079,39	11894,68	11897,3	11894,78	11894,93	11896,6
imp8	12841,222	12384,63	12061,05	11857,91	11858,51	11860,43	11862,43	11865,72
imp9	12852,083	12365,64	12046,73	11848,05	11850,58	11847,59	11848,8	11852,14
imp10	12810,006	12334,11	12031,65	11827,5	11821,44	11818,27	11824,07	11822,6
imp11	12870,504	12385,81	12112,37	11907,64	11904,23	11900,14	11902,14	11902,29
imp12	12951,13	12468,06	12177,54	11998,56	11992,86	11990,25	11996,77	11996,38
imp13	12901,676	12400,06	12122,83	11965,85	11962,84	11956,75	11958,68	11959,21
imp14	13030,088	12553,28	12247,8	12038,52	12034,34	12032,25	12037,43	12036,97
imp15	12971,976	12442,72	12139,18	11955,04	11952,96	11948,4	11950,4	11951,26
imp16	12928,295	12410,79	12117,65	11908,46	11908,25	11909,02	11907,62	11908,84
imp17	12850,265	12389,37	12084,47	11929,2	11924,52	11920,24	11922,24	11921,6
imp18	12825,263	12339,24	12050,97	11839,29	11831,11	11826,87	11828,72	11833,29
imp19	12864,782	12367,7	12065,44	11872,92	11871,87	11868,16	11870,01	11869,29
imp20	12724,25	12230,93	11951,55	11764,96	11766,27	11766,46	11764,44	11766,2
imp21	12906,682	12391,25	12074,94	11884,1	11879,59	11876,08	11878,08	11877,77
imp22	12794,174	12320,92	12026,34	11822,87	11815,32	11812,21	11817,3	11814,28
imp23	12808,345	12308,49	12021,45	11795,54	11792,08	11788,48	11790,45	11789,85
imp24	12811,164	12313,66	12012,26	11818,94	11814,42	11811,64	11817,65	11817,7
imp25	12929,593	12434,31	12110,81	11935,07	11921,85	11916,89	11918,81	11919,09
sum	321857,87	309627,9	302212,7	297290,9	297203,4	297136	297195,1	297217
mean	12874,315	12385,11	12088,51	11891,64	11888,14	11885,44	11887,8	11888,68

AICm8	AICm9	AICm10	AICm11	AICm12	AICm13	AICm14	m13 and m14 change
11804,84	11795,34	11802,91	11804,661	11804,871	11786,935	11786,55	-0,38519
12186,79	12175,25	12178,485	12179,32	12180,28	12163,273	12163,306	0,03321
11887,61	11882,15	11884,045	11885,953	11887,178	11881,441	11881,566	0,1255
11866,51	11865,41	11866,014	11867,895	11868,862	11850,276	11848,518	-1,75717
11766,05	11760,82	11760,542	11762,423	11764,312	11753,149	11751,857	-1,29219
11892,29	11879,02	11882,501	11884,501	11884,738	11872,049	11872,565	0,51592
11894,93	11889,39	11890,386	11892,101	11892,556	11886,154	11887,242	1,08783
11862,43	11849,46	11848,909	11850,773	11852,59	11841,959	11842,715	0,75571
11848,8	11841,3	11840,133	11842,12	11843,562	11830,943	11831,627	0,68436
11824,07	11813,86	11814,633	11812,722	11817,856	11811,636	11812,308	0,67148
11902,14	11897,85	11896,38	11898,292	11898,835	11889,007	11888,367	-0,63955

11996,77	11992,33	11991,194	11993,187	11995,135	11981,537	11982,096	0,55883
11958,68	11951,49	11952,64	11954,118	11955,225	11945,425	11944,743	-0,68251
12037,43	12024,52	12030,954	12032,95	12034,241	12020,055	12020,936	0,8812
11950,4	11946,53	11944,327	11946,146	11947,675	11933,614	11932,489	-1,12496
11907,62	11903,73	11903,582	11905,577	11907,448	11894,072	11892,847	-1,22547
11922,24	11921,34	11920,889	11922,832	11924,498	11911,318	11909,086	-2,23161
11828,72	11826,18	11827,42	11829,195	11821,416	11816,534	11815,58	-0,95469
11870,01	11866,19	11865,168	11867,04	11868,294	11861,307	11860,788	-0,5195
11764,44	11760,19	11759,252	11761,238	11762,169	11750,581	11750,571	-0,01004
11878,08	11873,54	11873,537	11875,515	11877,031	11864,33	11863,273	-1,05705
11817,3	11809,25	11808,459	11810,38	11812,147	11804,871	11805,684	0,81222
11790,45	11787,68	11786,462	11788,459	11789,652	11778,665	11778,219	-0,4459
11817,65	11810,53	11810,553	11812,208	11813,4	11797,478	11797,561	0,0833
11918,81	11913,82	11909,416	11915,345	11911,944	11905,595	11906,324	0,72944
297195,1	297037,2	297048,79	297094,95	297115,91	296832,2	296826,82	
11887,8	11881,49	11881,952	11883,798	11884,636	11873,288	11873,073	

Table C. 2 BIC scores across imputed datasets.

m imputations	BICtom	BICm1	BICm2	BICm3	BICm4	BICm5	BICm6	BICm7
imp1	12831,82	12322,6	12063,72	11851,11	11862,69	11867,77	11876,3	11874,88
imp2	13183,29	12719,27	12412,01	12223,37	12236,01	12242,49	12258,25	12251,53
imp3	12918,25	12454,55	12166,91	11935,52	11945,58	11952,01	11959,07	11949,96
imp4	12821,43	12361,82	12075,81	11916,02	11924,92	11931,37	11937,97	11930,78
imp5	12799,08	12299,4	12023,96	11807,78	11823,49	11828,34	11837,51	11831,6
imp6	12904,94	12400,77	12126,39	11930,19	11943,85	11950,15	11963,75	11958,25
imp7	12838,71	12395,22	12111,15	11934,38	11952,88	11958,3	11966,39	11960,12
imp8	12857,1	12408,45	12092,81	11897,61	11914,09	11923,95	11933,89	11929,24
imp9	12867,96	12389,46	12078,49	11887,75	11906,16	11911,11	11920,26	11915,66
imp10	12825,89	12357,93	12063,41	11867,2	11877,02	11881,79	11895,53	11886,12
imp11	12886,38	12409,63	12144,13	11947,34	11959,81	11963,66	11973,6	11965,81
imp12	12967,01	12491,88	12209,3	12038,26	12048,44	12053,78	12068,23	12059,9
imp13	12917,56	12423,88	12154,59	12005,55	12018,42	12020,27	12030,14	12022,73
imp14	13045,97	12577,1	12279,56	12078,22	12089,92	12095,77	12108,89	12100,49
imp15	12987,86	12466,54	12170,94	11994,74	12008,54	12011,92	12021,86	12014,78
imp16	12944,18	12434,61	12149,41	11948,16	11963,83	11972,54	11979,08	11972,36
imp17	12866,14	12413,19	12116,23	11968,9	11980,1	11983,76	11993,7	11985,12
imp18	12841,14	12363,06	12082,73	11878,99	11886,69	11890,39	11900,18	11896,81
imp19	12880,66	12391,52	12097,2	11912,62	11927,45	11931,68	11941,47	11932,81
imp20	12740,13	12254,75	11983,31	11804,66	11821,85	11829,98	11835,9	11829,72
imp21	12922,56	12415,07	12106,7	11923,8	11935,17	11939,6	11949,54	11941,29
imp22	12810,05	12344,74	12058,1	11862,57	11870,9	11875,73	11888,77	11877,8
imp23	12824,23	12332,31	12053,21	11835,24	11847,66	11852	11861,91	11853,37
imp24	12827,04	12337,48	12044,02	11858,64	11870	11875,16	11889,11	11881,22
imp25	12945,47	12458,13	12142,57	11974,77	11977,43	11980,41	11990,27	11982,61

sum	322254,9	310223,4	303006,7	298283,4	298592,9	298724	298981,6	298805
mean	12890,19	12408,93	12120,27	11931,34	11943,72	11948,96	11959,26	11952,2

BICm8	BICm9	BICm10	BICm11	BICm12	BICm13	BICm14	m13 and m14 change
11876,3	11874,74	11890,25	11899,941	11908,091	11890,155	11897,71	7,55482
12258,25	12254,65	12265,825	12274,6	12283,5	12266,493	12274,466	7,97322
11959,07	11961,55	11971,385	11981,234	11990,398	11984,661	11992,726	8,06551
11937,97	11944,81	11953,354	11963,175	11972,082	11953,496	11959,679	6,18285
11837,51	11840,23	11847,882	11857,704	11867,532	11856,369	11863,017	6,64783
11963,75	11958,42	11969,841	11979,781	11987,958	11975,269	11983,725	8,45593
11966,39	11968,79	11977,726	11987,381	11995,776	11989,374	11998,402	9,02784
11933,89	11928,86	11936,249	11946,053	11955,81	11945,18	11953,875	8,69573
11920,26	11920,7	11927,473	11937,4	11946,782	11934,163	11942,788	8,62437
11895,53	11893,26	11901,973	11908,002	11921,077	11914,856	11923,468	8,61149
11973,6	11977,25	11983,72	11993,572	12002,055	11992,227	11999,527	7,30046
12068,23	12071,73	12078,534	12088,467	12098,355	12084,757	12093,256	8,49884
12030,14	12030,89	12039,98	12049,398	12058,445	12048,645	12055,903	7,2575
12108,89	12103,92	12118,295	12128,231	12137,461	12123,275	12132,097	8,82121
12021,86	12025,93	12031,667	12041,426	12050,895	12036,834	12043,649	6,81505
11979,08	11983,13	11990,922	12000,858	12010,668	11997,292	12004,007	6,71454
11993,7	12000,74	12008,229	12018,113	12027,718	12014,538	12020,247	5,70841
11900,18	11905,58	11914,76	11924,475	11924,636	11919,754	11926,74	6,98532
11941,47	11945,59	11952,508	11962,32	11971,514	11964,528	11971,948	7,42052
11835,9	11839,59	11846,592	11856,519	11865,389	11853,801	11861,731	7,92997
11949,54	11952,94	11960,877	11970,796	11980,251	11967,55	11974,433	6,88296
11888,77	11888,65	11895,799	11905,66	11915,367	11908,092	11916,844	8,75223
11861,91	11867,08	11873,803	11883,739	11892,872	11881,885	11889,38	7,49411
11889,11	11889,93	11897,894	11907,488	11916,62	11900,698	11908,721	8,02331
11990,27	11993,22	11996,756	12010,626	12015,164	12008,815	12017,484	8,66946
298981,6	299022,2	299232,29	299476,96	299696,42	299412,71	299605,82	
11959,26	11960,89	11969,292	11979,078	11987,857	11976,508	11984,233	

Appendix D: Robustness check regression tables

Table D. 1 Robustness check regression models.

	Outlier model (m13)		CCA-Model (m14)	
	Odds ratio	SE	Odds ratio	SE
Individual level				
Post-material values	1.951***	.065	1.900***	.081
Age	0.975***	.002	0.975***	.001
Education	1.151***	.013	1.182***	.012
Country level				
Party nicheness	0.526 **	.229	0.375 **	.377
Issue Specialization	1.069	.090	1.158	.093
Unemployment	0.929*	.036	0.865 **	.045
Mean district magnitude	0.982	.026	0.916 **	.028
Green party age	1.032	.032	0.955	.040
Green party age * Party nicheness			1.070	.088
Post-material values * Party nicheness	1.220**	.199	1.281 **	.045
AIC	13010.80		8738.5	
BIC	13115.25		8845.8	
ICC	.021		.041	
N(respondents)	22796		15750	
N(countries)	14		14	