# It's not easy being green : why voters punish parties for environmental policies during economic downturns

Abou-Chadi, Tarik ; Kayser, Mark A

Abstract: Recent scholarship asserts the existence of "luxury goods voting" arguing that voters penalize parties associated with post-material issues or those with long-run payoffs during economic downturns. We test this arguments here using data from four election studies in Denmark and Germany that explicitly ask respondents to rate parties on one particular luxury goods issue: protection of the environment. Voters who perceive the economy as weak indeed punish governing parties more severely when they associate them with environmental policies; conversely, a green reputation when the economy is expanding garners left-wing parties higher vote probabilities. Right-wing governing parties fare similarly, benefitting from those who perceive them as green when the economy is hale, albeit only converging to the vote probabilities awarded from voters who see them as less green when the economy sours.

# It's not easy being green: Why voters punish parties for environmental policies during economic downturns☆

Tarik Abou-Chadi [a], Mark A. Kayser [b], *

[a] *Humboldt University, Berlin, Germany*
[b] *Hertie School of Governance, Berlin, Germany*

A B S T R A C T

Recent scholarship asserts the existence of "luxury goods voting" arguing that voters penalize parties associated with post-material issues or those with long-run payoffs during economic downturns. We test this arguments here using data from four election studies in Denmark and Germany that explicitly ask respondents to rate parties on one particular luxury goods issue: protection of the environment. Voters who perceive the economy as weak indeed punish governing parties more severely when they associate them with environmental policies; conversely, a green reputation when the economy is expanding garners left-wing parties higher vote probabilities. Right-wing governing parties fare similarly, benefitting from those who perceive them as green when the economy is hale, albeit only converging to the vote probabilities awarded from voters who see them as less green when the economy sours.

© 2016 Elsevier Ltd. All rights reserved.

*It's not that easy being green;Having to spend each day the color of the leaves.When I think it could be nicer being red […],or something much more colorful like that."-Kermit the Frog*

## 1. Introduction

Does the state of the economy influence voters' policy preferences and influence the vote? A recent paper by Kayser and Grafström (2016) asserts a novel empirical regularity: when the economy falters, voters prioritize issues with material and short-run pay-offs such as unemployment benefits and tax relief but reduce their support for issues with long-term and post-material benefits such as medical research or environmental protection. Because this latter category — "luxury goods issues" which grow in support when the economy does well and voters feel they can afford them — is predominantly associated with left parties while material issues are associated with both the left

and right, economic downturns should hurt and upturns benefit left parties.

Using both observational and experimental data, Kayser and Grafström (2016) do much to identify the luxury goods voting mechanism. Nevertheless, several direct implications and open questions remain. In their observational data, Kayser and Grafström (2016) only focus on how the left-right position of ruling parties conditioned the economic vote. They relied on survey experimental data to address the effect of specific luxury goods issues, using three issue examples to explain the policies. We embrace a different research design in this paper to test the external validity of these experimental claims. Instead of a hypothetical recession treatment in a pre-post experimental design, we employ observational data (post-election surveys) and leverage the variation in economic perceptions. Moreover, instead of listing several luxury goods issues, we focus on what may be the single most important luxury goods issue: environmental protection policy.

Using a sample of post-election surveys that explicitly ask respondents to assess the "greenness" of political parties — three from Denmark and one from Germany — we estimate the conditioning effect of perceived greenness on the economic vote. The main center-left governing party receives a markedly lower vote probability when it is rated as very green but only a moderately

lower vote probability — the classic economic vote — when it is seen as less green. Conversely, the more green the main center-left governing party is perceived to be, the more it benefits from a strong economy.

The main center-right party exhibits a similar pattern when in government with one intriguing exception. As with the main center-left governing party, greater greenness yields greater vote probabilities as the economy is perceived to do better. For respondents with dourer economic perceptions, however, highly green right-governing parties fare no worse than their less green counterparts. This is consistent with the partisan voting findings of Kayser and Grafström (2016) that demonstrate that the main left governing parties are punished more severely than their counterparts on the right in economic downturns. Pro-environmental policy reputation mostly magnifies the effect of the vote on the economy but pro-green incumbent parties on the right are still less associated with green policy than those on the left and are accordingly punished less severely in downturns.

## 2. Theory and literature

A small literature addresses regularities in the partisan preferences of voters in response to the economy. When the economy sours, left governing parties pay a larger price at the ballot box. Center-right governments replaced those of the center-left disproportionately often in the Great Recession following the Global Financial Crisis of 2008–2010 (LeDuc and Pammett, 2013) as well as in the Great Depression (Lindvall, 2014, 2015) and more broadly in international economic downturns in the thirty years from 1970 onwards (Kayser, 2009).

This regularity is buttressed by findings on the relationship between the economy and systematic shifts in voters' partisan "mood." Soon after empirical measures of policy mood were first constructed (Stimson, 1991), scholars found, first in the US (Durr, 1993) and then cross-nationally (Stevenson, 2001), that the policy mood shifts toward the right in economic downturns. Further findings have shown this pattern in longer periods in the US (DeNeve, 2014) and, conversely, that left parties benefit disproportionately during economic upturns (Markussen, 2008).

Luxury goods voting may partly explain these swings in public opinion as well as in voting. Whereas Inglehart (1971, 1997) demonstrates that parties espousing "post-material" issues only arise over the long-run in countries sufficiently wealthy to have vanquished the most pressing material concerns, Kayser and Grafström (2016) posit an effect on voters' policy preferences in response to short-run changes in the economy. Voters support parties associated with "luxury good" policies — such as environmental protection, funding for the arts and research, and even more abstract issues such as rights for excluded groups and civil protections — more strongly when the economy is strong.[1]

These cycles in policy popularity extend to cycles in partisan popularity because many center-left parties are more associated with luxury goods policies than are rival parties. Parties of the center-left certainly do not rush into election campaigns during economic recessions proclaiming their support for a carbon tax or international developmental aid but reputations are sticky and voters only update slowly (Adams et al., 2011). Left parties "own" many luxury goods issues and as the issue ownership literature

suggests, ownership is persistent (Budge and Farlie, 1983). If economic perceptions influence issue salience (Kayser and Grafström, 2016), issue salience conditions how issue ownership affects vote choice (Bélanger and Meguid, 2008), and issue ownership, at least in some cases, provides a better explanation of issue voting in elections than issue-proximity models (Green and Hobolt, 2008), we should expect an issue-centered effect on the vote that varies with states of the economy. Thus, when the economy sours, many voters prefer parties associated with economic growth, job creation or material concerns but most often not parties — mostly on the left — associated with luxury good policies.

Note that this partisan issue-effect, luxury goods voting, is complementary to the incumbent-centered economic vote. Voters punish most incumbents for economic downturns (Duch and Stevenson, 2008; Kayser, 2014). Left parties, at least those associated with luxury goods policies, also lose support when the economy sours. Left incumbents therefore lost most.

## 3. Data & method

In order to empirically test our expectations on luxury goods voting we analyze data from national election studies in Denmark and Germany.[2] Surveys following general elections in Denmark in 1998, 2001 and 2011 and Germany in 2013 all included questions asking respondents to assess the greenness of the governing and other political parties.[3] Since we need voters' party placements on a greenness scale as well as their evaluation of the state of the economy we make use of election studies in Germany and Denmark as to the best of our knowledge no other election studies exist that include those questions. While this limits our analyses to one center-left and two center-right parties that lead the government, the variation that we are exploiting in order to test our hypotheses is based on voters' perceptions and thus varies on the individual level. The distribution of these perceptions for the mainstream left and mainstream right party (plus the green party in the case of Germany) can be found in Fig. 1.

While for the Danish case the question asks respondents to place the parties on a simple 5-point greenness scale, in the case of Germany, they are asked to assess how they believe each party trades off environmental and economic goals. As we can see, although mainstream left parties are generally perceived as more pro-environment then the mainstream right, there is substantial variation for all mainstream parties.

Our dependent variable is vote choice at the previous parliamentary election. We estimate a conditional logit model for each election study and include at least all parties as choices which were subsequently represented in parliament. An interesting aspect of the Danish context, is that Denmark, unlike many

---

[1] For environmental issues, Franzen and Meyer (2010) demonstrate that pro-environment attitudes increase in tandem with a nation's wealth as well as individuals' socio-economic status.

[2] The Danish General Election Survey and the German Longitudinal Election Study. Danish respondents were recruited from a random sample of all Danes drawn from the Central Person Registry and interviewed mostly face-to-face with additional online interviews. German respondents were sampled through ADM nets and interviewed face-to-face. East-German respondents are somewhat over represented. The data used are all from the post-election studies.

[3] Denmark: "People sometimes speak about a green dimension where some parties are characterized by placing the utmost importance on environmental issues while others think that the importance of environmental issues is exaggerated. One this scale 1 stands for the least green and 5 for the most green policy." Germany: "Some say that the fight against climate change should definitely take precedence, even if it impairs economic growth. Others say that the economic growth should definitely take precedence, even if it impairs the fight against climate change. What do you think is the opinion of the following political parties regarding this issue?"
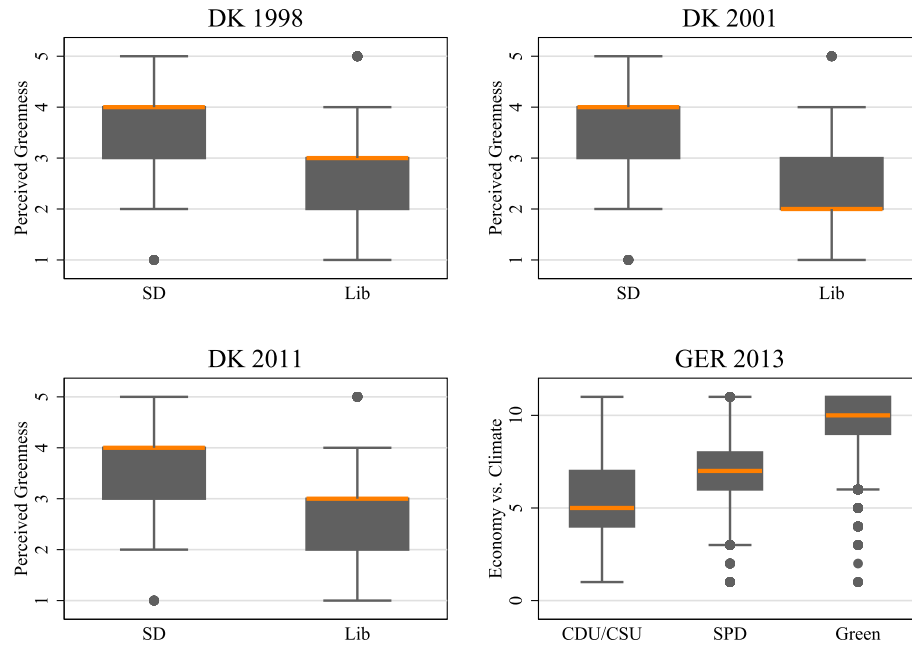
**Fig. 1.** Perceived greenness of Danish and German main parties and German Green Party.

industrialized democracies, does not host a successful Green party.

We calculate party-specific coefficients (Mauerer et al., 2015). Since we are interested in how perceived greenness moderates the magnitude of the economic vote and other scholars have convincingly established that the prime-minister's party is held most accountable (Duch et al., 2015; Duch and Stevenson, 2013), we focus our analysis on the prime minister's party.

We interact each party's perceived greenness with the perceived state of the economy.[4] We reverse the scale so that higher categories correspond to a weaker economy. Three studies ask about the state of the economy. Two of them (DK 1998, GER 2013) do so framing the question as the economy "doing very well" versus "very poorly." The other one (DK 2011) asks about a "healthy economy". For the Danish election study of 2001 there is only a question about how the economy has developed over the past three years.[5] Each variable is measured on a five-point scale except the greenness variable for the German election study that is on an 11-point scale. For presentational purposes we focus on the predicted probabilities for several categories of these scales. We additionally control for party identification as well as the individual-level characteristics sex, education, income, age, ideology, place of residence (urban vs. rural), and own green position. Conditional logit models with fixed effects demand interactions of each dependent variable category with individual-level variables. In Denmark, for example, each voter selects one from between 8 and 10 parties but individual-level characteristics such as income, sex, education or age do not vary within individuals. Thus, each potential party choice must be interacted with each individual-level variable. As a consequence, Table 1 is exceptionally long and has been moved to the appendix.

Our general specification, without the response category interactions is a follows:

$$votechoice = f\,(economy,\ greenness,\ economy$$
$$*\,greenness,\ sex,\ education,\ income,\ age,$$
$$ideology,\ urban,\ owngreenness)$$

What we should expect to observe based on this model is that when people perceive the economy as worse and at the same time perceive the prime minister's party as green, then this should significantly reduce the likelihood of voting for this party.

Of course, there are limits to what one can demonstrate with individual-level survey data. The absence of longitudinal variation makes questions of causality and endogeneity particularly difficult. Thus, what we show here must be understood as suggestive rather than confirmatory. Nevertheless, we argue that these results add a missing and valuable aspect to the cumulation of findings on partisan economic voting and the luxury goods vote.

## 4. Analysis

### 4.1. Left-led government, Denmark 1998 and 2001

The center-left Social Democratic party held the prime ministership in Denmark going into both the 1998 and 2001 elections, both times in coalition with the junior Danish Social Liberal Party. Objectively seen, the economy was growing rapidly in the first but slumping prior to the second election. Perceptions of the economy, however, vary considerably in both elections, as do perceptions of the Social Democratic Party's greenness.

The luxury goods vote would predict that the more green voters perceive the ruling Social Democratic Party to be, the more they will punish (reward) them when they think the economy is

---

[4] Since we calculate party specific instead of generic greenness effects, we interact the greenness variable with the alternative-specific constant. The unconditional effect of economic perception is captured in the fixed effect.

[5] The exact question wordings: DK98 "What do you think about the economic situation in Denmark today?" DK01 "How is Denmarks economic situation today compared to 3–4 years ago?" DK11 "Below are listed a number of views from the political debate. Please indicate how much you agree or disagree in every point of view. The Danish economy is now fundamentally healthy and strong" GER13 "Now I would like to talk about the current economic situation. Generally speaking, what do you think of the current economic situation in Germany? Is it".
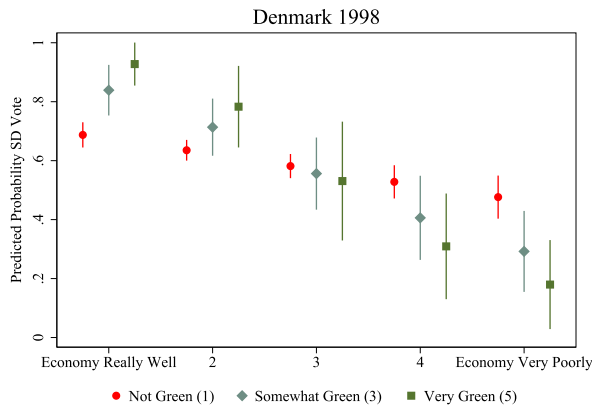
**Fig. 2.** Denmark 1998. Probability of voting for the (Left) prime-minister's party at different levels of perceived greenness and economic performance.



**Fig. 3.** Denmark 2001. Probability of voting for the (Left) prime-minister's party at different levels of perceived greenness and economic performance.

doing poorly (well). Fig. 2 shows precisely such a pattern. We regress the vote choice dependent variable with options for all non-trivial (i.e., parliamentary) parties on perceived greenness and evaluation of the economy, controlling for a standard battery of socio-economic variables, in a conditional logit model grouping on respondent ID. One variable, income, hosts a large number of missing observations which shrinks our sample substantially but omitting it has little effect on the estimates. All figures and estimates are based on models including the income variable and our samples have 13,069, 10,831, 9334 and 4930 observations from 1397, 1420, 1229 and 1027 respondents, respectively. All predicted probabilities are estimated based on the observed values.

Voters who believe the economy is faring really well show a greater than 90% probability of voting for the prime-minister's party when they associate it with a high degree of greenness but less than a 70% probability when they rate it as not green. For those who perceive the economy as weak, this relationship reverses and greenness becomes a burden rather than a benefit for the ruling party. Voters who assessed the economy as performing very poorly, voted for the incumbent party with a 55% probability when they did not perceive it as green, compared to a 20% probability for those who perceived it as very green. The difference in vote probabilities between voters who assess the prime minister's party's policies as very green and non-green is statistically significant at both poles of the economic scale.[6] Expressed differently, the economic vote slope is much steeper for voters who associate the prime minister's party with green policies: they reward it more when times are good and punish it more when times are hard. This is consistent with luxury goods voting behavior in which voters are attracted to luxury goods policies — in this case, environmental protection — when they believe they can afford it but abandon parties associated with such policies when the economy deteriorates and material concerns rise to the fore.

Three years later, in 2001, Denmark held another general election with the Social Democratic Party still holding the prime-ministership and the same Social Liberal party as junior coalition partner. The post-election survey altered some questions. Most notably, it now asks about change in the economy over the past three years rather than the general state of the economy.

Nevertheless, we see the same general pattern (see Fig. 3). Those voters who perceive the ruling party as supporting green policies, relative to those who do not, are more likely to support it in a strong economy and less likely to support it in weak economy.

### 4.2. Right-led government, Denmark 2011 and Germany 2013

What about center-right incumbent parties? While parties of the mainstream right on average hold positions that are more anti-environment than their competitors of the mainstream left, there is substantial variation in how these parties emphasize environmental protection (Abou-Chadi, 2016). More importantly, as can be seen in Fig. 1 there is considerable variation over how green these parties are perceived by the electorate. This allows us to test for luxury goods voting effects outside of the context of left-wing parties, which traditionally are most associated with luxury goods issue. Indeed, as Fig. 1 shows, the opposition Social Democratic party was also considered greener in 2011, but the liberal Venstre party is also seen as credibly green by many voters.

In the 2011 Danish general election, the center-right liberal party, Venstre, entered the election holding the prime-ministership. The objective economy had returned to modest growth after the global financial crisis but, again, economic perceptions varied considerably.

Fig. 4 shows that the center-right ruling party, like their earlier center-left counterparts, enjoyed a higher vote probability among voters who perceived a strong economy and considered them very green. Also, as with left governments, the benefit of being seen as very green diminishes together with the perceived state of the economy. An intriguing distinction, however, is that the center-right ruling party is not punished by those who considered it very green and thought the economy was not healthy. In this circumstance, assessed greenness had no conditioning effect on predicted vote probabilities.

These results are partly in line with the luxury goods voting hypothesis — voters do reward a luxury goods policy in good times — but in the weak economy category the green effect deviates from expectations. We suspect, but cannot prove, that the relative greenness of the two main parties matters and that this comparative effect may be larger in downturns. When the economy is perceived as strong, voters reward all parties in proportion to their perceived greenness, albeit modestly; but when the economy is perceived as weak, they shun those most strongly associated with luxury goods policies even more strongly. Since the pro-environmental center-right's policies are less green than

---

[6] We use 83.5% confidence intervals which, of course, are equivalent to 95% intervals when comparing overlapping intervals (Maghsoodloo and Huang, 2010).
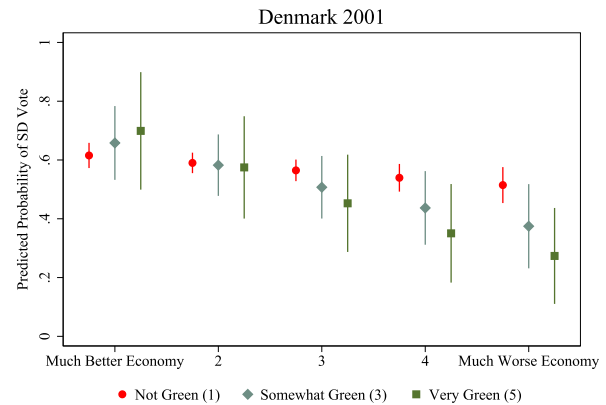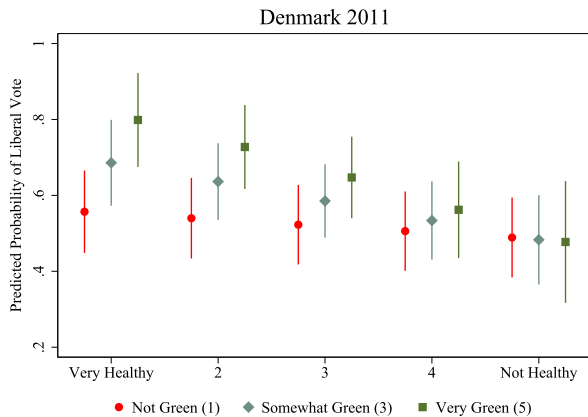
**Fig. 4.** Denmark 2011. Probability of voting for the (Right) prime-minister's party at different levels of perceived greenness and economic performance.
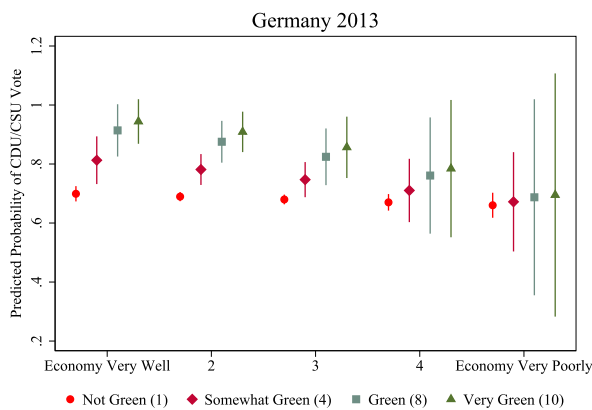


**Fig. 5.** Germany 2013. Probability of voting for the (Right) prime-minister's party at different levels of perceived greenness and economic performance.

those of the center-left (see Fig. 1), it benefits from voters who have abandoned the opposition center-left and other greener parties. This explanation suggests that the punishment effect for greenness in downturns exceeds the reward effect in upturns, which one can see distinctly in Fig. 3 but less so in Fig. 2. It also suggest that the partisan asymmetry in the economic vote shown in Kayser and Grafström (2016) arises not because right incumbents are never associated with luxury goods policies but because their left-of-center opponents are *more* associated with luxury goods policies.

The German Bundestag election of 2013 offers another rare case of a green-friendly center-right incumbent competing in an election after which the election study asked voters to assess each party's greenness. In this survey, however, the question was phrased as a trade-off between environmental and economic priorities and measured on an 11-point scale. This wording is fortuitous because it explicitly forces respondents to consider the two key concerns in the luxury goods voting thesis. Voters care about both material goods (the economy) and post-material luxury goods (the environment) but in different amounts in different economic conditions.

As with Denmark in 2011, we again see the same pattern under a relatively green center-right ruling party (see Fig. 5).

Voters who perceive the CDU/CSU as very green, i.e. willing to protect the environment even at the cost of jobs, are more likely to vote for them when the economy is thought to be doing well. Voters with less sanguine perceptions of the economy, however, are equally likely to vote for the CDU/CSU, regardless of how green they assess the party. In other words, being perceived as environmentally friendly helped the center-right ruling party among those who thought the economy was doing very well but not among those who thought the economy was slumping. Since we are dealing with a trade-off question, it is also unlikely that our findings are purely driven by endogeneity (i.e. voters describing the CDU/CSU as more green because they voted for them). Surely, not all and probably not even many supporters of the German conservative parties think that the environment is more important than the economy. Most interestingly, however, we see that a green reputation did not hurt the incumbent center-right party as it did the ruling center-left party in Denmark in 1998 and 2001.

## 5. Discussion and conclusion

Leveraging the small number of election studies that include questions about parties' perceived greenness, we have tested the data for evidence of luxury goods voting. Our analysis offers two innovations: (1) we test a single luxury goods issue, pro-environmental policy, and (2) although luxury goods policies are most strongly associated with left-of-center parties, we employ two election studies in which center-right incumbent parties are credibly associated with environmentally friendly policy. We find clear evidence of luxury goods voting under center-left incumbents but a slightly different pattern under center-right incumbents. Voters who associate left-incumbent parties with pro-environmental policies reward them more for a strong economy and punish them more strongly for a weak economy. Voters reward right-incumbent parties associated with green policies similarly for a strong economy but punish them to the same degree as non-environmental parties for a weak economy. We speculate that the fact that center-left parties are perceived as comparatively more pro-environment than even pro-green center-right parties combined with a greater punishment effect than reward effect for luxury goods policies accounts for this.

Moving beyond the findings in this paper, it is interesting to consider some implication that the luxury goods vote may suggest, given long-term economic and political developments in developed democracies. The shift of left-of-center parties in Western Europe toward *left-libertarian* policies in response to economic and social change (Kitschelt, 1994) could imply that they are more electorally exposed to economic variation. By drifting toward liberal cultural values and post-material concerns and away from unionist material concerns, many social democratic and center-left parties have altered the composition of their support (Gingrich and Häusermann, 2015). Luxury goods voting might suggest that these center-left parties have left themselves more electorally exposed in economic downturns when material concerns reassert themselves. Consequences may include not only greater volatility in partisan fortunes over the business cycle but also the prospect of flagging center-left popularity during extended periods of low growth such as Western Europe has witnessed over the last decade.[7]

---

[7] For a recent observation, see the Economist (2016).

## Appendix A

**Table 1**

Conditional logit estimates for prime-minister party vote. Alternative specific constants included. Social Democrats as reference for Denmark (DK). CDU/CSU as reference for Gemrany (GER). $^{**}p<0.05$, $^{***}p<0.01$. Standard errors in parentheses. The party codes in the table correspond to the following parties. For Denmark: 1 Social democrats, 2 Social Liberals, 3 Conservatives, 4 Center Democrats, 5 Socialist people's party, 6 Danish People's Party, 7 Christian Democrats, 8 Liberals, 9 Progress Party, 10 Left-wing Alliance, 11 Liberal Alliance. For Germany: 1 CDU/CSU, 2 SPD, 3 FDP, 4 Greens, 5 Linke.

| | (1) DK1998 | | (2) DK2001 | | (3) DK2011 | | (4) GER2013 | |
|---|---|---|---|---|---|---|---|---|
| age × party2 | −0.005 | (0.013) | −0.020 | (0.011) | −0.038*** | (0.010) | 0.003 | (0.009) |
| age × party3 | −0.006 | (0.012) | −0.016 | (0.011) | −0.017 | (0.017) | 0.020 | (0.015) |
| age × party4 | −0.019 | (0.012) | | | | | −0.017 | (0.011) |
| age × party5 | −0.011 | (0.012) | −0.021 | (0.012) | −0.020 | (0.012) | −0.020 | (0.011) |
| age × party6 | 0.000 | (0.012) | −0.003 | (0.010) | 0.005 | (0.012) | | |
| age × party7 | 0.012 | (0.017) | −0.002 | (0.016) | | | | |
| age × party8 | 0.002 | (0.010) | −0.007 | (0.009) | −0.002 | (0.010) | | |
| age × party9 | −0.001 | (0.018) | | | | | | |
| age × party10 | −0.008 | (0.019) | −0.008 | (0.018) | −0.018 | (0.011) | | |
| age × party11 | | | | | −0.049*** | (0.014) | | |
| educ × party2 | 0.869*** | (0.233) | 0.746*** | (0.204) | 0.325*** | (0.106) | −0.101 | (0.136) |
| educ × party3 | 0.396** | (0.187) | 0.637*** | (0.190) | 0.447** | (0.197) | 0.443 | (0.236) |
| educ × party4 | 0.402** | (0.190) | | | | | −0.214 | (0.169) |
| educ × party5 | 0.513*** | (0.183) | 0.626*** | (0.215) | 0.259** | (0.130) | −0.100 | (0.174) |
| educ × party6 | −0.165 | (0.189) | −0.041 | (0.168) | −0.074 | (0.134) | | |
| educ × party7 | 0.309 | (0.270) | 0.100 | (0.252) | | | | |
| educ × party8 | 0.119 | (0.150) | 0.216 | (0.140) | 0.067 | (0.104) | | |
| educ × party9 | −0.075 | (0.293) | | | | | | |
| educ × party10 | 0.995*** | (0.332) | 0.599 | (0.321) | 0.158 | (0.120) | | |
| educ × party11 | | | | | 0.150 | (0.144) | | |
| male × party2 | 0.293 | (0.339) | −0.025 | (0.321) | 0.160 | (0.262) | 0.041 | (0.262) |
| male × party3 | −0.192 | (0.314) | 0.442 | (0.327) | −0.038 | (0.482) | −1.070** | (0.498) |
| male × party4 | −0.464 | (0.325) | | | | | −0.040 | (0.339) |
| male × party5 | 0.284 | (0.295) | −0.113 | (0.335) | 0.134 | (0.335) | 0.077 | (0.336) |
| male × party6 | 0.603 | (0.349) | 0.561 | (0.298) | 0.619 | (0.368) | | |
| male × party7 | −0.062 | (0.457) | 0.275 | (0.475) | | | | |
| male × party8 | 0.220 | (0.269) | 0.231 | (0.242) | −0.047 | (0.275) | | |
| male × party9 | 0.043 | (0.527) | | | | | | |
| male × party10 | 0.289 | (0.450) | 1.008** | (0.499) | 0.737** | (0.324) | | |
| male × party11 | | | | | −0.059 | (0.368) | | |
| inc × party2 | −0.063 | (0.040) | −0.044 | (0.041) | 0.041 | (0.031) | −0.005 | (0.070) |
| inc × party3 | 0.018 | (0.040) | −0.025 | (0.041) | 0.106 | (0.056) | −0.260** | (0.120) |
| inc × party4 | −0.044 | (0.042) | | | | | 0.153 | (0.088) |
| inc × party5 | −0.060 | (0.036) | −0.041 | (0.043) | −0.044 | (0.039) | −0.075 | (0.084) |
| inc × party6 | −0.057 | (0.046) | −0.073 | (0.037) | −0.058 | (0.044) | | |
| inc × party7 | −0.040 | (0.064) | −0.103 | (0.059) | | | | |
| inc × party8 | 0.068 | (0.036) | 0.028 | (0.032) | 0.017 | (0.033) | | |
| inc × party9 | −0.085 | (0.073) | | | | | | |
| inc × party10 | −0.130** | (0.059) | 0.014 | (0.065) | −0.100** | (0.039) | | |
| inc × party11 | | | | | 0.058 | (0.042) | | |
| rile × party2 | 0.119 | (0.102) | 0.125 | (0.101) | 0.134 | (0.071) | −0.457*** | (0.089) |
| rile × party3 | 0.835*** | (0.104) | 0.832*** | (0.102) | 0.868*** | (0.153) | 0.269 | (0.141) |
| rile × party4 | 0.501*** | (0.103) | | | | | −0.468*** | (0.119) |
| rile × party5 | −0.299*** | (0.090) | −0.288*** | (0.107) | −0.330*** | (0.089) | −0.819*** | (0.116) |
| rile × party6 | 1.046*** | (0.104) | 0.780*** | (0.088) | 0.549*** | (0.093) | | |
| rile × party7 | 0.815*** | (0.144) | 0.417*** | (0.146) | | | | |
| rile × party8 | 0.838*** | (0.084) | 0.643*** | (0.075) | 0.699*** | (0.074) | | |
| rile × party9 | 0.787*** | (0.159) | | | | | | |
| rile × party10 | −1.004*** | (0.169) | −0.865*** | (0.189) | −0.478*** | (0.089) | | |
| rile × party11 | | | | | 0.949*** | (0.113) | | |
| rural × party2 | −0.322*** | (0.122) | −0.168 | (0.118) | −0.032 | (0.065) | | |
| rural × party3 | −0.147 | (0.110) | 0.026 | (0.119) | −0.031 | (0.118) | | |
| rural × party4 | −0.039 | (0.112) | | | | | | |
| rural × party5 | −0.110 | (0.101) | −0.194 | (0.123) | −0.018 | (0.084) | | |
| rural × party6 | −0.023 | (0.118) | 0.180 | (0.111) | 0.057 | (0.096) | | |
| rural × party7 | 0.339** | (0.169) | 0.080 | (0.180) | | | | |
| rural × party8 | 0.051 | (0.093) | 0.008 | (0.090) | 0.012 | (0.071) | | |
| rural × party9 | −0.233 | (0.185) | | | | | | |
| rural × party10 | 0.169 | (0.150) | −0.197 | (0.182) | 0.008 | (0.080) | | |
| rural × party11 | | | | | −0.178** | (0.090) | | |
| owngreen × party2 | −0.043 | (0.210) | −0.375 | (0.203) | 0.118 | (0.179) | 0.103 | (0.072) |
| owngreen × party3 | −0.588*** | (0.201) | −0.645*** | (0.197) | −0.566 | (0.313) | −0.075 | (0.117) |
| owngreen × party4 | −0.166 | (0.202) | | | | | 0.379*** | (0.096) |
| owngreen × party5 | 0.471** | (0.192) | 0.094 | (0.218) | 0.524** | (0.233) | 0.193** | (0.094) |

**Table 1** (*continued*)

| | (1) DK1998 | | (2) DK2001 | | (3) DK2011 | | (4) GER2013 | |
|---|---|---|---|---|---|---|---|---|
| owngreen × party6 | −0.674*** | (0.196) | −0.511*** | (0.162) | −0.610*** | (0.211) | | |
| owngreen × party7 | −0.302 | (0.274) | −0.353 | (0.266) | | | | |
| owngreen × party8 | −0.759*** | (0.165) | −0.719*** | (0.145) | −0.577*** | (0.175) | | |
| owngreen × party9 | −0.719** | (0.321) | | | | | | |
| owngreen × party10 | 0.967*** | (0.304) | 0.574 | (0.369) | 0.899*** | (0.214) | | |
| owngreen × party11 | | | | | −0.604** | (0.235) | | |
| gre × party1 | 0.727*** | (0.224) | 0.230 | (0.201) | 0.352 | (0.220) | 0.294 | (0.162) |
| gre × party2 | 0.934*** | (0.297) | 0.397 | (0.267) | 0.822*** | (0.230) | 0.138 | (0.152) |
| gre × party3 | 0.790** | (0.328) | 0.702** | (0.328) | 1.084*** | (0.377) | 0.082 | (0.238) |
| gre × party4 | 0.876*** | (0.308) | | | | | 0.168 | (0.149) |
| gre × party5 | 0.403 | (0.269) | 0.231 | (0.259) | 0.592** | (0.284) | −0.046 | (0.153) |
| gre × party6 | 0.673** | (0.330) | 0.308 | (0.300) | 1.009*** | (0.270) | | |
| gre × party7 | 0.831** | (0.377) | 0.391 | (0.400) | | | | |
| gre × party8 | 0.976*** | (0.280) | 0.758*** | (0.270) | 0.649*** | (0.237) | | |
| gre × party9 | 0.423 | (0.442) | | | | | | |
| gre × party10 | −0.248 | (0.349) | 0.003 | (0.361) | 0.197 | (0.271) | | |
| gre × party11 | | | | | 0.408 | (0.308) | | |
| gre × party1 × econ | −0.263*** | (0.086) | −0.124 | (0.070) | −0.037 | (0.056) | −0.054 | (0.062) |
| gre × party2 × econ | −0.213** | (0.103) | −0.159 | (0.085) | −0.086 | (0.055) | 0.011 | (0.054) |
| gre × party3 × econ | −0.224 | (0.122) | −0.012 | (0.105) | −0.160 | (0.090) | 0.024 | (0.085) |
| gre × party4 × econ | −0.199 | (0.111) | | | | | 0.027 | (0.039) |
| gre × party5 × econ | −0.179** | (0.085) | −0.094 | (0.074) | −0.093 | (0.055) | 0.019 | (0.051) |
| gre × party6 × econ | −0.109 | (0.127) | 0.075 | (0.105) | −0.101 | (0.072) | | |
| gre × party7 × econ | −0.212 | (0.136) | 0.066 | (0.104) | | | | |
| gre × party8 × econ | −0.178 | (0.111) | −0.046 | (0.098) | −0.135** | (0.068) | | |
| gre × party9 × econ | 0.088 | (0.146) | | | | | | |
| gre × party10 × econ | −0.042 | (0.102) | −0.049 | (0.090) | 0.008 | (0.049) | | |
| gre × party11 × econ | | | | | −0.131 | (0.084) | | |
| pid× | 3.824*** | (0.158) | 4.092*** | (0.175) | 3.867*** | (0.176) | 2.700*** | (0.125) |
| ost × spd | | | | | | | −0.339 | (0.283) |
| ost × fdp | | | | | | | −1.693*** | (0.638) |
| ost × gre | | | | | | | −1.912*** | (0.445) |
| ost × left | | | | | | | −0.033 | (0.365) |
| Observations | 13,069 | | 10,831 | | 9334 | | 4930 | |
| Respondents | 1397 | | 1420 | | 1229 | | 1027 | |
| BIC | 3439.136 | | 2953.311 | | 2815.961 | | 1539.613 | |

# References

Abou-Chadi, Tarik, 2016. Niche party success and mainstream party policy shifts–how green and radical right parties differ in their impact. Br. J. Political Sci. 46 (2), 417–436.

Adams, James, Ezrow, Lawrence, Somer-Topcu, Zeynep, 2011. Is anybody Listening? Evidence that voters do not respond to european parties' policy statements during elections. Am. J. Political Sci. 55 (2), 370–382.

Bélanger, Éric, Meguid, Bonnie M., 2008. Issue salience, issue ownership, and issue-based vote choice. Elect. Stud. 27 (3), 477–491.

Budge, Ian, Farlie, Dennis J., 1983. Explaining and Predicting Elections: Issue Effects and Party Strategies in Twenty-three Democracies. Allen and Unwin, London.

DeNeve, Jan-Emmanuel, 2014. "Ideological change and the economics of voting behavior in the US, 1920–2008. Elect. Stud. 34, 27–38.

Duch, Raymond M., Stevenson, Randy, 2008. The Economic Vote: How Political and Economic Institutions Condition Election Results. Cambridge University Press, Cambridge.

Duch, Raymond, Stevenson, Randolph, 2013. Voter perceptions of agenda power and attribution of responsibility for economic performance. Elect. Stud. 32, 512–516.

Duch, Raymond, Przepiorka, Wojtek, Stevenson, Randolph, 2015. Responsibility attribution for collective decision makers. Am. J. Political Sci. 59 (2), 372–389.

Durr, Robert H., 1993. What moves policy sentiment? Am. Political Sci. Rev. 87 (1), 158–172.

Economist, 2016. Rose Thou Art Sick: the Centre Left Is in Sharp Decline across Europe. The Economist.

Franzen, Axel, Meyer, Reto, 2010. Environmental attitudes in cross-national perspective: a multilevel analysis of the ISSP 1993 and 2000. Eur. Sociol. Rev. 26 (2), 219–234.

Gingrich, Jane, Häusermann, Silja, 2015. The decline of the working-class vote, the reconfiguration of the welfare support coalition and consequences for the welfare state. J. Eur. Soc. Policy 25 (1), 50–75.

Green, Jane, Hobolt, Sara B., 2008. Owning the issue agenda: party strategies and vote choices in British elections. Elect. Stud. 27 (3), 460–476.

Inglehart, Ronald, 1971. The silent revolution in Europe: intergenerational change in post-industrial societies. Am. political Sci. Rev. 65 (04), 991–1017.

Inglehart, Ronald, 1997. Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies, vol. 19. Cambridge Univ Press.

Kayser, Mark A., 2009. Partisan waves: international business cycles and electoral choice. Am. J. Political Sci. 53 (4), 950–970.

Kayser, Mark A., 2014. The elusive economic vote. In: LeDuc, Lawrence, Niemi, Richard G., Norris, Pippa (Eds.), Comparing Democracies 4. Sage, Thousand Oaks, CA.

Kayser, Mark A., Grafström, Cassandra, 2016. The luxury goods vote: how the left loses from asymmetric electoral accountability. Work. Pap. Hertie Sch. Gov. Univ. Mich. 1–47.

Kitschelt, Herbert, 1994. The Transformation of European Social Democracy. cambridge university press.

LeDuc, Lawrence, Pammett, Jon H., 2013. The fate of governing parties in times of economic crisis. Elect. Studies 32 (3), 494–499.

Lindvall, Johannes, 2014. The electoral consequences of two great crises. Eur. J. Political Res. 53 (4), 747–765.

Lindvall, Johannes, 2015. Economic downturns and political competition since the 1870s. Work. Pap. EPSA 2015.

Maghsoodloo, Saeed, Huang, Ching-Ying, 2010. Comparing the overlapping of two independent confidence intervals with a single confidence interval for two normal population parameters. J. Stat. Plan. Inference 140 (1), 3295–3305.

Markussen, S., 2008. How the left prospers from prosperity. Eur. J. Political Econ. 24 (2), 329–342.

Mauerer, Ingrid, Thurner, Paul W., Debus, Marc, 2015. Under which conditions do parties attract voters' reactions to Issues? Party-Varying issue voting in German elections 1987–2009. West Eur. Polit. 38 (6), 1251–1273.

Stevenson, Randolph T., 2001. The economy and policy mood: a fundamental dynamic of democratic politics? Am. J. Political Sci. 45 (3), 620–633.

Stimson, James A., 1991. Public Opinion in America: Moods, Cycles, and Swings. Westview, Boulder.