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# Tracing a Political Cleavage: The Wolf Issue in Sweden

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**ABSTRACT** *In 2009, Sweden allowed licensed wolf (*canis lupus*) hunting for the first time in 45 years. After record number of media attention and threat of legal action from the EU, the licenced hunt stopped, but protective hunting continued – as did the polarisation in public debate. This article will analyse how the wolf issue relates to the three main cleavage elements and to what extent the elements align. It provides an empirical investigation of the wolf issue, applying the three-step cleavage model on the 2010 Swedish National Election Study data. Our results show, first, that we can identify specific group features among persons with negative wolf attitudes (structural difference); second, that the wolf issue loads (if weakly) at a second non-economic dimension connecting to issues of self-determination and globalisation (attitudinal difference); and third, that this second dimension affects voting for the Greens and the Centre party (institutional difference). However, when controlling for both dimensions in the third step, the wolf issue alone has a lesser impact. Thus, the wolf issue may currently be seen as a so-called position divide, although with a future potential to serve as cleavage catalyst if mobilised in connection with aspects of self-determination and globalisation.*

**KEY WORDS:** Political cleavages, biodiversity, voter behaviour, wolf, *canis lupus*, Sweden

## Introduction

The Centre party wants to see a leaner but more focused EU, one that hunts carbon emissions, while letting us in Sweden hunt the wolf.<sup>1</sup>

The above quotation by the Centre Party leader Annie Lööf in 2013 should be understood in the context of the huge public debate that followed after Sweden in late 2009 allowed licensed wolf (*canis lupus*) hunting for the first time in 45 years. The Swedish government received high numbers of public reactions, and the issue awoke intense debate in Swedish media, more than other comparable issues. The special attention around the wolf issue is also evident from analyses of parliamentary debates, parliamentary committees reservations and to some extent also in party manifestos (see [Appendix 1](#)). In other words, the wolf issue is politicised in Sweden.

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The polarisation in wolf attitudes is evident in the general Swedish public opinion (Berg & Solevid, 2011). The attitudinal differences range from, on the one hand, hunters and cattle owners supporting the wolf hunt, and on the other hand, environmentalists and animal protectionists demanding a stop (Sjölander Lindqvist, 2008; Nilsson Dahlström, 2009; Ekengren, 2012). Hunting wolves – or not – stir up emotions among very different strata of the Swedish population, a polarisation which remain as the hunting of wolves has continued.<sup>2</sup>

Against this backdrop, it could be expected that the issue of wolves and wolf hunting should have mattered for voter behaviour in the 2010 national Swedish election, but as will be shown, the direct effects on party choice were modest. This article will explain why this is the case, while at the same time show that the wolf issue potentially could be an issue mobilising voters in the future. The research on political cleavages provides a good theoretical foundation to disentangle the various ways the wolf debate may or may not relate to what Deegan-Krause (2007) calls the three main cleavage elements: structure (demographic groups), attitudes (shared values) and institutions (political parties).

The political cleavage literature has been influential – and debated – ever since the classic work of Lipset and Rokkan in 1967. Sartori (1969) criticised their so-called freezing hypothesis, arguing that party systems preserve themselves, as it is in the interest of parties to try to control which issues and conflicts that become politically relevant. Since the 1980s, scholars have been concerned about the declining relevance of traditional political cleavages such as class and religion (Dalton, 2004), in parallel to an increased interest in the rise of new political cleavages, whether defined in terms of globalisation, Europeanisation, culture, or as a form of authoritarian–libertarian, or risk–opportunity dimension (Kitschelt, 2004; Kriesi et al., 2006; Bornschier, 2010; Azmanova, 2011).

Previous research shows that the wolf debate cuts across the strong left–right dimension in Swedish politics (Berg & Solevid, 2011). The wolf issue also relates to a broader set of political questions where issues of biodiversity clash with demands for self-determination, much similar to how bans on traditional hunt of birds and game in southern Europe have influenced the political debate on self-determination and anti-EU sentiments (Usherwood, 2007). Of course, not all new issues gaining political salience are signs of a new political cleavage. Previous research points out that the underlying values of a new dimension are expected to play out in relation to country-specific issues and events (critical junctures) which might serve as catalysts (Lipset & Rokkan, 1967; Stubager, 2010). One example of how new political issues temporarily can mobilise voters along cleavages that cuts across the left–right dimension is the protests against the law allowing the National Defence Radio Establishment (FRA) to wiretap phones and internet traffic in Sweden in 2008 – and the subsequent success for the Swedish Pirate Party in the 2009 European Parliament Election (Erlingsson & Persson, 2011).

The elements of the cleavage model (see Bartonlini & Mair, 1990; Knutsen & Scarbrough, 1995; Kriesi, 1998; Deegan-Krause, 2007) can be used to assess when, how and to what extent the structural, attitudinal and institutional elements are aligned or not. The aim of this article is to analyse how the wolf issue relates to the three main cleavage elements and to what extent the elements align. If only two of three elements are aligned, we might talk about a partial cleavage or a ‘divide’. Such divides can potentially, albeit rarely, develop into full political cleavages (Deegan-Krause, 2007, 2013). Three research questions will be answered: (1) Is there a structural difference, that is, are attitudes to wolves structured along social conflict lines? (2) Are there attitudinal differences, in

terms of shared values and attitudes, to which the wolf issue relates? (3) Is there an institutional difference, for example, do *these attitudinal differences affect party choice*?

Using the 2010 Swedish National Election Study (SNES), our results show, first, that we can identify structural differences, that is, specific group features among persons with positive or negative attitudes to wolves. Second, we find two main attitude dimensions among the Swedish electorate: one predominantly left–right and another one encompassing non-economic values, connecting to issues of globalisation and self-determination. Attitudes to wolves load (although weakly) on this second dimension. Third, investigating the institutional difference, we find that the non-economic dimension affects voting for the Centre Party and the Green Party although the wolf issue alone shows a lesser impact. More detailed analyses showed that in wolf areas, people with *negative* attitudes to wolves were more likely to vote for the Centre Party, whereas in urban areas, people with *positive* attitudes to wolves were more likely to vote for the Centre Party.

The article is structured as follows: In the next section, we will shortly present previous research on wolf attitudes. Thereafter, we develop our theoretical framework using theory and research on political cleavages. We then discuss the design of the study, the method and the material used, before turning to the results of our empirical analyses, which will be presented in three steps to correspond to the three research questions. Finally, the implications of our findings will be discussed in relation to theory and previous research in the concluding section.

### Attitudes to Wolves

With the recognition of wolves as endangered species and subsequent bans on hunting, the wolf populations have increased in some parts of the world during the last decades. A larger wolf population has led to more tensions and polarised attitudes to wolves. The first studies of attitudes to wolves among the general public were conducted in the early 1970s in the USA, and was followed by other studies in various parts of the world (Ericsson et al., 2004).

An overview of these studies shows that the explanatory factors can be summarised in three overall categories. The first contains socio-economic factors such as age, gender and education. Older people, women and persons with lower educational levels tend to be more negative to wolves, whereas younger people, men and the more highly educated tend to be more positive (Zimmermann et al., 2001; Williams et al., 2002; Kleiven et al., 2004). The second group concerns people's lifestyles, where especially farmers and people engaging in outdoor activities like hunting, fishing or berry picking tend to be more negative towards wolves (Kleiven et al., 2004; Heberlein & Ericsson, 2005; Cinque, 2008). The third group of explanations focus on the location of people, especially their distance to specific wolf areas, or whether people in rural areas live in wolf areas or not, with more negative attitudes found among those who do (Williams et al., 2002; Ericsson et al., 2004; Heberlein & Ericsson, 2005; Karlsson & Sjöström, 2007). Some scholars have also noted tendencies of an urban–rural or a centre–periphery pattern in attitudes, with a stronger willingness to protect wolves in urban areas and a feeling of lack of social and political power in more rural areas (Kleiven et al., 2004; Nilsson Dahlström, 2009; Sandström & Ericsson, 2009). Although previous research acknowledges some structural differences in wolf attitudes, this research lacks a theoretical framework that explains why these

differences arise and their political consequences, as well as empirical analyses. This article aims to fill this gap.

### **The Political Cleavage Model**

Most accounts of ‘cleavage theory’ in the social sciences are derived from what is commonly referred to as Rokkan’s model of party system formation in Western Europe (Lipset & Rokkan, 1967; Rokkan, 1999). The concept of cleavage refers to a specific type of conflict in politics, rooted in social structural transformations of states, for example, nation-formation or industrialisation (Kriesi, 1998; Bartolini, 2000; Deegan-Krause, 2007). According to Bartolini and Mair (1990), and further developed by Knutsen and Scarbrough (1995) and more recently Deegan-Krause (2007), a political division must comprise three elements to constitute a political cleavage. Following Deegan-Krause (2007), the elements are: (1) a demographic or structural difference, (2) an attitudinal difference and (3) a behavioural or institutional difference (party choice). When all three differences are aligned, we can speak of a *full* political cleavage. A situation where two out of three elements are aligned can be referred to as a partial cleavage – or a ‘divide’. Deegan-Krause (2013) further separates among three different divides:

The first is a *position (or structural) divide*, where demographic and attitudinal elements overlap. It could, for example, be a socio-economic group that shares values and attitudes, but without formally organised interests – that is, a social cleavage without a party component. The second category is a *census divide*. It corresponds to separate groups voting for their separate parties without articulated shared values and attitudes. The third category, *issue divide*, is very common. It represents an overlap of attitudinal and behavioural elements, an alignment of particular attitudes and party choices. Such a divide may have an immediate political effect, but as they lack a foundation in distinctive societal groups, these divides may not endure from one election to another<sup>3</sup> (Deegan-Krause, 2013). All divides have the theoretical potential to develop into a political cleavage. For example, the issue divide can be related to issue ownership, and recent studies of the sources of voters’ perceptions of parties show that issue ownership in some cases may be derived from the association between specific parties and specific social groups (Stubager & Slothuus, 2013).

### *Party Mobilisation and Cleavage Dimensions*

The full political cleavage concept is thus usually reserved for durable patterns of political behaviour linking social groups, attitudes and political organisations (Kriesi, 1998; Bornschieer, 2009; Deegan-Krause, 2013). The scholarly debate is more divided when it comes to cleavage *content*, for example, which and how many cleavages there are. Lipset and Rokkan (1967) suggested four cleavages – class, religion, urban–rural and centre–periphery – and argued that the party systems of the 1960s reflected these four cleavage structures from the 1920s. In line with this so called ‘frozen’ party system hypothesis, party competition and mobilisation in European countries were expected to play out in relation to mainly one or two of these cleavages, thereby characterising of the party system in each country. Sartori (1969), on the other hand, criticised the freezing hypothesis and argued that parties themselves rather influenced what issues and conflicts became relevant to politics, thereby preserving the party system. Most agree that when new issues

emerge, parties usually try to integrate them into the existing structure of conflict, or otherwise try to avoid positioning themselves. But if a question is salient enough, or cannot be integrated into the existing structure of conflict, it is likely that either an existing or a new party will address it, causing other parties to position themselves in regard to the issue as well (Dalton, 2004).

The party systems remained fairly stable until the 1980s, when new value conflicts and issues became mobilised (Kitschelt, 2004; Kriesi et al., 2006; Stubager, 2010). Although declining, the class dimension is still generally regarded as the most important for party choice, not least in Sweden (Oscarsson & Holmberg, 2013, p. 22). Many scholars emphasise that ideological conflicts over non-economic issues and different values have increased in importance for party choice (Kitschelt, 2004; Kriesi et al., 2006; Knutsen, 2009; Hooghe et al., 2010; Azmanova, 2011). This dimension is sometimes shortened Gal/Tan (green/alternative/libertarian vs. traditionalism/authority/nationalism), or simply referred to as a dimension of liberal–authoritarian values (Kitschelt, 2004; Hooghe et al., 2010). The idea is that this conflict dimension has increased in the wake of processes of globalisation and Europeanisation, as they have produced a new set of ‘winners’ and ‘losers’ in the old European countries (Kriesi et al., 2006; Bornschie, 2010). Stubager (2010), among others, argues that the concrete manifestation of such a value conflict may vary from one country to another depending on the socio-political and historical context: For example, moral and religious issues are important in the USA, whereas immigration and environmental protection (‘the relationship between man and nature’) better reflect this cleavage in Northern Europe (Stubager, 2010, p. 509).

### *The Non-economic Dimension and the Wolf Issue*

Party mobilisation in relation to the non-economic dimension has been argued to lead to an increased competition among parties with opposing views of globalisation and Europeanisation, as either ‘opportunities’ or ‘risks’ (Kriesi et al., 2006; Azmanova, 2011). The contrast is between, on the one hand, liberal, new left/green, or third way social parties who view globalisation and Europeanisation mostly in terms of opportunities; on the other hand, we find more traditional centre-right, new populism and radical authoritarian left parties who tend to perceive globalisation and Europeanisation in terms of risks and loss of self-determination.

There are four different elements of security connected to the risk end of the dimension: physical, political, cultural and income insecurity (Azmanova, 2011, pp. 398–399). Building on previous research on attitudes to wolves, we argue that these forms of insecurities also have a bearing on the wolf issue in Sweden, which in turn provides a theoretical argument for how wolf attitudes relate to a second non-economic dimension. Positive attitudes to wolves would, we argue, fit well in the ‘opportunities’ end of this dimension (and affect voting, e.g. the Green Party), whereas we would expect to find negative attitudes to wolves, as well as self-determination issues concerning resistance to globalisation and Europeanisation, at the ‘risk’ end of this dimension. These expectations are further developed below.

First, there is an element of *physical security* concern since wolves are predators. This is mostly relevant for people living in wolf areas, although the theoretical argument emphasises the importance of *perceived* risks rather than objective risks. Fear of wolves has deep historical and cultural foundations in Sweden. Wolves reportedly kill or harm cattle and dogs in wolf areas, while the threat to humans has been argued to be negligible (SOU,



2012, p. 22). Contrastingly, the physical risk is much less relevant for urban-living persons, who rather tend to be willing to preserve – and even increase – the wolf population in the name of biodiversity. This triggers, second, the question of *political security*, of who has the right to influence and make decisions about the wolf. Hunters and people living in wolf areas value self-determination, preferring local or regional decision-making regarding wolf policies (Ekengren, 2012; SOU, 2012, p. 22); yet, the laws and regulations are national and European.

Third, *income security* is relevant as wolf areas tend to be rural and relatively farming intense and wolves do kill cattle (Heberlein & Ericsson, 2005). In addition, these areas are often economically peripheral and in general more negatively affected by the increased competition following the EU internal market integration and globalisation (Knutsen, 2009). Fourth, the open borders of European integration and globalisation relate not only to increased competition and trade, but also to perceived risks to *cultural security*, that is, risks associated with lifestyle aspects and people's way of life (Kitschelt, 2004). The wolf issue can thus be seen as a potential symbol, as wolf hunting has a very strong historical tradition in Sweden.

In summary, by combining research on wolf attitudes with theory and research on cleavage elements, we argue first that it is reasonable to expect structural differences with regard to the wolf issue, that is, different interests among social groups with varying attitudes towards wolves. Second, we also expect to find an attitudinal difference, that is, that the wolf issue relates to a non-economic attitudinal dimension. In other words, we expect to find an alignment between the structural and attitudinal elements, that is, a *positional* divide (Deegan-Krause, 2013).

Third, to what extent the structural and attitudinal differences align with the institutional element, party choice, remains an open question. From previous research, we know that the second non-economic dimension does affect party choice in Sweden (Oscarsson & Holmberg, 2013). As for the wolf issue, the Green Party would correspond to the 'opportunities' end of the 'risk–opportunities' dimension with its emphasis on biodiversity through an increase of the wolf pack. Contrastingly, the Centre Party has focused on decentralised decision-making and emphasises biodiversity through wolf hunting, which is more in line with the interests of the population in wolf areas and closer to the 'risk' end of the dimension concerning wolves (Nilsson Dahlström, 2009). However, the Centre Party has also changed from its traditional agrarian roots to become a liberal trade and industry-centred and a green centre-right party, attracting new voters from the cities. This has been described as a complementary strategy, aiming to reconcile the divide between the traditional support group in the countryside and newer voters in the cities (Rosén Sundström & Sundström, 2010). In sum, although the two main party opponents in the wolf issue can be identified, the degree to which the wolf issue matters for party behaviour is also dependent upon its structural base and alignment with other issues.

### Design of Study, Data and Measurement of Variables

The main source of data used in this study is the SNES from 2010, conducted by Statistics Sweden and the Department of Political Science, University of Gothenburg. The survey consists of a pre-election round, a post-election round and a rolling two-step panel. The survey mode is face-to-face interview. In total, 3693 respondents were included and the response rate was 69 per cent (2736 respondents).<sup>4</sup>

In the 2010 SNES, a unique item tapping respondents' attitudes to wolves was included alongside a wide range of other political issues. An advantage of the SNES is that it allows us to test each component in the cleavage model – the group conflict element, the psychological conflict element and the organisational element. One important limitation of the SNES is that we are not able to tap respondents' views of the salience of the wolf issue. We have to rely on only the presence of an attitude rather than the combination of the presence of an attitude and perceived salience of the wolf issue, which would have been a more optimal design. However, other sources confirm that the wolf issue indeed is politicised (see [Appendix 1](#)). A second limitation is that we measure wolf attitudes in relation to other political attitudes, rather than political values. A third limitation is that measures of attitudes to wolves cannot be followed over time in a consistent manner.<sup>5</sup> General political attitude surveys tend not to measure attitudes to carnivores, whereas surveys intended to do so tend to lack information about the political context, such as attitudes to other political issues and party preferences.

The *first* empirical step is to analyse the structural difference element of the cleavage model by testing the explanatory power of a set of socio-economic variables on wolf attitudes. The dependent variable in this analysis is wolf attitudes, measured by the item 'The population size of the Swedish wolf should increase'. The five response options originally range from Very good proposal to Very bad proposal, but we reverse the response scale in our analyses; thus, the scale is from *Very bad proposal* to *Very good proposal*. Ordinal regression will be used since the response options are on ordinal scale (see [Table 1](#)). To facilitate interpretation, we display the predicted probabilities (see [Table 2](#)).

Although only a single indicator, the size of the wolf population is the most contested aspect of the wolf debate (SOU, 2012, p. 22). Moreover, regardless of question formulation or survey year, our validation analyses of three other surveys show similar results. Roughly one-third of the Swedes agree that it is a bad proposal to increase the size of the wolf population (or agree that the wolf population is too big); about one-third think that it is neither a good nor bad proposal; and consequently, the last one-third think that it would be a good idea to increase the size of the wolf population (or agree that the population is too small) (see [Table A1](#) in [Appendix 3](#)).

The socio-economic and political variables used are derived from previous research: gender, age, education, class, urban–rural living, urban–rural socialisation, interest in politics, left–right ideology, and living in county with or without licensed wolf hunt (see [Appendix 2](#) for question design and variable construction). The ideology variable is included with reference to the discussion that the wolf debate should not strongly align with the left–right dimension.

The *second* empirical step is to analyse the attitudinal element. It is clear from previous research that there are no given ways to assess this element and the methods and materials used vary a lot. We use an approach similar to Stubager (2010), although instead of direct questions about values, we use several batteries of political issue items framed as proposals in political debate, constructed to capture underlying differences in ideology and values. By performing a factor analysis, we will be able to test whether the wolf issue aligns with other political issues associated with the risk–opportunity dimension or not (see [Table 3](#)).

The results from the factor analysis will then be used in our *third* empirical step, the institutional element. We will use factor scores from step 2 to predict party choice under control

for the most important socio-economic explanations of party choice in the national election. In this analysis, voting on the following seven parties is used as the dependent variable: the Left Party, the Social Democrats, the Centre Party, The Liberals, The Moderate Party, the Christian Democrats and the Green Party. Due to low number of respondents, we had to exclude the Sweden Democrats and votes for other parties from this analysis.<sup>6</sup> The purpose of the third step is both to investigate to what extent attitude dimensions, under control, affect party choice and to what extent the wolf issue as an independent variable affects party choice under control for the attitude dimensions and other relevant variables (see Table 4). We also include the interaction effect between attitude to wolves and living in a county where the 2010 licensed wolf hunt took place. Thus, 'wolf county' is a proxy for issue salience since the licence hunt directed attention to the issue and to citizens more directly affected by the wolf issue.

The socio-economic variables chosen in the final analyses of party choice simultaneously represent the, at least over time, most important political cleavages and explanations of party choice (Oscarsson & Holmberg, 2013) and wolf attitudes: age, gender, years of education, class position and urban–rural living (see Appendix 2 for variable constructions).

Since the dependent variable party choice is a nominal scale variable, multinomial logit regression will be used. In multinomial logistic regression, the coefficients (for each outcome on the dependent variable) must be interpreted in relation to the base outcome, or the reference category. Thus, the multinomial logistic coefficient expresses the effect of a unit change of the independent variable on the logit of a category on the dependent variable relative to the reference category, when all other variables in the model are held constant.

## Results

The first step in our analyses is to test the structural difference element of the cleavage model. We test the explanatory power of a set of socio-economic variables on attitudes to wolves to see whether we can identify differing attitudes among groups with different interests. Table 1 shows the effects of socio-economic and political explanations to wolf attitudes.

The results show that people of old age, members of the working class, people living in small towns or the countryside, people born and raised and currently living in the countryside, people living in counties where wolf hunting took place, people with less interest in politics and people with right-leaning political sympathies are more inclined to disagree with the statement that the Swedish wolf population should increase in size, that is, they hold more negative attitudes. These results correspond to previous findings, but also reflect some of the security aspects accentuated as important for the 'risk–opportunity' dimension, that is, physical, political, income and cultural security.

To get an idea of effect sizes, Table 2 provides predicted probabilities of the significant results (the predicted probabilities can be interpreted as per cent). The predicted probability of strongly disagreeing with the statement to increase the wolf population is .32 among the oldest and .05 among the youngest. We also find differences concerning living and socialisation. The predicted probability of finding the proposal very bad is twice as large among people living in the countryside (.20) compared to people living in the three largest cities (.10). Similar effect sizes are found when comparing those with both rural socialisation and living (.21) with those without (.13), and when comparing the politically uninterested (.20)

**Table 1.** The social and political structure of the wolf issue (unstandardised ordinal logit coefficients)

	Dependent variable: Increase the size of the Swedish wolf population (1 = Very bad proposal, 5 = Very good proposal)			
	Model 1	Model 2	Model 3	Model 4
Woman	−0.110 (.109)			−0.105 (.111)
Age (18–80)	−0.035*** (.004)			−0.036*** (0.004)
Education in years (0–20)	0.043*** (.015)			0.023*** (.015)
Worker	−0.319*** (.118)			−0.282*** (.129)
Urban rural living (reference: three largest cities)				
City or large town		−0.323** (.172)		−0.184 (.2055)
Small town		−0.699*** (.198)		−0.442** (0.196)
Countryside		−0.913*** (0.223)		−0.772*** (.228)
Rural socialisation and rural living combined		−0.782*** (.238)		−0.490** (.243)
Urban socialisation and urban living combined		0.225 (.165)		0.144 (.169)
Wolf county		−0.350*** (.113)		−0.359*** (.115)
Interest in politics (1 = Very interested, 4 = not at all interested)			−0.268*** (.070)	−0.189*** (.077)
Left–right position (0–10)			−0.058** (.024)	−0.086*** (.026)
_cut1	−3.189*** (.332)	−2.310*** (.183)	−2.479*** (.223)	−4.863*** (.444)
_cut2	−2.193*** (.326)	−1.343*** (.173)	−1.566*** (.215)	−3.814*** (.436)
_cut3	−0.398 (.318)	0.374** (.167)	0.083 (.209)	−1.934*** (.424)
_cut4	0.858*** (.321)	1.592*** (.180)	1.285*** (.219)	−0.646 (.423)
N	1113	1113	1113	1113
Pseudo R <sup>2</sup>	.045	.026	.001	.066

Notes: Standard errors in parentheses. Information on question formulation and coding available in [Appendix 2](#).

Source: SNES 2010.

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .01$ .

with the politically interested (.12) and those to the right (.20) with those to the left (.10) on the left–right dimension. In general, the effect sizes are relatively modest and the differences between the groups are, although significant, not as outspoken as seen in other surveys.<sup>7</sup>

**Table 2.** Predicted probabilities of wolf attitudes

	Increase the wolf population = Very bad proposal	Increase the wolf population = Very good proposal
Age = 20	.05	.21
Age = 40	.10	.11
Age = 60	.19	.06
Age = 80	.32	.03
Worker	.16	.07
Not worker	.13	.09
Three largest cities	.11	.11
City or large town	.12	.09
Small town	.16	.07
Countryside	.20	.05
Rural socialisation and living	.21	.05
Not rural socialisation and living	.14	.08
Wolf county	.17	.07
Not wolf county	.13	.09
Very interested in politics	.12	.10
Not at all interested in politics	.19	.06
Left	.09	.12
Neither left nor right	.14	.08
Right	.20	.05

*Notes:* Predicted probabilities are calculated from Model 4 in Table 1. Only the probabilities of significant variables are entered above. The calculations have been done using the margins command in Stata. For each calculation, all other variables are held to their means.

After finding theoretically relevant variance in attitudes to wolves among different social groups, it is relevant to proceed to the second step of the cleavage model; that is, to analyse *attitudinal differences*. This presupposes a normative element of collectively shared common values and attitudes. Our theoretical expectation is that the wolf issue should relate to other political issues belonging to the ‘risk–opportunity’ dimension, and not with traditional left–right issues.<sup>8</sup>

Table 3 displays the issue dimensions among Swedish voters. Based on the available attitudes to political issues, the factor analysis reveals that there are two major issue dimensions among the Swedish electorate. They can be interpreted as roughly a left–right dimension and a risk–opportunity dimension, respectively. Although the items available in a survey heavily affect the dimensionality and the SNES primarily measures left–right attitudes, the results indicate that the wolf issue loads just under the .30 threshold on the risk–opportunity dimension (see Appendix 4 for further elaborations of the factor analysis). People who dislike the suggestion to increase the wolf population also tend to dislike Sweden’s EU membership and show disapproval on items tapping attitudes to refugees and immigrants, foreign aid and free trade. This is in line with the four different aspects of security concerns that Azmanova (2011) argues affect the ‘risk’ end of the risk–opportunity dimension. This would suggest an attitudinal difference aligning with the previously shown structural difference, which might so far be described as a position divide. It should, however, be noted that the wolf issue has the weakest factor loading in this dimension.

**Table 3.** Issue dimensions among Swedish voters, 2010 (factor loadings)

Proposals: response options from 1 to 5, 5 = Very bad proposal (if marked reversed, 5 = Very good proposal)	Factor 1 left–right	Factor 2 risk– opportunity	Uniqueness
Reduce the size of the public sector	<b>.60</b>		.63
Reduce spending on welfare	<b>.57</b>		.68
Reduce taxes	<b>.62</b>		.59
Sell state-owned companies to private actors	<b>.66</b>		.52
Reduce differences in income (redistribution) (reversed)	<b>.52</b>		.73
More private hospital care	<b>.64</b>		.56
Increase economic support for sparsely populated areas (reversed)	.28		.88
In the long run end use of nuclear power (reversed)	<b>.49</b>		.73
Sweden should introduce Euro as currency	<b>.35</b>		.78
Sweden should apply for NATO membership	<b>.50</b>		.75
Sweden should end participation in UN's military force in Afghanistan (reversed)	<b>.48</b>		.72
Introduce six-hour workday (reversed)	<b>.47</b>		.74
Introduce gender quotas to governmental managerial positions (reversed)	<b>.36</b>		.87
Abolish tax reduction for domestic help (reversed)	<b>.55</b>		.70
Introduce a republic system in Sweden (reversed)	<b>.38</b>		.82
Sweden should end EU membership		<b>.47</b>	.67
Sweden should work for increased free trade in the world (reversed)		.25	.91
Lower foreign aid		<b>.56</b>	.60
Receive fewer refugees		<b>.69</b>	.45
Increase economic support to immigrants for maintaining their culture (reversed)		<b>.50</b>	.64
Increase foreign labour (reversed)		<b>.55</b>	.69
Significantly increase length of imprisonment for criminals		<b>.56</b>	.63
Higher retirement age (reversed)		<b>.39</b>	.79
The Swedish wolf population should increase in numbers (reversed)		.29	.91
Eigenvalue	4.57	2.69	
Proportion	53.37	31.50	

*Notes:* For variable constructions, see [Appendix 2](#). Response options range from Very good proposal to Very bad proposal. Some items are reversed since their loadings were negative. In these cases (marked (reversed)), response options instead range from Very bad proposal to Very good proposal. Table entries are factor loadings extracted from a factor analysis using the principal factor method. The table displays the unrotated solution restricted to the two factors with eigenvalues >1. Items 'Reduce defence spending', 'Decriminalise all Internet file sharing', 'Abolish child care allowance for parents with small children' and 'Ban pornography' did not load strongly enough on any of the two factors. Factor loadings <.25 are suppressed, loadings >.30 are bold marked.

*Source:* SNES 2010.

The third step is the investigation of the *institutional difference*. More concretely, we analyse to what extent the dimensions from step two affect party choice. Since the wolf issue only loaded weakly on the two dimensions, we omitted the wolf issue from the factor analysis, reran the factors and predicted new factor scores. We then included the

**Table 4.** Political cleavages, attitudes to wolves and party choice, Swedish election 2010, voting for the Social Democratic Party base outcome (unstandardised multinomial logistic regression coefficients)

	Left party	Centre party	Liberals	Moderates	Christian democrats	Green party
Left–right factor	1.556*** (.336)	–3.080*** (.347)	–3.016*** (.337)	–3.919*** (.313)	–3.957*** (.390)	–0.100 (.240)
Risk–opportunity factor	–0.392 (.260)	0.608** (.260)	0.180 (.239)	0.003 (.190)	0.043 (.282)	0.542*** (.202)
Attitude to wolves (1–5, 5 = Very good proposal to increase the size of the wolf population)	0.019 (.212)	0.481** (.229)	0.207 (.204)	0.102 (.164)	0.114 (.235)	–0.017 (.175)
Woman	–0.744* (.384)	1.398*** (.388)	–0.023 (.360)	0.154 (.287)	0.627 (.422)	0.210 (.292)
Age (18–80)	–0.016 (.013)	0.015 (.013)	0.011 (.012)	–0.003 (.010)	0.018 (.014)	–0.033*** (.010)
Years of education (0–20)	0.073 (.068)	0.151** (.062)	0.111** (.055)	0.114*** (.042)	0.082 (.060)	0.106* (.058)
Worker	–0.318 (.427)	–0.852* (.454)	–1.313*** (.434)	–0.780** (.321)	–1.649*** (.544)	–0.715** (.326)
Wolf county	0.023 (1.074)	2.966*** (.998)	0.521 (.999)	0.161 (.758)	1.718 (1.057)	–0.503 (.882)
Attitude to wolves × Wolf county	0.214 (.320)	–0.837** (.333)	–0.069 (.321)	–0.085 (.253)	–0.455 (.378)	0.211 (.265)
Urban–rural (reference: three largest cities)						
City or large town	–0.180 (.550)	–0.887 (.635)	–0.465 (.598)	–0.796 (.530)	–0.945 (.701)	–0.490 (.448)
Small town	–1.093 (.699)	–0.234 (.696)	–0.866 (.683)	–0.335 (.563)	–0.473 (.775)	–0.661 (.520)
Rural area	–0.545 (.650)	0.193 (.661)	–1.191* (.721)	–0.814 (.585)	–0.466 (.768)	–0.123 (.510)
Constant	–2.642* (1.560)	–5.360*** (1.642)	–2.277 (1.447)	–0.577 (1.176)	–3.277* (1.690)	–0.181 (1.287)
Pseudo $R^2$	.312					
Log likelihood	–872.715					
$N$	750					

Notes: Standard errors in parentheses. The wolf item has been omitted from the risk–opportunity factor from Table 3 and included as a stand-alone variable. Information on question formulation and coding can be found in Appendix 2.

Source: SNES 2010.

\* $p < .10$ .

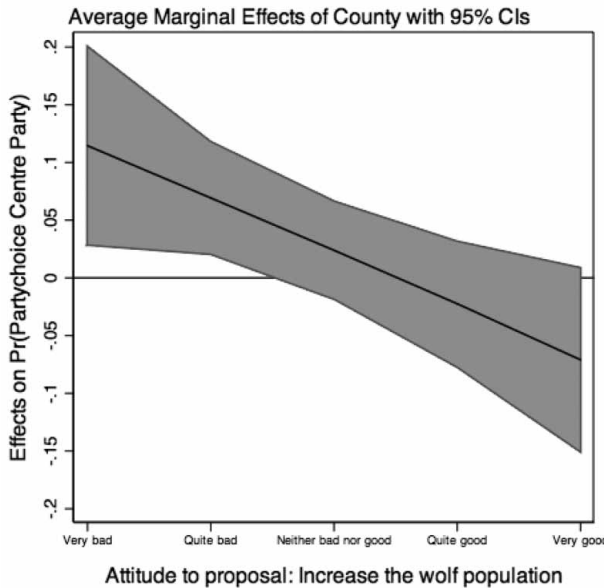
\*\* $p < .05$ .

\*\*\* $p < .01$ .

wolf issue as a variable on its own together with the two dimensions and the socio-economic variables in a multinomial regression (see Table 4), creating a tough test for the wolf issue. Since the two dimensions we created consist of factor scores, the variables have a mean of zero and most observations are within  $-2$  and  $+2$  standard deviations.

The results support previous findings of a strong left–right dimension in Sweden, significantly affecting voting for all parties, compared to voting for the Social Democratic Party (the reference category), except for the Green Party. The insignificant results for the Green Party should be interpreted as there being no left–right difference between the Green Party voters and the Social Democratic voters. The positive effect of the left–right dimension for the Left Party, compared to the Social Democratic party, indicates that voters for the former party ideologically are to the left of voters for the latter party. Negative effects of the left–right dimensions as for the Centre Party, the Liberals, the Moderate Party and the Christian Democrats indicate that these voters are to the right of the Social Democratic voters. In addition, the size of the coefficients tells us how far away a party’s voters are from the Social Democratic voters. Thus, not surprisingly, voters for the Moderates and the Christian Democrats are farthest away from the Social Democrat voters on the left–right dimension.

The risk–opportunity dimension, on the other hand, significantly affects voting for the Centre Party and the Green Party, compared to voting for the Social Democrats. The interpretation of the positive coefficients for these two parties is that their voters are more towards the ‘opportunities’ end of the risk–opportunity dimension, that is, they tend to agree more with statements about an open economy and less with statements about receiving fewer immigrants. In addition, the results show that positive wolf attitudes significantly affect voting for the Centre Party. Unexpectedly, the probability to vote for the Centre Party is higher among voters who agree with the statement that the wolf population should increase (.11) compared to voters who disagree with the statement (.07).<sup>9</sup>



**Figure 1.** Average marginal effects on the probability of voting for the Centre Party of living in a wolf county at different levels of wolf attitudes (predicted probabilities)

*Note:* Average marginal effects are calculated using the margins command in Stata after the model presented in Table 4.



Nonetheless, this result might be less surprising considering the above-mentioned change of the Centre Party, to focus more on trade and industry issues and to offer a green centre-right alternative, aimed to attract new voters from the cities (Rosén Sundström & Sundström, 2010).

The divide between the Centre Party's traditional core voters in the countryside, and newer voters in the cities, is noticeable in our in-depth analyses. When we investigate the interaction effect of attitudes to wolves and living in a wolf county – our proxy for issue salience and being directly affected by wolves – compared to living in other counties, the relationship between attitudes to wolves and voting for the Centre Party changes. To better understand the obtained negative interaction effect, Figure 1 shows the predicted average marginal effect of living in a wolf county at the five different levels of wolf attitudes. Values above 0 indicate that the support for the Centre Party increases, and values below 0 indicate that the support decreases. The graph shows that living in a wolf county significantly increases support for the Centre Party among those who think it is a bad proposal to increase the size of the wolf population.

## Conclusions

The aim of this article has been to analyse how the wolf issue relates to the three main cleavage elements and to what extent the elements align. To fulfil the aim, we posed three research questions: (1) Is there a structural difference, that is, are attitudes to wolves structured along social conflict lines? (2) Are there attitudinal differences, in terms of shared values and attitudes, to which the wolf issue relates? (3) Is there an institutional difference, for example, do these attitudinal differences affect party choice?

The results show, first, that we can identify a structural difference, that is, specific group features among persons who prefer the wolf population not to increase in size. They tend to more often live in the countryside, be older and have lower education and less interest in politics. In other words, they share many features with groups identified by other scholars as more likely to be at risk following globalisation and European integration (Kriesi et al., 2006; Azmanova, 2011). These group differences in wolf attitudes are also supported by previous research findings.

In the second step, we find two main attitudinal dimensions among the Swedish electorate, whereof one is a left–right dimension and the other a non-economic dimension reflecting issues expected of 'risk–opportunity', such as openness to the world, attitudes to the Swedish EU membership, free trade, foreign aid and refugees. The wolf issue loads, if weakly, on this second dimension, which is in line with our theoretical reasoning. Thus, we see tendencies of alignment between the structural difference and the attitudinal difference elements, which could indicate a *position* divide (Deegan-Krause, 2013).

In the third and final part of the analysis, focusing on the institutional difference, the predicted factor scores from step two were used to assess to what extent these dimensions affected party choice. As expected in the Swedish case, the left–right dimension significantly affected voting for almost all parties. The risk–opportunity dimension, contrastingly, affected voting for the Centre party and the Green party. This is in line with the theoretical expectations, although the voters for both the Green party and the Centre Party were generally closer to the 'opportunities' end of the dimension, instead of at opposing ends. Rather unexpected, the probability to vote for the Centre Party compared to the Social Democrats

slightly *increased* with more positive wolf attitudes. However, we also found that people with *negative* wolf attitudes, living in wolf areas, were also more inclined to vote for the Centre party. This seemingly contradictory result may be understood in relation to the transformation of the Centre Party in a more business-friendly and right-wing green direction at the national arena, whereas the local and regional party representatives in the typical countryside strongholds tend to advance more traditional values of countryside priority, including wolf hunting. The party's push for decentralised decision-making in the wolf issue, as illustrated by the initial quote from the party leader, thus corresponds to the interests of the agrarian core voters.

The rather weak empirical evidence for steps two and three of the cleavage model must also be seen in relation to the limitations of our data. The absence of measures across time, measures of issue salience and measures of core values circumscribes our study and makes it hard to truly investigate the depths of this controversy. However, using less elaborated regression models (Table A2 in [Appendix 3](#)), we do capture a consistent effect of positive wolf attitudes on the probability to vote for the Green Party compared to the Social Democrats. Thus, our results point to at least a future potential for a party to mobilise the wolf issue along a political cleavage that seems to correspond quite well to a second, risk–opportunity dimension of political competition.

It is possible that a party (existing or new) might decide to utilise the wolf issue to mobilise voters towards the 'risk' end of the dimension, connecting the wolf issue to other aspects of the second dimension. Another media storm, similar to when the licensed wolf hunt was introduced, could possibly provide a 'critical juncture' needed to fuel the debate and the mobilisation. Relating the wolf issue to other aspects of the second 'risk–opportunity' dimension could then potentially provide the local or domestic distinctive character that might resonate well with a not unsubstantial part of the electorate, especially in wolf areas. The initial quote by the Centre party seems to pick up on this potential to link the wolf issue to EU-scepticism and self-determination aspects. Whether this will actually mobilise more voters in the future remains to be seen.

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## Notes

- <sup>1</sup> Annie Lööf, Centre Party leader, quotation from Swedish Radio 22 November 2013. The Centre Party is traditionally the agrarian party in the Swedish political system, but its modern version has a mix of agrarian issues, liberalism and green issues.
- <sup>2</sup> The debate culminated with the threat of legal action from the EU in 2011. The Environment Commissioner Janez Potocnik claimed that licenced wolf hunt violated the EU habitat directive 92/43/EEC (whereas protective hunt is allowed). As a result, the Swedish government stopped the licensed hunt and instead expanded the selective wolf hunt. The debate has gained a new momentum in 2014, following a governance reform devolving the competence of decisions about licenced wolf hunting to regional boards.
- <sup>3</sup> The previously mentioned FRA issue and the successful mobilisation of voters by the Pirate Party could be an illustrative example of an issue divide.
- <sup>4</sup> Of the 3693 respondents, we have a full interview with 34 per cent, a shortened version with 17 per cent, an extremely shortened version with 18 per cent and a non-response rate of 31 per cent; 83 per cent of the 1175 respondents interviewed before the election completed the follow-up mail survey (Oscarsson & Holmberg, 2013).
- <sup>5</sup> Since we lack data over time, we validate our results by using three additional surveys: the 2009 Swedish European Parliament Election Study and the 2009 and 2010 Swedish National survey on Society, Opinion and Media (SOM). All these surveys included items measuring attitudes to wolves, relevant background variables and party choice or party preference. However, due to question and general survey design, these three studies are not useful for the second step of our analyses (attitudinal difference) and will only be used to validate step 1 and a 'light version' of step 3. We argue that the consistency over these in total four surveys strengthens our general results (see Tables A1 and A2 in Appendix 3).
- <sup>6</sup> When included in the analysis presented in Table 4, *N* for Sweden Democrats was 20 and *N* for Other parties was 12.
- <sup>7</sup> Multiple regression analyses from the 2009 and 2010 SOM surveys confirm that gender, age, education, urban–rural living and membership in organisation for hunters significantly affect attitudes to wolves (table omitted).
- <sup>8</sup> In a bivariate multinomial regression with wolf attitude as independent variable and party choice as dependent variable, we find that positive attitudes to wolves slightly increase the probability to vote for the Left Party, The Liberal Party and the Green Party, compared to the Social Democratic Party.
- <sup>9</sup> When replicating the results using a regression model without the issue dimensions and wolf county and comparing the 2009 SEES, the 2010 SNES and the 2009 and 2010 SOM, the only consistent result is that having positive wolf attitudes increases voting or support for the Green Party. Comparing Table 4 and the results from the 2010 SNES in Table A2 in Appendix 3 reveals that the inclusion of the issue dimensions alters the results.
- <sup>10</sup> The election manifestos have been accessed through Swedish National Data Service. See <http://snd.gu.se/sv/vivill/by-year> for list of election manifestos by election year.
- <sup>11</sup> The parliamentary committees are: Civil affairs, the Constitution, Cultural affairs, Defence, Education, Environment and Agriculture, Finance, Foreign affairs, Health and Welfare, Industry and Trade, Justice, Labour market, Social insurance, Taxation and Transport and communications.

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## Appendix 1. Politicisation of the Wolf issue

### Media Content Search

We have compared the number of articles written in Swedish print media about wolf hunt, unemployment, the earned tax credit and the FRA act (National Defence Radio Establishment). The search has been conducted through Mediearkivet, The Media Archive (<http://www.retriever-info.com/en/category/news-archive/>). We have full access to the Media Archive database through the university library. Below, we describe and motivate the selected issues and we also report the findings.

*Wolf hunt* (In Swedish Vargjakt, also known as Licensjakt. Search words Varg\* Jakt\*). In October 2009, the parliament voted in favour of the government proposition on wildlife management of carnivores (Prop 2008/09:210). Amongst other issues, the proposition suggested a limitation of the wolf pack through licence hunt and protective hunt. The motivation behind introducing wolf hunt was both to control the growth rate of the wolf pack and sustain a population around 200 animals, to improve the genetic pool among wolves, to increase the acceptance of carnivores and carnivore management, as well as to improve the co-existence of carnivores and humans. The wolf issue is pointed out as an especially delicate one (Prop 2008/09:210). As a consequence of the accepted proposition, the EPA decided on controlled wolf hunt in the five counties with reproducing wolf packs. The first licence hunt of 27 animals was carried out in January 2010 (EPA, 2010). Both the decision itself as well as the hunt were closely monitored in Swedish media and the decision led to record high number of letters and e-mails registered at the Government Offices of Sweden (Swedish Television, 2010–05–02). The second licence hunt took place in January 2011. The third hunt scheduled in January 2012 was stopped due to the criticism directed towards the Swedish carnivore policy by the European Commission. The fourth hunt in January 2013 was stopped due to appeals after three animals had been killed. The hunt in January 2014 never took place due to appeals. After a new government committee, the Alliance government in spring 2014 put forward a new proposition on sustainable management of carnivores.

*The earned income tax credit* (In Swedish: Jobbskatteavdraget, search word Jobbskatteavdrag\*) was one of the former Alliance (centre-right wing) government high-profile issues and an issue related to the traditional left–right dimension in Swedish politics. In short, it was an election pledge in 2006 about tax reduction for wage earners and these reductions were to be carried out in five steps, 2007–11, each step meant a small tax reduction for wage earners. The pledge, and later the concrete policy and implementation, was heavily criticised by the red-green opposition and the most heated debate concerned the fifth and final step of the tax reduction. However, in the end, the current red-green government has chosen not to reverse the policy since it would imply a tax raise.

*Unemployment* (search words Arbetslöshet\* Sverige) is chosen to represent an always salient and always high-profile issue. Unemployment is always among the top priority issues for voters and politicians (Oscarsson & Holmberg, 2013).

*The FRA act* (In Swedish: FRA-lagen, search words FRA lag\*). In 2008, a discussion about integrity issues quickly rose on the agenda. The discussion peaked when the centre-right government proposed the FRA act (Prop 2006/07:63) in which changes in the defence intelligence act, the electronic communications act and the secrecy act were proposed. In short, the new law enabled the National Defence Radio Establishment to monitor both wireless and cable signals passing Swedish border without court order. The bill was passed in June 2008 and amendments to the act were passed in October 2009. The heated debate about integrity and privacy issues was a key factor to the Pirate Party's success in the European Parliament election in 2009 (Erlingsson & Persson, 2011). Thus, the FRA act is an example of a specific political issue that quickly was politicised.

We have chosen to compare both the number of written articles for each topic (Figure A1) as well as proportion of written articles (Figure A2). The latter comparison is important since the number of written articles increases each year. By showing the results both as number and as proportion, we reduce the risk of bias. As seen from Figures A1 and A2, Unemployment is, as expected, the overwhelmingly most reported issue of the four. During the economic crisis, unemployment in Sweden is mentioned in over 30,000 articles or in 16.39 per mille of all written articles. The per mille figure more correctly shows the steep increase in mentions about unemployment between 2008 and 2009. The results for the wolf issue (solid line) shows an increase both in number and in per mille in 2009 and 2010, which nicely corresponds to the decision to hunt wolves and the heated debate that followed. In 2009, 7494 articles are written about wolf hunt, corresponding to almost four per mille of all written articles. The heated discussion about the FRA act is also visible in our graphs. Both the number and proportion of written articles increases in 2008. The number of written articles about the FRA law increases from 1014 in 2007 to 6660 in 2008 and the proportion of articles increase from 0.65 per mille to 3.38 per mille. The trend for the earned tax income credit also follows an expected pattern. The pattern is more easily detected in the proportions graph in which the issue is more frequently reported during the election year 2010 and later also in 2013 when the much-debated fifth step in the tax reduction is implemented. Both the FRA act and the earned income tax credit were salient and widely debated issues. Still, issues of wolf hunt receive more media attention.

From the media analysis, we conclude that there is evidence pointing to the unique position the wolf issue has in the public debate. Issues of wolf hunt is more reported than one of the high-profile issues of the centre-right wing government as well as the controversial issue of signal monitoring which was a big part of the Pirate Party's success in the European Parliament Election.

### Election Manifestos

Our second piece of evidence in favour of the wolf issue being politicised is from the party manifestos<sup>10</sup>. In 2002, none of the political parties being elected to the Riksdag mentions issues of wolves or other carnivores. In 2006, the issue is mentioned by the Centre Party and the Green Party (thus two out of seven parties elected to the Riksdag). The biggest party outside the Riksdag, the Sweden Democrats, did not mention the issue. The Centre



Party and the Green Party take opposite stands in the issue were the Centre Party emphasises the right for local or regional entities to take decisions on carnivores while the Green party emphasises biodiversity and the importance of lively stocks of the four major carnivores (wolf, bear, lynx and wolverine). In 2010 election, after the first hunt has taken place, the number of parties mentioning the wolf issue increased to four out of eight parties being elected to parliament; The Liberal party, the Green Party, The Left Party and the Sweden Democrats. All parties but the Sweden Democrats mentions biodiversity while the Sweden Democrats explicitly mentions that the carnivore stock needs to be limited to protect the local populations feelings of safety and life quality. A parenthesis is that biodiversity has been the core argument to hunt wolves since the stock suffers from inbreeding. In 2014, issues of wolves are mentioned in a long paragraph in the joint manifesto from the four Alliance (centre-right wing) parties. It is stated that the politics from the Alliance government enables wolf hunt without it being a threat to the wolf stock.

In sum, from a low level, it is evident the issue of carnivores in general and wolves in particular also rises on the parties' agenda and this is especially evident in the 2010 election.

### **Parliamentary Documents**

Our third piece of evidence of the position of the wolf issue in the Swedish political debate is mentions in parliamentary protocols, interpellations and bills from members' of parliament. As in our news search, we compare the wolf issue with unemployment, the earned income tax credit and the FRA act and we use the same search words as in our media search. The results (see [Figure A3](#)) show that the wolf issue (solid line) is a relatively stable issue in parliament 2006–14 with a slight increase in the parliamentary session 2010–11, that is, after the first hunt has taken place. Mentions of the heated FRA act increase slightly, although from a low level, during the parliamentary session of 2008–09 which corresponds to the time when the governments' bill was passed. The peaks for mentions of the earned income tax credit in 2009–10 and 2013–14 correspond to the debates about the third and fifth steps of the tax reduction that took place before the 2010 and 2014 elections. In sum, the mentions of the wolf hunt issue in the parliamentary context are concluded to be stable over time and its stable occurrence shows that this is a question that members of parliament always address.

To further deepen our empirical investigation with regard to the attention and politicisation of the wolf issue in parliament, we include an analysis the number of reservations in parliamentary committees against the government bills on management of carnivores. The analyses have been made available to us from the database of the 'Party Government in Flux Project', at Linneaus University in Sweden.

In short, the parliamentary committees prepare all proposals to be voted for in the Riksdag. The Riksdag consists of 15 committees<sup>11</sup> and each committee consists of 17 members of parliament. The number of representatives from each party is in proportion to their share of seats in parliament. All government bills as well as private members' motions must be referred to and considered by a committee. In the committee reports, the committee writes whether they approve the government/MP's motion or not, and this is the committee's proposal to the Riksdag. Majority decisions are applied and the minority group (e.g. a single MP or all MPs from one or several party groups) can report their deviant opinions by entering a reservation and explain their points of view or suggest

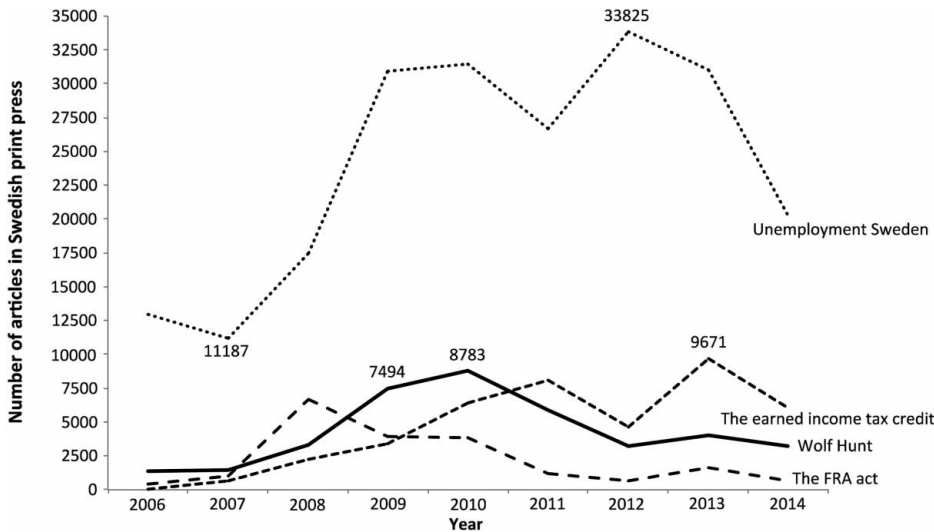
counter-proposals. The reservations are formally noted in the committee reports, which are public documents. The number of reservations for a proposal is thus a good indication of the level of conflict over an issue (<http://www.riksdagen.se/en/Committees/>).

The analyses conducted using the Party Government in Flux database compares the total number of reservations against the three government bills (Prop. 2001/01:57; Prop 2008/09:210 and Prop. 2012/13:191) on management on carnivores with the average number of reservations in the committee of Agriculture and Environment (which handled all the three government bills) and the mean number of reservations across all the 15 committees in roughly every other parliamentary sessions from 1972/73 to 2012/13. As shown in Figure A4, the number of reservations in committee reports on government bills about carnivore management is well above the average number of reservations in the committee on environment and agriculture as well as the average number of reservation across all 15 committees. The committee report on Prop. 2008/09:210 yielded 28 reservations compared to 9.83 on average in the committee on environment and agriculture and 4.22 on average across all parliamentary committees. In sum, these numbers indicate a high level of conflict and politicisation.

### List of Sources Mentioned in Appendix 1

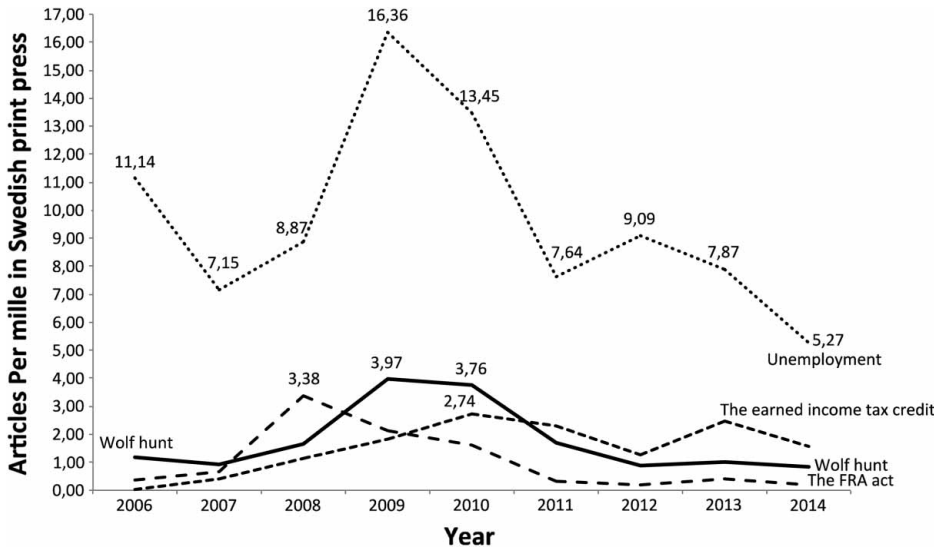
- Erlingsson, G. Ó. & Persson, M. (2011). The Swedish Pirate Party and the 2009 European Parliament election: Protest or issue voting? *Politics*, 31 (3), 121–128.
- Oscarsson, H. & Holmberg, S. (2013). *Nya Svenska väljare* (Stockholm: Norstedts Juridik).
- Prop. 2001/01:57 Sammanhållen rovdjurspolitik, <http://www.regeringen.se/content/1/c4/12/76/c6ba0dfe.pdf>
- Prop 2006/07:63, En anpassad försvarsunderrättelseverksamhet, <http://www.regeringen.se/content/1/c6/07/83/67/2ee1ba0a.pdf>
- Prop 2008/09:210 En ny rovdjursförvaltning, <http://www.regeringen.se/content/1/c6/12/77/82/52914001.pdf>
- Prop. 2012/13:191, En hållbar rovdjurspolitik, <http://www.regeringen.se/content/1/c6/22/34/51/cc53f145.pdf>
- Retriever Media Archive, <http://www.retriever-info.com/en/category/news-archive/>
- The Swedish Environmental Protection Agency (2010). Beslutet om licensjakt 2010. En processutvärdering med fokus på beredningen av beslutet. <http://www.naturvardsverket.se/Nerladdningssida/?fileType=pdf&downloadUrl=/Documents/publikationer/978-91-620-6361-0.pdf>
- The Swedish Riksdag, information on parliamentary committees, <http://www.riksdagen.se/en/Committees/>.
- Swedish Television, 2010–01–13, <http://www.svt.se/nyheter/inrikes/arga-mejl-till-regeringen-om-vargjakt>
- Swedish National Data Archive, list of and links to election manifestos, <http://snd.gu.se/sv/vivill/by-year>





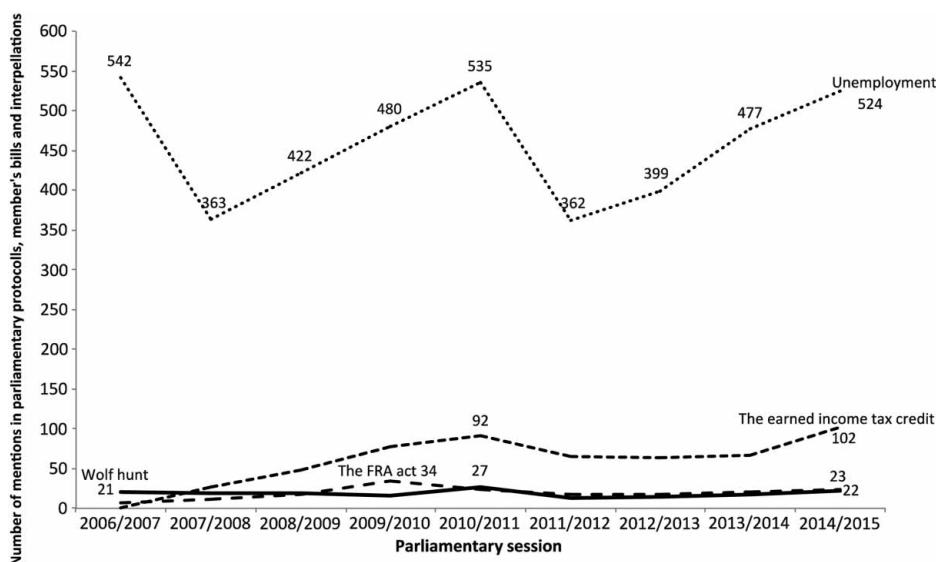
**Figure A1.** Number of articles mentioning issues of wolf hunt, unemployment, the FRA act and the earned income tax credit in Swedish news media (print media including web-published content from newspapers), 2006–14

Source: Retriever News Archive.



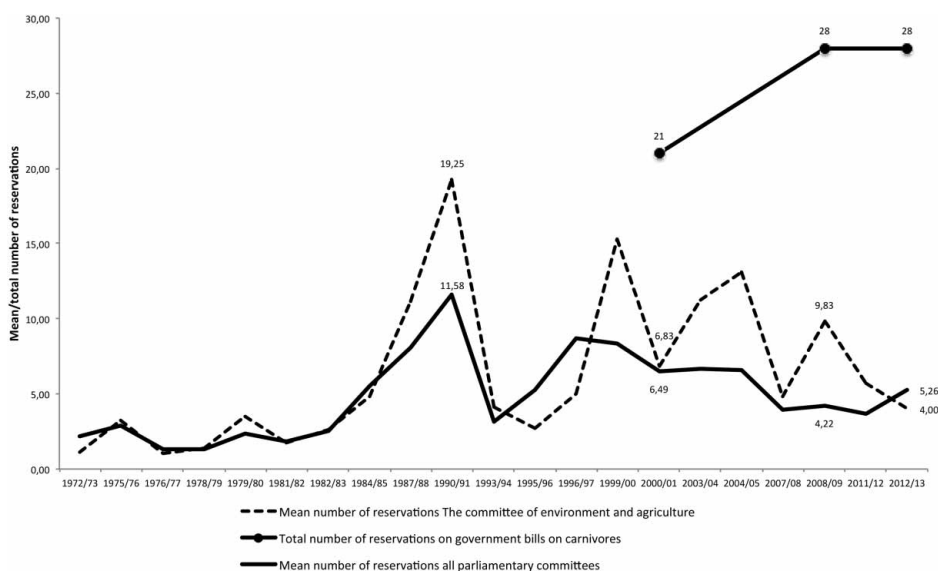
**Figure A2.** Per thousand articles mentioning issues of wolf hunt, unemployment, the FRA act and the earned income tax credit in Swedish news media (print media including web-published content from printed newspapers), 2006–14

Source: Retriever News Archive.



**Figure A3.** Number of chamber protocols, member of parliaments' bills and interpellation mentioning issues of wolf hunt, unemployment, the FRA act and the earned income tax credit in the Swedish Riksdag, 2006/07–2014/15

Source: [www.riksdagen.se](http://www.riksdagen.se), online search in documents and acts.



**Figure A4.** Number of reservations against government bills on management of carnivores compared to mean number of reservations in the committee of environment and agriculture and mean number of reservations across all parliamentary committees in the Swedish Riksdag, 1972–2013

Source: Party Government in Flux project, Linneaus University, Sweden (project leader: professor Mats Sjölin).

## Appendix 2. Question Wording and Variable Constructions

Swedish National Election Study (SNES) 2010 (for [Tables 1–4](#))

Party choice at national, regional and local levels

The questions are:

As you know, we had three elections at the same time this year. Which party did you vote for in the parliamentary election?

Which party did you vote for in the county council election?

Which party did you vote for in the local council election?

For each question, the response options are (new coding in parentheses)

1. Left Party (1)
2. Social Democrats (2)
3. Centre Party (3)
4. Liberal Party (4)
5. Moderate Party (5)
6. Christian Democrats (6)
7. Green Party (7)
8. Sweden Democrats (missing due to low *n*)
9. Feminist Initiative (missing due to low *n*)
10. Pirate Party (missing due to low *n*)
12. Other party (state which) (missing due to low *n*)
13. Voted blank (missing)
95. Did not vote in the parliamentary/county council/local council election (missing)
98. DK/cannot remember (missing)
99. Does not want to answer (missing)

## Political Issues

The questions about political issues appear in three different item batteries throughout the survey:

Here are some proposals that have appeared in the political debate. What is your view on each of them?

Reduce the size of the public sector?

Reduce defence expenditure?

Reduce social benefits?

Cut taxes?

Decriminalise all file sharing on the Internet?

Abolish the childcare allowance?

Sell off state-owned businesses and utilities to private interests?

Reduce income differences in society?

Increase the proportion of health care run by private interests?

Increase financial support to less densely populated areas of the country?

Sweden should in the long run abolish nuclear power?

Sweden should withdraw from the EU?

Sweden should introduce the Euro as currency?

- Sweden should apply for membership of NATO?
- Sweden should campaign for increased free trade across the whole world?
- Reduce Swedish aid to the developing countries?
- Accept fewer refugees into Sweden?
- Increase economic support to immigrants so they can maintain their own culture?
- Increase labour immigration to Sweden?
- End the Swedish participation in the UN military mission in Afghanistan?
- Introduce a six-hour working day for all gainfully employed?
- Prohibit all forms of pornography?
- Introduce mandatory gender quotas to senior posts in central and local government?
- Significantly increase the severity of prison sentences for criminals?
- Abolish the tax deduction for domestic and domestic-related services?
- Increase the old age retirement age?
- Make Sweden into a republic?
- The number of wolves in Sweden should increase?

For each proposal, the response options are:

1. Very good proposal
2. Fairly good proposal
3. Neither good nor bad proposal
4. Fairly bad proposal
5. Very bad proposal

In the factor analysis, some items are reversed (see [Table 1](#)); this includes the main independent variable, attitudes to wolves. Thus, in the analyses, higher values on the wolf variable indicate a positive view, that is, the proposal to increase the number of wolves is good.

### Gender

Register-based information from Statistics Sweden. 0 = Male, 1 = Female.

### Age

Register-based information from Statistics Sweden. Age range 18–80.

### Education in Years

Register-based information about completed education levels from Statistics Sweden (the classification is called SUN 2000). Education levels are categorised using a three-digit code. The first digit refers to level of education; the second digit to the theoretical length of education within the level; and the third digit refers to type of education (such as vocational vs. general education). The coding is fine-tuned, but the general two-digit categories are (new coding into number of years in parentheses):

- 00. Primary education (0)
- 10. Primary and secondary education, less than 9 years (0)
- 20. Primary and secondary education, 9–10 years (9)
- 31. Upper secondary education, less than 2 years (10)

32. Upper secondary education, 2 years (11)
33. Upper secondary education, 3 years (12)
41. Post-secondary education, less than 2 years (13)
52. Post-secondary education, 2 years (14)
53. Post-secondary education, 3 years (15)
54. Post-secondary education, 4 years (16)
55. Post-secondary education, 5 years or more (17)
60. Post-graduate education, no specification (17)
62. Post-graduate education, half Ph.D. ('licentiate degree') (18)
64. Post-graduate education, Ph.D. (20)

### **Urban–Rural Living**

Register-based information from Statistics Sweden about where the respondent lives. New coding in parentheses.

Categories:

1. Pure countryside (4)
2. Small town or village (3)
3. Large town or city (2)
4. Three largest cities (Stockholm, Göteborg and Malmö) (1)

The four categories are used as dummy variables (Three largest cities as reference category) in the analyses.

### **Socialisation and Living Combined**

These variables consist of information from four other variables:

1. Information about where the respondent for the most part lived as a child
2. Information about where the respondent's father for the most part lived as a child
3. Information about where the respondent's mother for the most part lived as a child
4. Urban–rural living (see question above)

Where did you/your father/your mother for the most part live as a child?

1. Pure countryside in Sweden
2. Built up area in Sweden
3. Town or city (except three cities below) in Sweden
4. Stockholm, Gothenburg or Malmö
5. Other Nordic (Scandinavian) country
6. Other country in Europe outside the Nordic region
7. Country outside Europe
77. Other answer
98. DK/does not want to answer

If the respondent and his/her mother and father grew up in the countryside and if the respondent today lives in the countryside, this equals 1 for the variable 'Rural socialisation and living'. If the respondent and his/her mother and father grew up in a town, city or

Stockholm, Gothenburg and Malmö and the respondent currently lives in a town, city or Stockholm, Gothenburg, Malmö, this equals 1 for the variable 'Urban socialisation and living'.

### **Interest in Politics**

Generally speaking, how interested in politics are you? Which of the answers on this card describes you most accurately?

1. Very interested
2. Fairly interested
3. Not very interested
4. Not at all interested

### **Left–Right Position**

Where on the scale would you place yourself?

Scale between 0 and 10 where 0 = far to the left, 5 = neither left nor right, 10 = far to the right

### **Class**

The class coding is based on which occupational group the respondent belongs to. The variable is coded into worker class (0) and other (1) (dummy coding in parentheses).

1. Industrial worker (1)
2. Other worker (1)
3. Lower white collar (0)
4. Middle white collar (0)
5. Higher with collar (0)
6. Self-employed (0)
7. Farmer (0)
8. Student (0)

### **Coding of Wolf County**

The wolf county variable is based on the county variable (register information). Respondents living in counties in which the licence hunt took place 2010 are coded as 1 and respondents living in counties without licence hunt are coded as 0. Official county codes in parentheses.

Wolf counties (1): Västra Götaland (14) Värmland (17) Örebro (18) Dalarna (20) and Gävleborg (21).

Other counties (0): Stockholm (01), Uppsala (03), Södermanland (04), Östergötland (05), Jönköping (06), Kronoberg (07), Kalmar (08), Gotland (09), Blekinge (10), Skåne (12), Halland (13), Västmanland (19), Västernorrland (22), Jämtland (23), Västerbotten (24) and Norrland (25).

**Swedish European Parliament Election Study 2009 (for Tables A1 and A2)**

*Party Choice*

Which party did you vote for (new coding in parentheses)?

1. Left Party (1)
2. Social Democrats (2)
3. Centre Party (3)
4. Liberal Party (4)
5. Moderate Party (5)
6. Christian Democrats (6)
7. Green Party (7)
8. The June List (9)
9. Sweden Democrats (8)
10. Feminist Initiative (9)
11. Pirate Party (9)
12. Other party (state which) (9)
13. Voted blank (missing)
99. Does not want to answer (missing)

All other variables are coded in the same way as in the 2010 SNES.

**The National Survey on Society, Opinion and Media 2009 and 2010 (for Tables A1 and A2)**

*Party Preference (2009)*

Which party do you like best today (new coding in parentheses)?

1. Left Party (1)
2. Social Democrats (2)
3. Centre Party (3)
4. Liberal Party (4)
5. Moderate Party (5)
6. Christian Democrats (6)
7. Green Party (7)
8. Sweden Democrats (8)
9. Feminist Initiative (9)
10. Pirate Party (9)
11. Other party (state which) (9)

*Party Choice at National, Regional and Local Levels (2010)*

Did you vote in the 2010 election, and if so, for what party? Mark one alternative in each column (three columns appear, one for the national parliament, one for the county council and one for the local council).

For all three elections, the party alternatives are (new coding in parentheses):

13. Was not eligible to vote (missing)
14. Did not vote (missing)
1. Left Party (1)
2. Social Democrats (2)
3. Centre Party (3)
4. Liberal Party (4)
5. Moderate Party (5)
6. Christian Democrats (6)
7. Green Party (7)
8. Sweden Democrats (8)
9. Feminist Initiative (9)
10. Pirate Party (9)
11. Other party (state which) (9)
12. Blank vote (missing)

#### *Attitude to Wolves*

What is your opinion about the following animal species' population size in Sweden today?

A number of animal species are asked for (in 2009, Moose, Lynx, Wolf, Bear and Wild Boar; in 2010 Seal, Eel and Codfish are also included alongside the other five species). For each item, the response options are (new coding in parentheses):

1. The population is much too small (5)
2. The population is somewhat too small (4)
3. The population is neither too small nor too large (3)
4. The population is somewhat too large (2)
5. The population is much too large (1)
6. Don't know (missing)

#### *Gender*

Are you female (1) or male (0)?

Answer has been completed with register information if answer is missing.

#### *Age*

Which year were you born?

Age is recoded in to age in years. Age range: 16–85.

The answer has been completed with register information if answer is missing.

#### *Education in Years*

Which education do you have? Mark with a cross the alternative that suits you the best. If you have not completed your education, mark the level you are currently studying at (new coding into years in parentheses).



1. Not complete primary/secondary education (0)
2. Primary and secondary education (9)
3. Studies at upper secondary education level (11)
4. Degree from upper secondary education (12)
6. Post-secondary education, not university level (14)
7. Studies at the university level (15)
8. University degree (16)
9. Post-graduate degree, Ph.D. (20)

### *Class*

If you would describe your current home and the home you grew up in, which of the following alternatives is the most appropriate?

The variable used here is respondent's current home and is coded as follows:

1. Blue-collar home (1)
2. Farmer home (0)
3. White-collar home (0)
4. Higher white-collar home (0)
5. Self-employed home (0)

### *Urban–Rural Living*

The variable combines the respondent's answer to the question on what kind of area he/she lives in (major city: central; big city: suburbia; town or smaller city: central; town or smaller city: suburbia; smaller town and pure countryside) and municipal code.

1. Pure countryside
2. Smaller town
3. Town or smaller city
4. Three major cities (Stockholm, Gothenburg and Malmö).

The four categories are used as dummy variables in the analyses.

### *Socialisation and Living Combined*

See variable construction from the 2010 SNES study.

### *Left–Right Placement*

Political attitudes are sometimes placed on a left–right scale. Where on such a scale would you place yourself?

1. Far to the left
2. Somewhat to the left
3. Neither left nor right
4. Somewhat to the right
5. Far to the right

### Appendix 3. Tables

**Table A1.** Attitudes to wolves, a comparison of four Swedish surveys (per cent, mean and standard deviation)

	Swedish European Parliament Election Study 2009	SNES 2010	Society Opinion Media Survey 2009	Society Opinion Media Survey 2010
Very bad proposal/ much too large	16.1	17.6	12.8	14.6
Fairly bad proposal/ somewhat too large	18.8	16.5	19.1	15.9
Neither bad nor good proposal/neither too big or too small	35.2	37.6	31.5	35.6
Fairly good proposal/ somewhat too small	20.1	17.6	20.2	20.6
Very good proposal/ much too small	9.8	10.8	16.4	14.4
Total per cent	100	100	100	100
Number of respondents	949	949	1140	1241
Mean	3.11	2.88	3.08	3.04
Standard deviation	1.19	1.21	1.25	1.23

*Notes:* In the Election Studies, the question is framed as a proposal 'The Swedish wolf population should increase'. In the SOM survey, the question is framed as sizes of different populations of animal species. See Appendix 2 for question formulation.

*Source:* The Swedish European Parliament Election Study 2009, The SNES 2010, The National Survey on Society, Opinion and Media (SOM). The election studies are available by request through the Swedish National Election Studies Program ([www.valforskning.pol.gu.se](http://www.valforskning.pol.gu.se)). The SOM surveys are available on request through the Swedish National Data Service ([www.snd.gu.se](http://www.snd.gu.se)).

**Table A2.** Effect of attitudes to the wolf on party choice and party sympathies (multi nominal logistic coefficients)

[illegible]

The Christian Democrats	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-.297* (.164)	n.s.
The Green Party	.579*** (.179)	.372*** (.123)	.301** (.126)	.268** (.136)	n.s.	.584*** (.141)	.508*** (.142)	.566*** (.138)
The Sweden Democrats	n.s.	.734*** (.164)	.371** (.177)	n.s.	n.s.	n.s.	n.s.	n.s.
Other Party	n.s.	.231* (.132)	n.s.	n.s.	n.s.	.818*** (.337)	n.s.	n.s.
Pseudo $R^2$	.229	.268	.270	.242	.218	.306	.278	.257
$N$	563	975	1016	948	973	975	951	971
Log likelihood	-862.60608	-1376.0242	-1344.5792	-1320.0117	-1436.294	-1253.8212	-1299.7353	-1380.2226

*Notes:* Standard errors in parentheses. All entries are controlled for gender, age, education (in years), rural–urban living, class and left–right ideology (control variables omitted, full tables available upon request from the authors). Interpretation: negative effect = negative attitudes to wolves increases support/vote for party. Positive effect = positive attitudes to wolves increases support/vote for party. The dependent variables are coded in the same way in all models. This implies that the Pirate Party, which after the 2009 European Parliament Election gained representation with 7.1 per cent of the Swedish votes, is coded as ‘Other’. The results are the same even if the Pirate Party appears as own party category. See Appendix 2 for question formulations and variable constructions.

*Source:* The Swedish European Parliament Election Study 2009, The SNES 2010, The National Survey on SOM. The election studies and the SOM surveys are available on request through the Swedish National Data Service ([www.snd.gu.se](http://www.snd.gu.se)).

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .001$ .

#### Appendix 4. Robustness Checks – Issue Dimensions among Swedish Voters

As widely known, the result from a factor analysis is heavily dependent on the variables entering the analysis. In our analysis, we have made use of all items in the 2010 SNES stated as ‘proposals in the political debate’. These policy proposals are chosen to resemble political issues put forward by the various political parties and all items share identical response scales. Most of the proposals included measures left–right attitudes and few proposals measures attitudes to politics aimed at the countryside or sparsely populated areas.

In the main report of the 2010 Swedish National Election Survey, Oscarsson and Holmberg (2013) argue that there are nine relevant issue dimensions among Swedish voters. However, the derivation of these dimensions are (and later attitude indexes) are theoretically derived: (1) public–private (left–right), (2) positive–negative to social welfare, (3) green–grey ideology, (4) generous–restrictive immigration policy, (5) negative–positive EU, (6) post materialism–materialism, (7) positive–negative to globalisation, (8) moral liberal–moral conservative and (9) positive–negative to gender equality. However, empirical tests of the equivalent attitude items do not support this many dimensions (see below).

To further validate our results from the factor analysis and the subsequent multinomial regression, we have conducted the following robustness checks (tables available upon request).

- (1) We used a varimax rotated solution and the loading of the wolf item did not change compared to Table 3 and the effect of the wolf item in the following multinomial regression with party choice as the dependent variable was identical to Table 4.
- (2) Each issue dimension in Table 4 was cut off into seven dummy variables to check for curve linearity. The other variables in the model were not affected by this procedure compared to Table 4 and no curve linearity could be detected.
- (3) The 2010 SNES also includes 12 items tapping respondent’s support for different kind of future societies as well as 3 additional policy items but asked as independent questions (and not in item lists) and with different response options.

The response options for the ‘Future society questions’ are 0–10 where 0 equals Very bad proposal, 5 Neither good nor bad proposal and 10 Very good proposal. The 12 items are:

- Work towards a society with more private enterprise and market economy?
- Work towards an environmentally friendly society even if it means little or no economic growth?
- Work towards a society where Christian values are more important?
- Work towards a society with more law and order?
- Work towards a society with more equality between men and women?
- Work towards a society that protects traditional Swedish values?
- Work towards a society that strengthens the position of the family?
- Work towards a multicultural society, with high a level of tolerance towards people from other countries with other religions and lifestyles?
- Work towards a society with more emphasis on internationalism and less of borders between people and countries?

Work towards a society where the rights of homo-, bi- and transsexuals are strengthened?

Work towards a society where power is redistributed from men to women?

Work towards a society where non-profit and voluntary organisations, and voluntary work is more important.

The three additional questions measuring attitudes policy are:

What is your view on the so-called FRA [signal intelligence] law? Response options: Very positive, fairly positive, neither positive nor negative, fairly negative, very negative, no firm view on the issue (no firm view coded as 'neither positive nor negative'), do not know the FRA law (not included in the analysis).

Generally speaking, what is your view on the EU? Response options: Very positive, fairly positive, neither positive nor negative, fairly negative, very negative and no firm view on the issue (no firm view coded as 'neither positive nor negative').

There are varying views about nuclear as an energy source. What is your opinion? Are you, on the whole, in favour of or against nuclear power, or do you have no definite opinion on the issue (no definite opinion coded as a value between in favour and against).

When the 15 items listed above are added to the factor analysis together with the 28 proposals in the political debate, we obtain a 3-factor solution (eigenvalue > 1). The factor loading for the wolf issue is .22, which is slightly weaker compared to the original results (Table 3). The results in the subsequent multinomial regression only show minor changes compared to Table 4: the direct effect of wolf attitude on voting on the Centre Party compared to the Social Democrats is significant ( $p = .0012$ ), the direct effect of wolf county loses significance ( $p = .155$ ), but the interaction effect is significant on the 90 per cent level ( $p = .075$ ).

In sum, the robustness checks described above does not alter our conclusions with regard to the dimensionality or the independent effect of wolf attitudes on party choice.