The green formula

Key underlying factors for success of a green party

Karl Holmberg

Abstract

This thesis tests, using quantitative methods, how four factors, namely frequency of post materialism, electoral system, party competition and nuclear power, affect and potentially explain the success rate of green parties through share of electoral support and share of parliamentary representation. The aim is to map out good and bad conditions for a green party to succeed on a transnational basis. The results suggest that post materialism plays a relatively large role in explaining success rates. Electoral system and party competition are also believed to play a part in the outcome. Nuclear power seems to, according to the tests, have a rather limited role, if any, in explaining the success of green parties. The type of data that is used heavily affects the result, therefore different types of data are presented and a discussion follows on how one can interpret the different results.

Key words: green parties, green politics, post materialism, electoral system, party competition
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1 Introduction

At the end of the 1970's a new party family sprung to life which mostly emphasised the environment but also other key values, to various degrees, such as pacifism, feminism and cosmopolitanism. This family of parties with the environment as their focus is what we today call green parties (Gallagher et al. 2011, p.250-252). In the beginning the greens emerged in countries such as Germany, Australia and Switzerland (Carter, 2007, p.88), but during the 1980's and 1990's the greens continued to spread to other countries, mainly in Northwestern Europe and in the Anglosphere. I find this development and the following increase of support for the greens an interesting phenomenon to examine and it is therefore my intention to analyse this issue in the thesis. Hence I will focus on some key factors for the increase of electoral support for a green party. What are the key factors that explain the success of green parties in countries such as Austria and Germany and why do we not see the same degree of success in countries such as Romania or the USA? Is it in this way possible to find a magic formula for a green party and what, in that case, are the key ingredients for the formula? This leads us to the research problem formulated into one question which I aim to answer:

> ➢ Why do the greens succeed in some countries but not in others?

1.1 Incentive and research difficulties

To address the bulk of questions that follows my research problem for the thesis, I will use a quantitative method. The plan is to include key explanatory variables that in some way are measurable. The variables will be substantiated through theory to assure causality to the dependent variable 'degree of party success'.

I will emphasise variables that can explain structural patterns. I hope to be able, with the help of these variables, to map countries by favourable and unfavourable conditions for success. However, there is a weakness in the research question; it is relatively wide which could lead to diverse interpretations. But there will also be explanatory factors that are difficult to include, as it is impossible or arbitrary to set quantitative values for the factor and therefore impossible to include it in the quantitative research. Therefore, it will be important to take these difficulties into account.

The question itself is interesting, as during my research I have not come across a similar question answered using this type of method. Instead most of the academic work that I researched uses a qualitative method and consequently

included a smaller number of countries in its analysis. This applies to for example Jon Burchell's evaluation of green parties in: *The Evolution Of Green Politics: Development And Change Within European Green Parties.* The multivariable and comparative aspects of my analysis in this paper will therefore hopefully contribute to a rather small field.

2   Theory

I will in this section present the necessary theories that explain and focus on general patterns for success of a green party and thereby find the underlying variables, which could explain the green parties' base of core voters. What make the greens in Northwestern Europe thrive and more or less easily secure parliamentary seats, whilst in Eastern and Southern Europe is very hard for the greens to secure any parliamentary seats?

2.1   What is a green party?

The green parties are a party family which is considered to be centre to centre-left since the ideology aims to find a way to progressively change our way of living. As a consequence the natural coalition partner for the greens over the years has become social democratic parties rather than conservatives or liberals (Gallagher et al. 2011, p.299). However, there still exist examples of green parties leaning more towards liberalism and the centre-right. A common slogan that the greens themselves often use is 'not left, not right, but out in front'. This slogan exemplifies the typical critique from the Greens that classical ideologies have become too anthropocentric and therefore do not look at the whole picture. Thus greens often argue that the classical ideologies focus too much on humans and the goals of our species, such as prosperity, welfare and economic growth at the expense of nature and biodiversity that due to this standpoint have taken a huge hit (Carter, 2007, p.15, 66-67). The Greens believe that this development is very risky as we as a species are heavily dependent on nature, some greens do even argue that we have a moral obligation towards other species.

    The central aspect of the green political thought is environmental protection and the idea of coexistence with nature. However there are other aspects which are also important. The most significant aspects are the decentralisation approach and scepticism towards the economic order of growth (Carter, 2007, p.42). Elements of non-violence/pacifism, direct democracy/grassroots democracy, feminism, cosmopolitanism and social justice issues have also been adopted, to a differing degree, by most of the green parties in the world (Carter, 2007, p.48). In general, greens also believe that the control of technology is necessary for effective environmental protection. This corresponds to the ambivalent relationship greens have to technology in situations where environmental problems could be blamed on technological inventions such as chemicals, plastics and the combustion engine or where there is a natural scepticism towards some technologies such as GMO's and nuclear power. Nonetheless the bulk of the

greens see the solution in technological progress through the development of technologies such as wind and solar power, electric vehicles etc. (Carter, 2007, p.49).

There are several different shades of the green ideology and thereof green political parties policies, and as with many other ideologies the green ideology can be divided into a more radical branch and a reformistic/realistic branch. This divide within the green sphere is often termed the fundis (fundamentalists)/realos (realists) divide, derived from the German green party; Bündnis 90/Die Grünen, internal division (Carter, 2007, p.118-119).

To draw a valid demarcation I will focus on parties that are strictly green and consequently exclude cases of semi green parties such as the green-conservative party alliance Union of Greens and Farmers in Latvia, which in many cases emphasises conservatism and nationalism rather than typical green party issues (Auers, 2012, p.525), or the Danish green-socialist party Socialist's Peoples Party which has a mixed agenda of green politics and socialism. Both the Danish and the Latvian examples are cases of parties with a lesser degree of green ideology and emphasis on the environmental issue but with a membership in the European green party. There are also cases of semi-green parties, such as the Icelandic Left-Green Movement or the populistic Five Star Movement in Italy, which do not belong to the European Green Party group. This irregularity could become a problem but my ambition is to solve this by taking on a more strictly clear-cut definition of a green party. The Comparative Political Data Set (CPDS) that I use as a basis of information in this thesis does this with a high degree of regularity and I have therefore used their party family definition as a base but with small modifications. These modifications will be explained later in the methodology section.

2.2 Patterns for success

The field might have hit an ageing breeze since not much seems to have happened in the field for quite some time; the most updated book that I have managed to find which concentrates exclusively on green party politics is Jon Burchell's *The Evolution Of Green Politics: Development And Change Within European Green Parties* from 2002 and a lot has happened since. The overall view seems to be that the main general factors for success of parties such as the greens have been thoroughly studied and as a result, research in the field appears to have stagnated. My ambition is therefore to make a solid quantitative study that tests the explanatory factors that are most frequently mentioned in literature and are quantifiably in different contexts i.e. countries.

During my research I have stumbled upon four factors that often occur in the literature connected to underlying circumstances for green parties. The factors are easy to quantify and thus makes them suitable for a quantitative research. The reason why I intend to evaluate the phenomenon only using these four variables is because I want to make the analysis comprehensible for the reader and I aim to

focus on the transnational patterns rather than the fluctuation in election results which makes these factors suitable. The factors are:

1. Materialists and post materialists among the population
2. Electoral system – Plurality or multiparty
3. Party competition
4. Nuclear power

2.2.1   Green parties and the post materialistic voter

Ronald Inglehart is a renowned American political scientist who is famous for his project, the World Value Survey, and his development of the materialist-post materialist value index. It started when Inglehart pointed towards a changing pattern of values following the social changes of the 1960's, in his 1977 book 'The Silent Revolution'. Inglehart claimed to have observed a new rising cleavage that he called the materialist/post-materialist cleavage. Inglehart's theory was that the cleavage emerged in the western world, where the new economically safe middle class of the 1960's started to emphasise 'esthetical' values, peace and different types of justice issues such as feminism, anti-racism and anti-imperialism over traditional values of national defence, security and economic issues which up to that point had been at the centre of the political debate. The shift did not happen over a night and Inglehart also pointed out the big difference between age groups: the young were at the forefront of this shift in values, whereas the older generation still held on to their materialistic values (Inglehart, 1977, p.31-33). Inglehart then linked this to another interesting aspect of the issue, namely that the change seemed to be mainly driven by the middle class and not the working class who traditionally might be a key group for social change (Inglehart, 1977, p.285). Inglehart explained this by Maslow's hierarchy of needs where he put materialistic values at the bottom of the hierarchy. Security comes before belonging and self-expression, as if you do not need to worry about every day security you would then focus your attention into other types of questions and post materialistic values become important for you (Dalton, 2008, p.81-83).

The fact that the post materialistic voters, who in general were a group urging change, mainly came from the middle class might be a factor in undermining the left-right cleavage which up to now is relatively centred around economic factors. Inglehart also pointed out that these middle class voters in 1977 did not necessarily vote left but did in general considered themselves as left-leaning (Inglehart, 1977, p.70), a centre position which today is often associated with the green parties.

The environment entered the agenda during the late 1970's and the 1980's. Scientists started to pay attention to the problem of the environment and revealed that our way of living could be a threat to both the local and the global environment. As a reaction to the new problem a new party family, the greens, sprung up, beginning in mainly the developed world. The greens developed separately in different countries but had much in common, such as their anti-

nuclear approach, worries about the environment, as well an emphasis on peace and LGBT-rights, which is typical of the post materialistic approach. The post materialistic middle class voters of the 1960's, that Inglehart had talked about some years earlier, were later pouring into the ranks of the new green party family who emphasised issues not traditionally connected to the economic left-right spectrum but rather individual rights, environment, feminism, direct democracy and a global approach to politics. With a big dose of new political issues and a critique of older political structures and ideologies, the greens were growing in many countries and saw its first members of parliaments in mainly Northwestern Europe in the beginning of the 1980s (Carter, 2007, p.89). The greens are today seen by many as a post materialistic party family and it seems like its origins could be traced back to the change of values of the 1960's brought up by Inglehart. Inglehart and Dalton did as well later connect the new cleavage to the development of the green party family (Dalton, 2008, p.162) (Gallagher et al. 2011, p.298-299).

Therefore, if we want to understand the success of green parties it appears to be essential to ask how post materialistic the population of that particular country is. It is not a coincidence that the greens have had a great success in Northwestern Europe. The loosening up of traditional structures such as religion and class affiliation during the same time that we saw a rapid rise in living standard brought new types of values to notable parts of the population in this region (Dalton, 2008, p.166-168). The rapid rise of the standard of living in the region begun directly after World War II and the region has since been one of the top in the world in terms of standard of living, including relatively high equality, strong individual rights, high general income, freedom of expression, good education and a large middle class, which in turn have paved the way for other types of values.

This scenario is not unique to Northwestern Europe but can also be found in foremost the Anglo-Saxon world. This leads us to another key variable for a green party success, electoral system.

2.2.2   Electoral system

Whilst we in Northwestern Europe typically use proportional representation, the classic electoral system in the Anglosphere, with some exceptions like New Zealand and Ireland, is plurality formula based, known as 'first past the post' in Britain (Lijphart, 2012, p.132-133).

The plurality formula heavily discriminates against smaller parties, making it very hard for upcoming parties to win any seats in the parliaments as they need to win more votes than the other parties in a particular region, and this therefore often favours two big parties who compete for power (Lijphart, 2012, p.14, 36)(Dryzek, 2013, p.221). In countries with the plurality formula there is therefore traditionally a tendency of voting for candidates of two major parties, e.g. Labour and Tories in the United Kingdom or The Democrats and The Republicans in the United States (Lijphart, 2012, p.74-75). However, electoral systems can differ a lot from one another, affecting the outcome of an election. In Australia for

example, the greens have had quite great success in the recent elections winning the trust of around 10% of the electorate even though the country uses the plurality system (Miragliotta, 2013). This could be partly explained by the special electoral system that Australia uses for the lower house called 'Alternative vote' (Lijphart, 2012, p.133). It allows voters to grade different candidates until one candidate at the highest possible level of preference has an absolute majority (Lijphart, 2012, p. 134). This in turn leaves space for a relatively high share of votes for the green party candidates in the first round, despite a poor result for the greens in parliamentary representation due to the pluralistic outcome of the electoral system. Considering this, it all depends on how the concept of 'success' is defined, which later will be discussed.

2.2.3 Party competition

Party competition is naturally an important aspect of a party's success as it is a factor that often helps explaining the political landscape. Greens in general takes a position in between christian democratic parties and social democratic parties and thus probably compete with those two party families in a higher degree than say clear-cut conservative or communistic parties, a stance that Inglehart also argues (Dalton, 2008, p.162). However, if liberal or leftist parties emphasise post materialistic values and the environment these two party families are likely to be an even greater threat to a green party, as they have more in common and therefore attract the same type of voter (Carter, 2007, p.108-109) (Gallagher et al. 2011, p.263). Carter also points to this factor as being important in explaining the absence of or a lower degree of success for greens in countries such as Norway, Denmark and the Netherlands, even though these countries have a high degree of post materialists (Carter, p.106-108).

Liberal parties can under certain circumstances take a position not far away from a typical green positioning in party politics. This applies in particular to social liberal parties present in countries such as Denmark, the Netherlands, Norway and UK (Gallagher et al. 2011, p.263). In opposition to more classical fiscal oriented liberal parties, social liberal parties tend to emphasise social rights and environmental issues to a higher degree (Gallagher et al. 2011, p.263). Another party family similar to the social liberal parties are agrarian parties. Agrarian parties, similarly to liberal parties, do however differ a lot from one another; while the agrarian parties in the Nordic countries have traditionally taken a more social liberal stance (Gallagher et al. 2011, p.264-265), agrarian parties in other parts of the world are often considered to be somewhat conservative. These parties are to the right of the greens but do traditionally highlight environmental issues to a large extent. This could be seen in for example in Latvia and Lithuania where the greens have formed a coalition with the agrarian forces. Also in Sweden and Finland, the agrarian parties have a long tradition of highlighting environmental issues (Gallagher et al. 2011, p.264-265).

Since green political thought is often considered to be centre to centre-left we can often observe similar parties on the left side of the spectrum and there do exist

straight forward left green parties who combine green political thought with socialism. This is true for the green communist coalition in Portugal or the Left-green movement in Iceland. The competition that greens often meet therefore often comes from the left, especially if the left have taken a more modern, new left/left-libertarian stand where post materialistic values are highly present but, unlike traditional left, reject authoritarian and bureaucratic statist solutions (Carter, 2007, p.108). This applies mainly for left parties in Nordic countries (Gallagher et al. 2011, p.250) but competition from the left also comes from left parties in southern Europe since the green parties in these countries often takes a clearer left positioning, and in many cases collaborate with parties to the left in electoral alliances.

2.2.4 Nuclear power and the green movement

New social movements (NSMs) are often mentioned by literature as an important factor for the success of green parties (Carter, 2007, p.91). There is however one new social movement that seems to have played an even greater role in the development of green parties, namely the anti-nuclear movement. Which in many countries played a part in the foundation and early development of the green parties, especially in the 1980s (Burchell, 2002, p.56, 64, 70) (Kitschelt, 1988, p.209) and anti-nuclearism is still a very present question in green party politics. We can for example point towards the Nordic countries as an example which has a lot of similarities but where the greens have had a greater success in Finland and Sweden. The main difference is hypothetically that Finland and Sweden are the only two Nordic countries with nuclear power. Nevertheless, this factor does probably play a smaller part in explaining the success of a green party. We can for example point towards Austria where the greens have had a great success in securing both votes and parliamentary seats but where nuclear power is non-existent.

2.2.5 Summary

This leaves us with the following four major explanatory factors:
1. Materialists/post materialists amongst the population → Dalton and Inglehart speak about the correlation between growing support of post-materialist values amongst a population and the resulting rise of green parties.
2. Multiparty/plurality electoral system → Greens as a small party arguably have a considerable smaller chance of gaining parliamentary representation in plurality electoral systems compared to proportional electoral systems.
3. Party competition → Parties close to the green ideology and green values compete with the green parties in a higher degree than other parties and therefore pose a greater threat to the success of solely green parties.
4. Nuclear power → The anti-nuclear movement was a factor in the establishment of green parties. Countries without nuclear power potentially therefore lacked this foundation stone.

My hypothesis with these theories in mind is that by analysing the frequency of post-materialistic voters within a country, the electoral system, party competition and including the variable 'nuclear power country', I can get a general pattern for a favourable/unfavourable situation for a green party. Furthermore, it is my hypothesis that there is a higher degree of post materialists in Northwestern Europe and the Anglosphere but that the election system in the Anglosphere hampers its green parties. Iceland, Denmark and Norway should under these conditions provide a fair chance for a success of a green party, however these countries lack nuclear power and have a high degree of party competition amongst parties that emphasise similar issues but cannot be categorized as solely green.

By looking into these factors I will therefore hopefully get a general pattern and be able to explain why the green parties succeed in for example Austria but are not as successful in Norway or Greece.

2.3 Isolation of the phenomenon

2.3.1 Post materialism and the surrounding terminology

The phenomenon of post materialism is mentioned in literature under different circumstances and names. *Post materialism* is heavy related to *post modernistic* thought. *New social movements* (NSMs) on the other hand often circulate around post materialistic values. In politics, *new left* parties, also called *left-libertarian* parties, often have post materialistic values as their core principles. The different meanings and expressions of post materialism are important to keep in mind whilst reading this thesis.

2.3.2 Demarcation of countries

The countries included in the research are divided into regions as follows:
Region 1: Anglosphere → Australia, Canada, Ireland, New Zealand, United Kingdom and United States
Region 2: Northwestern Europe → Austria, Belgium, Denmark, Finland, Germany, Iceland, Luxembourg, the Netherlands, Norway, Sweden and Switzerland
Region 3: Southern Europe → Cyprus, Greece, Italy, Malta, Portugal and Spain
Region 4: Eastern Europe → Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia
Region 5: France (mixed case)
Region 6: Japan

I have decided to focus mainly on European countries within the European Union and EFTA since extensive statistical information can be collected about these countries due to projects like the Eurobarometer and institutions like Eurostat which provides extensive statistical materials. I have also decided to include countries with a long tradition of democracy and a high living standard such as Canada, USA, Japan, Australia and New Zealand. The selection of countries is mainly based on the suitability for data collection e.g. the CPDS dataset includes precisely these 36 countries. The group dividing is used to create a better overview of regional patterns based on general cultural differences. It is for example believed that Eastern European countries have some common political similarities that differ from many other areas such as Northwestern Europe countries based on cultural differences. It is important to not only look at countries and cultural contexts where we can find similarities in the dependent variable but also where we can see the opposite effect, which is easily forgotten in comparative studies (Geddes, 1990, p.132), it is for this reason important to also include countries from for example Eastern Europe where the greens have not been as successful.

2.3.3 Demarcation of elections

There are green parties which have seen a great success in some regional and local elections, such as the German greens in the region of Baden-Württemberg who this year managed to pull more than 30% of the electorates in the region, a spectacular result for a green party (Der Spiegel, 2016). This is interesting but due to the size of the task and my aim to examine transnational and cultural differences and to exclude eventual spurious variables, I have decided to focus on parliamentary elections on national level.

I will also focus on those elections that are most similar to a conventional parliament i.e. the lower house, and therefore exclude elections of senate-like region representative parliaments, such as the Bundesrat in Germany and the Senate of Australia and United States. The same method has been used by for example the CPDS dataset.

2.3.4 Success

What is a success for a green party? Success for a green party could mean share of votes, number of parliamentary seats or other parties' implementation of a green agenda. I will in this thesis concentrate on vote share and parliamentary representation as variables of success since these two factors might be the most classical examples and easiest to measure when we talk about party success; the same two variables is included in the CPDS dataset.

2.4   Critique

Like most political science research, theories are rarely bulletproof and there are often examples which deviate from the rest. For example there is a dispute about whether the environment really is a problem that only attracts post materialists and if it is a post materialistic problem at all (Carter, 2007, p.96-99). It is likely that as an environmental problem becomes more acute it becomes less post materialistic because it is more likely to affect the day to day life of an average citizen. For example, if your drinking water is polluted you will still regard it as an important issue if you hold post materialistic values or not. These could be factors that diminish the connection between post materialistic values and green party preference.

Electoral system, party competition and nuclear power are also imperfect. How do I determine if a party is a competitor to the greens? How important is really nuclear power as a factor for the development of a green party? These and many other questions are something that I will have to do my best to tackle. It is therefore important to be clear and consistent in my judgement and research.

The four variables mentioned above are of course not the only factors which could help determine 'green party success'. It is therefore important to have in mind the following explanatory factors that I have excluded in this thesis, either because the connection between the variables and the transnational pattern that I am in search of is vague, there is a lack of space or data, or they are simply hard or impossible to measure:

1. Charismatic leadership
2. Credibility of the party
3. Scandals within the party
4. Party structure, realos/fundis control (inside issues)
5. Public opinion of the old administration, scandals by the previous government
6. Global and regional environmental events
7. Being in opposition/government
8. Main subjects in the preamble of the election

The factors above could be a problem since they probably explain in part a green party's outcome. The exclusion of these factors will therefore probably lower the reliability of the study (Teorell – Svensson, 2007, p.58).

3   Methodology

In this section I will present and justify my use of method and explain the principles of my data collection.

3.1   Quantitative analysis

I have decided to use a quantitative method as it is appropriate for the broad nature of the research problem. My explanatory variables have been measured with the help of several different quantitative datasets, databases and books that provide data. Data is available from the period 1990 to 2016.

3.1.1   Data collection

Data has been collected from the following sources:
1. Election data was collected mainly from the Comparative Political Data Set (CPDS) which I have also used as the base for my dataset. Election data includes share of the votes and share of parliamentary seats. Additional data has been collected with the help of *Elections in Europe: a data handbook* edited by Dieter Nohlen and Philip Ströver in 2010 and the fifth edition of *Representative Government in Modern Europe* written by Michael Gallagher, Michael Laver and Peter Mair in 2011.
2. Data about the materialistic / post-materialistic values has been collected using the World Value Survey indexes, an initiative by Ronald Inglehart. Additional data has been collected through the Eurobarometer 69 report, conducted on behalf of the European Commission.
3. Data about type of election system has been collected using the Comparative Political Data Set. The theory about its effect on green parties and additional data has been researched in *Patterns of Democracy* written by Arendt Lijphart in 2012.
4. Data about party competition is mainly based on the values given by the Manifesto Project Database (MPD). MPD collects its data, for example about the position on the political spectrum and the emphasis on the environmental issue of different parties, based on their election manifestos. Additional data has been collected with the help of literature.
5. Data about dependency of countries on nuclear power and their current status was found via the International Atomic Energy Agency' (IAEA) *Nuclear*

power Reactors in the World report from 2015. The IAEA is a UN organisation.

3.1.2   Measuring post materialism

One of the key explanatory variables that have been used to explain the dependent variable 'green party success' is 'the frequency of post-materialistic values amongst the population'. I have measured this by counting proportional frequencies of post materialists using datasets provided by World Value Survey and the Eurobarometer.

Inglehart's 4-item post-materialist index is based on four issues that the respondent grades from most to least important (Inglehart - Abramson, 1999). These issues are:

1. Maintaining order (materialistic)
2. Giving people more say (post materialistic)
3. Fighting rising prices (materialistic)
4. Protecting freedom of speech (post materialistic)

Depending on how the respondent grades the different alternatives the respondent is then categorised as a materialistic, mixed or post materialistic individual and by this you get an overview of the situation in a country. However the data that I have found has not been as extensive as I had hoped for and I lack some data regarding this aspect from some countries. I have tried to solve this through interpolations and extrapolations in the time series, a valid method where you formulate new values where values are missing in relation to the previous values that already exist in the time series. I do for example have a lot of data from 2008 and I will therefore extend this data to the surrounding years since there probably would not have been a great difference if the data was collected in 2006 instead, for example. The amount of missing answers on the question varies greatly. Japan for example stands out in this respect, and this effects the distribution since the total number is counted as 100% and missing answers count for a part of this. I have therefore proportionally distributed the missing answers amongst the other three categories; materialist, mixed and post materialist. If this is not done the result would give a misleading picture of the situation. I have thereafter divided the category 'mixed' in two and given the categories materialist and post materialist one half each. The total value given to the two categories could be interpreted as an overestimation since a large proportion is considered to be mixed. However, this is done to make the overview and comparison simpler. A chart follows to illustrate how the values have been calculated; the values in the example are from Japan 2010-2013 (WVS).

Chart 3.1: Calculation of the materialist/post materialist divide

	Materialists	Mixed	Post materialists	Missing
Original values	19,3	53,1	6,6	21
First recalculation of the values	24,4	67,2	8,4*	-
The values used in this thesis (second recalculation)	58,0	-	42,0*	-

* An equal distribution of the missing values weighted to the other values

$$\left(\frac{6,6}{19,3+53,1+6,6}\right) * 21 = 1,8 \quad 6,6 + 1,8 = 8,4 \quad (8,4 = new\ post\ materilaistic\ value)$$

** A split of mixed into the two categories

$$\left(\frac{67,2}{2}\right) + 8,4 = 42,0\ (42,0 = final\ post\ materialistic\ value)$$

When data from the same year is provided by Eurobarometer and the World Value Survey, I have used the result from the World Value Survey since the bulk of the information is collected from that source. However the data can in some cases differ a lot. For example, the 2008 data for Italy from Eurobarometer gives Italy an average post materialistic value and the World Value Survey gives Italy a relatively high post materialistic value. This is a weakness in the collected data and the data in itself is probably not bulletproof and potentially does not correspond perfectly to reality. This is shown not least in the cases of Austria, Belgium and Luxembourg. The Eurobarometer gives these countries a relatively low post materialistic value even though the theory suggests a higher value and the neighbouring countries have a much higher degree of post materialists. This affects the result to a high degree, so in the analysis I have therefore presented different data to try to correct this and point out the difficulties of the data. I have presented these values in the table below to highlight this problem.

Chart 3.2: Problematic variables

Country	Original data of post materialism	Adjustment to neighbouring countries	What theory suggests
Austria	38,4	50,3 (DE and IT)	>55
Belgium	37,0	46,5 (FR and NL)	>55
Luxembourg	37,2	47,8 (DE and FR)	>55

DE: Germany, IT: Italy, FR: France, NL: The Netherlands

3.1.3 Categorisation and classification

To be able to analyse the different variables it was necessary to classify them in a suitable way. I have relied heavily throughout on previous classifications created by, for example, the Manifesto Project Database and the Comparative Political Data Set. However their classification of, for example, party families are not exactly the same and in some cases the classification does not in my view respond to the reality. I have therefore, with the support in literature, rebranded some parties into different party families. This applies to, for example, 'The women's list' in Iceland, which was categorised as environmental in the CPDS dataset but rebranded as feminist by me, or the 'Youth Party – European Greens' in Slovenia, categorised as a single issue party in the CPDS dataset but categorised as green by me and the MPD dataset. I have throughout my work heavily relied on the codebook from the COMPARATIVE POLITICAL DATA SET 1960-2013 and, with the exception of some party families which have been changed, I have not made many modifications to the codebook's interpretations.

My intention is to both present all data but also present the data which corresponds to reality as precisely as possible. It could therefore also be a good idea to exclude outliers i.e. extreme cases that do not follow the trend. By doing that we will probably get a more accurate result but the intension is to present both of the results.

I have, in order to present the different types of data, created three datasets:
1. Dataset 1 includes every type of relevant data on a yearly basis and covers data from 1990-2013.
2. Dataset 2 is the same structure as dataset 1 but excludes outliers i.e. extreme cases that do not follow the trend.
3. Dataset 3 excludes outliers and includes new aggregated values for Austria, Belgium and Luxembourg based on the neighbouring countries, and is based on country's mean values for decades, i.e. instead of counting values on a yearly basis the data has been collected based on decades. This is all done as an attempt to exclude spurious connections and other explanatory variables. However, the validity of the data will probably to some extent fall due to this. The data covers the period 1990-2016.

3.1.4 Electoral system, party competition and nuclear power

Electoral system, party competition and nuclear power are qualitative values. In other words, they are coded as non-scale categories in this dataset. The categories are coded as following:
- Electoral System:
  0. Plurality formula electoral system (first past the post)
  1. Semi proportional electoral system
  2. Proportional electoral system
- Party competition:
  0. Competition from two similar parties or more, from both left and right

1. Competition from one similar party, from left or right
2. No competition from a similar party
- Nuclear power:
0. Country X does not have any nuclear power
1. Country X does in some degree depend on nuclear power

Party competition will be comprised of parties with substantial support. Similar parties with a very low share of support ($<2\%$) will therefore not be included. This is done to exclude cases of similar parties with little support which therefore do not greatly affect the support of the greens. Party competition is in itself a qualitative factor. I have therefore during this work done a qualitative judgement of what types of parties qualify as being a similar party. This has been done with the help of literature and party classifications in for example *Representative Government in Modern Europe* by Gallagher, Laver and Mair. The parties have foremost been parties which emphasise environmental issues and are social liberal, Nordic agrarian, semi-green or new left/left libertarian in their agenda.

3.1.5 Statistical methods

I have in my analysis mainly used regression analysis in order to find different types of relationships and causalities. It is therefore an advantage that I am not using more than four explanatory variables, as too many variables could make the result of the regression analysis unclear and unintelligible. (Teorell – Svensson, 2007, p.202). I have as an explanatory feature for the regression analysis used the adjusted R square value to a great extent (Teorell - Svensson, 2007, p.201).

The R square value is called the coefficient of determination and it tells you roughly how much of the variance in the result can be explained by the explanatory factors, in other words how strong the connection is between the dependent and independent variables (Teorell – Svensson, 2007, p.174-175). When multiple regression analysis is used as I intended to do in this thesis, it is the adjusted R square value that is of importance, which is an adjustment to take the multiple variables into account in the calculation (Teorell – Svensson, 2007, p.201). The B-coefficient (B-value) is also an important value to take into consideration; it tells us how important each of the independent coefficients are in explaining the dependent variable. The significance values (Sig.) of the B-coefficients is also an important indicator, it determines if there is causality between variable X and the dependent variable 'green party success'. If we get a significance value that is (Sig. $< 0,05$) i.e. less than 5%, we can by a 95% certainty say that the independent variable play a part in explaining the outcome of the dependent variable. If the (Sig. $< 0,01$) we can by a 99% degree say that the variable play a part in explaining the dependent variable (Körner – Wahlgren, 2006, p.194).

I have also used graphs such as scatter plots, charts and diagrams in order to visualise the result and make the phenomenon more comprehensible for the reader.

4　　Result

4.1　　Descriptive statistics

To make the results a bit clearer I will in this section present some descriptive statistics from the two main datasets; dataset 1 and 3.

4.1.1　　Green parties - share of votes from election results

Chart 4.1: Share of votes (dataset 1)

Share of votes rounded to the nearest whole percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,025	62	7,3	17,4	17,4
	,035	32	3,8	9,0	26,3
	,045	44	5,2	12,3	38,7
	,055	41	4,8	11,5	50,1
	,065	36	4,3	10,1	60,2
	,075	51	6,0	14,3	74,5
	,085	23	2,7	6,4	81,0
	,095	29	3,4	8,1	89,1
	,105	14	1,7	3,9	93,0
	,115	17	2,0	4,8	97,8
	,125	1	,1	,3	98,0
	,135	3	,4	,8	98,9
	,145	4	,5	1,1	100,0
	Total	357	42,2	100,0	
Missing	System	489	57,8		
Total		846	100,0		

As seen in chart 4.1 above, there are 846 cases included in the dataset. Cases should be understood as years from 1990-2013 in 36 different countries. 'Missing' in this table is cases that do not have a green party or a green party that reached 2% or more of the votes in the last election as coded by the Comparative Political Data Set (CPDS), which is the occasion in 57,8% of the counted cases. The values in the table, 0,025, 0,035 and so on have been rounded to the nearest whole percentage. 0,025 should with other words be understood as 2-2,99%. Percent is the Percentage of the cases and Valid Percent is the percentage of the cases if one excludes the missing cases. The high number of missing data can partly be

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explained by the 2% limit for the inclusion of cases but also by the fact that some countries lack green parties. We can from chart 4.1 see that the most frequent result for green parties stretches from 2% to 7,99% where 74,5 of the valid cases are included as seen in 'Cumulative Percent'.

4.1.2 Green parties - share of parliamentary seats

Chart 4.2: Share of seats (dataset 1)

Share of seats rounded to the nearest whole percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,010	52	6,1	17,3	17,3
	,025	20	2,4	6,7	24,0
	,035	19	2,2	6,3	30,3
	,045	43	5,1	14,3	44,7
	,055	42	5,0	14,0	58,7
	,065	11	1,3	3,7	62,3
	,075	42	5,0	14,0	76,3
	,085	25	3,0	8,3	84,7
	,095	7	,8	2,3	87,0
	,105	17	2,0	5,7	92,7
	,115	14	1,7	4,7	97,3
	,135	8	,9	2,7	100,0
	Total	300	35,5	100,0	
Missing	System	546	64,5		
Total		846	100,0		

The same principle as the last chart (chart 4.1) is used in chart 4.2, where the numbers are rounded to whole percentages. The only difference is that the dataset does not exclude parties that got a seat share lower then 2%, it just excludes parties which got a lower *vote* share then 2% and thus there are some cases with a lower *seat* share than 2%, namely 17,3 % of the Valid cases as seen above.

4.1.3 Post materialism

Graph 4.1: Scatter plot correlation of votes and post materialism (dataset 1)
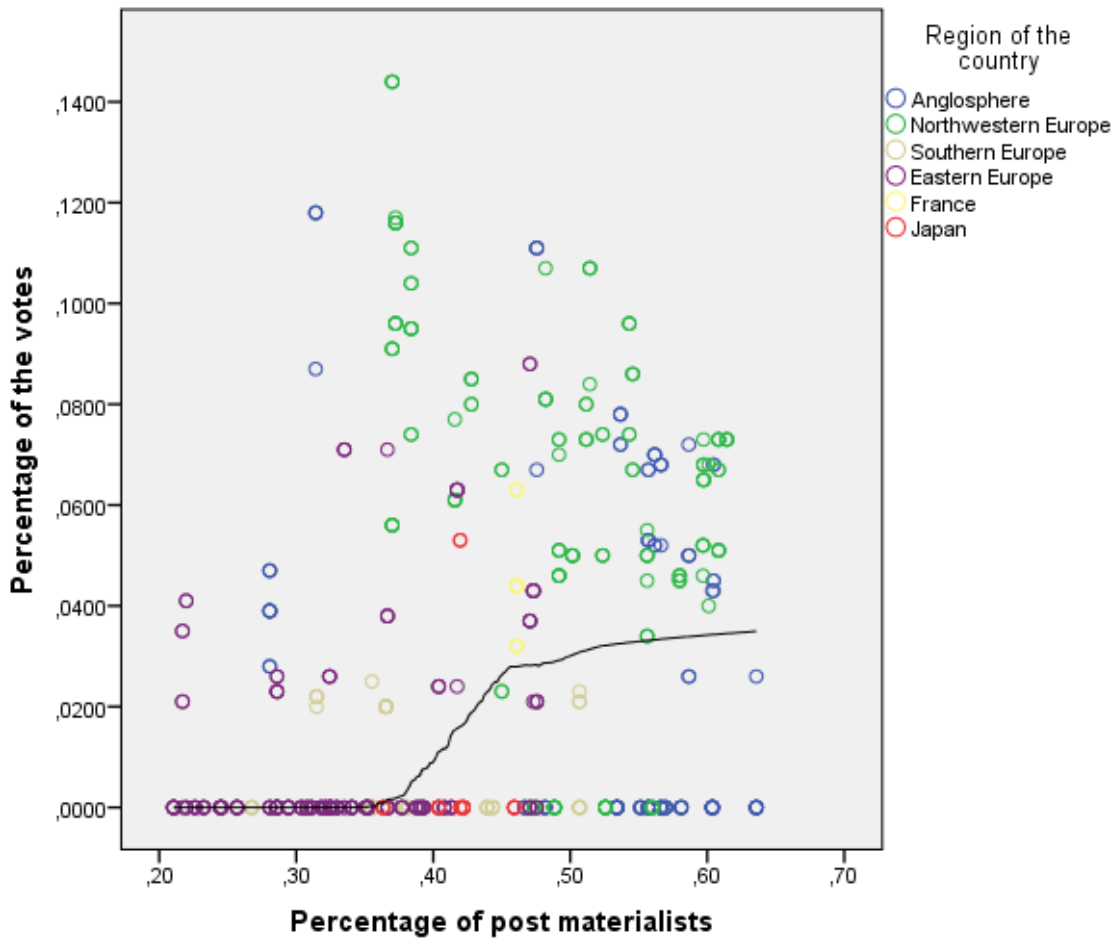
The scatter plot above (graph 4.1) shows the correlation between the percentage of votes and the percentage of post materialists in the society with all the data included. However, the variance as we can see is quite broad and one could very well argue that the correlation between the two variables is not very strong. We can from the line, which is set to match 50% of the cases, see that there is a quite sharp curve from 37% to 45% post materialists suggesting that the same interval is important as a basis for the green party. However the highest election result with over 14% of the votes seems to have been at the bottom of this curve. Another observation that can be made in graph 4.1 is the big difference between the different regions in the election result; the greens seem to have a higher degree of both share of votes and a higher number of post materialists in Northwestern Europe in particular than in foremost Eastern Europe.

Graph 4.2: Scatter plot correlation of votes and post materialism (dataset 3)
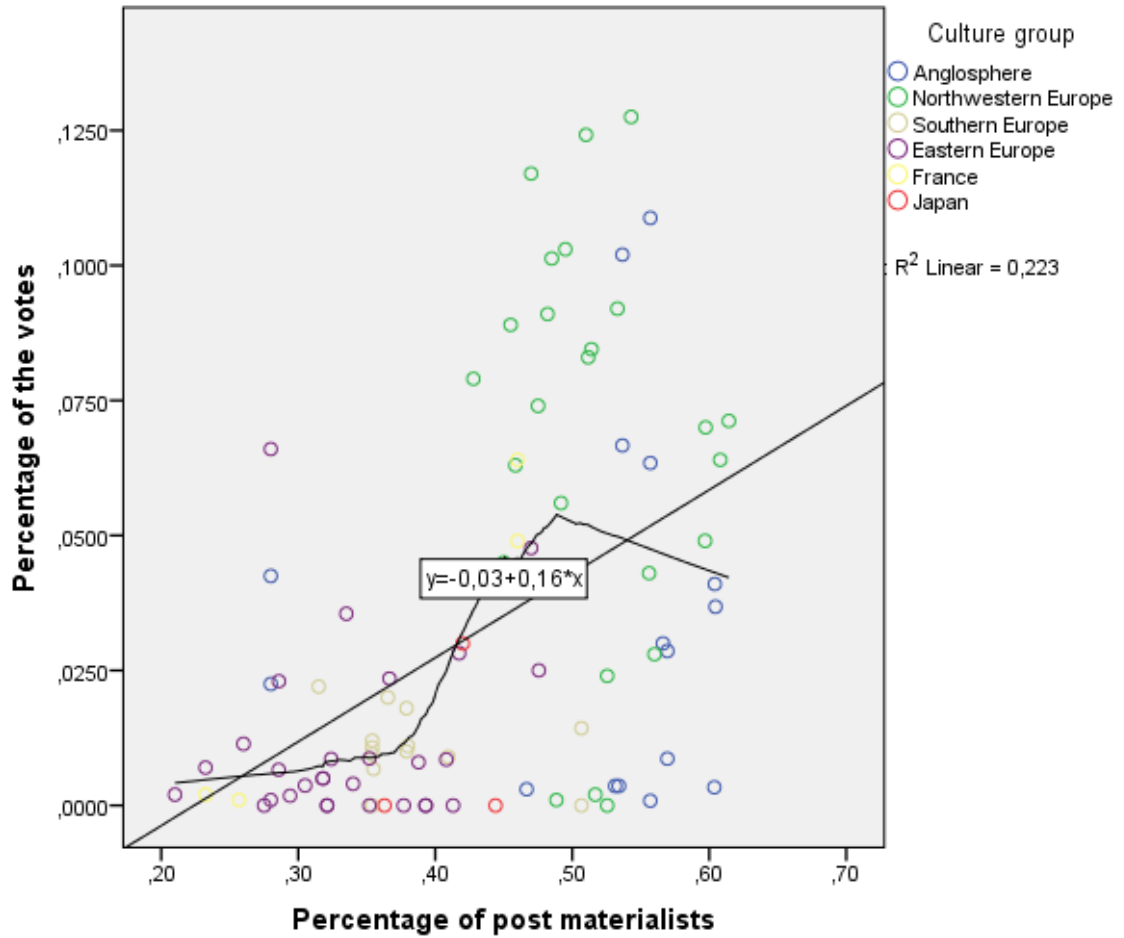
The data looks a bit different when the scatter plot is applied to the mean for each decade instead of years and with outliers excluded and aggregated values for three countries as one can see in graph 4.2. The result seems to follow the theory more closely than the previous scatter plot. The curve in this case is sharper and there is a steady growth between 40% and 50% on the post materialist spectrum, however the curve which is set to match 50% of the cases turns down after its peak at 50%, which can be explained by the smaller amount of cases included. The straight tendency curve is included to show the overall positive trend.

4.1.4   Electoral system

Graph 4.3: Bars based on electoral system (dataset 1)
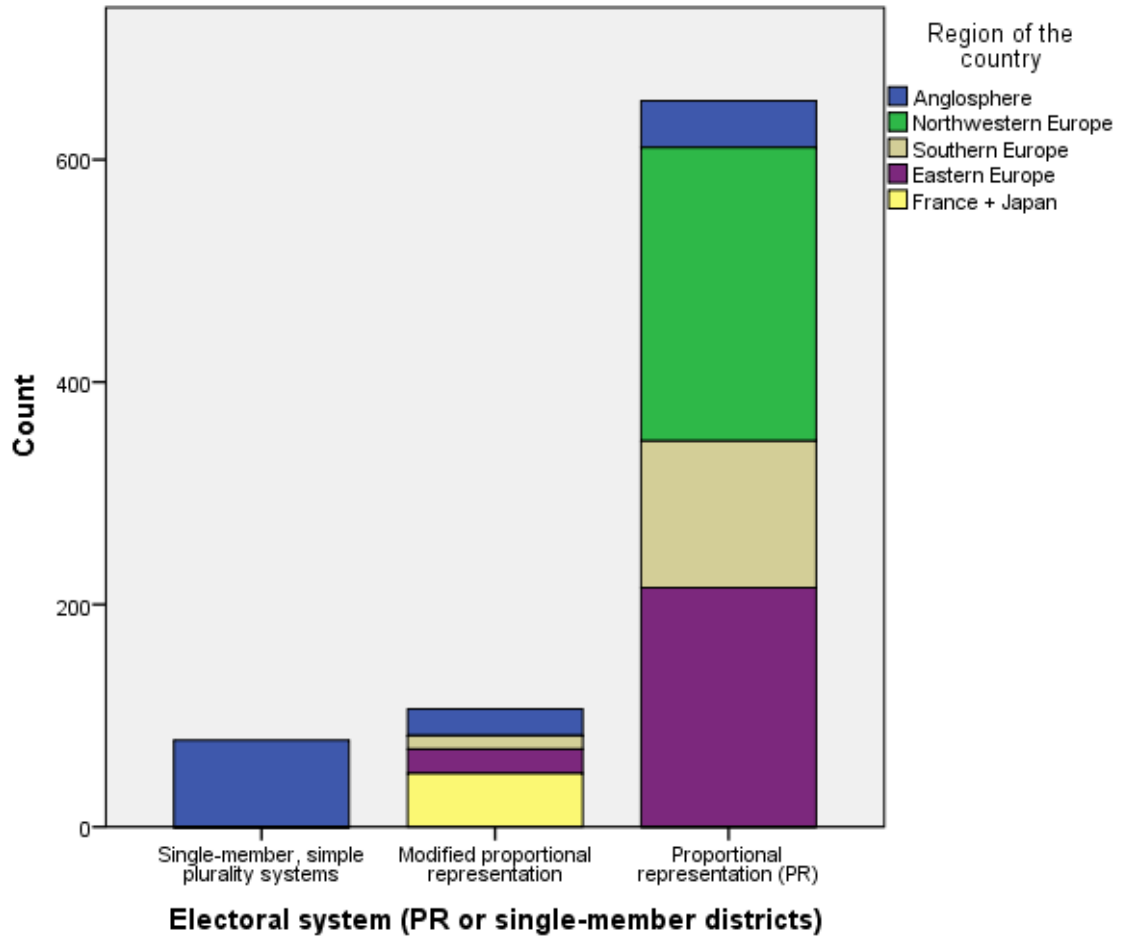
As seen in graph 4.3, the most common type of electoral system is by far proportional representation. We can as well see that it is in mainly the Anglosphere, France and Japan that we observe the plurality and semi proportional electoral system which is likely to affect the chances of smaller parties in these countries, e.g. the greens, negatively.

4.1.5 Party competition
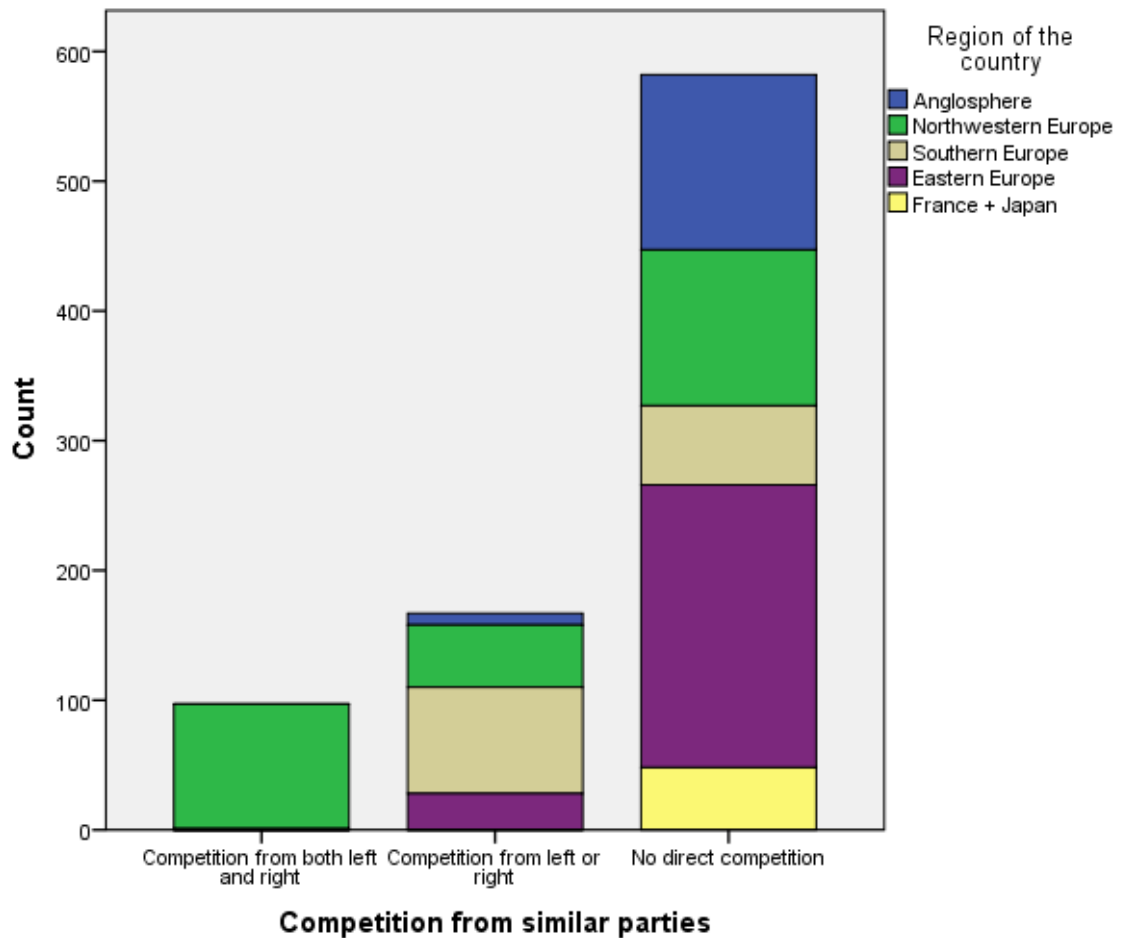
The spread of party competition from similar parties to the greens divided into regions can be seen above in graph 4.4. The reason why there is such a low amount of party competition is because countries in Eastern Europe and in the Anglosphere in many cases lack similar parties. Why that is the case can only be speculated upon with the data from the graph at hands, but it could potentially be because post materialism is not present to the same degree in Eastern Europe and the electoral system hinders substantial parties of similar character in Anglosphere countries as well possibly in France and Japan.

4.1.6   Nuclear power

Graph 4.5: Bars based on nuclear power usage by countries (dataset 1)
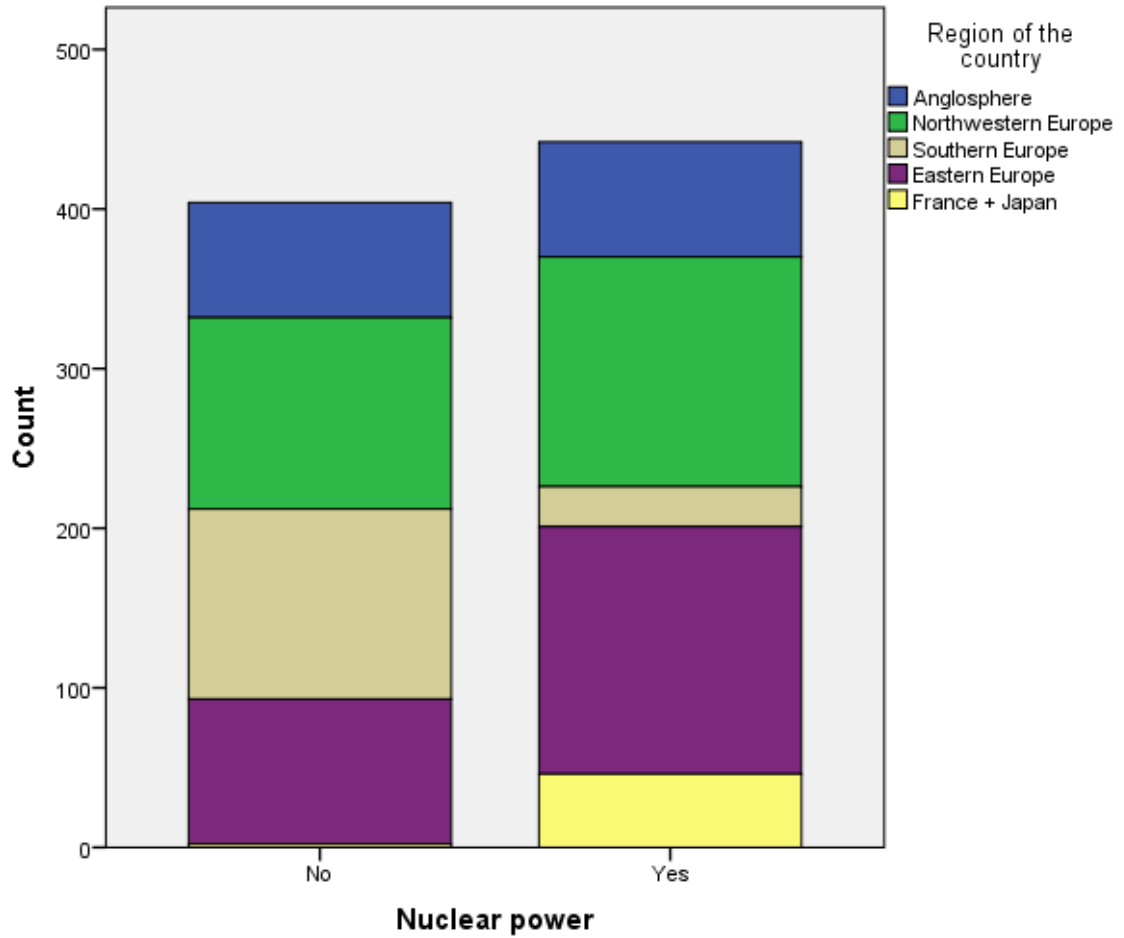
As we can see in graph 4.5 above, nuclear power seems to be fairly evenly spread amongst the countries included in the analysis. We can see that countries in Eastern Europe, as well as France and Japan, use nuclear power to a slightly higher degree whereas Southern Europe uses it less.

4.2   Regression analysis

Regression analysis is a highly useful tool in order to see statistical correlations. I will therefore with the help of regression analysis present and discuss the results from the different datasets.

4.2.1   Regression analysis - all cases (dataset 1)

Chart 4.3: Model summary of regression with vote share as dependent variable (dataset 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,491ᵃ	,241	,236	,0301732

a. Predictors: (Constant), Nuclear power, Competition from similar parties, Electoral system (PR or single-member districts), Percentage of post materialists

Chart 4.4: ANOVA tableau of regression with vote share as dependent variable (dataset 1)

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,173	4	,043	47,483	,000ᵇ
	Residual	,545	599	,001		
	Total	,718	603			

a. Dependent Variable: Percentage of the votes

b. Predictors: (Constant), Nuclear power, Competition from similar parties, Electoral system (PR or single-member districts), Percentage of post materialists

Chart 4.5: Correlation between independent variables and vote share (dataset 1)

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,113	,011		-10,646	,000
	Percentage of post materialists	,168	,013	,553	12,533	,000
	Electoral system (PR or single-member districts)	,025	,002	,501	11,381	,000
	Competition from similar parties	,014	,002	,276	6,650	,000
	Nuclear power	,003	,003	,049	1,336	,182

a. Dependent Variable: Percentage of the votes

Presented above (chart 4.3, 4.4, 4.5) is the result of the regression with vote share as a dependent variable and with all years and all data available included in the analysis. The adjusted R square value is just 23,6% (chart 4.3) suggesting that the

four variables included just explain the dependent variable by 23,6 %, a relatively weak degree of explanation of the variance in the analysis. However the p-value (Sig.) (chart 4.5) tells us that all of the variables, but nuclear power, significantly explain the vote share in some degree (Sig. < 0,05) if a significance level of 95% is assumed. It seems like electoral system and post materialism also have a higher degree of explanation based on the t-value (t) compared to party competition (the further away from zero the higher significance of the factor).

As seen below (chart 4.6), the degree of determination by the independent variables seems to be a bit higher seen in the Adjusted R square; 29,8% when we use share of parliamentary seats as the dependent variable. Surprisingly, the factor 'nuclear power' becomes significant (Sig.<0,05)(chart 4.8) when parliamentary seats are used instead of votes as dependent value. The rise in the adjusted R square value to 29,8% can be explained by the fact that the 'electoral system' and 'nuclear power' factors have a greater effect. This can be seen in the B value in chart 4.8, where nuclear power goes from 0,03 to 0,08 and electoral system from 0,025 to 0,029 compared to the regression analysis above (chart 4.3, 4.4, 4.5). To put it simply, the B-value (B) tells us how big effect a variable has on explaining the dependent variable (share of seats). However, the importance of the post materialistic factor and party competition drops when share of seats is used instead of share of votes, but this drop seems to be smaller than with other factors as the total degree of determination of the function has increased from 23,6% (chart 4.3) to 29,8% (chart 4.6)(Adjusted R square value).

Chart 4.6: Model summary of regression with seat share as dependent variable (dataset 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,551[a]	,303	,298	,0270322

a. Predictors: (Constant), Nuclear power, Competition from similar parties, Electoral system (PR or single-member districts), Percentage of post materialists

Chart 4.7: ANOVA tableau of regression with seat share as dependent variable (dataset 1)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,190	4	,048	65,131	,000[b]
	Residual	,438	599	,001		
	Total	,628	603			

a. Dependent Variable: Percentage of the seats in the parliament

b. Predictors: (Constant), Nuclear power, Competition from similar parties, Electoral system (PR or single-member districts), Percentage of post materialists

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Chart 4.8: Correlation between independent variables and seat share (dataset 1)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,119	,009		-12,538	,000
	Percentage of post materialists	,155	,012	,546	12,914	,000
	Electoral system (PR or single-member districts)	,029	,002	,620	14,706	,000
	Competition from similar parties	,012	,002	,253	6,361	,000
	Nuclear power	,008	,002	,119	3,402	,001

a. Dependent Variable: Percentage of the seats in the parliament

4.2.2 Regression analysis - without outliers (dataset 2)

Chart 4.9: Model summary of regression with vote share as dependent variable (dataset 2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,622[a]	,387	,383	,0232041

a. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.10: ANOVA tableau of regression with vote share as dependent variable (dataset 2)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,194	4	,048	89,880	,000[b]
	Residual	,306	569	,001		
	Total	,500	573			

a. Dependent Variable: Percentage of the votes

b. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.11: Correlation between independent variables and vote share (dataset 2)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,119	,008		-14,420	,000
	Percentage of post materialists	,178	,010	,699	17,186	,000
	Electoral system (PR or single-member districts)	,025	,002	,576	14,103	,000
	Competition from similar parties	,010	,002	,238	6,197	,000
	Nuclear power	,011	,002	,180	5,345	,000

a. Dependent Variable: Percentage of the votes

Excluding outliers is a normal method to isolate the phenomenon one is trying to examine. As we can see, by just excluding five cases of data we increase the degree of explanation of the *vote* share by almost 15% from 23,6% (chart 4.3) to 38,3% (chart 4.9) (adjusted R square). Excluding these five cases is valid as the theory suggests that the data is somewhat misleading and potentially wrong. However excluding extreme cases like this is not uncontroversial since it could equally be used to prove that the opposite is the case, i.e. that the theory does not fully explain the variance of the dependent variable as much as it is supposed to. We can see that we also get a higher degree of explanation of the independent variables with this method when we use share of seats as the dependent variable. From 29,8% (chart 4.6) to 42,3% (chart 4.12) with adjusted R square as the factor of measurement.

Chart 4.12: Model summary of regression with seat share as dependent variable (dataset 2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,654[a]	,427	,423	,0208737

a. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.13: ANOVA tableau of regression with seat share as dependent variable (dataset 2)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,185	4	,046	106,193	,000[b]
	Residual	,248	569	,000		
	Total	,433	573			

a. Dependent Variable: Percentage of the seats in the parliament

b. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,115	,007		-15,485	,000
	Percentage of post materialists	,155	,009	,650	16,554	,000
	Electoral system (PR or single-member districts)	,027	,002	,668	16,930	,000
	Competition from similar parties	,007	,001	,192	5,182	,000
	Nuclear power	,014	,002	,246	7,552	,000

a. Dependent Variable: Percentage of the seats in the parliament

4.2.3 Regression analysis - mean values over decades (dataset 3)

Chart 4.15: Model summary of regression with vote share as dependent variable (dataset 3)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,724[a]	,524	,502	,0249686

a. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.16: ANOVA tableau of regression with vote share as dependent variable (dataset 3)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,059	4	,015	23,689	,000[b]
	Residual	,054	86	,001		
	Total	,113	90			

a. Dependent Variable: Percentage of the votes

b. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.17: Correlation between independent variables and vote share (dataset 3)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,169	,021		-7,952	,000
	Percentage of post materialists	,270	,029	,821	9,277	,000
	Electoral system (PR or single-member districts)	,030	,005	,544	6,352	,000
	Competition from similar parties	,021	,004	,424	5,132	,000
	Nuclear power	,006	,006	,083	1,077	,285

a. Dependent Variable: Percentage of the votes

When we use the mean values of decades, 1990-1999, 2000-2009 and 2010-2016 for the regression analysis and use the recalculated post materialistic values for Austria, Belgium and Luxembourg we get a different result. Post materialism becomes a very important factor for explaining the dependent variable as the B-value, up from 0,168 (chart 4.5) to 0,270 (chart 4.17), suggests. This means that if the independent variable increases by 1 an increase will follow of the natural logarithm of the odds for post materialism with 0.27. To put it simply, the factor has a higher degree of correlation to the independent variable (vote share) and as a consequence the independent variables as a total seems to explain the outcome of the model to a much higher degree: 50,2% (chart 4.15) to 23,6% (chart 4.3) (adjusted R square). One interesting observation is that the factor 'nuclear power' lack significance as an explanatory variable when we use decades instead of years. This can be seen in chart 4.17 (votes)(0,285>0,05) and chart 20 (seats)(0,213>0,05), suggesting that we cannot claim that it affect the dependent variable.

Chart 4.18: Model summary of regression with seat share as dependent variable (dataset 3)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,719[a]	,517	,494	,0252725

a. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.19: ANOVA tableau of regression with seat share as dependent variable (dataset 3)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,059	4	,015	22,992	,000[b]
	Residual	,055	86	,001		
	Total	,114	90			

a. Dependent Variable: Percentage of the seats in the parliament

b. Predictors: (Constant), Nuclear power, Percentage of post materialists, Competition from similar parties, Electoral system (PR or single-member districts)

Chart 4.20: Correlation between independent variables and seat share (dataset 3)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,177	,021		-8,215	,000
	Percentage of post materialists	,256	,029	,774	8,668	,000
	Electoral system (PR or single-member districts)	,035	,005	,640	7,412	,000
	Competition from similar parties	,018	,004	,359	4,309	,000
	Nuclear power	,007	,006	,098	1,255	,213

a. Dependent Variable: Percentage of the seats in the parliament

4.3   Overview

4.3.1   Chart over the result of two decades (1990-2009)

Chart 4.21: Calculation of the result of dataset 3 in a comprehensive form

Country	Post-M	Prop	NoCompL	NoCompR	Nuclear	Total	MeanSup	MeanSeat
AUS 90s	XXX*	X	X	X		6	2,3	0
AUS 00s	XXX	X	X	X		6	6,7	0
CA 90s	XXX		X	X	X	6	0,3	0
CA 00s	XXX		X	X	X	6	4,1	0,1
IRL 90s		XX	X	X		4	2,1	0,6
IRL 00s		XX	X	X		4	4,3	3,6
NZ 90s	XXX	X		X		5	3,0	1,5
NZ 00s	XXX	XX	X	X		7	6,3	6,6
UK 90s	XXX		X		X	5	0,4	0
UK 00s	XXX		X		X	5	0,9	0
US 90s	XXX		X	X	X	6	0,1	0
US 00s	XXX		X	X	X	6	0,4	0
AUT 90s	XX**	XX	X	X		6	6,6	6,3
AUT 00s	XX**	XX	X	X		6	10,3	10,6
BE 90s	XX**	XX	X	X	X	7	10,9	9,4
BE 00s	XX**	XX	X	X	X	7	7,4	6,0
DK 90s	XXX*	XX				5	0,3	0
DK 00s	XXX	XX				5	0	0
FI 90s	XXX	XX			X	6	7,0	5,0
FI 00s	XXX	XX			X	6	8,3	7,3
DE 90s	XXX	XX	X	X	X	8	6,4	5,2
DE 00s	XX	XX	X	X	X	7	9,1	9,4
ISL 90s	XXX**	XX		X		6	0	0
ISL 00s	XXX**	XX		X		6	0	0
LUX 90s	XX**	XX	X	X		6	9,3	8,3
LUX 00s	XX**	XX	X	X		6	11,7	11,7
NL 90s	XX*	XX	X		X	6	5,6	5,7
NL 00s	XX	XX	X		X	6	5,6	5,6
NO 90s	XX	XX				4	0,1	0
NO 00s	XXX	XX				5	0,2	0
SWE 90s	XXX	XX			X	6	4,3	3,2
SWE 00s	XXX	XX			X	6	4,9	5,2
CHE 90s	XX	XX	X	X	X	7	6,3	5,7
CHE 00s	XXX	XX	X	X	X	8	9,2	9,3
CYP 90s	*	XX	X	X		4	0,5	0
CYP 00s		XX	X	X		4	2,0	1,8
GRC 90s	*	XX		X		3	0,5	0,1
GRC 00s		XX		X		3	1,1	0
IT 90s	XXX*	X	X	X		6	2,7	2,5
IT 00s	XXX	X		X		5	1,4	1,5
MLT 90s	*	XX	X	X		4	1,5	0
MLT 00s		XX	X	X		4	1	0

PT 90s	*	XX		X		3	0	0
PT 00s		XX		X		3	0	0
ES 90s		XX		X	X	4	0,7	0
ES 00s	XX	XX		X	X	6	0,9	0,1
BGR 90s		XX	X	X	X	5	0,1	0
BGR 00s		XX	X	X	X	5	0,2	0
HRV 90s		XX	X	X		4	0	0
HRV 00s		XX	X	X		4	0	0
CZ 90s		XX	X	X	X	5	0,4	0
CZ 00s	XX	XX	X	X	X	7	4,3	1,5
EST 90s		XX	X	X		4	0,9	0,3
EST 00s		XX	X	X		4	3,6	3,0
HU 90s		XX	X	X	X	5	0,2	0
HU 00s		XX	X	X	X	5	0,1	0
LV 90s		XX	X			3	0,4	0
LV 00s		XX	X			3	0	0
LTU 90s		X	X	X	X	4	0,2	0
LTU 00s		X	X		X	3	0	0
POL 90s		XX	X	X		4	0	0
POL 00s		XX	X	X		4	0	0
RO 90s		XX	X	X	X	5	2,3	0
RO 00s		XX	X	X	X	5	0,7	0
SVK 90s		XX	X	X	X	5	1,1	0
SVK 00s		XX	X	X	X	5	0,5	0
SVN 90s	XX	XX	X	X	X	7	4,8	5,2
SVN 00s	XX	XX	X	X	X	7	2,5	1,5
FR 90s	XX*	X	X	X	X	6	8,9	1,2
FR 00s	XX	X	X	X	X	6	4,9	0,6
JPN 90s		X	X	X	X	4	0	0
JPN 00s	XX	X	X	X	X	6	0	0

Extrapolation is used to calculate the value for missing post materialistic values of the 90s

*** Recalculation of outlier to fit to the conditions of the neighbouring countries*

Country abbreviations

AUS – Australia	AUT – Austria	BGR – Bulgaria
CA – Canada	BE – Belgium	HRV – Croatia
IRL – Ireland	DK – Denmark	CZ – Czech Republic
NZ – New Zealand	FI – Finland	EST – Estonia
UK – United Kingdom	DE – Germany	HU – Hungary
US – United States	ISL – Iceland	LV - Latvia
	LUX – Luxembourg	LTU – Lithuania
CYP – Cyprus	NL – The Netherlands	POL – Poland
GRC – Greece	NO – Norway	RO – Romania
IT – Italy	SWE – Sweden	SVK – Slovakia
MLT – Malta	CHE – Switzerland	SVN - Slovenia
PT – Portugal		
ES – Spain	FR – France	JPN – Japan

4.3.2   Explanation of chart 4.21

Post-M – *Post materialism*, if the country has a 40% share of post materialists or more, two X's are given, if more than 50% then three X's are given. Considered a heavy explanatory variable as the regression analysis suggests (B-value is higher for the variable), therefore a higher number of X's for each category.

Prop – *Proportional electoral system*, if the country has a proportional electoral system two X's are given, if semi-proportional, one X is given.

Nuclear – *Nuclear power*, if the country has nuclear power one X is given.

NoCompL – *No Competition Left*, if there is an absence of a similar left leaning party, one X is given.

NoCompR – *No Competition Right*, if there is an absence of a similar right leaning party, one X is given.

Total – *Number of X's,* the higher number of X's the better conditions for a green party success.

MeanSup – Mean of the electoral support of the green party/parties that decade

MeanSeat – Mean of the proportion of parliamentary seats gained during that decade by the green party/parties

Chart 4.22: Summary of the result in the previous chart (chart 4.21)

Total	N	MeanSup	MeanSeat
0	0	-	-
1	0	-	-
2	0	-	-
3	7	0,3	0
4	16	1,1	0,6
5	16	0,7	0,2
6	23	4,6	3,2
7	8	6,5	5,7
8	2	7,8	7,3

N= amount of cases for each category

4.3.3 Discussion about chart 4.21

The number of X's for each category is based on the previous regression analysis, which gives post materialism by far the highest degree of determination seen in chart 4.17 and chart 4.20, therefore I have given the category a higher share of X's in the chart with three as a maximum. A clear distinction between a to low degree of post materialists (zero X's) and having enough of post materialists (two X's) is based on the clear tendency of the curves between 40% and 50% post materialists in graph 4.1 and 4.2. Party competition and electoral system is thereafter given a fairly high proportion of determination (chart 4.17 and 4.20) and these categories have been given a scale of zero to two X's. While nuclear power has a very low if any effect according to the same charts (chart 4.17 and 4.20) and therefore just have a maximum of one X in this chart (chart 4.21). The chart should just be seen as a compliment to the statistical results as the scale in the chart (1 to 8 X's) after all could be seen as a quite arbitrary scale and from a strictly statistical view not particularly valid. It does however give the reader an overview of the result in a relatively comprehensive and easily understandable way and it does as well give us a clear pattern between the dependent and independent variables. The result could be interpreted as such based on the result of chart 4.22:

- Total X's of 0-3 - impossible for a green party to achieve any substantial success due to the circumstances.
- Total X's of 4-5 - very unlikely, not optimal conditions
- Total X's of 6 - likely with some kind of presence of a green party
- Total X's of 7-8 - likely with a relatively great success of a green party through substantial parliamentary representation.

5 Conclusion

So can we understand why green parties succeed in some countries but not others? That appears to be the case, to a certain degree. We can with the help of the four explanatory factors partly understand the underlying factors for a success of a green party on a transnational basis, namely a 23,6% to 50,2% certainty according to the regression analysis depending on what data and dependent variable you use. We can furthermore conclude that method of data collection and type of data, annual or decade, affect the result greatly. If all the available data is included there is a much lower degree of determination of the variance. However if we exclude outliers we get a much higher degree of determination which suggests that we can draw a quite positive correlation. We do as well see an even higher correlation if instead of using every year, use a mean of the decade. This can, as previously suggested, be explained by the fact that by computing the variables as means of decades we get a result that is equated to a higher degree to transnational differences and not election differences within the countries. Such a result does match the formulation of the problem to a higher degree since the aim after all was to look at transnational differences. The conclusion is therefore that the hypothesis of these four variables as key factors to explain the dependent variable 'green party success' is partly confirmed. Since a quite high degree of determination by the independent variables could be declared with dataset 3 (including decades and adjustments), while the correlation using dataset 1 (yearly basis) was not as clear. This tells us that method and interpretation of data is of high importance since minor adjustments gives a very different result. Another important observation is that 'nuclear power' seems to play a quite limited role in the success of a green party, suggesting that the factor might not be considered a key factor for the success of a green party. On the other hand 'post materialism' seems to play a very important role, especially if one look at decades. However this calculation includes recalculations of data which is considered to be faulty and interpolations and extrapolations of missing cases in the time series, which in turn lowers the validity of the conclusion and makes it possible to criticise due to the method.

In terms of further research into the topic, it would be quite interesting to add other types of factors into the equation, such as the effect of major environmental events, effects of being in government and so on. This could hopefully also explain the fluctuation in support within the country as well, hence creating a more complete model. A more complete model could explain the full length of success for a green party and not just the transnational pattern for success. That could work as a potential guideline for how green parties should behave to win electoral support and in the end gain power.

6 Bibliography

Auers, D 2012, 'The curious case of the Latvian Greens', *Environmental Politics*, 21, 3, pp. 522-527, Political Science Complete

Burchell, J 2002, *The Evolution Of Green Politics : Development And Change Within European Green Parties*, London: Routledge

Carter, N 2007, *The Politics Of The Environment : Ideas, Activism, Policy*, n.p.: Cambridge ; New York : Cambridge University Press, 2007

Dalton, RJ 2008, *Citizen Politics : Public Opinion And Political Parties In Advanced Industrial Democracies*, n.p.: Washington, D.C. : CQ Press

Dryzek, JS 2013, *The Politics Of The Earth : Environmental Discourses*, n.p.: Oxford : Oxford University Press

Elmer, C, & Hebel, 'Wahlanalysen zu Baden-Württemberg: Im Ländle Volkspartei', *Der Spiegel*, [online], 14th of March 2016. Available: http://www.spiegel.de/politik/deutschland/landtagswahl-in-baden-wuerttemberg-2016-wie-die-gruenen-volkspartei-wurden-a-1081493.html

Esaiasson, P, Gilljam, M, Oscarsson, H, & Wängnerud, L 2012, *Metodpraktikan : Konsten Att Studera Samhälle, Individ Och Marknad*, n.p.: Stockholm : Norstedts juridik

Gallagher, M, Laver, M, & Mair, P 2011, *Representative Government in Modern Europe*, n.p.: Maidenhead : McGraw-Hill

Geddes, B 1990, 'How the Cases You Choose Affect the Answers You Get: Selection Bias in Comparative Politics', *Political Analysis*, p. 131, JSTOR Journals

Inglehart, R 1977, *The Silent Revolution : Changing Values And Political Styles Among Western Publics*, n.p.: Princeton, N.J. : Princeton U.P

Inglehart, R, & Abramson, P 1999, 'Measuring Postmaterialism', *The American Political Science Review*, 3, p. 665, JSTOR Journals

Kitschelt, HP 1988, 'Left-Libertarian Parties: Explaining Innovation in Competitive Party Systems', *World Politics*, 2, p. 194, JSTOR Journals

Körner, S & Wahlgren, L 2006, *Statistisk Dataanalys*, n.p.: Lund : Studentlitteratur

Lijphart, A 2012, *Patterns Of Democracy : Government Forms And Performance In Thirty-Six Countries*, n.p.: New Haven, [Conn.] ; London : Yale University Press

Miragliotta, N 2013, 'The Australian Greens: carving out space in a two-party system', *Environmental Politics*, 22, 5, pp. 706-727, Political Science Complete

Teorell, J, & Svensson, T 2007, *Att Fråga Och Att Svara : Samhällsvetenskaplig Metod*, n.p.: Stockholm : Liber

6.1.1 Sources of data collection

Comparative Political Data Set (CPDS), Database – A dataset for comparative politics by the Institute of Political Science, University of Berne, [online] 2016. Available: http://www.cpds-data.org/index.php/data#CPDS

Eurobarometer, Database – public opinion/values EU citizens, [online] 2016. Available: http://ec.europa.eu/public_opinion/archives/eb_special_280_260_en.htm

International Atomic Energy Agency (IAEA) – UN organization specialized in nuclear energy, [online] 2015. Available: http://www-pub.iaea.org/books/IAEABooks/10903/Nuclear-Power-Reactors-in-the-World-2015-Edition

Lijphart, A 2012, *Patterns Of Democracy : Government Forms And Performance In Thirty-Six Countries*, n.p.: New Haven, [Conn.] ; London : Yale University Press

Manifesto Project Database (MPD), Database – pre-coded party manifestos, [online] 2016. Available: https://manifestoproject.wzb.eu/

Nohlen, D, & Stöver, P 2010, *Elections In Europe : A Data Handbook*, n.p.: Baden-Baden, Germany : Nomos

World Value Survey (WVS), Database – public values by country, [online] 2016. Available: http://www.worldvaluessurvey.org/WVSContents.jsp

7 Appendix

Here follows frequency materials and data about the working file.

7.1 Frequencies

Chart 7.1: Frequency of post materialists 10% interval – dataset 1(annual data)

Post materialism measured in 10% interval

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,25	97	11,5	15,8	15,8
	,35	189	22,3	30,8	46,7
	,45	135	16,0	22,0	68,7
	,55	148	17,5	24,1	92,8
	,65	44	5,2	7,2	100,0
	Total	613	72,5	100,0	
Missing	System	233	27,5		
Total		846	100,0		

Chart 7.2: Frequency of post materialists 10% interval – dataset 3(decades)

Post materialism measured by decades

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,25	13	12,0	15,3	15,3
	,35	26	24,1	30,6	45,9
	,45	18	16,7	21,2	67,1
	,55	23	21,3	27,1	94,1
	,65	5	4,6	5,9	100,0
	Total	85	78,7	100,0	
Missing	System	23	21,3		
Total		108	100,0		

Chart 7.3: Frequency of electoral system – dataset 1 (annual data)

Electoral system (PR or single-member districts)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single-member, simple plurality systems	78	9,2	9,3	9,3
	Modified proportional representation	106	12,5	12,7	22,0
	Proportional representation (PR)	653	77,2	78,0	100,0
	Total	837	98,9	100,0	
Missing	System	9	1,1		
Total		846	100,0		

Chart 7.4: Frequency of party competition – dataset 1 (annual data)

Competition from similar parties

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Competition from both left and right	97	11,5	11,5	11,5
	Competition from left or right	167	19,7	19,7	31,2
	No direct competition	582	68,8	68,8	100,0
	Total	846	100,0	100,0	

Chart 7.5: Frequency of nuclear power – dataset 1 (annual data)

Nuclear power

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	404	47,8	47,8	47,8
	Yes	442	52,2	52,2	100,0
	Total	846	100,0	100,0	

7.2 Codebook/working file (dataset 1)

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment	Print Format	Write Format	Missing Values
year	1	Year of observation	Scale	Input	6	Right	F4	F4	
country	2	Country name	Nominal	Input	18	Left	A42	A42	
countryn	3	Country number	Nominal	Input	5	Right	F2	F2	
countryr	4	Region of the country	Nominal	Input	5	Right	F4	F4	
green_tot	5	Total vote share of green parties	Scale	Input	4	Right	F4.1	F4.1	
sgreen_tot	6	Seat share of green parties	Scale	Input	4	Right	F4.1	F4.1	
Materialist	7	Percentage of materialists in the society	Scale	Input	5	Right	F5.1	F5.1	
Mixed	8	Percentage of mixed in the society	Scale	Input	5	Right	F5.1	F5.1	
Post_Mater	9	Percentage of post-materialists in the society	Scale	Input	5	Right	F5.1	F5.1	
Missing	10	Percentage of missing values	Scale	Input	5	Right	F5.1	F5.1	
leftgreen	11	Competition from similar party - left	Nominal	Input	5	Right	F2	F2	
rightgreen	12	Competition from similar party - right	Nominal	Input	5	Right	F2	F2	
Mater	13	Recalculated materialists	Scale	Input	5	Right	F5.1	F5.1	

Mix	14	Recalculated mixed	Scale	Input	5	Right	F5.1	F5.1	
Pmater	15	Recalculated post materialists	Scale	Input	5	Right	F5.1	F5.1	
VOTE	16	Percentage of the votes	Scale	Input	8	Right	F6.4	F6.4	
SEAT	17	Percentage of the seats in the parliament	Scale	Input	8	Right	F6.4	F6.4	
MAT	18	Materialists	Scale	Input	5	Right	F8.2	F8.2	
POSTMAT	19	Post materialists	Scale	Input	5	Right	F8.2	F8.2	
PROP	20	Electoral system (PR or single-member districts)	Nominal	Input	4	Right	F3	F3	
COMP	21	Competition from similar parties	Nominal	Input	4	Right	F3	F3	
NUKE	22	Nuclear power	Nominal	Input	4	Right	F3	F3	
POSTMAT100	23	Percentage of post materialists	Scale	Input	12	Right	F8.2	F8.2	
POSTMATintervall	24	Post materialism measured in 10% interval	Scale	Input	6	Right	F5.2	F5.2	
VOTEinterval	25	Share of votes rounded to the nearest whole percent	Scale	Input	6	Right	F5.3	F5.3	,000
SEATinterval	26	Share of seats rounded to the nearest whole percent	Scale	Input	6	Right	F5.3	F5.3	,000

Variables in the working file

Variable Values		
Value		Label
countryn	1	Australia
	2	Austria
	3	Belgium
	4	Bulgaria
	5	Canada
	6	Croatia
	7	Cyprus
	8	Czech Republic
	9	Denmark
	10	Estonia
	11	Finland
	12	France
	13	Germany
	14	Greece
	15	Hungary
	16	Iceland
	17	Ireland
	18	Italy
	19	Japan
	20	Latvia
	21	Lithuania
	22	Luxembourg
	23	Malta
	24	Netherlands
	25	New Zealand
	26	Norway
	27	Poland
	28	Portugal
	29	Romania
	30	Slovakia
	31	Slovenia
	32	Spain
	33	Sweden
	34	Switzerland
	35	United Kingdom
	36	United States

Variable Values		
Value		Label
countryr	1	Anglosphere
	2	Northwestern Europe
	3	Southern Europe
	4	Eastern Europe
	5	France + Japan
leftgreen	1	Yes
	2	No
rightgreen	1	Yes
	2	No
PROP	0	Single-member, simple plurality systems
	1	Modified proportional representation
	2	Proportional representation (PR)
COMP	0	Competition from both left and right
	1	Competition from left or right
	2	No direct competition
NUKE	0	No
	1	Yes