



MASTER THESIS

Environmental consciousness, institutional factors, and political competition: an empirical analysis of Green party formation in 18 Western European countries

Athina Pilianidou

FACULTY OF MANAGEMENT AND GOVERNANCE/
PUBLIC ADMINISTRATION

Examination Committee
Dr. K. Gemenis
Dr. C.T. van Ham
L.T. Paunonen (Extern)

UNIVERSITY OF TWENTE.

JULY 2012

ABSTRACT

The rise of Green parties in Europe has been attributed to the development of environmental consciousness, the structure of opportunities but, also, to the obstacles imposed by the institutional framework and the changing competitive balance among political forces (Rootes 1995, p. 171). The present thesis aims to examine empirically the theoretical arguments made by Rootes (1995). After a general literature review regarding the factors that have led to the formation of Green parties in Europe, I formulate a set of testable hypotheses and discuss a host of indicators for measuring environmental consciousness, institutional structures, and political competition. I then select the most relevant operationalizations and, based on data from 18 Western European countries that span a period from 1970 to 2006, I perform a statistical analysis. My analysis concludes that post-materialism and the number of effective parties in a party system are positively associated with the formation of Green parties in Western Europe. Conversely the degree of polarization and electoral system (dis)proportionality do not appear to be statistical significant predictors, partially confirming therefore Rootes' (1995) suggestions.

CONTENTS

1. Introduction.....	4
2. Green parties and Green party electoral performance	6
3. Theory and Literature Review	13
3.1 New Social Movements and Green Parties.....	14
3.2 Green parties and the Emergence of the new middle class.....	17
3.3 Green parties and the Postmaterialism Thesis	18
3.4 Green parties and the “Political Opportunity Structure”.....	20
4. Operationalization	25
4.1 Dependent variable	25
4.2 Independent variables	25
4.2.1 Environmental Consciousness.....	25
4.2.2 Institutional Stuctures.....	29
4.2.3 Political Competition.....	30
5. Method of Analysis	35
6. Analysis	38
7. Discussion and Conclusions	43
Appendix 1: Green parties per country, 1970-2006	46
Notes.....	47
References	48

TABLES

Table 1. Descriptive statistics for party system properties.....	38
Table 2. Testing Hypothesis 1.....	38
Table 3. Testing Hypothesis 2.....	39
Table 4. Testing Hypothesis 3 with the Effective Number of Parties at the electoral level	39
Table 5. Testing Hypothesis 3 with the Effective Number of Parties at the legislative level	39
Table 6. Testing Hypothesis 3 with the degree of Polarization	40
Table 7. Variables in the Equation- Postmaterialism/Polarization	40
Table 8. Variables in the Equation- Effective Number of Parties/Disproportionality.....	41
Table 9. Variables in the Equation- Effective Number of parties (electoral level)/Polarization	41

1. INTRODUCTION

The procedure of the successful formation of green parties in Europe is, according to Rootes (1995), inevitably related to “a special combination of constraints and opportunities”. The rise of green parties in Europe has been attributed to the development of environmental consciousness, the structure of opportunities but, also, to the obstacles imposed by the institutional framework and the changing competitive balance among political forces (Rootes 1995, p. 170). This thesis aims to examine the stability of the aforementioned allegations and demonstrate the significance of these factors interacting for a more comprehensive view of the diversity in functions of political processes.

The present analysis takes the theoretical findings of Rootes (1995), concerning the role of environmental consciousness, institutional structures, and political competition on Green party formation as a starting point, and aspires to contribute to the existing research on green parties by attempting a practical application of those conceptualizations. In particular, my research question reads as follows: How do environmental consciousness, institutional structures, and political competition react on Green party formation in Western European countries?

The focus of this study is directed towards the following Western European countries: Great Britain, Ireland, Belgium, Netherlands, Austria, Germany, Sweden, Denmark, Norway, Finland, Iceland, Switzerland, France, Italy, Spain, Portugal, Greece and Luxembourg, and precisely attempts to assess the course of the corresponding individual green parties operating under certain conditions and constraints from 1970 to 2006, with its further implications.

The study hypotheses will be structured in such a way so as to confirm or reject the argument put forward by Rootes (1995). As already indicated in the research question, I use three independent variables, namely the level of environmental awareness, institutional structures, and political competition while our dependent variable is labelled as “Green party formation”. In order for the influence of the independent variables to be measurable, for each of the latter variables I employ their corresponding indicators. More specifically, environmental consciousness will be measured as the proportion of postmaterialists in each of the Western European countries taken under consideration by the current study. The impact of the institutionalised political structures will be demonstrated through the observation of the electoral system impact in each of those countries which will, in turn, be measured as the degree of disproportionality. The degree of polarization existing in the party systems of the countries in question supplemented by the effective number of parties-measure will be used for the political competition implications.

The thesis consists of seven chapters. After the introduction, the second chapter will provide the theoretical framework considered necessary in order for the contribution of environmental consciousness, institutional structures, and political competition to the rise of green parties to become explicit and comprehensible. In the following chapter, I will proceed

by applying the distinct indicators for measuring each of the latter factors so as to provide us with more interpretable and useable results for further applications. The individual political parties in each of the countries included in the analysis as well as an overview of the electoral performance and ideological orientation of those parties are presented in a separate chapter. In the following part, based on available data from 18 Western European countries, I will perform a statistical analysis with the purpose of identifying a sufficient model which would illustrate the modes of interaction between the independent variables I used and applied in the countries in question and lead to reliable conclusions about the course of Green parties in future elections. Finally, in the last chapters, the results of the analysis will be presented followed by a discussion.

2. GREEN PARTIES AND GREEN PARTY ELECTORAL PERFORMANCE

This section gives an overview of the individual green parties operating in each of the 18 Western European countries in question and addresses the matter of their electoral performance in a further attempt to clarify any variations detected to green party success among the aforementioned countries. The extensive literature existing on Green party formation and development provides a sound basis to the allegation that green parties have proven most successful in Northern and Western Europe.

Following Carter's (2007) findings as regards to Green party performance in a number of Western European countries by taking into account the percentage of the vote received in the national elections by individual green parties, the latter achieved greater success in West Germany, Belgium, Switzerland and Luxembourg. Green parties formed in those countries averaged at least 5 per cent of the vote during the 1980s and manage to become a considerable component in national parliaments.

The German Green party, *Die Grünen*, constitutes one of the most well-known green parties across Europe. *Die Grünen* was rooted in the new social movements, consisted of student, women, peace and anti-nuclear movements, as well as civil initiatives concerning housing shortages, high rents and pollution.

The New Social Movement (NSM) milieu, within which some green parties including the German Greens were raised, nurtured the Greens' preference for participatory forms of democracy and, where appropriate for more radical, extra-parliamentary action to achieve their goals (Carter, 2007). It was founded in January of 1980 and obtained its final form as such after the unification of heterogeneous green groups operating all over West Germany. Its entrance to the national parliament in 1983 signalled the consolidation of its position to the German political system, while in the federal elections of 1994 it emerged as the third strongest German political party.¹ After failing to win any seats in the former West Germany in the 1990 post-unification federal elections, *Die Grünen* reappears in the political spectrum in a joint effort with Alliance 90, a disparate grouping of civil right activists, and after four years achieved an average of 7.3 per cent of the vote in the corresponding elections.² The dynamic of the green party became even more apparent since the mid-1990s, when a potential coalition with one of the two major German parties, the Social Democrats (SPD) or the Christian Democrats (CDU) was launched (Carter, 2007). In the 1998 federal election, *Die Grünen* indeed joined the federal government for the first time, forming a 'Red-Green' coalition government with the Social Democratic Party until 2005, when the latter suffered great losses and was eventually defeated. Although the Greens achieved 8.1 per cent of the vote and 51 seats they were found behind the liberal Free Democratic Party (FDP) which attracted 9.8 per cent of the vote, and the new Left party with 8.7 per cent.

Belgium designated two green parties, the Flemish-speaking *Agalev* which was renamed *Groen!*, and the French-speaking *Ecolo* whose co-operation is characterized as a close one. The two Belgian green parties are not originated in a social movement activity (Carter, 2007) though they embrace the principles of democracy, ecology, social justice and pacifism while are preoccupied with women's issues and those of sustainable energy and ecological transformation.³ *Groen!* never adopted the identity of a purist environmentalist party in contrast to *Ecolo* and its initial orientation. Gradually the latter broadened the range of its activities by addressing issues related to environmental and socio-economic crises in a global level and emphasizing on participative democracy. Both Green parties entered the national parliament in 1981 and, since then, they managed to achieve an increasing acceptance from the Belgian electorate.⁴ The 1999 national elections could be characterized as highly successful for the Belgian Greens which attracted 14.3 per cent of the vote as a whole, with *Ecolo* emerging as the second largest party in the Brussels region (18,3 %) and the third largest in the Walloon region (18,2%), behind the Socialist and the Liberal Party (European Green party). The Greens achieved similar successes in the following years in both national and sub-national levels. Despite the latter's' flourishing course, that enabled them to operate as a component of governing coalitions, both parties suffered great losses in the 2003 elections, with *Ecolo* gaining four seats and *Groen!* left with no representatives in the federal parliament. The disappointing results lead to an organizational streamlining of the Greens, which in the federal elections of 2007 occurred more enhanced, with *Ecolo* doubling the number of MPs to eight and *Groen!* obtaining four MPs.

The Swiss Green Party is established as the fifth largest party in the country (Carter, 2007), operating as an pioneering alternative party mainly interested in environmentally-related issues, such as climate change and generally oriented towards finding sustainable solutions for ecological problems.⁵ The 1979 elections designated the first member of the Greens in the national parliament, which progressively increased its representation in the 1983 and 1987 elections, to reach the fourteen Green MPs in 1991.⁶ After a blip in the 1995 elections, the Swiss Greens managed to rebound electorally attracting 7.4 per cent of the vote and obtaining five seats in 2003. Their best electoral performance was achieved in the 2007 national elections when for the first time in their history; the Swiss Green Party reached almost the 10 per cent-threshold (9.6%) (European Green party).

The Luxembourg Green party, *Déi Gréng*, was founded in 1983 following the merger of the two competing Green parties, "GLEI" (Green Left, Ecological Initiative) and "GAP" (Green Alternative Party). According to its charter,⁷ the green party places high priority to the issues of sustainable development, ecological tax reform, women and civil rights as well as to a participatory mode of democracy, open to foreigners. The electoral performance of the Luxembourg Greens, while presented by the two parties, cannot be characterized as successful since they did not manage to average more than 3.3 per cent of the vote, obtaining two seats in the national parliament each. Notwithstanding, the unification of "GLEI" and "GAP", and the formation of *Déi Gréng*, contributed substantially to the gradual increase of the Greens' electoral appeal. The latter in the 1994 national elections attracted a 8.3 per cent of

the vote with five MPs holding a stable course until the following elections of 1999.⁸ 2004 was proven the year that Luxembourg Greens achieved its best electoral performance with an average of 11.7 per cent of the vote which increased its parliamentary representation by two more members. Today *Déi Gréng* has established itself as the fourth political force in the Parliament of Luxembourg.⁹

The Finnish green party, *Vihreä Liitto*, was founded in 1987 and registered as a political party in the following year. It is, also, rooted in the social movement activity of the late 1970s, attaching great importance to the principles of grassroots and participatory democracy and oriented towards increasing the level of environmental awareness in Finland¹⁰. After entering the parliament in 1983, it was the first green party to participate in a national broadly-based coalition government in 1995 consisted of four additional political parties, namely the Social Democratic Party, the National Coalition Party, the Left Alliance and the Swedish People's Part. In the 1999 parliamentary election, eleven Green MPs were elected, strengthening their influence and resulting in the Greens re-joining the coalition government.¹¹ The latter's position on new nuclear power plants found *Vihreä Liitto* opposed and who eventually left the coalition in 2002. Their largest success was noted in the 2003 parliamentary elections, when the Finnish Greens increased their MPs by three, to fourteen, and raised their expectations for further electoral profits.

Les Verts, the French Green party, is placed on the centre-left of the party spectrum in France. It was founded in 1984 and rooted in the protest movement activity of the 1970s which voiced the concerns of a grouping of activists, environmentalists, feminists and anti-militarist groups culminated when the issue on the establishment of power plants emerged in parallel with the harsh stance of the right-wing government on the topic (Carter, 2007). Despite its respectable success in the European parliamentary elections of 1989 with eight seats won, *Les Verts* entered the French parliament in 1997.¹² The latter's good electoral performance led to the formation of a second green party, the Brice Lalonde-led *Génération Ecologie*, encouraged by the Socialist government of Mitterrand to act as a rival party against *Les Verts*. Both parties availed electorally in the 1992 regional elections leading to override any ideological or other differences and form an *Entente des Ecologistes* to contest the 1993 legislative elections. The high 7.8 per cent share of the vote they attracted was not proven adequate to ensure a green party representation in the French parliament. The immediate collapse of *Génération Ecologie* enabled *Les Verts* to establish themselves in French green politics holding the leading role.¹³ Headed by Dominique Voynet, the Greens obtained a parliamentary representation for the first time in 1997 as a component of the "plural left" coalition consisted of Lionel Jospin-led Socialist Party (PS) and the Communist Party (PCF). In the 2002 presidential elections, the Greens under the leadership of Noël Mamère performed well by attracting 5.2 per cent of the vote. Notwithstanding, the results of the national elections in the same year were proven a disappointment for the Greens which attracted only 4.5 per cent of the vote and gained just three seats.

The Austrian Greens, in German *Grüne Alternative* (The Green Alternative), were formed in 1986, subsequent to the merger of the moderate Green party *Vereinte Grüne Österreichs* (United Greens of Austria, VGÖ) and the more progressive party *Alternative Liste Österreichs* (Alternative List Austria, ALÖ) which were both founded in 1982.¹³ The official name of the Austrian Green party, *Die Grünen–Die Grüne Alternative* or *Die Grünen* (The Greens – The Green Alternative) was given in 1993. The anti-nuclear movement of the late 1970s in Austria proved rather influential for the formation of the Austrian Green party. The leading principles of *Die Grüne Alternative* are direct democracy, non-violence, ecology, solidarity, feminism and minority rights, and self-determination.¹⁴ The Austrian Greens first entered the parliament in 1986 obtaining 4.8 per cent of the vote and eight MPs.¹⁵ Progressively, they increased their parliamentary representation in the national elections of 1990 and 1994. After a small setback in 1995, in the 2002 national election the Greens were alleged to be a potential component of a coalition government with the conservative Austrian People's Party (ÖVP) but the negotiations between the latter parties were considered unsuccessful. After the 2006 elections, *Grüne Alternative* established itself as the third largest party in the Austrian political spectrum, behind the Austrian People's Party (ÖVP) and the Social Democratic Party (SPÖ) which formed a coalition government.

In the Netherlands, *De Groenen* was formed in 1983 as a federation of Green regional parties, “underlining a ‘bottom-up’ approach to politics”, as its advocates claim.¹⁶ It did not participate in the merger of PRP (Radical Political Party), CPN (Communist Party of the Netherlands), PSP (Pacifist Socialist Party) and EVP (Evangelical People's Party) that created *GroenLinks* due to conflicting interests with regards to a “red-green” alliance. Its electoral appeal remained limited until 1998 when it obtained 7.3 per cent of the vote, slipping to 4.6 per cent and seven MPs in the 2006 national elections. *GroenLinks* was founded in 1990 and adopted a diametrically opposed stance to the neoliberal model of economic growth and extreme right positions while expresses a preference to selective state intervention and decentralization of government tasks. The 1998 national and municipal elections were proven most successful to the Green party which averaged a 7.3 per cent of the vote winning eleven seats.¹⁷ The following elections of 2002 and 2003, accompanied by a resounding rise of the right-wing parties, led to a considerable slipping of the Green parliamentary representation, leaving *GroenLinks* with eight MPs.

The Swedish Green Party *Miljöpartiet de Gröna*, was founded in 1983 as opposing to the referendum on nuclear power in 1980 and the government's obduracy on the particular issue and the general handling to all environmentally-related issues emerging until then. In general terms it was formed, according to its advocates, to operate as an alternative to the right-left bloc logic of the traditional parties emphasizing on the value of economic growth. The Greens projected a humanistic profile addressing a general call to everyone willing to attach high priority to the principles of peace, freedom, solidarity and live following ecological lines.¹⁸ After *Miljöpartiet de Gröna* entered the parliament in 1988 gaining twenty seats and 5.5 per cent of the vote, the period from 1991 to 1994 found the Greens with no parliamentary representation. The party reappeared in the political scene in the 2002 elections attracting 4.6

per cent of the vote resulting in a continuation of the cooperation with the governing Social democrats and the Left Party started in 1998. The 2006 elections signalled the end of the former cooperation with the right-wing parties obtaining the majority in parliament and the Greens with 5.2 per cent of the vote and nineteen seats (Carter, 2007).

The following group of countries had to deal with a number of difficulties in their attempt to “secure a firm electoral platform” (Carter, 2007). *Federazione dei Verdi*, or the Federation of the Greens, was founded in 1990 following the merger of the initially competing Green parties, the Green Lists and the Rainbow Greens.¹⁹ The Greens electoral performance could be characterized as rather poor scoring an average of 2 per cent of the vote, though they were a respectable component of the centre-left government coalition named “The Olive Tree” from 1996 to 2001. The best electoral performance of the Federation of the Greens was noted in the 2006 election, when they averaged 2.1 per cent of the vote with fifteen seats as a partner in the centre-left coalition of political parties, “The Union”, led by Romano Prodi (Carter, 2007).

In the 2008 general election, the Greens joined the left-wing and centrist federation of parties with the official name “The Left–The Rainbow”, consisted of the Communist Refoundation Party, the Party of Italian Communists and the Democratic Left which were previously part of “The Union”. The coalition polled only 3.1 per cent of the vote resulting in the exclusion of the Greens from Parliament.²⁰

The Irish *Comhaontas Glas* was founded as the Ecology Party of Ireland (EPI) in 1981, was renamed as Green Alliance/Comhaontas Glas in 1983 and in 1987 acquired its current title as Green Party/Comhaontas Glas.²¹ The latter is rooted in the social movements protesting against mining, the chemical industry, and mainly nuclear power. *Comhaontas Glas* are in favour of an open government, decentralized organizational structures, an ecologically-oriented way of living, and world peace that pervades any national and commercial interests. The two members of the Greens elected in the European parliament in 1994 offered a major boost to the party, which on the 2002 general elections increased its representation to six MPs and entered the parliament as a component of the government coalition with *Fianna Fáil* and the Progressive Democrats in 2007.

The highly fragmented framework characterizing green politics in Spain, did not facilitate the formation of a national green party until 1992 (Carter, 2007), when *Los Verdes* were formed. In the 2004 general and European elections, *Los Verdes* appeared in a coalition list together with the Spanish Socialists (PSOE) winning its first representative.

Os Verdes, the Portuguese Green party, was founded in 1982 from a citizens’ initiative aiming at the formation of active ecological movement in Portugal.²² The Portuguese Greens are in favour of a “bottom-up” approach to politics while placing high priority to increasing the levels of environmental awareness among the public. *Os Verdes* participated in the national elections as a partner of an electoral alliance with the Communist Party of Portugal, PCP. The electoral performance of the Greens remained stable in the national elections between 1983

and 1991, with an average of 0.4 per cent of the vote and one seat.²³ In the 1991 parliamentary election they slightly increased their share of the vote and 1995 they doubled their seats. Its electoral appeal was maintained as such until 2005.

It was not until 2010 that Britain managed to have a parliamentary representation with one MP. *People* was formed in 1973 and despite its close cooperation with anti-roads and anti-GMO movements (Carter, 2007) it was not nurtured in a NSM milieu.²⁴ The British majority voting system did not allow the green party to raise high expectations as regards to its electoral performance and its inability to gain representation, also at a regional level, posed further constraints to a successful course.²⁵ In addition, the traditional Conservative and Labour parties were proven adept at incorporating ideological positions peculiar to those advocated by the green philosophy, subtracting part of what could consist a potential electoral base for the Greens (Carter, 2007). The introduction of proportional representation by the Labour's government in second-order elections resulted in the Greens entering the European Parliament in 1999 but only in 2010 the British Greens, now called Green Party, manage to achieve a 0.2 per cent of the vote and win one seat in the national parliament.

The Left-Green Movement of Iceland was founded in 1999 and soon joined in a coalition government with *The Social Democratic Alliance*, a political formation placed on the centre-left of the political spectrum. The Left-Green Movement emphasizes on democratic socialist values, environmentalism, feminism, and on an inclusive and participatory mode of democracy. In the 1999 parliamentary elections, it obtained 9.5 per cent of the vote with six seats while in the following elections of 2003 and 2007 it averaged 7.9 and 14.3 per cent of the vote correspondingly, increasing its MPs from five to nine.

Denmark, Norway and Greece have not yet elected a representative in national parliaments. The *Socialistisk Folkeparti* (the Socialist People's Party or SF) in Denmark appears to combine both Red and Green interests but it cannot be considered as a distinct green party²⁶. The Norwegian *Miljøpartiet de Grønne* was founded in 1988. It has a respectable course in the local elections rather contrary to its performance in the parliamentary elections, where its appeal is negligible²⁷. In the 2005 national elections the Norwegian Greens averaged 0,23 per cent of the vote and 0.3 per cent of the vote in the 2009 elections.²⁸ The most considerable of any Greek Green parties was unquestionably the *Ecologists-Greens*, whose best electoral performance was detected in the period between 2007 and 2009 (Vasilopoulos & Demertzis, 2012). Former green political formations, mostly operating at regional basis, had no impact in the Greek political scene. Ecologists-Greens were formed in 2002 as a merger of a number of activists and different environmental organizations, embracing a left-libertarian ideology and stand in favour of a participatory and decentralized democratic system. The major social protest of the 1960s and 1970s were proven influential to the emergence of parties embracing their radical ideology also in Greece (Karamichas, 2003). The Greek Greens appeared diametrically opposed to material growth and overconsumption, stressing their commitment to the principles of ecology, peace, the defending of women and minority rights as well (Gemenis, 2009). In the 2009 European elections, Ecologists-Greens averaged 3.49 per

cent of the vote surpassing the 3 per cent threshold and obtaining one seat while in the parliamentary elections of the same year they polled a 2.53 per cent of the vote.²⁹

Granted the above mentioned and the variations detected in the ideological origins and individual development of the 18 countries under consideration, in the next section I will attempt to provide the explanations needed for such a diverse course of the relevant Green parties.

3. THEORY AND LITERATURE REVIEW

This part presents an overview of the arguments raised to explain the emergence of green parties. These involve cultural explanations as well as explanations taking into consideration the institutional framework within the latter parties operate and thus, provide a more adequate reasoning as regards to the variations detected in their performance among different countries.

During the 1980's, environmental issues and considerations were dominant in the political arena in almost all advanced industrial democracies and this process continued, also, in the 1990's. The initial major wave of environmentalism started to develop in Western Europe in the second half of the 19th century, when the environmental consequences of the Industrial Revolution became apparent in most of those countries (Dalton, 1993). Dalton (1993) has therefore argued that, despite those uncontested changes as regards to the objective conditions of life related to urbanization and industrialization, there was an even more profound change accompanying those which concerned aspects of the cultural environment of the majority of the European countries. According to the author, European scholars started to gradually challenge the belief in rationality and progress which were identified with the imperatives of the Enlightenment.

This kind of cultural critique towards the quality of life in advanced industrialized societies, was precisely and significantly questioning the insatiable materialism and excessive consumerism that those societies were displaying and thus, obtaining a distinct political nature. The aforementioned trend regarding the changing value priorities and correspondingly the attitudes in those industrialized societies signalled on one hand the "protest against established political institutions" (Müller-Rommel, 1998, p. 192) and dissatisfaction with the incumbent governmental political parties while on the other hand, a decreasing appreciation of materialist value priorities as "material standard of living, public order, national security and military strength" (Todosijević & Enyedi, 2003, p. 630) accompanied by the enhancement of the core values of what was perceived as post-materialism (Tranter & Western, 2009, p. 630).

Post-materialism voiced the gradual and increasing emphasis attributed to freedom, self-expression and the quality of life (Inglehart, 1971, 1994). This trend was recorded as the "silent revolution" of values and was related to the emergence of the so-called "new politics" issues. The main components of the "new politics" thesis were, according to Carter (2007), "the rise of new social movements, the emergence of a new middle-class, and the flourishing of postmaterialist values" (p. 91). A partial contribution to the phenomenon of the emergence of Green parties could be attributed to each of the latter parameters and it is to be examined separately.

'New Social Movements' (NSMs), a broader term referring to the "student, peace, anti-nuclear, feminist and environmental movements", were being rendered the head leaders of contesting the traditional materialist-based values system and the consequential lifestyles prevailing in the Western Europe of the late 1960's as well as "defending civil society" against an interventionist state policy (Carter, 2007, p. 91). Drawing upon Touraine's theory of post-industrial society, Clark and Diani (1996) also highlight the fact that NSMs arising in the post-industrial society clearly dismiss the values of industrialism and capitalism, and principally the value of economic growth. In this point, however, since I am primarily interested in the environmental movement, we should distinguish between the two modes of environmental activism selected in different time periods, the conservative and the more radical one. Despite the efforts of Green party theorists to stress the difference between environmentalism and ecologism, the perception concerning both theoretical concepts remain rather ambiguous in most people's consciousness.

In particular, the initial wave of environmental mobilization was oriented towards the rather romantic aim of protecting the nature and environment and, hence, was consistent with the socio-political status quo and its imperatives (Dalton, 1993). Fotopoulos (2000), claims that *environmentalism* is subordinated to the imperatives of the economy market and argues that the prevailing incumbent economic system could be transformed into an environmentally friendly one when subjected to the appropriate economic policies and technologies. To the contrary, the second wave of the 1960's and 1970's succeeded in creating an alternative environmental orientation diversified both in its requests, as well as the political ideology which was representing. As Clark and Diani (1996) commented on Touraine's work, at that period of time "the focus of conflict [...] shifted away from production and the state" and thus, "the psychological, social and environmental demands that emanate from them" (p. 81). More specifically, *ecologism* explicitly raises issues that challenge the institutional framework, while, as aptly remarked by Dalton (1993), ecologists do not consider the prevailing environmental problems as a "derogation" from the status quo but as a direct after-effect of the status quo (Fotopoulos, 2000).

Therefore, the emerging generation of European environmentalists who were advocates of a more ideological and politicized version in environmental policy would, furthermore, be willing to use more radical methods in order to reach the goals they had posed (Dalton, 1993), including the subversion of the conventional political sphere with the mobilization of environmental and green parties who could capture the emerging political preferences and "capitalize on the 'new politics' issues (Müller-Rommel, 1990).

However, it could be argued that Rootes (1995) stands rather skeptical, if not negative, towards the view that Green parties derived naturally from environmental movements. In particular, he claims that "Green parties have not usually begun simply as party-political translations of less directly political environmental social movements" (p. 173),

due to the radical nature of *ecologism* in contrast to the protection-oriented nature expressed by *environmentalism*. On the aforementioned argument, we could, also, quote the distinction found in Matthias Kaelberer articles and which is drawn between the conservative ecological or 'purist' green parties and the New Left or 'rainbow' green parties (1993, p. 230; 1998, p. 307). Conservative ecological or 'purist' green parties "focus almost exclusively on the development of a specific and narrowly defined ecological identity" (Kaelberer, 1993, p. 230) while persist on stressing their ideological differences that differentiate them from the New Left green parties fearing of a potential alteration of their ideological purity with the inclusion of other groups to whom ecology is not their "main ideological foundation" (Rüdig, 1985). The latter, conversely, are placed on the left of the political party system and environmental concerns consist of only one aspect among various issues in the political and ideological agenda of those parties, including peace, women's and minority rights.

As advocated by Rootes (1995), where Green parties emerged under the conducive framework set by social movements, this primarily concerned rather specifically anti-nuclear movements than more "inclusive environmental movements". The writer continues his argumentation emphasizing the fact that the character of those single-issue movements, which implies immediate action, requires a mass though short mobilization while there is the need for the latter to be part of broader coalitions in order to ensure their presence and maintenance in the political front (p. 173). Environmental movements, on the other hand, often have long histories contrast to the single-issue movements, are well institutionalized and generally they avoid means of action such as "direct political confrontation and mass mobilization" (p. 173). Due to the fact that those single-issue movements, as the anti-nuclear ones, deal with issues of generalized global concern, they obtain the capability of combining those environmental concerns with issues that interest other political entities. That is the reason why they succeed in being part of broader alliances consisted of "ecologists, political radicals generally and the radical left in particular" (Rootes, 1995, p. 174). Hence, under the appropriate conducive circumstances, the ties formulated between the components of those alliances may lead to the creation of green parties.

However, as Kaelberer (1993) interestingly observes, if the Greens had retained the identity of a pure protest movement, as the anti-nuclear and the peace ones did, they would not have survived as political parties in the incumbent party system (p. 240). The author attributes the achievements of the latter to the fact that the Greens "apparently have been able to balance successfully their origins in the social movements and the New Left with the imperatives of party politics" (p. 240). Nevertheless, regardless of Green parties' decision to enter the electoral arena virtually renouncing a way of mobilizing and action appertain to that of an ideal-type NSM, "the existence of a dynamic NSM milieu" could function as a significant institutional parameter influencing the performance of a Green party (Carter 2007, p. 96).

Conversely, Kitschelt (1993), refers to some conjectures which perceive ecology movements as a unique phenomenon and hence, any commonalities with the issues supported and administered by NSMs, such as feminism and pacifism, are to be regarded simply coincidental (p. 94). It could therefore be argued that the level of awareness of environmental problems

(Kitschelt, 1993, p.94) in the contemporary industrial societies which was evidently facilitated by the environmental mobilization and protests, was a crucial factor for the development of Green parties. I therefore formulate the following testable hypothesis.

Hypothesis 1: Green parties will be most likely to be created in countries with environmentally conscious publics.

Despite the evident contribution of New Social Movements, mainly the ecological and the anti-nuclear movement, to the rise of Green politics and the emergence of a considerable number of Green parties such as in Germany, France, Finland, and Austria (Carter, 2007), the increasing levels of environmental awareness under the influence of NSM were not always compatible with a good electoral performance for the Green parties. The inadequacy of “a simple correspondence between the state of environmental consciousness in a country and the level of development or electoral fortunes of its Green party” is clearly illustrated from Rootes (1995) with the juxtaposition of a series of examples deriving from Western European countries. In particular, Green parties in Denmark and the Netherlands have been rather small and failed to redeem electorally the fact that in both countries environmental consciousness is high. On the contrary, despite the fact that in Belgium and France the level of development of environmental consciousness is indeed lower, Green parties could actually be considered rather successful (p. 170).

It would be of great interest to highlight the fact that some scholars, as Converse (2006), refer to a relatively constrained ability and rather fragmented knowledge of the common citizenry to “develop more global points of view” (Converse, 2006, p. 54) about political issues and further about issues posing political nuances, as ecology which is our main concern in the present study. A similar disquietude is also posed by Rootes (1995, p.170) who criticizes as rather problematic the phenomenon of a contingent identification of green parties confined only to any concerns about environmental pollution and degradation, widely perceived as such by the majority of people, even among countries which could be characterized as environmentally aware.

This argumentation is considered by Kitschelt (1993) as being devoid of plausibility by highlighting the adoption of distinctive political stances from ecology parties related to “support for women’s emancipation and autonomy, civil rights and minority protection, a comprehensive welfare state, disarmament, and assistance to the less developed countries”(p. 94).

In opposition to Rohrschneider (1993) who claims that the perception of the mass publics concerning the ecologism-related issues relies on the capability of the active environmental movements to explicitly pose those issues, Rootes (1995) appears to converge to Converse’s point of view, as regards to the fact that world-views such as ecologism tend to be developed and mostly concern the elites and the highly educated (p. 171).

Given this rationale, there are contradicting views concerning the characterization of the Green vote as a protest vote. Empirical evidence does show that the advocates of green parties are rather and primarily motivated by a generalized interest concerning the environmental issues and do not choose to support those parties as a means to express their discontent with reference to the respective political context. Irrespectively of the above mentioned trend recorded about the electoral behaviour of the green voters, the presence of the instability inherent to the Green vote eventually supports the argument of the so-called “protest” vote. The latter is apparent among the highly educated members of the new middle class who are considered the core electorate of the Green parties (Rootes, 1995, p. 172; Kaelberer, 1993, p. 231; Poguntke, 1987).

3.2 GREEN PARTIES AND THE EMERGENCE OF THE NEW MIDDLE CLASS

As mentioned earlier, the emergence of a new middle class seems to constitute an additional parameter contributing to the creation of Green parties. The far-reaching changes emerging in the cultural and political environment of advanced western societies were the cause for a progressive decline of the social-class voting (Inglehart & Abramson, 1994) and entrenched ideologies and choices, accompanied by a decline in the traditional blue-collar working class with a parallel expansion of the white-collar sector (Carter, 2007, p. 92). The latter fact appears to be key to the formation of a new class which, under the conducive context of the “expansion of higher education and the information revolution”, could not remain inert against a conservative and utilitarian mentality which all aspects of the life of individuals of industrial societies were governed from (Carter, 2007, p. 92).

Being financially secure and advantaged by cognitive skills due to their educational background (Carter, 2007; Inglehart, 1989) the new middle class had the capacity to identify and evince the ill effects of the prevailing policies and simultaneously develop more global, rather than strictly economic, concerns such as environmental ones. Given the aforementioned, Rootes was led to the conclusion that supporters of Green parties are not mostly young idealists whose idealism is likely to be tested as they ripen and bear their own responsibilities in society. They were thought to be members of a new middle class, highly educated and likely to become political activists and mentors in the advanced societies. As Guber (2003) asserts, individuals “with higher levels of education [...] seem better able to translate concern into effective action” (p. 73).

Conversely, there were many objections raised with respect to why environmental concerns should be compatible only with those of the middle class, since primarily the consequences of environmental degradation are evident and affect all (Carter, 2007). For instance, groups that have not entered the labour market yet such as students and the unemployed, but , also, to some members of the “old” middle class as well, such as farmers, appear to be rather sensitive to such concerns and express their support to Green parties (Offe, 1985). Furthermore, the contention that members of the new middle class support the green policies as a means of

protesting against a political system-structure that they reject lacks validity according to Carter (2007), due to the fact that the latter category is *a priori* one of the main components of this system and thus, able to participate in the decision-making processes.

3.3 GREEN PARTIES AND THE POSTMATERIALISM THESIS

While the rise of a new middle class with higher education is considered capable to provide the social basis for Green supporters (Müller-Rommel, 1990; Rootes, 1995), they are also, according to Inglehart, inclined to embrace post-materialist values.

Ronald Inglehart's (1971) original thesis concerning the correlation between post-materialist value priorities and support for Green parties (Todosijević & Enyedi, 2003, p. 630) is drawn from the author's sociological theory of post-materialism developed in the 1970s based on two focal hypotheses, the *Scarcity* Hypothesis and the *Socialization* Hypothesis. As indicated in the *Scarcity* Hypothesis, individuals pursue various goals in something akin to a hierarchical order. According to Inglehart's interpretation of Maslow's hierarchy on human goals, while scarcity prevails, the satisfaction of materialistic needs such as hunger, thirst and physical security has priority over post-materialist goals while once the satisfaction of the survival needs can be taken for granted, the focus will gradually shift to these 'non-material' goods.

As indicated now in the *Socialization* Hypothesis, cohorts which often experienced economic scarcity would place a high value on meeting economic needs (such as valuing economic growth above protecting the environment) and on safety needs (will support more authoritarian styles of leadership, will exhibit strong feelings of national pride, will be strongly in favour of maintaining a large, strong army and will be more willing to sacrifice civil liberties for the sake of law and order). On the other hand, cohorts who have experienced sustained high material affluence start to give high priority to values such as individual improvement, personal freedom, citizen input in government decisions, the ideal of a society based on humanism, and maintaining a clean and healthy environment (Inglehart, 1990).

Prolonging Inglehart's argumentation, Inglehart and Welzel (2005) content that the emerging value pattern is encompassed into a more expansive cultural shift of explicit political ramifications aiming to meet the aspirations of the "new" politics of a more inclusive and responsive democracy (p.104), away from traditional conservative mind-sets. As characteristically posed by Kitschelt (1993), "The new paradigm of democratic political action [...] transcends the politics of economic equality concerned with the (re)distribution of privately appropriable goods in favour of a politics concerned with the 'quality of life'" (p. 95), of which green policies overtly consist an important part .

The fairly radical nature of how the “new politics” issues were posed, and among them those related to the environment and ecology, implies that younger cohorts were more likely to engage to such ways of mobilization and protest compatible with this especial nature. In particular, Van Liere and Dunlap (1980, p. 182) claim that, according to the existing literature, age has been negatively associated with environmental concerns. Owing to the idea that addressing environmental problems often entails change in traditional attitudes and practicalities and potential drastic reforms in the prevailing economic policies, it could be perceived as “threatening the existing social order” (p. 183) and subsequently, prevent elder cohorts from supporting such policies.

Van Liere and Dunlap’s argumentation is consistent with the theory of *generational change* designated by Inglehart (1980). The generational thesis suggests that the primary incentive toward the support for the “new politics” parties and the Green policy lies to the “changing political priorities and value orientations of a new generational unit” (Bürklin, 1987, p. 111). In the particular theory, it is hypothesized that if this change-oriented stance on values remains invariant during lifetime and the incumbent traditional parties prove inadequate to partly adapt or associate with these new orientations, this will signal a generationally based change of the existing political and party-system structures and patterns. Inglehart assumes that the fundamental change in advanced industrial societies would derive from the supersession of materialist age cohorts with younger more post-materialist oriented ones. His argumentation is based on the assumption that early-instilled political preferences, and that is during childhood and youth, have the tendency to persist through adult life. Thus, since the political preferences of those young cohorts were formed under the profound influence of the changing conditions in the hierarchy of value priorities, it is assumed that they will be retained as they ripen. As for those who attach particular importance to the tendency recorded of older generations conveying their values system to the younger ones, Inglehart (Inglehart & Welzel, 2005, p. 98) stated that, “this cultural heritage is not easily dispelled, but if it is inconsistent with one’s firsthand experience, it can gradually erode.”

We could argue that Inglehart’s theory of intergenerational population replacement with its implications is enhanced by Mannheim’s (1970) sociology of generations who, also, considers adolescence and youth as catalytic in the further development of an individual though he relates such a condition with the parallel unfolding of important historical events. When the preference for green policies and parties was expressed through voting, Bürklin (1987) was lead to an opposing argument. Drawing on the analysis of West German survey data of 1980, he concludes that the voting preferences in favour of the Greens were limited among young electorates below 35 years (p. 111) with no more than basic education (p. 114). As for the young educated class, Bürklin attaches their support for the Greens to their disappointment deriving from an insufficient social integration crystallized in their political stand (p. 116). On the other hand, as the writer outlines, the inadequate social integration of the educated young should be considered “an essentially transitory condition” (Rootes, 1995, p. 172). When the latter will manage to be “firmly integrated into the social hierarchy” (Bürklin, 1987, p. 111), their preferences will anew be altered according to the new circumstances. This thesis is, in turn, deriving from a life-cycle hypothesis (Bürklin, 1987, p. 111), according to which the

social aging of an individual could be a determinant factor towards the change of his/her value priorities and further his/her political preferences.

However, Rootes (1995) hastens to point out the weakness inherent to this approach which consists on the fact that Bürklin overlooks the fact that the lack of social integration may be attributed to a generalized discontent and a further need for detachment from and due to the prevailing social and political framework (p. 173). Under this rationale, the electoral support for the Green parties should not be identified in a rather short-sighted way with a malfunction in the labour market.

Contrariwise with Inglehart's theoretical findings, Carter (2007) appears hesitant to a potential identification of ecological concerns with stringently postmaterialist ones. He argues that the kind of problems that pertain people's own security and health could, readily, be associated with materialist concerns and further engage people espousing such values, also, to green policies (p. 98). As Kaelberer (1993) supplements, "the postmaterialist (or New Politics or left-libertarian) cleavage is not a fixed guideline for political orientations" (p. 240). According to the writer, postmaterialism should not be thought to represent a social cleavage, such as the class or religious ones, but an issue cleavage. Due to that specific attribute, it is rather easy to be subjected to change or deterioration in the quality of argumentation or even manipulation of its ideological identity and ultimately its espousal by other political parties. This potential makes the assumption that issues can not formulate strong partisan identification rather explicit (Kaelberer, 1993, p. 240).

Summarizing the aforementioned, a simple correspondence between post-materialism and support for Green parties is considered questionable. Among those who are inclined to support green policies, there are the highly educated "post-materialist" ecologists who due to their educational background have the capacity to apprehend and administer in a more efficient manner complex environmental problems and risks (Rootes, 1995, p. 322) and hence, are more concerned with global environmental problems than their own security. However, apart from those, there are the ones usually of lower educational level as well, who are mostly driven by the fear of the most immediate and apparent consequences of pollution, environmental degradation and nuclear waste to their own security (Rootes, 1995, p. 172).

3.4 GREEN PARTIES AND POLITICAL OPPORTUNITY STRUCTURES

As both Carter (2007, p. 88) and Rootes (1995) successfully report, the "new politics" thesis does contribute to the rise of Green parties but is not proven adequate to explain the variations in Green party performance when individual countries are examined. Carter (2007) names the "political opportunity structure" framework as the appropriate condition in order for the wide-ranging cultural explanations introduced by the the "new politics" thesis to be supplemented with institutional factors such as the electoral system and the party competition in individual countries and thus, to be more substantial and of increased validity

(p. 88). In particular, the “political opportunity structure” is regarded by Tarrow (1994) as, “the dimensions of the political environment that either encourage people to use collective action or discourage them from doing so, and which shape the development of movements and parties” (p. 18).

Lucardie (2000) and Hino (2006) both refer to the presence of a “political opportunity structure” that would facilitate the rise of new parties. For Lucardie (2000) this is a rather broad term and in order to be presented more precisely in his analysis, the writer uses the distinction of the particular term in four aspects as drawn by Kriesi (1995). Those aspects are the following : formal access to the state; informal procedures and dominant strategies; interest associations, and the configuration of power in the party system. As Lucardie (2000) clarifies, the first aspect which is formal access to the state, is more achievable in federal states, like Germany, and less open to centralised systems like the Netherlands.

Under federal systems, the framework proves to be more conducive for a new party to develop a regional base before participating in the national elections (p. 180). Rootes (1995, p. 176), draws upon empirical evidence from Sweden and Switzerland to support this argumentation. More specifically, in spite of its relative success at a local level, the Swedish Green party had to deal with severe constraints before surpassing the 4 per cent threshold to contest the national elections and a consistent effort towards this direction of almost ten years. Lago and Martinez (2011, p. 4), also, confirm this view by pointing out that decentralization indeed plays a salient role concerning the emergence of new parties.

It is generally accepted that the Green parties have performed better at local, regional and European levels. Rootes (1995) offers a very interesting approach regarding this actuality. The better performance of the Greens could be attributed, on one hand, to the fact that the elections at the aforementioned levels are to be considered as ‘second-order’ and that has further implications to the voting behavior. Hence, as the author puts it, their success can be explained “in terms of the relatively relaxed attitudes of voters to ‘second order’ elections in which lower turnouts tend to amplify the voices of agitated minorities” (p. 176).

With reference to the elections at the European level, it should be noted that in the first elections to the European parliament in 1979 Green parties, with representatives only from France, Belgium, the UK and West Germany, failed to reap any electoral benefits (Rüdig, 1985). Nevertheless, only five years later in the second European elections of 1984, the Greens with eleven representatives then, started to reveal their dynamic and “consolidate their position” internationally (Rüdig, 1985), while 1989 is considered the year of their major breakthrough (Franklin & Rüdig, 1992).

Permissive electoral institutions (Selb & Pituchin, 2010), as a component of the so-called “political opportunity structure”, are claimed to be a prerequisite for the emergence of new political parties, referring to the fact that majoritarian electoral systems tend to be more hospitable to new parties in contrast with proportional electoral systems. The second hypothesis regarding the creation of Green parties is formulated as follows.

Hypothesis 2: Green parties will be most likely to be created in countries with proportional electoral systems.

The former hypothesis is enhanced by the respectable electoral performance achieved by the Green parties in Belgium, Sweden, Finland, and Switzerland operating within proportional electoral systems in contrast to the course of the Green party of Britain which does not have a electoral system based on proportional representation (Carter, 2007, p. 105).

As Aline Pennisi (1998) explains in her article, proportional electoral formulae minimize the difference between the vote and seat share of each political party. A “perfectly fair” seat assignment is considered to be “exactly proportional”, since all parties will be given precisely what they should obtain, without being favored and without damaging others. As well, Hino (2006) considers the electoral system as key to the rise of new viable parties.

Another factor of significant importance which could be related to the rise of new viable parties, concerns the theory of strategic entry developed by Cox (Tavits, 2006). According to this theory, the rise of new parties “results from the elite-level decision to enter the electoral arena as a new contestant” which “is conditioned by the costs of entry, benefits of office and the probability of receiving electoral support” (Tavits, 2006, p. 100).

In relation to the last point, Lago & Martinez (2011) come, also, to advocate the argument that the degree of institutionalization of the party system is a prominent factor with regards to the viability of new parties. In particular, they claim that the higher the degree of institutionalization, the stronger the partisan identifications and, consequently, the lower the probability of new parties entering the political arena (p. 7).

In general, in countries with federal constitutions and proportional electoral systems it seems that the institutional framework is more conducive to the emergence of green parties than in states with aggregated majoritarian electoral systems. However, a favourable electoral system could not consist of a guarantee for the formation of green parties as pointed out successfully by Rootes (1995). Since a highly developed environmental consciousness is not the only functional precondition identified with the success of Green parties, the same applies to a decentralized political system operating in proportional representation.

Political competition is an additional institutional factor, included as such to the “political opportunity structure” framework, which can provide further explanations for the different electoral performance of the Green parties. Despite the fact that some countries have electoral systems that are rather favorable for small parties, and high levels of environmental awareness recorded among their citizens, the Green parties operating in those countries could be considered, still, only relatively successful. Empirical evidence from the Netherlands and Denmark of the 1980s support this line of argumentation (Rootes, 1995). The reasoning behind this fact is assigned, by Rootes, to the way the terms of political competition were posed in the countries in question.

A highly-fragmented party system under the application of highly proportional representation formulas, enabled the incumbent political parties and particularly those positioned on the left of the party spectrum to appropriate the proclamations of the Greens and thus, distract part of the latter potential ideological influence and electoral appeal. Rootes (1995) highlights the fact that Green parties have proven more successful in cases where the incumbent left-wing parties were goldign governing positions or when they could not function as competitive oppositin parties. Additionally, Carter (2007) draws attention to the fact that in countries where the Communist parties managed to create a committed electorate, there was not much political place left for Green parties to occupy, such as in France, Italy, Portugal, and Greece (p. 109). Kaelberer (1993) attaches great emphasis on the fact that, the “Greens do not operate in a vacuum but rather within a given political context” (p. 242). Hence, their maintenance in each political context is largely dependent on the interaction with the other established political parties and therefore, varies considerably.

On one hand, the innovative and radical nature of the demands advocated by the new social movements, seeking to be materialized through social change and re-prioritizing of personal values, raised serious impediments for the majority of convetional parties to administer and become adapt to the new issues posed.

The logic of entrenched perceptions strictly defined by economic aspirations became inopportune. Issues related to the quality of life, ecology and environment as well as the role of women, started to preoccupy the public and facilitate the formation of new parties who could capitalize those concerns into an alternative political suggestion. On the other hand, a high degree of polarization characterizing a party system may subject new political parties to significant constraints in expressing their political requests and, silmutaneously, being electorally competitive (Kaelberer 1998, p. 306). The third testable hypothesis can therefore be formulated as follows:

Hypothesis 3: Green parties will be most likely to be created in countries characterized by party systems that have an adequate number of parties which display some degree of ideological distance among one another.

Regarding particularly the Greens, the fact of them being concerned with issues that appertain to the theory of postmaterialism, the very radical nature of those demands, conceals the risk of marginalizing them from the prevailing political system. To illustrate his point, Kaelberer uses in his analysis an example on the strategy followed by the French Green parties in the parliamentary elections of 1986. Overall, the latter in their attempt to remain loyal to their ‘purist’ identity, they defined the left-right, bloc logic prevailing in the french system promoting the doctrine that “ecologists are neither left nor right, but on front” (Kaelberer, 1998, p. 308). This stategy prevented them from forming any potential electoral alliances within the party spectrum but ,most importantly, from making their political beliefs explicit to voters.

Conversely Rootes (1995), based on relevant data from the Netherlands, claims that even in political systems that allow and facilitate the articulation of interests, new and small parties may have to deal with severe difficulties at creating a stable electorate when operating within a highly-fragmented and competitive party system. Since the “postmaterialist cleavage”, as mentioned earlier, is not yet considered to have replaced the left-right continuum as the “prevailing setting in party competition in Europe” (Kaelberer, 1998, p. 303), many questions have been raised by scholars pertaining to a placement of the Greens in the left-right framework. As sustained by Rootes (1995), in their majority, the members and voters of green parties seem to display a left-oriented programmatic profile or, correspondingly, tend to support for left-oriented parties. However, Inglehart (1990) highlights a key difference between what he defines as the “Old” and the “New” Left shaped under the influence of the “new politics” phenomenon. For the Old Left, “both economic growth and technological progress” were perceived as “fundamentally good and progressive” while the “New Left is suspicious of both” (p. 374).

4. OPERATIONALIZATION

As indicated in the introduction, the current research aims to identify how do parameters such as environmental consciousness, institutional structures, and political competition affect the formation of Green parties in Western Europe. In order to reach this objective, I will proceed to outline the key variables in the analysis.

4.1 DEPENDENT VARIABLE

The dependent variable, labelled as “Green party formation”, is a binary variable, coded 1 or 0, that indicates whether the emergence of a Green party is present (1) or not (0) according to the data used. The election results are retrieved from the Data section of the “Parliament and government composition database” (ParlGov).

4.2 INDEPENDENT VARIABLES

I use three independent variables, namely environmental consciousness, institutional structures and political competition, each one measured by the corresponding indicator(s) that will facilitate the testing of the hypotheses using a statistical analysis.

4.2.1 ENVIRONMENTAL CONSCIOUSNESS

Environmental consciousness will be measured as the proportion of postmaterialists in each of the 18 Western European countries under consideration. The materialist and post-materialist value orientations are measured with the widely administered four item index provided by Ronald Inglehart. The latter is constructed based on respondents' patterns of responses to a series of items that were designed to measure personal political priorities. In particular, the structure of the questionnaire concerning this matter is posed as follows:

"If you had to choose among the following things, which are the two that seem the most desirable to you? The possible answers are: 1) Maintaining order in the nation; 2) Giving people more say in important political decisions; 3) Fighting rising prices; 4) Protecting freedom of speech.

As Inglehart (1971) claimed, "On the basis of the choices made among these four items, it is possible to classify our respondents into value priority groups, ranging from a 'pure' acquisitive type to a 'pure' post-bourgeois type, with several intermediate categories" (p. 994). The post-materialism index is constructed as a categorical variable with three dimensions. At the two extremes, there is the "pure acquisitive type", or "pure materialists" as was labelled later, and the "pure post-bourgeois type" or "pure post-materialists".

There is, also, a "mixed" category existing in the midpoint of the two extremes, consisting of those respondents who nominated one materialist and one postmaterialist response (Tranter & Western, 2009, p. 152). In particular, the selection of the first two items implies the respondent being classified as a materialist while those who select the latter two items as postmaterialists. The "mixed" category entails the respondents who select different combinations of the items proposed (Warwick, 1998).

Our first study hypothesis based on the data produced by exactly applying the 4-item values index of Inglehart on the respective Eurobarometer surveys can be formulated as follows. Ronald Inglehart's index is widely known and his theoretical approach as regards to the intergenerational shift in value orientations away from materialist concerns toward postmaterialist values in advanced industrial society has been recorded among the most influential ones in Political Science. As Abramson (2011) highlights, Inglehart is considered to be among the most cited political scientists of the latter years based on the respective data from the Social Science Citation Index or the *American Political Science Review* (p. 2). Indisputably, a highly influential theory appears to be more attractive to subsequent critiques which were indeed remarkable in number.

Inglehart's thesis on value change was criticized by many scholars, with the first being recorded in 1993 and, on the whole, continued into the 21st century (Abramson,2011). Those critiques had diverse origins and could be classified into three focal categories; the ones emphasizing on technical issues, those challenging whether value change did occur or how many dimensions did Inglehart's scale measure in fact.

Inglehart's values index was intensively criticized by Flanagan (1987) as being indeed an ample single measure of either materialist or postmaterialist orientations or whether it, additionally, taps a relatively differentiated values dimension which concerns the distinction between authoritarian and libertarian values. The source of the dilemma posed is located to Inglehart's misleading employment of the respective indicators in his attempt to tap the materialist/postmaterialist dimension. Prior to proceeding to the core of the critique, it would be preferable to explicate the kind of values the author places under the materialist/postmaterialist and authoritarian/libertarian labels. The ones of 'postmaterialist' and 'libertarian' are identical and thus, follow Inglehart's theoretical approach. On the other hand, in Flanagan's view, the concept of materialism is constrained to refer to economic concerns while there is, also, a subset included in this broader context, of non-economic issues, which reflects an authoritarian value orientation. "Support for a strong defence, law and order, and fighting crime" (Inglehart & Flanagan, 1987, p. 1305) are some of the priorities

set under the authoritarian label. Now, as regards to the items in the values index, *more say in the government* and *free speech* are considered libertarian, *maintaining the order* authoritarian and *rising prices* is considered a materialist item. Flanagan's critique is founded on the argument that given the way the questions are posed in Inglehart's index, the respondent faces "a dilemma of constrained choice" (1987, p. 1311), after the selection of the first item. He concludes that the classification as regards to materialists proves to be rather deceiving as, based on exactly the categorization pattern Inglehart adopts, authoritarian-materialists were to be classified as materialists while the libertarian-materialists were falling into the mixed category producing eventually unreliable results.

Warwick (1998) appears rather sceptical as regards to whether the "3-point Values Index", developed by Inglehart, does indeed measure preferences for postmaterialist values or whether, in essence, captures preferences for democratic values. In the author's view, the interpretation of the latter two items in Inglehart's basic values battery, and that is the "free speech" and "more say in government", either as postmaterialist or as "pro-democratic" or "pro-participation" is rather of equivalent potential. In fact, Warwick's contentions could be incorporated into a broader context of critiques advanced by Duch and Taylor (1994) and advocated by Davis (1996), who challenge Inglehart's thesis concerning the pivotal cause that triggered the shift in value orientations and the cultural and further political priorities of the advanced industrial societies. For the latter, the role of education was the determinant factor for the alleged change occurred which is not correlated with any conditions of material or physical security identified during the formative socialization. Though, the crucial aspect of their approach lies on the fact that this change with its corresponding implications does not denote the rise of postmaterialism but rather an avowed support for democratic values which are enhanced through formal education. As Warwick (1998) asserts, "education increases the priority given the "free speech" and "more say" items through its roles in encouraging a sense of political efficacy and in strengthening awareness of the political world ("cognitive mobilization," in Inglehart's parlance)" (p. 587).

The vast importance attached to the role of education as regards to the increasing receptivity of what is characterized by Inglehart as postmaterialist values has already been highlighted. Duch and Taylor (1994), also, support Flanagan's contention that the "*free speech*" and "*more say in government*" items may well represent libertarian values which are an important component of democratic principles. Here lies the contribution of education on the better acknowledgment and greater appreciation of what those values signify, and hence, on prioritizing them against more materialist pursuits. (Duch and Taylor, 1994, p. 754). The authors prolonged their criticism of Inglehart's thesis. They argued that the postmaterialist index is not to be linked to the macroeconomic or even microeconomic conditions at the period of formative socialization or "political maturation", but is very sensitive to the "performance of the macro-economy at the time the survey was conducted" (1994, p. 757). In particular, economic fluctuations, for instance high levels of inflation, contemporaneous with the period of the data collection are considered to play a more substantial role when individuals proceed to the ranking of those items than economic affluence during the period of their maturation.

The assumption that the cohort differences Inglehart attributes to the growing economic development are, in essence, the outcome of the different levels of formal education received by those cohorts, with the younger ones being considerably more well-educated, finds Davis' (1996) argumentation consistent with that of Duch and Taylor's. The arguments employment by Abramson and Inglehart (1994) to defend their thesis were considered insufficient by the author. Some sort of evidence was retrieved by the German student elections in 1920 and 1930 won by the Nazis plus the data from a respective survey conducted by Abramson and Inglehart and the marking of two Italian cohorts (1906-15 and 1916-25) and one German (1916-25) as being well-disposed to fascism (p. 327). Furthermore, Davis' criticism diverts attention towards the necessity of the inclusion of *unemployment* and *peace* on the materialist side in the 4-item values battery of Inglehart. Even though he considers the values construct to be of some considerable validity (p. 321), he is persistent about the inclusion of the indicators proposed. According to the author, Abramson and Inglehart attempt in a rather skilful way to overcome this deficiency. On one hand, they cite authors who allege that the "more say" option can mirror any discontent concerning rising levels of unemployment. Thus, the levels of postmaterialism are eventually enhanced although we should plausibly arrive at the opposite results. On the other hand, while they clearly state that *unemployment* increases materialism and not postmaterialism, there does not appear any intention towards the reformulation of the values index.

A recent and highly interesting line of argumentation is advocated by Rossteutscher (2004) who identifies the weakness of Inglehart's index in its functioning as an "one-dimensional ranking model" (p. 777). Inglehart attempted to interpret the gradual change observed in the advanced Western societies with cultural and political nuances in the late 1960s and 1970s, involving the student revolution, the development of new social movements and the increasing concern about the environment with further implications in the political spectrum. Those phenomena were attributed as a whole to a progressive abandonment of materialist pursuits towards the embracement of postmaterialist values. This approach, which is exactly depicted in his 4-item battery, presupposes a hierarchical ranking of values and hence, it implies that the value dimensions employed (materialist and postmaterialist) are a priori exclusive and contradictory (p. 772). For Rossteutscher (2004), on the contrary, this traditional concept of value hierarchy is considered rather obsolete and a new approach of "value synthesis", advanced by Klages, achieves increasing acceptance among scholars. This theory maintains that, especially in modern times, in order for individuals to confront the new challenges posed, they should be "capable of holding different values, complementary or even contradictory ones, as being essentially equal" (p. 773).

This capability will allow them to operate as competent citizens, with claims of an appreciable participation in the socio-political scene.

Despite these criticisms, however, Inglehart's 4-item post-materialism index has been vigorously defended (Inglehart & Abramson, 1994), and used extensively in empirical research. Moreover, the 4-item index has been included in most Eurobarometer surveys since 1973 and presents the only measure which is available for such a wide cross-national and longitudinal study.

In particular, for the post-materialist index I used data deriving from the Mannheim Eurobarometer Trend File for the time period from 1970–1999 supplemented by the 1981–2008 European Values Survey/World Values Survey Integrated Data File (EVS Longitudinal Data File 1981–2008 and World Value Survey 1981–2008 official aggregate). The European Values Survey/World Values Survey Integrated Data File consists of 305 national surveys for 102 countries/regions from 1981 to 2008. In order to examine our argumentation concerning the corresponding contribution of the environmental consciousness, the institutional structures and the political competition in the creation of Green political parties in Western Europe, I chose all possible surveys from the Eurobarometer, the European Values Survey (EVS) and the World Values Survey (WVS) to create a data file which contained data for the following countries of interest while for the purposes of this analysis, I isolated data from the aforementioned countries which span a time period from 1970 until 2006.

4.2.2 INSTITUTIONAL STRUCTURES

The impact of the *institutionalised political structures* will be demonstrated through the observation of the electoral system impact in each of the countries in question that will be measured as the degree of disproportionality using data deriving from Michael Gallagher's disproportionality index.

Proportional representation formulae minimize the discordance between the party vote share and seat share (Gallagher, 1991; Pennisi, 1998). As Aline Pennisi (1998) states, a perfectly fair seat allocation is to be characterized as exactly proportional when all parties “will be given precisely what they should obtain, without being favoured and without damaging others”. Granted that, a disproportionality index should be considered as “a measure of the unfairness produced by the seat allocation” (Pennisi 1998).

Gallagher's index has gradually received a high level of acceptance in the seats-votes literature on disproportionality as outlined by Taagepera and Grofman (2003). The *Least squares* index he introduced (1991), is calculated by squaring the vote –seat difference for each party, then adding those values and divide the total by 2.

The square root of this value consists of the measure of disproportionality, running from 0 to 100. The lower the values displayed by the index, the lower the degree of disproportionality recorded in the given election.

Apart from the *Least squares* index, other measures of disproportionality comprise the *Loosemore-Hanby* index, the *Rae* and the *Sainte-Laguë* index. In brief, the *Loosemore-Hanby* index adds the absolute values of the vote-seat differences for every party and then divides the result by 2. The *Rae* index constitutes one among the many modified versions of the *Loosemore-Hanby* index (Gallagher, 1991, p.40). Here, the absolute values of all the vote-seat differences are added, as advocated in the aforementioned index, but then are divided by the number of parties. As Gallagher (1991) argues, “whereas the *Loosemore-Hanby* index

measures the total disproportionality per election, the Rae index measures the total disproportionality per party” (p. 40). The *Sainte-Laguë* index, on the contrary, is not concerned with the absolute but rather the relative difference between the votes and seats obtained by each party and, thus, being substantially different with the ones mentioned above.

Taagepera and Grofman (2003) attempted to construct an evaluation model of all indices prior and subsequent to 1990 been proposed as measures of either disproportionality of electoral party seats-votes shares or over-time volatility of vote (or seat) shares by employing twelve criteria of both theoretical and practical significance. Among the total of 19 indices examined, those of Gallagher’s and Loosemore and Hanby’s did satisfy more of the criteria posed. Despite the complexity in calculations when dealing with Gallagher’s index, it outweighs that of Loosemore and Hanby’s in view of the latter being vulnerable to the paradoxes following the largest remainders method which entails a kinder attitude towards the small parties (Gallagher, 1991, p. 40).

I therefore propose that the least squares index proposed by Gallagher (1991) successfully captures the opportunity structures at the electoral level which are supposed to facilitate the emergence of Green parties. The source for the election results from which these indices are calculated is the Data section of the “Parliament and government composition database” (ParlGov).

4.2.3 POLITICAL COMPETITION

The degree of polarization existing in the party systems under consideration as introduced by Sartori, and supplemented by the Laakso and Taagepera (1979) effective number of parties index, will be used to measure *political competition* in the 18 Western European countries.

Political competition in the party system may be conceptualized by employing the effective number of parties measure. The former theoretical concept corresponds to the number of “viable” or “important” political parties interacting in a party system consisting of parties of disparate size (Golosov, 2010). As Sartori (1976) successfully states, the significance of such a measurement lies in the opportunity provided to scrutinize “the extent to which political power is fragmented or non-fragmented, dispersed or concentrated” (p. 106), a critical aspect of political systems. Furthermore, as Dalton (2008) argued, “the logic of party system polarization implies that it should reflect the distribution of parties along an ideological dimension” (p. 903).

Regarding the effective number of parties as outlined by Golosov (2010), in order for such a conception to be perceived and further applicable needs to be quantified by using a mathematical formula for the estimate of the parties’ relative sizes. Laakso and Taagepera’s contribution towards the systematization of the idea of the effective number of parties was highlighted by many authors (Neto & Cox, 1997; Blau, 2008; Lijphart, 1994; Dunleavy &

Boucek, 2003) while characterized by Lijphart (1994) as the “purest measure of the number of parties” evincing its rather considerable role in the comparative politics literature (p.70). The index is introduced by the authors as follows:

$$N_v = \frac{1}{\sum_1^x v_i^2} \quad (1)$$

where the v_i denotes the share of the votes or the share of the seats obtained by the i -th party, and the notation above and below the summation sign shows that it covers all parties from the largest (V_1) to the smallest (V_x).

The widespread use of Laakso and Taagepera’s measure on the effective number of parties lies to its simplicity in calculation and its attitude of operating as a weighting mechanism (Lijphart, 1994; Dunleavy & Boucek, 2003, Golosov, 2010). That is, the index does accord some weight to all the components, though bearing into account their own size, hence, attributing larger weights to the largest parties and rather discounting the smaller ones (Dunleavy & Boucek, 2003, Golosov, 2010).

Considered as the major deed of the index while, in parallel, a pivotal requirement for any index of such an anticipated function (Dunleavy & Boucek, 2003, Golosov, 2010) is that of being subject to the following principle : “If all components have equal shares, then the effective number must be the same as the actual number” (Laakso & Taagepera, 1979, p. 5). The “actual number” corresponds to the number of observable parties, counting each one of the latter as 1 irrespective of its size (Dunleavy & Boucek, 2003). Laakso and Taagepera’s index is in fact a constituent of a wider family of indices on the effective number of parties, whose generic formula is the following:

$$N_a = [\sum_1^x v_i^a]^{1/(1-a)} \quad (2)$$

Apart from that based on $\alpha=2$ which is in fact the conventional effective number index used by Laakso and Taagepera (N_2), two of the above mentioned indices attracted a sufficient level of attention. Those were the ones based on $\alpha=0$, which is just the actual number of observable parties, and $\alpha=\text{infinity}$, which is hardly computable (Dunleavy & Boucek, 2003, Golosov, 2010).

Overall, the indices produced under this formula did not achieve increasing acceptance in the field of political science neither were applied for such purposes due to behaving in hard to their calculation and failing to meet any intuitive expectations.

The effective number of parties designed by Laakso and Taagepera was challenged by Molinar (1991), Dunleavy and Boucek (2003), and Golosov (2010). Molinar’s critique against the Laakso and Taagepera index emphasizes on the fact of the latter’s incapability of making distinctions between different party systems leading to over-rating of the number of parties that is counting the major party as more than 1 in certain conditions (Molinar, 1991). The

over-counting of the largest party, suggests Molinar, can be exceeded through a reformulation of N , whose formula is introduced below:

$$NP = 1 + N \frac{(\sum_{i=1}^n P_i^2) - P_1^2}{\sum_{i=1}^n P_i^2} \quad (3)$$

where P_i^2 is the square of each party's proportion of all votes or seats, and P_1^2 is the square of the largest party's proportion of all votes or seats.

As Molinar (1991) argues, the index he suggests outperforms N on the terms that the winning party is counted in a different way compared to the rest, and that is as 1, while "weighting N by the contribution of the minority parties" (p. 1385).

Dunleavy and Boucek (2003) proposed their own index as an alternative formula to the effective numbers measure contradicting both the aforementioned indices. The mathematical form of their index is the following:

$$N_B = \left(\frac{1}{\sum_1^x P_i^2} + \frac{1}{P_1} \right) \times \frac{1}{2} \quad (4)$$

The authors argue that Laakso and Taagepera's index is devoid of depicting any changes occurring in the relationship between the major party's share of votes and the values displayed by the index. In particular, referring to the N_2 , they claim that it tends to produce rather implausibly high scores for party systems characterized by lower levels of party fragmentation (2003, p. 307).

Following the same line of argumentation concerning the flaws identified in Laakso and Taagepera's measure on effective number of parties, Golosov (2010) proceeded in the construction of a new index defined as follows:

$$N = \sum_1^n \frac{P_i}{P_i + P_1^2 - P_i^2} \quad (5)$$

The present index "counts the largest party as 1 and the rest as about one-third" (Golosov, 2010). Golosov (2010) is, in principle, well disposed towards the index devised by Dunleavy and Boucek which describes as a "partial improvement" (p. 189) of the N , whilst his contribution adds on the intuitive content of such measures.

Despite the criticisms raised, the acceptance of the Laakso and Taagepera (1979) effective number of parties index is evident and highlighted by many important scholars (Lijphart, 1994; Neto & Cox, 1997; Blau, 2008; Dunleavy and Boucek) and, as such, lends credence to the data used in the current research. The source for the election results from which these indices are calculated is the Data section of the "Parliament and government composition database" (ParlGov).

As indicated earlier, political competition may be imprinted, also, through employing the concept of *polarization*. As Dalton (2008) proposed, "The logic of party system polarization

implies that it should reflect the distribution of parties along an ideological dimension” (p. 903). Drawing on Harold Hotelling’s work, Downs (1957) proceeded to the theoretical construction of a “spatial modelling of party systems” (Dalton, 2008), according to which political parties are positioned in a Left-Right continuum. This condition defines the terms of political competition, where voters’ preference for a political party is consistent with their self-placement on this continuum and thus, may be altered from election to election. The degree of polarization in Downs’ conceptual framework was expressed, as a rule, by employing the number of parties. Downs used the simple dichotomy of two-party and multi-party systems to analyze the interaction terms of voting behaviour, with the latter allowing a more cogent selection of parties by voters based upon ideological criteria (Dalton, 2008, p. 901).

Dalton (2008), in turn, following Downs’ theoretical assumptions, places political parties into a single ideological dimension and further, employs two conditions; 1) the presence of a number of large parties close to the centre of the left-right continuum would indicate a centrist party system which would lead parties towards that direction while 2) the presence of large parties to the extremes of the party system would lead to its characterization as highly polarized with the corresponding implications.

Whilst scrutinizing the kinds of party arrangements prevailing in different states, Sartori (1976) dismisses the classification of those using the relatively simplistic criterion of counting the number of parties existing as a deficient approach lacking in intuitive content. Though he acknowledges the importance of such a numerical criterion, he holds a rather critical stand as to the extent we have managed to arrive at concrete conclusions by employing it since the plethora of different typologies proposed led to a somewhat blur and confusing scheme. As a remedy to this convoluted state, Sartori recommended his own counting rules (1976, p. 108). The classification criteria posed were based upon the “governing potential” or “coalition potential” of each party and on “the competitive relevance” of the latter “in the oppositional arena” and thus, its ability on manipulating the direction of the competition in the respective party system, attributing either centripetal or centrifugal dynamics to it towards the left, right or both directions.

Sartori (1976) introduced the following seven classes : 1. one party; 2. hegemonic party; 3. predominant party; 4. two party; 5. limited pluralism; 6. extreme pluralism; 7. atomized. What is considered a fundamental conceptual advance over previous relevant classifications, a resultant of applying those counting rules, is our enhanced perception on fragmentation (Sartori, 1976; Evans, 2002).

Sartori contents that despite the previous distinction and any counting rules given, fragmentation remains a rather subtle concept whose theoretical implications cannot be wholly identified only through counting. He claims that, “fragmentation of a party system can reflect either a situation of segmentation or a situation of polarization, i.e. of ideological distance” (Sartori, 1976, p. 111), where the term *ideological distance* denotes the fact of referring to the more-than-one party systems, indicating the differentiated ideological

positioning of the respective parts of the political spectrum. Hence, within competitive systems, the initial classification of Sartori was improved in order to capture the differentiations imposed by the ideology variable. Correspondingly, he distinguished between (ideologically) *moderate* pluralism which entails fragmented but not polarized party systems and *polarized* pluralism which implies both fragmented and polarized party systems.

Granted the distinction mentioned earlier as regards to party systems bearing either centripetal or centrifugal dynamics, the two-party type and those classified into *moderate* pluralism follow mainly centripetal patterns while those of the *polarized* pluralist type the corresponding centrifugal.

Consequently, the ones included in the first category consider the centre as the “principal competitive space” and display low *ideological distance* (Evans, 2002, p. 157). Conversely, those falling into the second category, consider competition proceeding between the two poles of the party system, left and right, displaying high *ideological distance*.

Though Sartori offers a more comprehensive and thorough analysis through the different typologies mapping party systems and the concept of fragmentation and polarization, he had not proceeded in the construction of a corresponding index that would capture his theoretical findings. That is the reason why for the purposes of this analysis we will use the Dalton index which is calculated and provided by the Data section of the “Parliament and government composition database” (ParlGov).

5. METHOD OF ANALYSIS

As already mentioned, *Environmental consciousness* will be measured as the proportion of postmaterialists in each of the 18 Western European countries under consideration using the data deriving from the Mannheim Eurobarometer Trend File for the time period from 1970 – 1999 supplemented by the 1981-2008 European Values Survey/World Values Survey Integrated Data File (EVS Longitudinal Data File 1981-2008 and World Value Survey 1981-2008 official aggregate).

In particular cases, where the data from the aforementioned surveys were being presented as slightly different as regards to the same years, I considered as rather preferable to choose those from the Eurobarometer surveys. For the purposes of this analysis, I isolated data from the aforementioned countries that span a time period from 1970 until 2006.

With regards to the problem of missing data for post-materialism, I used the method of *interpolation*. The term refers to the method of constructing new data points from a particular set of known data points. Further to the adaptation of the data to the requirements of the current research and to the missing data exclusions, I conclude to a sample size which is variable as indicated in the tables presenting the results of the statistical analyses.

The dependent variable is nominal taking values of 0 or 1 where 0 indicates the absence and 1 the emergence of a Green party in each of the 18 countries of the study.

Since the aim of the current research is to identify the relations between a dependent variable, i.e. the “*Green party formation*”, and one or more independent variables which are the *environmental consciousness, institutional structures and political competition*, the statistical method considered as the most proper to be applied is a regression analysis and more specifically a logistic regression analysis, as will be explained later in this chapter. Regression analysis is a widely used tool for prediction, a fact that coincides with the purpose of this research and the formative patterns of the study hypotheses. Regression analysis is also used in order to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships as mentioned earlier.

Focusing in the present study, the applicable statistical model, which was considered as rather appropriate, is the so-called logistic model or logistic regression due to the fact that it precisely meets the requirements posed by the study objectives. Logistic regression is a type of regression analysis applied in order to predict the outcome of a binary dependent variable (Menard, 2001). That is, a variable that can take only two possible outcomes, as in our case “Green party formation” or “non Green party formation”, based on one or more independent variables. The latter variables may be either continuous or categorical. In our case, the indicators used to measure the independent variables of our analysis are all continuous, in terms that they take numeric values.

Additionally, as it is probably rather clear, I chose to apply a *time-series* regression model, where each case corresponds to an observation “of a single unit at multiple points in time” (Berry, 1993, p. 22). Unfortunately, I was not able to conduct a time-series analysis as such and had to pool all the observations in what is called pooled time-series-cross-section data (Beck, Katz, & Tucker, 1998). In this point, it would be rather interesting to note that one of the classical assumptions of regression analysis indicates that the observations recorded are statistically unrelated will be violated if these data are analyzed together. In other words, the observations in the research sample should be independent from each other. In the current analysis, it should be stated that this precondition is not present since we have multiple observations from 18 different countries at different time points resulting in a correlation of observation α in time 1 with the same observation α in time 2.

This problematic condition identified here denotes a number of difficulties in the further analysis. In order to overcome any difficulties occurring, which will be presented below, I will add a series of time dummy variables to the logit model as proposed by Beck et. al (1998) and apply the method of *bootstrapping* as regards to the calculation of standard errors in our sample.

More specifically, time dummies are added in our analysis so as to overcome the problem of the violation of the assumption of independence of observations. The latter condition produces serial autocorrelation, which means that observation α in time t depends on observation α in time $t-1$. For instance, given the presence of the German Green party, *Die Grünen*, in the elections of 1990s, it is assumed that it was, also, present in the German previous elections in 1987.

Concerning our second problem, the way the standard errors are calculated, it derives from the fact that the distribution of our data values is not to be considered normal, as it will be argued. A normal distribution of data values implies that there is a random sample drawn from a population which will, in turn, be used to estimate characteristics addressed to that population as a whole. The normal distribution that a random sample follows derives from the central limit theorem. The latter states that the distribution of a sufficiently large number of independent random variables, whose values are subject to variations under the effect of chance, will be approximately normal. However, since in our case the initial sample is the whole population of the 19 countries of interest, we cannot be certain that our data values do necessarily follow a normal distribution. Thus, *bootstrapping* (Efron, 1979), is applied in order to construct a “hypothetical population”, of which our initial sample will eventually be used as a random sample.

Among the advantages offered from the aforementioned method of *bootstrapping*, is precisely the fact that it does not require distributional assumptions such as normally distributed errors. Standard errors in a regression analysis are calculated based on the very relation between the statistical sample and the population under the terms which have already been posed. Though in this case, since this condition is not present at least in the initial stage of our analysis, we are obliged to base the calculation of standard errors on the factitious condition

which was mentioned earlier; given that we have the population as a whole as our initial sample, I need to form a “hypothetical population” consisting of a series of bootstrap samples. In my analyses, I chose to use 1,000 bootstrap samples. Results presented by Efron and Tibshirani (1993) suggest that basing bootstrap confidence intervals on 1,000 bootstrap samples generally provides accurate results. The procedure followed here could be described as a resampling procedure on the grounds that this “hypothetical population” results precisely from resampling from the initial sample particularly about 1,000 times. Each bootstrap sample selects the observations drawn from the initial sample with replacement. Consequently, standard errors are calculated based on the new condition posed which is now consisted with the classical assumption of independent observations in view of the fact that our initial sample, the population as a whole, now consists of a random sample of the 1,000 bootstrap samples. The bootstrap samples were also drawn taking into account that there are 18 specific clusters of observations corresponding to countries. This way I have taken into account the nested character of the observations, similarly to the approach by Beck et. al (1998) who argue for calculating clustered robust standard errors when time-series-cross-section data are pooled together in a single statistical analysis.

6. ANALYSIS

The statistical analysis begins by presenting a general descriptive table which depicts all of the independent variables along with the summary statistics on those listed variables,

Table 1. Descriptive statistics for party system properties

Variable	Mean	Std. Dev.	Min	Max
Postmaterialism	14.69	7.29	0.8	57.35
Disproportionality	4.40	4.13	0.1	24.3
Effective number of parties (electoral level)	4.50	1.58	2.3	10.3
Effective number of parties (legislative level)	3.98	1.48	1.7	9.1
Polarization	0.38	0.07	0.2	0.6

The values recorded for the mean and standard deviation reveal the average and the average distance from the mean of each set of observations for each one of the independent variables correspondingly. A series of logistic regression analyses were performed in order to “evaluate the contribution of each independent variable to the model by testing for its statistical significance” (Menard, 2001, p. 41) and then assess the impact of the latter on the likelihood of the formation of a Green party (dependent variable). Each set of interactions between our dependent variable and each one of the five independent variables will be presented separately. The following tables present Stata output for “Green party formation” with the corresponding indicators for each one of the five independent variables used in our analysis.

Table 2. Testing Hypothesis 1

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Postmaterialism	0.1	0.03	[0.05, 0.15]

Note: Number of observations= 161, Number of clusters= 18, Replications= 1,000

As shown in Table 1, the independent variable postmaterialism is to be considered statistically significant since for the 95.0 % CI displayed, among the values given, 0 is not included.

The above result indeed confirms our first study hypothesis that environmental awareness does affect the formation of Green parties in the countries of interest being conceptualized in the post-materialists’ rates recorded per country. The challenge of the articulation, on the electoral level, of the changes in the cultural and further political priorities that the ideological identification with the principles of ecologism entails, beyond just a general environmental concern, appears to be associated with those mobilized by the so-called post-materialist values.

Continuing our statistical analysis and according to Table 2, the degree of disproportionality in an electoral system cannot function as an adequate predictor variable for the formation of Green parties since it is only just statistically significant at the 0.05 level of significance. Hence, the role attributed to proportional representation electoral systems, pursuant to our second study hypothesis, as rather favourable to the creation of a Green party, is not confirmed.

Table 3. Testing Hypothesis 2

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Disproportionality	-0.1	0.04	[-0.18, 0.03]

Note: Number of observations= 208, Number of clusters= 18, Replications= 1,000

The Effective Number of Parties-measure is consisted as such of the Effective Number of Parties at the electoral and the legislative level. The output of the analysis will be presented separately. Table 4 displays Stata output for the Effective Number of Parties at the electoral level.

Table 4. Testing Hypothesis 3 with the Effective Number of Parties at the electoral level

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Effective number parties	0.42	0.02	[0.37, 0.46]

Note: Number of observations= 208, Number of clusters= 18, Replications= 1,000

In Table 5 the results of the analysis for the Effective Number of Parties at the legislative level are displayed.

Table 5. Testing Hypothesis 3 with the Effective Number of Parties at the legislative level

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Effective number of parties	0.5	0.04	[0.41, 0.59]

Note: Number of observations= 208, Number of clusters= 18, Replications= 1,000

As shown in Tables 4 and 5, the predictor variable Effective Number of Parties does make a statistically significant contribution to the model since for the 95 per cent confidence interval displayed, among the lower and upper values given, 0 is not included. Thus, both predictors are statistically significant. The latter indicates that our fourth hypothesis as regards to the impact of political competition in the formation of Green parties is to a large extent confirmed, although we should also take into account the data resulting from our other indicator

concerning political competition, the degree of polarization. Consequently, based on the current results, the fact of the increased potentials provided, under the arrangements governing a multiparty system, for the formation and emergence of several parties in the parliament denotes the ability of articulating interests and posing new issues or even renegotiating the ones already posed under new terms as well as a probable ideological repositioning away from the rationale of partisan loyalty and commitments.

The analysis output presented in Table 6 concerning the degree of polarization in a political system as a parameter of political competition suggests that the indicator variable could not be significantly associated with the formation of Green parties since for the 95.0% CI displayed for this variable includes 0, rendering the latter as statistically insignificant.

Table 6. Testing Hypothesis 3 with the degree of Polarization

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Polarization	-1.33	4.05	[-9.28, 6.62]

Note: Number of observations= 208, Number of clusters= 18, Replications= 1,000

In the following section of our analysis, I attempt to test any variation in the statistical significance of our independent variables when grouped in pairs always with respect to the dependent variable (“Green party creation”). The results of the aforementioned procedure are presented as follows:

Table 7. Variables in the Equation-Postmaterialism/Polarization

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Post-materialism	0.11	0.26	[0.06, 0.16]
Polarization	-4.14	2.86	[-9.73, 1.46]

Note: Number of observations= 161, Number of clusters= 18, Replications= 1,000

As indicated in Table 7, when I examine the creation of Green parties under the influence of both the proportion of postmaterialists and the degree of polarization, the results concerning the statistical significance of both predictor variables remain rather invariable. The independent variable *post-materialism* remains statistically significant in contrast to *pola* which is still statistically insignificant although there is a small differentiation recorded in the upper value given for the 95.0 % CI. If we attempt to interpret those results, we can argue that a polarized party system does not appear to have any affects neither in the ideological orientation of postmaterialists nor to a potential articulation of the interests of the latter into a new political party.

The results shown in Table 8, follow the same rationale as those in the previous table. The Effective Number of Parties at both the electoral and legislative level remain statistically significant, although there is a slight decrease recorded in the upper values of both given for the 95.0% CI, while the independent variable disproportionality is still insignificant. Given that, we can assume that the degree of “unfairness” characterizing an electoral system appears to partly affect but not to have a core influential role neither to the formation nor to the emergence of parties into parliament with further implications, thus, for the creation of Green parties. The prevailing electoral system may not significantly affect the formation of new parties but can pose serious constraints in the emergence of the latter in the parliament. Yet in our model its contribution, visualized in the degree of disproportionality characterizing the electoral systems of the countries in question, seems rather limited.

Table 8. Variables in the Equation-Effective Number of Parties/Disproportionality

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Effective number of parties (electoral level)	0.21	0.03	[0.14, 0.28]
Effective number of parties (legislative level)	0.23	0.02	[-0.18, 1.27]
Disproportionality	-0.06	0.05	[-0.16, 0.04]

Note: Number of observations= 208, Number of clusters= 18, Replications= 1,000

Finally, in Table 9, I examine the creation of Green parties under the influence of both the effective number of parties at the electoral level and the degree of polarization. As regards to the statistical significance of both predictor variables, the results indicate that they remain rather invariable, although there is a parallel slight increase and decrease recorded correspondingly in the upper values of both indicators given for the 95.0 % CI. We can claim that the more polarized the party system, the more constraints are posed with respect to the formation of new parties and the latter’s entrance in the parliament. Conversely, the more parties existing, the more decompressed the political environment becomes.

Table 9. Variables in the Equation-Effective Number of parties (electoral level)/Polarization

	Coefficient	Bootstrap Std. Error	Normal-based [95 % Conf. Interval]
Effective number of parties	0.46	0.06	[0.33, 0.58]
Polarization	-3.46	4.66	[-12.6, 5.66]

Note: Number of observations= 161, Number of clusters= 18, Replications= 1,000

In this part, logistic regression was performed in order to assess the impact of the above mentioned indicators on the likelihood that the formation of Green parties will be facilitated. The model included five independent variables (the proportion of postmaterialists, the degree of disproportionality, the degree of polarization and the effective number of parties analyzed

in the effective number of votes and the effective number of seats). As shown in Tables 1-6, when each indicator was examined separately, only three of the independent variables made a statistically significant contribution to the model (the proportion of postmaterialists, the effective number of votes and the effective number of seats). The stronger predictor contributing to the formation of a Green party was the effective number of parties at the legislative level. The confidence interval for this variable ranges from 0.4 to 0.58. At the second level of our statistical analysis, I examined the independent variables of the model as groups of two or three components (the proportion of postmaterialists and the degree of polarization, the effective number of votes and seats with the degree of disproportionality and the effective number of votes with the degree of polarization).

As shown from the results, in Tables 7-9, we can argue that a highly polarized party system poses indeed more constraints with respect to the formation of new parties and further the formation of a Green party. However, the fact of its insignificant influence in the ideological orientation of postmaterialists indicates that the degree of polarization that a party system displays will not function as a disincentive to a potential articulation of the interests of postmaterialists into a representative political party. With reference to the impact of electoral system to the development of new parties, it appears not to have a significant effect in the formation of new parties but can pose severe constraints in the emergence of the latter in the parliament.

7. DISCUSSION AND CONCLUSIONS

As advocated by Jonathon Porritt, the more people resist the inevitability of change, the less chance they have to accomplish such a goal in a democratic way. The uncritical adherence to the industrial model in the advanced western societies in the post-war era deemed to constitute the single way towards economic growth and progress showed its limits and, by the late 1960s, made the shift away from the prevailing policies and mindsets rather compelling. The rise of new social movements (NSMs), embedded in a broader spectrum of cultural change and socio-political protest that condemned the attachment to materialist aspirations, signalled the shift away from deeply conservative and reactionary practicalities and, progressively, lead to the emergence of new parties who could respond to the new challenges posed. The gradual change in value priorities towards the embracement of what Inglehart defined as "post-materialist" ones, supplemented by the increasing levels of environmental awareness under the influence of NSMs, are considered of predominant importance for the development of environmental and green parties.

Though, the explanatory power of the theory of post-materialism as regards to the rise of Green parties was regarded as inadequate by a number of scholars, especially when focusing on individual countries. They sought to enrich the initial concept by taking into account additional parameters, such as institutional factors, namely the electoral system, the degree of the central administrative structure and the terms of political competition in the countries under consideration.

Each of the above mentioned parameters, as part of the "political opportunity structure" framework, seems to be rather influential concerning Green party formation. Either facilitating or placing obstacles to a successful electoral performance of the European Greens, the impact of the latter factors should be observed as a whole, together with that of the popularity of environmental issues and concerns, in order to reach safe conclusions as regards to the variations detected when examining individual countries. As shown, in countries with federal constitutions and proportional representation systems it appears that the institutional framework is more conducive to the emergence of green parties and the development of advantageous relations between the Green parties and environmental movements than in states with aggregated majoritarian electoral systems.

In the present thesis, I attempted primarily to examine and further visualize the theoretical contribution of those factors perceived as crucial concerning the formation of Green parties in Western Europe, such as the level of environmental awareness, institutional factors and political competition, translated into numerical data by employing different indicators.

Environmental consciousness was measured as the proportion of postmaterialists in each of the 18 Western European countries I chose to study using the data deriving from the Mannheim Eurobarometer Trend File from 1970–1999, supplemented by the 1981–2008 European Values Survey and World Values Survey.

The impact of the *institutionalized political structures* was demonstrated through the observation of the electoral system impact in each of the countries in question which was, in turn, measured as the degree of disproportionality using data deriving from Michael Gallagher’s disproportionality index. In order for *political competition* to be measured, I used as indicators the degree of polarization existing in the party systems in question as introduced by Sartori supplemented by the Laakso and Taagepera (1979) effective number of parties index. For the above mentioned indicators, the data needed for the purposes of the present thesis were retrieved from the Data section of the “Parliament and government composition database” (ParlGov). I used the election results provided for the following countries Britain, Ireland, Belgium, Netherlands, Austria, Germany, Sweden, Denmark, Norway, Finland, Iceland, Switzerland, France, Italy, Spain, Portugal, Greece and Luxembourg, covering a time-period from 1970 to 2006.

In order for the impact of the above mentioned indicators on the likelihood of the formation of Green parties to be assessed logistic regression was performed. The model employs five independent variables, namely the proportion of postmaterialists, the degree of disproportionality, the degree of polarization and the effective number of parties analyzed both at the electoral and the legislative level. When each indicator was examined separately, only the proportion of postmaterialists and the effective number of parties made a statistically significant contribution to the model, with the effective number of parties at the legislative level proven to be the stronger predictor contributing to Green party formation. In the next section of the analysis, I tested the independent variables in groups consisted of two or three components (the proportion of postmaterialists and the degree of polarization, the effective number of votes and seats with the degree of disproportionality and the effective number of votes with the degree of polarization). According to the results, high levels of ideological distance between the parties within a party system do not facilitate the formation of new parties and thus, the formation of a Green party.

Notwithstanding, its insignificant impact in the ideological orientation of postmaterialists indicates that the degree of polarization a party system displays will not function as a disincentive to a potential articulation of the interests of postmaterialists into a representative political party. Concerning the appeal of the electoral system to the rise of new parties, it appears not to have a significant impact as to their formation but can pose severe constraints in the emergence of the latter in the parliament.

In conclusion, despite questioning Green parties as to their ability to represent an alternative political suggestion and gain a solid political status, it did not prevent several of those parties to become electorally competitive and even consolidate their position among the parliamentary parties. Paraphrasing the manifest of the German Green party *Die Grünen* in the national elections of 1983, the governing ideology of the Greens that rather managed to enhance their political presence, was acting according to what is considered right, without preoccupying the mind or soul whether this will succeed or not; otherwise, this will eventually result in acting in the wrong way and hence, become part of the illness and not the remedy.

APPENDIX 1: GREEN PARTIES PER COUNTRY, 1970-2006

Country	Year	Party name
Britain	1973	<i>People</i> (1985: <i>Green Party</i>)
Ireland	1981	<i>Comhaontas Glas</i>
Belgium	1980	French- speaking <i>Ecolo</i>
	1982	Flemish -speaking <i>Groen!</i> (formerly called <i>Agalev</i>)
Netherlands	1983	<i>De Groenen</i> (1990: <i>GroenLinks</i>)
Austria	1986	<i>Die Grünen – Die Grüne Alternative</i> or <i>Die Grünen</i> (The Greens – The Green Alternative)
Germany	1980	<i>Die Grünen</i>
Sweden	1983	<i>Miljöpartiet de Gröna</i>
Denmark	1989	<i>Socialistisk Folkeparti</i>
Norway	1988	<i>Miljøpartiet de Grønne</i>
Finland	1987	<i>Vihreä Liitto</i>
Iceland	1999	<i>The Left-Green Movement</i>
Switzerland	1983	<i>Grüne</i> (1983: <i>Federation of Green Parties</i> , 1991: <i>Green Party of Switzerland</i>)
France	1984	<i>Les Verts</i>
Italy	1990	<i>Federazione dei Verdi</i>
Spain	1992	<i>Los Verdes</i>
Portugal	1982	<i>Os Verdes</i>
Greece	1988	<i>Ikologiko kinima (Ecological Movement)</i> (2002: <i>Oikologoi Prasinoi (Ecologist Greens)</i>)
Luxembourg	1983	<i>Déi Gréng</i>

NOTES

1. Available at <http://www.eurogreens.org/cms>
2. Available at <http://parlgov.org/stable/data.html>
3. Available at <http://www.eurogreens.org/cms>
4. Available at <http://parlgov.org/stable/data.html>
5. Available at <http://www.eurogreens.org/cms>
6. Available at <http://parlgov.org/stable/data.html>
7. Available at <http://www.eurogreens.org/cms>
8. Available at <http://parlgov.org/stable/data.html>
9. Available at <http://www.eurogreens.org/cms>
10. Available at <http://parlgov.org/stable/data.html>
11. Available at <http://www.eurogreens.org/cms>
12. Available at <http://parlgov.org/stable/data.html>
13. Available at <http://www.eurogreens.org/cms>
14. Available at <http://www.eurogreens.org/cms>
15. Available at <http://parlgov.org/stable/data.html>
16. Available at <http://www.eurogreens.org/cms>
17. Available at <http://parlgov.org/stable/data.html>
18. Available at <http://www.eurogreens.org/cms>
19. Available at <http://www.eurogreens.org/cms>
20. Available at <http://parlgov.org/stable/data.html>
21. Available at <http://www.eurogreens.org/cms>
22. Available at <http://www.eurogreens.org/cms>
23. Available at <http://parlgov.org/stable/data.html>
24. Available at <http://parlgov.org/stable/data.html>
25. Available at <http://www.eurogreens.org/cms>
26. Available at <http://www.eurogreens.org/cms>
27. Available at <http://www.eurogreens.org/cms>
28. Available at <http://parlgov.org/stable/data.html>

REFERENCES

- Abramson, P.R. (2011). Critiques and Counter-Critiques of the Postmaterialism Thesis: Thirty-four Years of Debate. UC Irvine: Center for the Study of Democracy.
- Berry, W.D. (1993). Understanding Regression Assumptions. Sage University Paper series on Quantitative Applications in the Social Sciences, no. 07-092. Newbury Park, CA : Sage
- Beck, N., Katz, J. N., & Tucker, R. (1998). Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable. *American Journal of Political Science*, 42(4), pp. 1260-1288.
- Blau, A. (2008). The Effective Number Of Parties At Four Scales Votes, Seats, Legislative Power and Cabinet Power. *Party Politics*, 14(2), pp. 167–187.
- Bürklin, W. P. (1987). Governing Left Parties Frustrating the Radical Non-Established Left: The Rise and Inevitable Decline of the Greens. *European Sociological Review*, 3(2), pp. 109-126.
- Carter, N. (2007). *The Politics of the Environment: Ideas, Activism, Policy*. Cambridge : Cambridge University Press.
- Clark, J., & Diani, M. (1996). *Alain Touraine*. London: The Falmer Press.
- Converse, P. E. (2006). The nature of belief systems in mass publics. *Critical Review: A Journal of Politics and Society*, 18(1-3), pp. 1-74.
- Dalton. (1993). The Environmental Movement in Western Europe. In S. Kamieniecki, *Environmental Politics in the International Arena: Movements Parties Organizations, and Policy* (pp. 41-68). New York: State University of New York Press.
- Dalton, R. J. (2008). The Quantity and the Quality of Party Systems : Party System Polarization, Its Measurement, and Its Consequences. *Comparative Political Studies*, 41(7), pp. 899-920.
- Davis, J. A. (1996). Review Essay of Value Change In Global Perspective. *Public Opinion Quarterly*, 60, pp. 322-331.
- Downs, A. (1957). An Economic Theory of Political Action in a Democracy. *The Journal of Political Economy*, 65(2), pp. 135-150.
- Duch, R. M., & Taylor, M. A. (1994). A Reply to Abramson and Inglehart's "Education, Security, and Postmaterialism". *American Journal of Political Science*, 38(3), pp. 815-824.
- Dumont, P., & Caulier, J.-F. (2003). The “Effective Number Of Relevant Parties”: How Voting Power Improves Laakso-Taagepera’s Index. *Comparative Politics Center*, pp. 1-24.
- Dunleavy, P., & Boucek, F. (2003). Constructing the number of Parties. *Party Politics*, 9(3), pp. 291–315.

- Efron. (1979). Bootstrap Methods: Another Look at the Jackknife. *The Annals of Statistics*, 7(1), pp. 1-26.
- Efron, B., & Tibshirani, R. (1993). *An Introduction to the Bootstrap*. New York: Chapman & Hall.
- Evans, J. A. (2002). In Defence Of Sartori Party System Change, Voter Preference Distributions and Other Competitive Incentives. *Party Politics*, 8(2), pp. 155-174.
- Fotopoulos, T. (2000). Ριζοσπαστική οικολογία ή περιβαλλοντισμός;. *Ελευθεροτυπία*, 26 Φεβρουαρίου 2000
- Franklin, M. N., & Rüdiger, W. (1992). The green voter in the 1989 European elections. *Environmental Politics*, 1(4), pp. 129-159.
- Gallagher, M. (1991). Proportionality, Disproportionality and Electoral Systems. *Electoral Studies*, 10(1), pp. 33-51.
- Gemenis, K. (2009). A green comeback in Greece? The Ecologist Greens in the 2007 parliamentary election. *Environmental Politics*, 18(1), pp. 128-134.
- Golosov, G. V. (2010). THE EFFECTIVE NUMBER OF PARTIES A New Approach. *Party Politics*, 16(2), pp. 171-192.
- Guber, D. L. (2003). *The Grassroots of a Green Revolution: Pooling America on the Environment*. Cambridge: The MIT Press.
- Hino, A. (2006). *New Parties' Success in Western Europe: A Comparative Analysis*. Essex: University of Essex.
- Inglehart, R. (1971). The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies. *The American Political Science Review*, 65(4), pp. 991-1017.
- Inglehart, R. (1990). *Culture Shift in Advanced Industrial Society*. Princeton: Princeton University Press.
- Inglehart, R., & Abramson, P. R. (1994). Economic Security and Value Change. *The American Political Science Review*, 88(2), pp. 336-354.
- Inglehart, R., & Flanagan, S. C. (1987). Value Change in Industrial Societies. *The American Political Science Review*, 81(4), pp. 1289-1319.
- Inglehart, R., & Welzel, C. (2005). *Modernization, Cultural Change and Democracy: The Human Development Sequence*. New York: Cambridge University Press.
- Kaelberer, M. (1993). The Emergence of Green Parties in Western Europe. *Comparative Politics*, 25(2), pp. 229-243.
- Kaelberer, M. (1998). Party competition, social movements and postmaterialist values: Exploring the rise of green parties in France and Germany. *Contemporary Politics*, 4(3), pp. 299-315.

- Kischelt, H. (1993). The Green Phenomenon in Western Party Systems. In S. Kamieniecki, *Environmental Politics in the International Arena: Movements, Parties, Organizations, and Policy* (pp. 93-112). New York: State University of New York Press.
- Kriesi, H. (1995). The Political Opportunity Structure of New Social Movements: Its Impact on Their Mobilization. In J. Jenkins, & B. Klandermans, *The politics of social protest: comparative perspectives on states and social movements* (pp. 167-198). London: UCL Press.
- Laakso, M., & Taagepera, R. (1979). Effective Number of Parties a Measure With Application to West Europe. *Comparative Political Studies*, 12(1), pp. 3-27.
- Lago, I., & Martinez, F. (2011). Why new parties? *Party Politics*, 17(1), pp. 3-20.
- Lijphart, A. (1994). *Electoral Systems and Party Systems*. New York and Oxford: Oxford University Press.
- Lucardie, P. (2000). Profets, Purifiers And Prolocutors: Towards a Theory on the Emergence of New Parties. *PARTY POLITICS*, 6(2), pp. 175-185.
- Menard, S. (2001). Applied Logistic Regression Analysis. Sage University Paper series on Quantitative Applications in the Social Sciences, no. 07-106. Thousand Oaks, CA : Sage
- Molinar, J. (1991). Counting the Number of Parties: An Alternative Index. *The American Political Science Review*, 85(4), pp. 1383-1391.
- Müller-Rommel, F. (1990). 'New Political Movements and "New Politics" Parties in Western Europe'. In R. Dalton, & M. Kuechler, *Challenging the Political Order: New Social and Political Movements in Western Democracies*. New York: Oxford University Press.
- Müller-Rommel, F. (1998). The new challengers: greens and right-wing populist parties in western Europe. *European Review*, 6(2), pp. 191-202.
- Neto, O. A., & Cox, G. W. (1997). Electoral Institutions, Cleavage Structures, and the Number of Parties. *American Journal of Political Science*, 41(1), pp. 149-174.
- Offe, Claus (1974) 'Structural Problems of the Capitalist State', in Klaus von Beyme (ed.), *German Political Studies*, vol. I, London: Sage, pp. 31-57.
- Pennisi, A. (1998). Disproportionality indexes and robustness of proportional allocation methods. *Electoral Studies*, 17(1), pp. 3-19.
- Poguntke, T. (1987). New Politics and Party Systems: The Emergence of a New Type of Party. *West European Politics*, 10, pp. 76-88.
- Rohrschneider, R. (1993). Environmental Belief Systems in Western Europe A Hierarchical Model of Constraint. *Comparative Political Studies*, 26(1), pp. 3-29.

- Rootes, C. (1995). Environmental consciousness, institutional structures and political competition in the formation and development of Green parties. In D. Richardson, & C. Rootes, *The Green challenge: the development of Green parties in Europe* (pp. 170-184). New York: Routledge.
- Rossteutscher, S. (2004). Explaining politics: An empirical test of competing value measures. *European Journal of Political Research*, 43, pp. 769–795.
- Rudig, W. (1985). The Greens In Europe: Ecological Parties. *Parliamentary Affairs*, 38(1), pp. 56-72.
- Sartori, G. (1976). *Parties and Party Systems: A Framework for Analysis*. Cambridge: Cambridge University Press.
- Selb, P., & Pituctin, S. (2010). Methodological Issues in the Study of New Parties' Entry and Electoral Success. *Party Politics*, 16(2), pp. 147-170.
- Taagepera, R., & Grofman, B. (2003). Mapping the Indices of Seats–Votes Disproportionality and Inter-Election Volatility. *Party Politics*, 9(6), pp. 659-677.
- Tarrow, S. (1994). *Power in Movement: Social Movements, Collective Action and Mass Politics*. Cambridge: Cambridge University Press.
- Tavits, M. (2006). Party System Change : Testing a Model of New Party Entry. *Party Politics*, 12(1), pp. 99–119.
- Todosijević, B., & Enyedi, Z. (2003). Structure versus culture again: Corporatism and the 'new politics' in 16 Western European countries. *European Journal of Political Research*, 42(5), pp. 629–642.
- Tranter, B., & Western, M. (2009). The influence of Green parties on postmaterialist values. *The British Journal of Sociology*, 60(1), pp. 145-167.
- Van Liere, K. D., & Dunlap, R. E. (1980). The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence. *The Public Opinion Quarterly*, 44(2), pp. 181-197.
- Warwick, P. V. (1998). Disputed Cause, Disputed Effect The Postmaterialist Thesis Re-Examined. *Public Opinion Quarterly*, pp. 583-609.