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Environmental Policy Preferences and Economic Interests in the Nature/Agriculture and Climate/Energy Dimension in the Netherlands

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Abstract The idea that citizens' support for environmental policies depends on their economic interest and the community that one lives in, has been debated extensively in the environmental attitudes literature. However, this literature has not differentiated between separate policy dimensions that concern measures that affect specific groups in different ways. This paper differentiates between a nature/agriculture dimension that divides those who prioritize the agrarian interest from those who prioritize the protection of nature and a climate/energy dimension that divides those who prioritize industrial interest from those who prioritize fighting climate change, using a new survey in the Netherlands (N = 11,327). This two-dimensional model meets three criteria: scalability, validity, and utility. Scalability is shown by factor analysis and Mokken scaling. Validity is shown by regression analyses that show that whether one lives in a rural or an urban community predicts one's position on the nature/agriculture dimension and that one's financial security predicts one's position on the climate/energy dimension. The utility is shown by regression analyses where the two dimensions are used to predict voting behavior. The Green Party voters favor nature and climate protection, the Liberal Party voters have the opposite views, the Christian-Democrats favor agricultural interests and the Freedom Party favor industrial interests.

Introduction

Within the study of environmental attitudes, the role of economic interests has long been debated. The idea that citizens' support for environmental policies reflects their own social-economic position and the interests of the communities they live in has been part of the literature on environmental attitudes since its inception in the 1970s (Buttel and Flinn 1976b; Cotgrove and Duff 1980; Neiman and Loveridge 1981; Tremblay and Dunlap 1978). One expectation is that champions of the environmental movement come from more affluent classes than the movement's detractors. There is consistent evidence for

this relationship (Franzen and Meyer, 2010; Franzen and Vogl, 2013a, 2013b; Gelissen, 2007; Kemmelmeier et al., 2002, but see Jones and Dunlap 1992; Sarigöllü 2009). Another expectation is that that urbanites are more pro-environmental compared to those who live in rural areas. This has gotten less consistent support (e.g., Berenguer et al. 2005). These inconclusive results warrant another, fresh look on how citizens think about environmental issues. This paper seeks to shed light on the relationship between citizens' economic interest and their preferences concerning environmental policies by differentiating between dimensions that concern policies that affect different economic sectors. The main question of this paper is *to what extent do economic interests structure citizen's policy preferences regarding the environmental regulation of agriculture and energy?*

We look at environmental attitudes from the perspective of public policy. By asking citizens about the trade-offs involved in policy-making, we hope to bring economic conflicts to the forefront (cf. Neiman and Loveridge 1981). While authors have looked at specific policies and policy trade-offs before (Fortmann and Kusel 1990; Freudenburg 1991; Konisky et al. 2008; Pakulski et al. 1998; Rohrschneider 1988; Williams and Moore 1991), these have not been applied to differences between policies that will strongly impact rural communities and those that will mainly affect energy-intensive industries and transport. A crucial idea in this paper is that environmental policy preferences are structured by two distinct dimensions. Here, we built further on existing theoretical work concerning the difference between conservationism and environmentalism (Cotgrove and Duff 1980:334; Mertig and Dunlap 2001; Rohrschneider 1988). The first dimension structures citizens' preferences regarding the regulation of agriculture in the interest of nature conservation. An example of such a policy is creating nature reserves at the cost of farmland. The second dimension structures preferences regarding the regulation of energy consumption in the interest of fighting climate change. An example of this is a tax increase on airline tickets. Throughout the paper, we will refer to the nature-agriculture dimension when referring to the former and the climate/energy dimension when referring to the latter.

To show that such a two-dimensional approach is reasonable, a three-pronged strategy will be employed (cf. Katsanidou and Otjes 2016; Otjes 2018). One cannot say that a set of citizen preferences necessarily "has" a given number of dimensions (Benoit and Laver, 2012; Coombs, 1964). A particular model can be justified on three criteria (the "prongs" of our three-pronged approach, see Table 1): the first criterion is that the number of errors in a model with fewer dimensions than the

Table 1. Three Prongs

#	Criterion	Meaning	Test	Section
1	Scalability	Whether this model has the minimum number of dimensions given some maximum acceptable level or error	Factor Analysis and Mokken Scaling	5
2	Validity	Whether the dimensions likely accurately correspond to real-world differences	Regression with these dimensions as dependent variable and social economic status and urbanization as independent variables	6
3	Utility	Whether the dimensions predict differences in political behavior	Regression with these dimensions as independent variable and vote choice as dependent variable	7

chosen model exceeds some established guideline for acceptable error. We test this by means of factor analysis and Mokken scaling. The second criterion is validity. That is whether the variance that these dimensions contain, reflects meaningful differences between citizens. To examine this, we will look at to what extent the level of urbanization of someone's residence and their social-economic status have a differential effect on citizens' views on these two environmental dimensions. We test this by means of a regression where these dimensions are dependent variables and social economic status and urbanization are independent variables. The third criterion we look at is the extent to which these dimensions have different predictive power. In this case, we look at voting behavior with the expectation that the voters of different parties take different positions on these two dimensions and that it is not simply the case that pro-environment parties get votes from "green" voters and pro-growth parties get vote from "gray" voters' but rather for instance voters of a radical right-wing populist party are "gray" in a different way than voters of a Christian-democratic party. We test this by means of a regression where these dimensions are independent variables and vote choice is the dependent variable. We apply these criteria to dimensions constructed on the basis of a new survey on an online non-probability sample in a single European country, the Netherlands ($N = 11{,}327$).

Before we look at our empirical results, we will discuss the literature on public opinion regarding the environment and explain why we look at policy preferences on specific environmental policies. Here, we will also examine the literature on how regional and economic interests have tapped into environmental attitudes. Moreover, we will briefly introduce

the country our data comes from and explain why the Netherlands, a densely populated country with a very strong agricultural sector is a likely case to see the two-dimensional set-up we expect. Next, we will look at scale construction, at regression models that show that the scales capture meaningful differences between respondents, and at regression models that show that are relevant for (voting) behavior. Our conclusion will look at the relevance of our hypotheses and sketch an agenda for future research.

Environmental Attitudes

Starting with some of the earliest studies on environmentalism, authors have emphasized the need to approach environmental attitudes from a multidimensional perspective (Van Liere and Dunlap 1980:193–94). In their comprehensive overview study, Milfont and Duckitt (2010) identify a dozen different scales, ranging from personal environmentally friendly behavior to beliefs about the state of the natural world. One distinction that is often made is between whether citizens care for their own well-being, the well-being of other humans, and concerns about the biosphere (Schultz 2001:327–28). Students of environmental attitudes have found considerable diversity in the structure of environmental policy preferences as well. Where it comes to policy, Larson (2010) distinguishes conceptually between different strategies for solving environmental issues. One can also consider the geographic level that is affected by the policies: there are global environmental problems and more localized environmental issues (Konisky et al. 2008). One can also differentiate between different kinds of problems, such as input (resource) problems and output (pollution) problems (Konisky et al. 2008).

Despite the broad consensus that environmental attitudes of citizens are multidimensional, political scientists approach the environment as a valence issue (Carter 2006:750; Worcester 1993:329). In that case, the desired direction of policy can be assumed. In this perspective, all that matters is to what extent citizens prioritize environmental protection over other economic goals such as economic growth (Dunlap and Scarce 1991:656; Johnson et al. 2005:94; Rohrschneider 1988:355; but see Buttel and Flinn 1976a). As we will show below, we believe that a multidimensional approach allows us to get a better grasp of what drives environmental attitudes and how they affect political behavior.

Environmental Policy Attitudes and the Urban–Rural Distinction

Where it comes to environmental attitudes, considerable attention has been spent on the extent to which there is a distinction in environmental attitudes between residents of urban and rural areas. The empirical

evidence for a direct effect of the urban–rural distinction on environmental attitudes, however, is at best mixed (Berenguer et al. 2005; Blankenau et al. 2007; Freudenburg 1991; Huddart-Kennedy et al. 2009; Salka 2001; Tremblay and Dunlap 1978; Williams and Moore 1991). There are three different explanations for this possible pattern: extractive commodity theory, differential exposure, and social proximity. Extractive commodity theory posits that rural residents are dependent for their livelihood on the extraction of resources from the natural environment, as they work in agriculture, fisheries, forestry, or mining (Mohai and Twight 1987; Tremblay and Dunlap 1978; Van Liere and Dunlap 1980). This makes them negatively disposed toward protecting the environment as it comes at the cost of their own livelihood and that of their community. Whether or not specific environmental regulations affect these farmers determines whether they support specific policies (Fortmann and Kusel 1990; Freudenburg 1991; Williams and Moore 1991). Differential exposure theory offers a non-economic explanation: Urban residents experience greater environmental degradation in their day-to-day life as they live in cities that often suffer from pollution. Residents of rural areas more often live in relatively pristine areas. Social proximity theory offers a third explanation. Sharp and Adua (2009:79) show that people who interact socially with farmers (e.g., who have family or friends who are farmers) are less supportive of environmental policies. People who interact regularly with farmers may develop a "sympathetic appreciation of farming" (Sharp and Adua 2009:62).

Environmental Policy Attitudes and Economic Differences

As Rosenbaum (1977, cited in Neiman and Loveridge 1981:759) observed: "the contemporary environmental movement speaks in the middle- and upper-class accents." The organized environmentalists are cast from the upper and middle class (Buttel and Flinn 1976b:478). One mechanism behind this is that some environmental measures come with economic costs in terms of higher prices, increased taxes, or less jobs. Those who are economically less secure are less likely to endorse environmental measures with such costs. Working class and poorer citizens are more likely to prioritize the solution of their own economic problems over solving environmental problems (Buttel 1975). Those who do not need to worry about their material needs can worry about the environment (Van Liere and Dunlap 1980:183). There is quite consistent evidence for the relationship between income and environmental attitudes (Franzen and Meyer, 2010; Franzen and Vogl, 2013a, 2013b; Gelissen, 2007; Kemmelmeier et al., 2002). One may, however, note that

there is both more recent and older work where this relationship is weak or absent (Jones and Dunlap 1992; Sarigöllü 2009).

A Two-Dimensional Model of Environmental Attitudes

As Neiman and Loveridge (1981) observe, economic conflicts between social-economic groups are also likely to be stronger when one looks at specific policies than when one looks at environmentalism in the abstract because specific measures come with specific costs. If this is correct, we must take a multidimensional approach to environmental policy attitudes in order to see whether there are differences between urban and rural groups and between social-economic groups. That is: if one wants to see whether urban and rural residents differ in their environmentalism, it may be useful to see how they position themselves on issues that directly concern the conflict between agriculture and nature. Likewise, if one wants to see whether social-economic status affects citizens' views on ecological issues, it is useful to look at conflicts on energy and climate issues that have a direct impact on employment or purchasing power. Environmentalism is no longer a valence issue if it becomes clear that specific communities and social groups pay the bill or face constraints in economic activity.

The question is: to what extent do policy preferences about issues related to nature/agriculture issues and climate/energy-related issues neatly align into two dimensions? One reason to expect two separate dimensions is that the literature distinguishes between conservationism and environmentalism (Cotgrove and Duff 1980:334; Mertig and Dunlap 2001; Rohrschneider 1988). Conservationism is a commitment to the protection of wildlife and the esthetic qualities of the environment, while environmentalism at its core is about the management of scarce resources (Cotgrove and Duff 1980:334; Mertig and Dunlap 2001; Rohrschneider 1988). The aspects of wildlife protection and protection of scenery are reflected in a separate nature/agriculture dimension, while resource management is more likely to be strongly connected with concerns about energy and climate. Here, we test empirically this notion that there are two substantially different dimensions. Despite the fact that this notion originated in the 1980s, there has so far not been a rigorous and explicit empirical test of this.[1] Therefore, our expectation is:

Figure 1 depicts this two-dimensional space

1. **Two-Dimensional Expectation:** *two distinct dimensions structure environmental policy preferences, the first that contrasts the interests of agriculture with the protection of nature and a second that contrasts the interest of energy-intensive industry with the protection of the climate.*

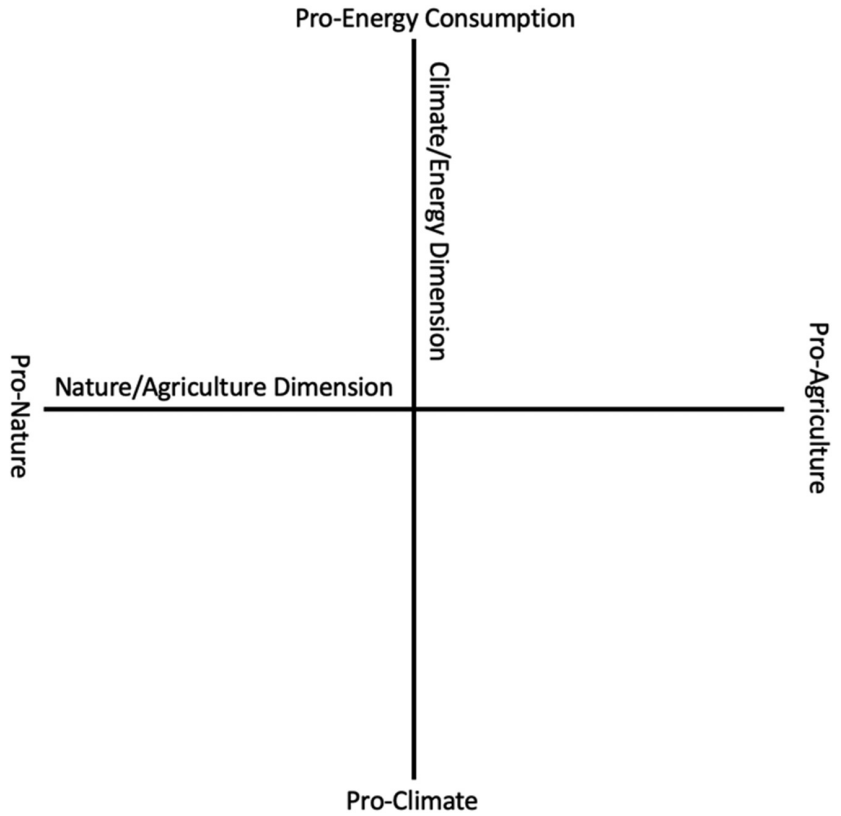

Figure 1. Two-Dimensional Environmental Space.

In order to justify a two-dimensional set up, one would not just need to show that these two dimensions are empirically distinct but also that these scales reflect meaningful differences between citizens and are predictors of behavior. Our central expectation here is that citizens' preferences regarding these two blocs of environmental issues are related in different ways by the level of urbanization of their residence and their social-economic status.

1. **Residence Hypothesis:** *The more urbanized the residence of a citizen is, the more pro-nature they will be on the nature/agriculture dimension, while the level of urbanization is not related to the climate/energy dimension.*
2. **Social-Economic Hypothesis:** *The more precarious a citizen's economic status is, the less pro-climate they will be on the climate/energy dimension, while social-economic status is not related to the nature/agriculture dimension.*

Finally, the utility of a multidimensional approach to the environment will be shown by the predictive power of these two dimensions where it comes to voting behavior. We know that political allegiances and positions on environmental issues are intertwined (Dunlap et al. 2001; Tranter 1999, 2011). The evidence so far suggests that generalized environmental attitudes predict voting for environmental parties (Carroll et al. 2009; Dolezal 2010; Otjes and Krouwel 2015; Rohrschneider 1993). Yet, we expect that the nature/agriculture dimension affects voting for some parties while the climate/energy dimension will affect voting for other parties:

1. **Voting Expectation:** *both the nature/agriculture and the climate/energy dimensions have a separate effect on voting behavior*

The Dutch Case

This paper analyses citizen preference for environmental policies on nature/agriculture and climate/energy issues in the Netherlands in 2018. Located in North-western Europe, the Netherlands is comparable in area to a country like Denmark or a US state like Tennessee (41,000 square kilometers) (CIA 2018). However, it is considerably more densely populated than these states: it has 17 million inhabitants, which is comparable to a country like Ecuador or US State like New York. In fact, the Netherlands is in the top 20 most densely populated countries in the world. However, the population is not distributed equally across the country, as almost half of the population is concentrated in the Western part of the country, encompassing a circle of cities called the "Randstad," formed by among others Amsterdam, Rotterdam, The Hague, and Utrecht. In the North, the East, and the South, there still are low-density rural areas. More than half of the country is used as farmland, which are home to an extremely productive agricultural sector: the Netherlands is the second-largest exporter of agricultural products in the world. Given its urban density but sizable agricultural sector, the Netherlands should be a most favorable case for the juxtaposition of urban versus rural interests.

The Netherlands uses a highly proportional electoral system, resulting in a very diverse and fragmented party landscape. After the 2017 elections, there are 13 parties represented in parliament. The five largest parties were: the right-wing Liberal Party (*Volkspartij voor Vrijheid en Democratie*, VVD) favors business interests over environmental or labor interests. The anti-immigrant radical right-wing populist Freedom Party (*Partij voor de Vrijheid*, PVV) does not believe man-made climate change is real but has expressed concern for animal welfare. The center-right Christian-Democratic Appeal (*Christen-Democratisch Appèl*, CDA) represents religious and rural communities. The center-left Democrats 66

(*Democraten 66*, D66) has a progressive orientation on social, cultural, and environmental matters. The left-wing GreenLeft (*GroenLinks*, GL) combines egalitarian concerns about the income distribution with environmental concerns about climate and nature. In addition to these there is a wide array of parties in parliament for instance those that represent specific Protestant communities or pensioners. Of particular interest for this paper is the Party for the Animals (*Partij voor de Dieren*, PvdD), a party that focuses specifically on the amelioration of the position of animals in Dutch society, in particular within the industrial-scale livestock farming (Otjes and Krouwel 2015).

Methods

This paper has a three-pronged strategy to show that a two-dimensional approach to environmental policy preferences is useful: the first prong is showing that a two-dimensional model meets the statistical requirements of different data reduction methods; the second prong is showing that citizens' preferences on the two dimensions can be meaningfully predicted by respondents' social background; and the third prong is showing that the two dimensions play a separate role in predicting voting behavior.

For this study, we use the European Voter Election Study (EVES), using a large online panel from which respondents were selected to represent the total population by stratification based on age, educational attainment, gender, locality, and party choice in the last election. The EVES panel was fielded in the spring of 2018. It is a non-probability sample of 11,327 Dutch respondents.[2] Possible bias in the sample is significantly reduced by a stratified sampling method, as well as post-sampling weighting (Iterative Proportional Fitting) using the various population characteristics to weigh the data. We used joint distribution weighting on six age categories, binary gender, and education categories, and the marginal distribution of vote recall in the last national election. Table A.1 in the Appendix shows the distribution before and after weighting.

Twelve items were included in the EVES questionnaire that can be used to model the structure of public opinion on the environment. All measures agree with a policy statement on a labeled, five-point scale. These items are shown in Table 2. Six concern agriculture and nature. These range from animal welfare to hunting. Six concern items related to climate change. All of these are linked to limiting greenhouse gas emissions from industry and transport. This survey was specifically designed to force respondents to make trade-offs between environmental values and economic values, such as employment and prices. Inspired by

Table 2. Items

#	Item	Dimension	Text
1	Farmer subsidies	Nature/ Agriculture	Farmers only have a right to European subsidies when they protect nature and the environment
2	Nature preserves	Nature/ Agriculture	Nature reserves should be connected, even when this comes at the cost of farmland
3	Livestock farming	Nature/ Agriculture	Industrial-scale livestock farming should be abolished, even when that means that meat will be more expensive
4	Fish	Nature/ Agriculture	Only fish that has been caught or farmed in a sustainable way should be sold, even when that means that fish will be more expensive
5	Pesticides	Nature/ Agriculture	Pesticides that are harmful to bees should be banned
6	Hunting	Nature/ Agriculture	Hunting for fun should be banned
7	Windmills	Climate/Energy	More windmills should be constructed
8	Climate change	Climate/Energy	To combat climate change, tough measures should be implemented even at the cost of employment
9	Airplane tickets	Climate/Energy	To combat pollution, the government should levy a higher tax on airline tickets
10	Coal plants[a]	Climate/Energy	More coal plants should be opened, even if that means that more greenhouse gasses will be emitted
11	Congestion[a]	Climate/Energy	To reduce congestion, more roads should be constructed
12	Gas network	Climate/Energy	All new houses should be built without a connection to the existing gas network

[a]Flipped.

Neiman and Loveridge (1981:769–70), we believe conflicts of social class and between urban and rural interests over environmental issues appear more readily in the context of specific, real, and contested proposals. For two reasons: first because when environmental issues are presented as abstract or hypothetical issues, they are valence issues, which citizens uniformly support. Second, the chance of such a conflict appearing is greater than one issue where at least one side appeals to the interests of a group of voters. It is notable that two items related to the nature/agriculture dimension on livestock farming and fish explicitly mention costs. That makes them likely to correlate with the other items related to cost in the climate/energy dimension (e.g., the items on climate change and airplane tickets). This makes this selection a conservative test of the difference between the nature/agriculture and climate/energy dimension. Hypothetical nature/agriculture items without this cost component are more likely to be two-dimensional.

How We Justify Two Environmental Dimensions Using Scaling Methods

Since the choice of scaling method has major implications for the results, we employ two scaling methods to determine whether the two dimensions meet acceptable levels of error when modeling citizens' preferences. These two different methods—Mokken scaling and factor analysis—work under different assumptions. If they both support the same result, it is unlikely to be an artifact of one method. Factor analysis belongs to the Classical Test Theory approach and Mokken scaling to the Item Response Theory approach. The latter has fewer assumptions about the nature of the data and how it is distributed, compared to for instance factor analysis, which assumes a normal distribution of the underlying data. In order to distinguish them consistently, we refer to the dimensions that come out of the factor analysis as "factors" and to the dimensions that come out of the Mokken scaling analysis as "scales."

Factor analysis is well known within the social sciences and requires little introduction. We employ a varimax factor analysis. Three different methods are used to assess the "correct" number of dimensions: first, the simple test that the eigenvalues of all dimensions should be higher than one. That is, they should have at least as much variance as a single item. Second, there is the Cattell subjective scree test. This seeks to find an "elbow" in the eigenvalues, that is the point where adding one more factor contributes considerably less compared to the previous factors (Cattell 1966). Third, the optimal coordinates approach. This relies on an extrapolation of the preceding eigenvalue by a regression line. The dimensions are added until the observed eigenvalue for that dimension fall below this line (Raîche et al., 2006). Scree plots and the relevant lines are produced using the package nFactor in R.

Mokken scaling looks at items in a scale as questions in an exam (Mokken 1971). Questions are ordered by difficulty (from questions that many examinees answer correctly to questions that few examinees answer correctly). Mokken scaling then determines which share of examinees answer the difficult questions correctly but the difficult questions incorrectly. If a large share of the respondents does this, the exam questions do not measure the same underlying idea. This share is the *H*-value. A *H*-value below 0.3 is unacceptable. This method is now employed for gray-green items instead of wrong-right items, for polytomous items instead of binary items, and for weighted data.[3] Mokken scaling leads us two construct two additive scales, which consist of the combined answers on the two-sets items.

How We Predict Citizen Preferences on the Two Dimensions

Part of our three-pronged approach is to show that policy positions on the two environmental dimensions relate differently to the demographic characteristics of our respondents. We expect that the level of urbanization of their residence predicts their preferences on the nature/agriculture dimension and that social-economic status predicts voters' preferences on the climate/energy dimension. We also include a number of control variables: gender, age, education level, and religiosity.[4]

First, we look at the level of urbanization of the respondents' residence. We collected the four-digit postal code of every respondents and linked this with the level of urbanization in this area using official data from the Central Bureau of Statistics (Van Andel et al. 2014). This gives us a ratio-interval measure that is the number of houses in the vicinity. We log this to ensure a more balanced distribution. Each postal code is also linked to an ordinal urbanization category by the CBS. We employ this as a robustness test (in the Appendix). The EVES dataset does not have information about the economic sector people work in. If we find a relationship between living in rural area and preferring agriculturally friendly policy, this is a strong validation of the two-dimensional approach. It seems likely that if one looked at respondents who do not just live in a rural area but also are economically dependent on it, the relationship would be even stronger.

Second, we look at respondent social-economic status. We employ two measures: the first one is class self-identification. We asked respondents to place themselves on a three-point class ladder. We split this between working class and middle/upper class.[5] We also create a two-item scale of respondents' financial security.[6] The reason to look at financial security in addition to class is that class, although used often in theorizing about environmental preferences, is not necessarily a good indicator of economic differences. A person can come from an upper-class background but still have financial problems, while people with a working-class background may experience financial security. Therefore, a direct measure of citizens' financial security may be a good indicator of whether they expect to be able to deal with the financial consequences of the energy transition.

As introduced above we look at a number of control variables: studies have found that *women are more concerned about the environment than men* (Dietz et al. 2002; Milfont and Sibley 2016; Ozanne et al. 1999:614; Zelezny et al. 2000). Differences in socialization are seen as a cause of this: Women are socialized to see the world from a perspective of the ethics of care, to be more empathetic, compassionate, nurturing,

altruistic, cooperative, and to be more aware of the interpersonal consequences of their own actions. *Younger citizens tend to have more pro-environmental concerns* as they were raised in relative affluence, they are more likely to prioritize the quality of life over material well-being (Inglehart 1977:3; Rohrschneider 1988:360). Moreover, they are less integrated into the dominant social order and environmental protection goes against the interests of the dominant social order (Fransson and Gärling 1999:371). Finally, younger people are more likely to have to face the effects of climate change and environmental degradation. *Higher educated citizens also tend to have more pro-environmental concerns.* Like younger people, the higher educated are more likely to question the existing social order (Eckersley 1989:222; Tranter 1997, 1999). We differentiate between respondents with and without the equivalent of a college degree. We also include membership of a religious community, without an explicit expectation of the direction of the relationship. Where it comes to religiosity, there is a "briarpatch" of empirical multivariate studies that indicate positive and negative relations between environmental attitudes and religiosity (Harper 2008:5). As most of these variables are binary, we recalculate all other variables so that their minimum is zero and their maximum is one in order to aid interpretation. Table 3 gives an overview of the descriptives of these variables.

We seek to determine to what extent citizen positions on these two dimensions are related to these predictors. Therefore, we use ordinary least squares (OLS) regression on a stacked data set-up with interaction variables to compare the relationships between the independent variables and the positions on the variables for climate/energy and nature/agriculture directly (cf. Otjes 2018; Van Spanje and Van der Brug 2009). OLS regression is justified as all variables are normally distributed (see Table 3). A stacked set-up is necessary to directly compare the effects for the two dimensions. First, a variable was constructed that consisted of two entries for each respondent, namely their positions on the variables for climate/energy and nature/agriculture. All independent variables were included twice: once for the climate/energy positions and once for the nature/agriculture positions. Finally, a dichotomous term that expresses whether the nature/agriculture or the climate/energy variable is the dependent variable ("dummy"), was added. One can use this dichotomy as an interaction term to determine whether the differences in the strength of the relationship between an independent variable and the nature/agriculture and climate/energy variables are significant. This dummy is zero for the climate/energy dimension and one for the nature/agriculture

Table 3. Descriptives

Variable	Mean	Median	SD	Min.	Max.	N[a]	Low	High
Dummy	0.50	–	–	0.00	1.00	15,670	Pro-Energy or Pro-Agriculture	Pro-Climate or Pro-Nature
Residence scale	0.71	0.74	0.13	0.00	1.00	14,348	Rural	Urban
Class	0.70	–	–	0.00	1.00	12,956	Working Class	Middle/Upper Class
Financial security	0.54	0.58	0.29	0.00	1.00	14,942	Insecure	Secure
Gender	0.49	–	–	0.00	1.00	15,240	Male	Female
Year of Birth	0.44	0.46	0.22	0.00	1.00	15,390	1924	2000
Education Level	0.29	–	–	0.00	1.00	15,658	No college degree	College degree
Religiosity	0.17	–	–	0.00	1.00	15,670	Secular	Religious
Economic Dimension	0.68	0.75	0.24	0.00	1.00	7,809	Inegalitarian	Egalitarian
New Cultural Dimension	0.46	0.44	0.17	0.00	1.00	7,000	Conservative	Progressive
Old Cultural Dimension	0.74	0.75	0.18	0.00	1.00	7,768	Conservative	Progressive

[a]*N* for the analyses with stacked dataset for Residence Scale, Class, Financial Security, Gender, Age and Education Level, and Religiosity. Weighted.

dimension. In order to understand this strategy, a regression equation may be useful:

$$\begin{aligned} DV = {} & \alpha + \beta_1 \times \text{Dummy} + \beta_2 \times \text{Residence} + \beta_3 \times \text{Class} + \beta_4 \\ & \times \text{Financial Security} + \beta_5 \times \text{Gender} + \beta_6 \times \text{Age} + \beta_7 \\ & \times \text{Education Level} + \beta_8 \times \text{Religious} + \beta_9 \times \text{Residence} \\ & \times \text{Dummy} + \beta_{10} \times \text{Class} \times \text{Dummy} + \beta_{12} \times \text{Financial Security} \\ & \times \text{Dummy} + \beta_{13} \times \text{Gender} \times \text{Dummy} + \beta_{14} \times \text{Age} \\ & \times \text{Dummy} + \beta_{15} \times \text{Education Level} \times \text{Dummy} + \beta_{16} \times \text{Religious} \times \text{Dummy} \end{aligned} \quad (1)$$

The main coefficients reflect effects for the climate/energy variables; the effects for the nature/agriculture variables can be calculated by combining the main coefficients and the interaction terms.

How We Predict Vote Choice Using the Two Dimensions

The final part of our three-pronged approach is that the two dimensions have a different roles as predictors of voting behavior. We include the two dimensions in an analysis looking at party preferences for the five largest parties in the last election in addition to the specifically Dutch phenomenon, the Party for the Animals. Our expectation is that positions on the nature/agriculture dimension predicts voting for parties that rural constituencies (like the Christian-Democratic Appeal) and that campaign on animal rights (like the Party for the Animals), while the climate/energy dimension predicts voting for parties that are explicitly climate-skeptic (like the Freedom Party) and that campaign on fighting climate change (like D66 and the GreenLeft).

As controls, we include the same demographic controls introduced above, as well as three opinion dimensions often found to be important for voting behavior in Western Europe in general and the Netherlands specifically (Dolezal 2010; Irwin and Van Holsteyn 2008; Kriesi et al. 2006; Otjes 2018; Otjes and Krouwel 2015): the economic left–right dimension, the old cultural dimension, and the new cultural dimension. The economic dimension concerns the conflict over income redistribution and divides the left that favors a more equal distribution of income from the right that accepts income differences as a way to stimulate performance. We construct a two-item economic dimension ($H = 0.46$; Cronbach's $\alpha = 0.62$).[7] Notable here is that parties that tend to be more left-wing economically also tend to favor environmental measures. In the Dutch political landscape, there is traditionally a divide between parties that favor a traditional, conservative morality, and those who favor a progressive, liberal approach to moral issues. This, among others, relates to place of women, gay,

lesbian, bisexual, and transgender people in society. We construct a five-item old cultural dimension ($H = 0.54$; Cronbach's $\alpha = 0.75$). Until the early 2000s, the economic and the old cultural dimension sufficed to understand the political landscape. There were parties with conservative moral policies that appealed to morally conservative voters, particularly relevant here is that those were concentrated in rural areas. The parties that were morally progressive were divided between those with a more left-wing and a more right-wing agenda. Since the 2000s, the so-called new cultural dimension played a major role in Dutch politics. This primarily concerns immigration dividing those who favor immigration and a multicultural society and those who want to close the borders to immigration and want the Netherlands to have dominant Dutch culture. This is further entwined with issues related to safety, civic integration, and Islam. This now divides more patriotic voters and parties from those who have a more cosmopolitan, multiculturalist view. We use an 18-item new cultural dimension ($H = 0.44$; Cronbach's $\alpha = 0.89$). At the party level, those who oppose immigration tend to be less supportive of environmental measures.

Justifying Two Environmental Dimensions Using Scaling Methods

The first question we consider is whether environmental issues can be modeled in terms of two dimensions. Figure 2 shows the Scree Test. It shows three things: both a one and two-dimensional solution have an eigenvalue over one. The Optimal Coordinates analysis supports a two-dimensional solution. Finally, the elbow is clearly at two dimensions. All in all, this data supports a two-dimensional solution but also indicates that a considerable share of the variance is already captured by a one-dimensional solution. Table 4 shows which items form one dimension. The six items that opposed the interest of fishers and farmers to the interests of animals and nature all form part of one dimension. The six items that tapped into issues related to energy and carbon emissions also form part of one dimension. The Mokken Scaling supports this conclusion. These sets of items both scale sufficiently. This is also supported by the reliability analysis in the form of Cronbach's alpha. Note, however, that all items together would also form a sufficiently strong Mokken scale (H = 0.42). The correlations between items show that the factor analysis yields two dimensions that are related but distinct. The additive scales are moderately related. The scale and factor that concerns the same aspect are strongly correlated. To test their validity, we correlated the two environmental policy preference scales with an item on the priority of the environment as a policy issue; that is the environment understood as purely valence

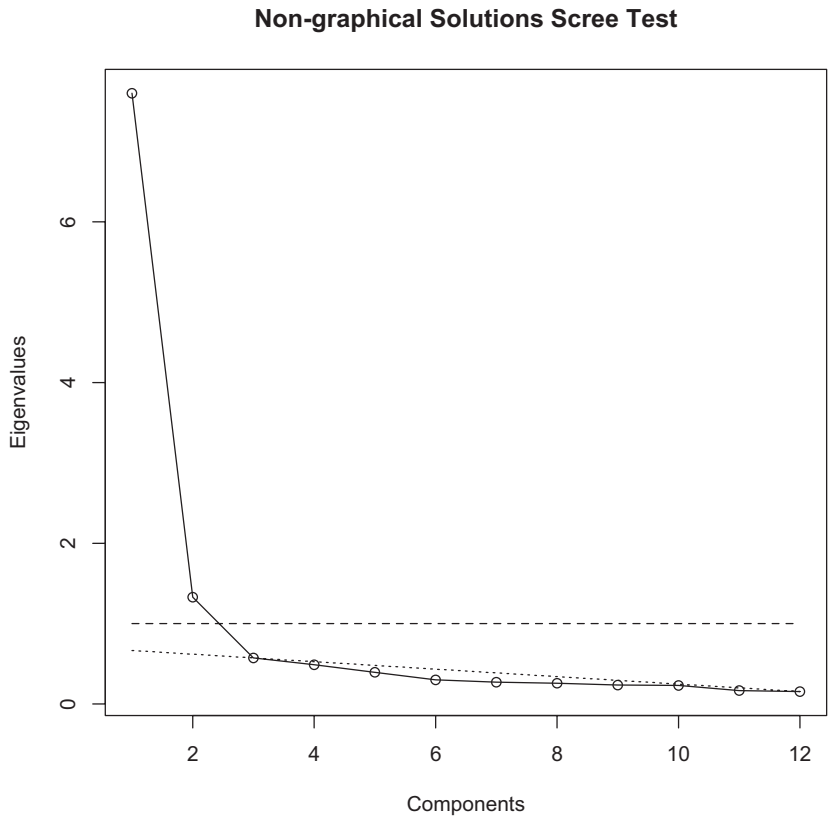

Figure 2. Non-graphical Solution Scree Test.

issue. All items show strong correlations. This indicates that all items meaningfully tap into environmental attitudes.

All in all, the data indicates that both a one and two-dimensional solution would be possible. A distinction between a nature/agriculture and a climate/energy dimension fits the data quite well. The usefulness of a two-dimensional solution would need to be proven by their analytical utility. This is the subject of the next section.

Predicting Citizen Preferences on the Two Environmental Dimensions

The central question of this section is: do the two dimensions reflect meaningful differences in environmental attitudes between groups of citizens? Table 5 shows the results of two regression analyses: one for

Table 4. Factor Analysis and Scales

	Factor Analysis		Mokken Scaling	
Variable	Nature/Agriculture Dimension	Climate/Energy Dimension	Nature/Agriculture Scale	Climate/Energy Scale
Farmer subsidies	0.59	–	0.63	
Nature preserves	0.57	–	0.55	
Livesstock farming	0.67	–	0.59	
Fish	0.64	–	0.63	
Pesticides	0.54	–	0.59	
Hunting	0.43	–	0.39	
Windmills	–	0.53		0.36
Climate change	–	0.66		0.50
Airplane tickets	–	0.51		0.45
Coal plants	–	–0.55		0.48[a]
Congestion	–	–0.43		0.32[a]
Gas network	–	0.52		0.42
Diagnostics				
Eigenvalues	2.50	2.13		
H-values			0.56	0.42
Cronbach's alpha			0.75	0.77
Descriptives				
Mean	0.58	0.62	0.61	0.63
Median	0.59	0.64	0.63	0.63
Standard Deviation	0.17	0.17	0.19	0.20
Correlations				
Nature/Agriculture Dimension		0.26	0.97	0.45

Table 4. ***Continued***

	Factor Analysis		Mokken Scaling	
Variable	Nature/Agriculture Dimension	Climate/Energy Dimension	Nature/Agriculture Scale	Climate/Energy Scale
Climate/Energy Dimension	0.26		0.42	0.96
Nature/Agriculture Scale	0.97	0.42		0.58
Climate/Energy Scale	0.45	0.96	0.58	
Environmental Priority	0.53	0.37	0.57	0.44

Note: Weighted; −<0.4.
[a]Flipped.

Table 5. Regression Results with Factors/Scales as Dependent Variable

Model	Model 1	Model 2
Dependent Variable	Factor	Scale
Constant	0.45***	0.42***
	(0.01)	(0.02)
Dummy	–0.01	–0.03
	(0.02)	(0.02)
Residence Scale	0.04***	0.07***
	(0.02)	(0.02)
Class = Middle/Upper Class	–0.00	–0.00
	(0.01)	(0.01)
Financial security	0.09***	0.09***
	(0.01)	(0.01)
Gender = Female	0.02***	0.04***
	(0.00)	(0.01)
Year of Birth	0.05***	0.09***
	(0.01)	(0.01)
Education Level = Higher	0.07***	0.08***
	(0.01)	(0.01)
Secular	0.02***	0.02***
	(0.01)	(0.01)
Dummy * Residence Scale	0.10***	0.10***
	(0.02)	(0.03)
Dummy * Class = Middle/Upper Class	0.01	0.00
	(0.01)	(0.01)
Dummy * Financial security	–0.10***	–0.07***
	(0.01)	(0.02)
Dummy * Gender = Female	0.03***	0.02**
	(0.01)	(0.01)
Dummy * Year of Birth	0.06***	0.04**
	(0.02)	(0.02)
Dummy * Education Level = Higher	–0.02***	–0.02**
	(0.01)	(0.01)
Dummy * Secular	–0.03***	–0.04***
	(0.01)	(0.01)
R-squared	0.09	0.08
N	11,052	11,052

Note: The predictors without an interaction concern the climate/energy dimensions. Higher values of the coefficients imply a positive relationship between the variable and pro-climate positions. The values that interacted with the dummy concern the difference in relationship between the predictor and the climate/energy and nature/agriculture dimensions. The main and interaction effects can be added to assess the relationship between the predictor and the nature/agriculture dimension. Weighted. 0.1<*<0.05<**<0.01<***.

the two factors derived from factor analysis and one for the two scales derived from Mokken scaling. We use a stacked data set with interactions. This analysis predicts preferences on both dimensions simultaneously.

The interaction terms show how preferences on the nature/agriculture dimension differ from the energy/climate dimension.

Citizens that feel financially insecure support pro-industry policies at the cost of the climate. If we move from the least to the most financially secure citizens, support for pro-climate policies increases by a tenth of the scale/factor. Other predictors that are related to pro-climate policy are age, education, residence, gender, and religiosity: younger generations and the higher educated are more likely to support climate-protecting measures, as are women, those who live in cities and those who are religious, Importantly, we find no relationship with class self-identification. All in all, support for climate policies in part reflects citizens' assessment of their own financial stability. Those who feel secure in their financial future support policies that might increase prices and lower employment; those who have difficulties making ends meet prioritize the economy over the environment. This supports our expectation that when citizens need to make a trade-off between environmental regulations and the costs they have, financial-economic self-interest plays a role. The absence of a (self-identified) class effect is unexpected. Table A.3 in the Appendix shows that when removing the financial security variable, the class variable becomes much stronger. It is equally strong for both dimensions, however. It also shows that when we use a four-item scale for economic security than encompasses both financial security and fears about losing one's job the results become even stronger.[8] Finally, it shows that when using the binary class item and when we control for financial security, the relationship between class and climate preferences is in the reversed direction. All in all, the subjective assessment of one's economic situation trumps class (see also Table A.4).

What predicts a preference for the protection of nature over agriculture? The single strongest predictor by far is residence: the most urban citizens are substantially "greener" than the most rural citizen (by a seventh of the scale). Out of all the predictors we look at in this section, this relationship is by far the strongest. Table A.3 in the Appendix shows that when using a different, ordinal, measure of urbanization, the same pattern is visible. This provides strong support for our assumption that environmental attitudes concerning nature and agriculture would reflect the community one resides in. We also find that women want to protect nature. In contrast to the energy/climate dimensions we that older citizens support the protection of nature: younger generations are more inclined to support climate change policies. Older generations want to maintain the natural environment they know while younger generations want to fight climate change. Also, in contrast to the climate scale/factor, the relationship with religion is reversed: religious citizens want to fight

climate change, but take the side of farmers on the nature/agriculture dimension. Financial security has no relationship with pro-nature attitudes. This is in line with our expectations, we expected that residence and not social-economic status would predict respondents' position on this dimension. We find weaker relations with education level: higher educated citizens are still greener, but the contrast is smaller than on the climate dimension.

Predicting Vote Choice on the Two Dimensions

Finally, a two-dimensional set-up is justified if the two dimensions both separately are useful in predicting and explaining behavior. In this case, voting behavior. We ran the analysis with both the factors and the scales. These results are shown in Tables 6 and 7. We depict the coefficients from Table 6 and Figure 3. For the sake of brevity, we will only look at what the two environmental dimensions contribute and not the other variables, we control for. Most of these are in the expected direction.

We find similar results independent of whether we measure the two approaches to environmentalism with scales or factors: citizens who vote or the left-wing green GL are "double green." It attracts citizens that are both green where it comes to nature and where it comes to the climate. The single-issue animal advocacy party PvdD attracts citizens that are green where it comes to nature and animals, but, when controlling for other factors, views about climate do not play a role in voting for this party. For those supporting the social-liberal D66, the relationship is reversed: its citizens are green on climate but not on nature. A similar pattern can be seen on the gray side: supporters of the market-liberal VVD are gray on both dimensions. The electorate of the Christian-democratic CDA, which is concentrated in rural communities, is only gray where it comes to farmers and agriculture and unaffected by views on climate. The electorate of the right-wing populist PVV is only gray where it comes to cars and climate, but not where it comes to animals and nature. This may reflect the party's concerns for animal welfare; in the model with the scales, the Nature/Agriculture scale even has a significant, positive effect.

These results clearly show that the two dimensions are relevant in explaining voting behavior: it shows there are at least four ways in which preferences on nature/agriculture and climate/energy could be structured and each pattern is related to different party preferences. Moreover, for each of the five main Dutch parties, one of the two environmental dimensions is among the top-two predictors of preference for these parties. For the Party for the Animals, unsurprisingly, it is even the most important predictor.

Table 6. Regression Results with Factors as Dependent Variable

Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Dependent Variable	VVD	PVV	CDA	D66	GL	PvdD
Intercept	0.76***	−0.25***	0.02	0.19***	−0.21**	−0.09**
	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.03)
Economic Dimension	−0.69***	0.18***	−0.02	−0.08***	0.16***	0.01
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
New Cultural Dimension	0.13***	0.75***	0.26***	−0.41***	−0.36***	0.00
	(0.04)	(0.03)	(0.04)	(0.04)	(0.03)	(0.02)
Old Cultural Dimension	0.24***	0.04	0.00	−0.00	−0.02	−0.02
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Residence Scale	−0.09**	−0.05	0.08**	0.02	0.09***	−0.01
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)
Class = Middle/Upper Class	0.11***	−0.04***	0.03**	0.03**	−0.02*	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Financial security	0.10***	0.06***	−0.09***	0.03*	−0.00	−0.02*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Gender = Female	−0.05***	−0.02**	−0.01	−0.00	0.00	0.01***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
Year of Birth	−0.01	−0.05***	0.09***	0.04*	0.10***	0.02*
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Education Level = Higher	−0.01	0.03***	−0.02**	0.03**	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Religious	−0.09***	−0.07***	0.21***	−0.08***	−0.05***	−0.01**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Nature/Agriculture Factor	−0.26***	0.03	−0.14***	0.02	0.21***	0.16***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Climate/Energy Factor	−0.29***	−0.19***	0.00	0.13***	0.25***	0.02
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)
N	4,826	4,826	4,826	4,826	4,826	4,826
AIC	7,736	4,557	6,853	5,775	4,608	−233

Note: Weighted. 0.1 * < 0.05 < ** < 0.01 < ***.

Table 7. Regression Results with Scales as Dependent Variable

Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Dependent Variable	VVD	PVV	CDA	D66	GL	PvdD
Intercept	0.73***	−0.26***	0.090	0.21***	−0.18***	−0.07**
	(0.06)	(0.05)	(0.06)	(0.05)	(0.04)	(0.03)
Economic Dimension	−0.68***	0.18***	−0.02	−0.08***	0.15***	0.01
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
New Cultural Dimension	0.10***	0.74***	0.26***	−0.41***	−0.34***	0.00
	(0.04)	(0.03)	(0.04)	(0.04)	(0.03)	(0.02)
Old Cultural Dimension	0.24***	0.04	0.00	−0.00	−0.02	−0.02
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Residence Scale	−0.09**	−0.05*	0.08**	0.03	0.09***	−0.01
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)
Class = Middle/Upper Class	0.11***	−0.04***	0.03**	0.03**	−0.02*	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Financial security	0.10***	0.05***	−0.09***	0.03*	−0.00	−0.02*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Gender = Female	−0.04***	−0.02**	−0.01	−0.00	0.00	0.01***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
Year of Birth	−0.02	−0.06***	0.09***	0.04**	0.10***	0.02*
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Education Level = Higher	−0.01	0.03***	−0.02**	0.02**	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Religious	−0.08***	−0.07***	0.21***	−0.08***	−0.05***	−0.01**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Nature/Agriculture Scale	−0.31***	0.08***	−0.11***	0.02	0.14***	0.14***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Climate/Energy Scale	−0.16***	−0.19***	−0.00	0.10***	0.25***	0.02
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)
N	4,826	4,826	4,826	4,826	4,826	4,826
AIC	7,712	4,557	6,856	5,778	4,608	−236

Note: Weighted; 0.1 * < 0.05 < ** < 0.01 < ***.

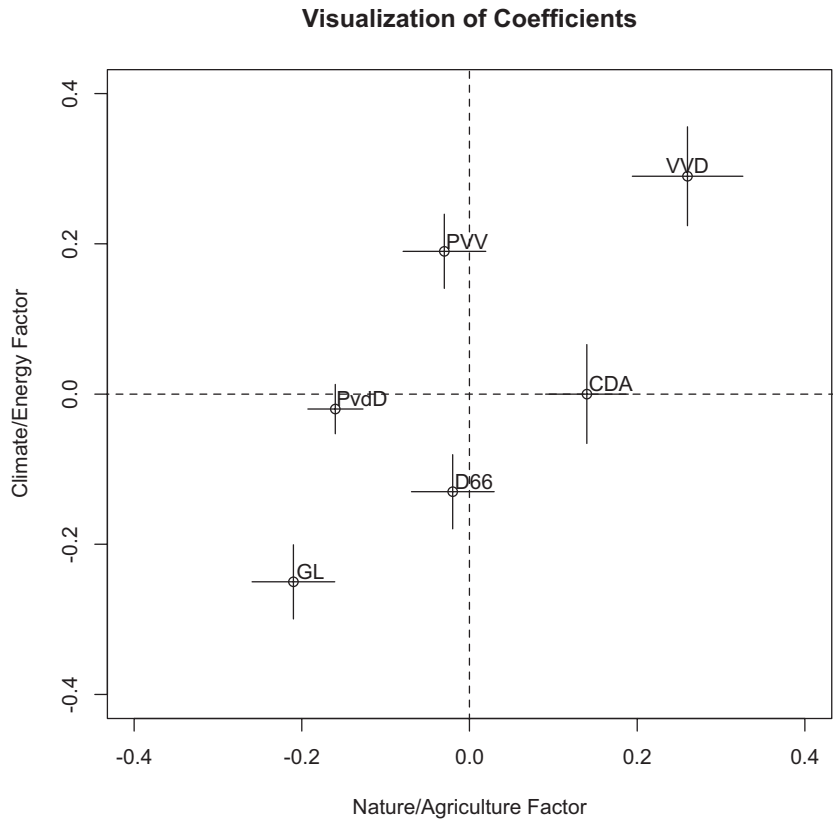

Figure 3. Visualization of Coefficients.

Conclusion

This paper aimed to improve our understanding of how economic interests shape environmental attitudes. We did this by differentiating between government policies that would affect agricultural and industrial sectors. We found that where it comes to policies that juxtapose interests of farmers and fishers against the interest of animals and nature, the urban/rural divide matters. Whether respondents lived in urban or rural communities was of paramount importance for whether citizens favored restricting farmers and fishers to protect animals and nature. This stands in contrast to policies that draw an opposition between the interest of the energy-consuming industries and transport sector with the need to fight climate change. Here, citizens'

financial security was of crucial importance. Citizens who have a more precarious economic position are more likely to oppose measures that make energy and travel more expensive. Paraphrasing Neiman and Loveridge (1981, p.769): environmental preferences are related to the economic status of respondents in the context of specific, politically contested proposals, where at least one side appeals to a specific group interest of citizens. In this way, we find support for both the urban nature of environmentalism and its "upper class accent." Both matter, but for different issues.

The results of our analysis show that a two-dimensional solution provides useful insights into citizens' preferences and that these two dimensions tap into different background characteristics of citizens. Finally, we showed that the two dimensions are useful to predict voting behavior. For party choice, it matters whether citizens are green or gray on both dimensions—related to a high likelihood to support for the GreenLeft and VVD respectively—or combine "green" attitudes on one dimension with "gray" attitudes on the other. In an open multiparty system like the Netherlands, there are parties that represent citizens that are only "gray" on the climate/energy dimension (PVV) or on the nature/agriculture dimension (CDA) or that represent citizens that are only "green" on agriculture/nature issues (PvdD) or the climate/energy dimensions (D66). The analytical utility of a two-dimensional solution to explain behavior, at least for this specific case, is clearly shown.

This study had a number of limitations and future research may want to build further on this study to address these limitations. First, our study looked at a single country (the Netherlands) which has a specific combination of high population density and intensive agriculture. We do not know whether the patterns found here travel to other countries. In countries with strong mining sectors, for instance, the dimensions may line up in another way (Pakulski et al. 1998). A cross-national examination of the structure of environmental policy preferences may therefore be relevant in particular, because environmental and agricultural policy in Europe is also made by the European Union.

Second, our study focuses on the climate/energy dimension and the nature/agriculture dimension but the survey we used did not allow us to correlate these dimensions with the dozens of dimensions already in the literature. It may for instance be interesting to see how the climate/energy dimension and the nature/agriculture dimension relate to the different spheres of concern (toward human and non-human life). It may be that the nature/agriculture dimension taps into concerns about non-human life, while the climate/energy dimension into concerns

about future human generations. Moreover, these factors may also relate in a different way to measures of environmental radicalism and criticism of the status quo. At least the existing distinction between conservationism and environmentalism implies this (Cotgrove and Duff 1980:334; Mertig and Dunlap 2001; Rohrschneider 1993).

Thirdly, our study was only able to test the extractive commodity theory indirectly because we did not have information on which sectors respondents were employed. A number of studies have far more advanced measures of to what extent citizens are dependent on agriculture or involved in the rural way of life (Fortmann and Kusel 1990; Freudenburg 1991; Klineberg et al. 1998; Mohai and Twight 1987; Sharp and Adua 2009; Williams and Moore 1991). Those measures could also be employed in a further study of this distinction between the nature/agriculture and the climate/energy dimensions. This may give more insight into the importance of the commodity extraction theory versus theories that emphasize the physical proximity to rural areas (e.g., differential exposure theory) or social proximity to the rural way of life. It seems unlikely that are our result is only driven by people who are employed in agriculture and rather by people believing that pro-agriculture policies benefit their communities.

Yet, given that even with an imperfect measure of involvement with the rural way of life, we find such strong results supports the thesis of this article that regional interests structure citizens' attitudes on a specific measure.

Finally, this survey we used a self-selected panel with weighting in order to test our hypotheses. It may very well be that in our sample respondents have a higher political interest than in truly random sample. In such a random sample voters' positions are likely to be less coherent than in a sample of politically interested respondents. Therefore, this sample is actually more conservative. We are less likely to find a two-dimensional set-up than a random sample. This strengthens our results.

One may wonder what the significance of these results is for the public debate about environmental issues. In our view, it shows that in order to ensure public support for policies necessary environmental measures (either to fight climate change or environmental degradation) need to be accompanied by measures to mitigate the economic effects for specific groups. These can be income-support policies for people in a precarious economic situation or specific support to allow farmers to make the necessary transition. Opposition to environmental measures in part is driven by the perception that these harm the economic interests of specific groups and communities. Without

credible measures to counteract these concerns, a large segment of the population will remain opposed to these measures. Policies oriented at making agriculture more environmentally friendly should not just consists of "sticks" to force farmers to make the necessary transition but also "carrots" in the form of transition subsidies. Climate policies that increase the cost for the consumer will need to be accompanied by redistributive policies that allow people in economically precarious positions to make ends meet. This notion of a "just transition" is not new but goes back to the demands made by trade unions since the 1980s (McCauley and Heffron 2018).

ENDNOTES

[1] Pakulski et al. (1998) did find that concerns about waste and overpopulation load on different dimensions than concerns about logging and the destruction of wildlife.

[2] The respondents were collected for the panel through the Kieskompas Panel, which consists of over 200,000 Dutch citizens. Respondents are recruited via a well-used Dutch Voting Advice Application Kieskompas in national, local, regional and European elections, various national and local news outlets and through other social media channels, such as Facebook. Such broad recruitment over more than a decade build up a large database of respondents on which we use stratified sampling methodologies to make the sample better represent the total population.

[3] No R-package allowed for weighted Mokken scaling, so we wrote it ourselves.

[4] We do not include opinion items (see below) in the analysis explaining environmental attitudes because we cannot determine which opinion is prior.

[5] In the Appendix we also look at an ordinal scale, which divides between working, middle and upper class.

[6] We use two questions: "How is the financial situation of your household compared to five years ago," "How likely is it that you will go through a period where you have too little money for the necessary household costs". These items scale very well ($H = 0.63$; Pearson's R is .35). In the Appendix we also look at a four-item scale of respondents' economic security, including financial and employment security.

[7] See Table A.2 for the list of items used in this study.

[8] The item concerning job loss was only asked to respondents who were gainfully employed, therefore the *N* is much smaller.

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APPENDIX

Table A.1. Distribution on Descriptive Variables

Variable	Weighted (%)	Non-weighted (%)	Population (%)
Gender			
Male	50	72	49
Female	50	28	51
Education			
Higher Educated	28	70	28
Lower Educated	72	30	72
Age			
18–24	9	3	11
25–34	15	8	15
35–44	19	11	18
45–54	19	16	19
55–64	17	27	17
65+	20	35	20
Party choice			
CDA	8	10	10
PvdA	12	5	5
SP	8	7	7
VVD	11	17	17
PVV	4	11	11
GL	21	7	7
CU	5	3	3
D66	16	10	10
PvdD	6	3	3
SGP	1	2	2
50PLUS	2	3	3
DENK	0	2	2
FVD	3	1	1
Other	2	1	1
Not voted	2	18	18

Note: Source population data 2011 Eurostat census.

Table A.2. Non-Environmental Items

#	Item	Dimension	Text
1	Income	Economic	Rich people should pay more tax in order to allow us to help poor people in our country better
2	Companies	Economic	Large companies make too much profit at the detriment of good wage for employees
3	Adoption	Old Cultural	It is good that gay and lesbian couples can adopt children
4	Homosexuality	Old Cultural	The acceptance of homosexuality is a sign that the Dutch culture has weakened
5	Transgenders	Old Cultural	People who feel that they are born in the wrong body are mentally ill
6	Gender	Old Cultural	Men and women have different roles in society
7	Gender & Riles	Old Cultural	Women should have the duty to raise children
8	Immigrants	New Cultural	There are too many migrants in the Netherlands
9	Migrant & Labor	New Cultural	Dutch people should have a priority on the labor market over foreigners
10	Migrant & Culture	New Cultural	Immigration enriches our culture
11	Migrant Children	New Cultural	The children of immigrants who are born in the Netherlands are as Dutch as other people
12	Eastern Europe	New Cultural	Open borders means that our companies will hire cheap employees from Eastern Europe at the cost of our own employees
13	Cultural Contact	New Cultural	It is good for society when people come into contact with people from other cultures
14	Tolerance	New Cultural	We will be more and more open and tolerant to people from other cultures
15	Islam	New Cultural	The relations between European and Muslims will inevitably turn violent in the future
16	Values	New Cultural	Young people have too little respect for traditional Dutch values
17	Schools	New Cultural	Schools should teach children to respect authority
18	Censorship	New Cultural	Government control over the substance of movies and magazines is necessary to protect norms and values
19	Leader	New Cultural	Our country needs a strong leader who can decide quickly on everything
20	Values Children 1	New Cultural	Below two pairs of character traits are mentioned, which do you think is more important for children to learn: independence—respect for seniors
21	Values Children 2	New Cultural	Below two pairs of character traits are mentioned, which do you think is more important for children to learn: obedience—self reliance
22	Values Children 3	New Cultural	Below two pairs of character traits are mentioned, which do you think is more important for children to learn: inquisitiveness—good manners
23	Punishments	New Cultural	Crimes should be punished more harshly
24	Death penalty	New Cultural	For some crimes, the death penalty should be instituted
25	Privacy	New Cultural	The privacy of citizens should be limited to fight terrorism

Table A.3. Additional Regression Results

Model	Model 1	Model 2	Model 3	Model 4
Dependent Variable	Factor	Scale	Factor	Scale
Constant	0.52***	0.51***	0.47***	0.45***
	(0.01)	(0.02)	(0.01)	(0.01)
Dummy	–0.07***	–0.07***	0.03***	0.02
	(0.02)	(0.02)	(0.01)	(0.01)
Residence Scale	0.04***	0.05***	–	–
	(0.01)	(0.02)		
Residence Ordinal	–	–	0.01***	0.02***
			(0.01)	(0.01)
Class = Middle/Upper Class	0.03***	0.03***	–0.00	–0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Financial Security	–	–	0.09***	0.09***
			(0.01)	(0.01)
Gender = Female	0.02***	0.04***	0.02***	0.04***
	(0.00)	(0.01)	(0.00)	(0.01)
Age	–0.03***	–0.00	0.05***	0.09***
	(0.01)	(0.01)	(0.01)	(0.01)
Education Level = Higher	0.06***	0.08***	0.07***	0.08***
	(0.01)	(0.01)	(0.01)	(0.01)
Religious	0.02***	0.02***	0.02***	0.02***
	(0.01)	(0.01)	(0.01)	(0.01)
Dummy * Residence Scale	0.10***	0.11***	–	–
	(0.02)	(0.03)		
Dummy * Residence Ordinal	–	–	0.04***	0.04***
			(0.01)	(0.01)
Dummy * Class = Middle/ Upper Class	–0.01	–0.01	0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Dummy * Financial security	–	–	–0.09***	–0.07***
			(0.01)	(0.02)
Dummy * Gender = Female	0.04***	0.02**	0.03***	0.01**
	(0.01)	(0.01)	(0.01)	(0.01)
Dummy * Age	0.09***	0.05**	0.06***	0.04**
	(0.01)	(0.01)	(0.02)	(0.02)
Dummy * Education Level = Higher	–0.03***	–0.03***	–0.02***	–0.02**
	(0.01)	(0.01)	(0.01)	(0.01)
Dummy * Religious	–0.04***	–0.05***	–0.03***	–0.04***
	(0.01)	(0.01)	(0.01)	(0.01)
R-squared	0.08	0.07	0.09	0.08
N	11,506	11,506	11,304	11,304

Note: Weighted; 0.1 < * < 0.05 < ** < 0.01 < ***.

Table A.4. Additional Regression Results continued

Model	Model 5	Model 6	Model 7	Model 8	Model 9
Dependent Variable	Factor	Scale	Scale	Scale	Scale
Constant	0.42***	0.35***	0.46***	0.44***	0.41***
	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)
Dummy	−0.15***	−0.14***	−0.03	−0.04*	–
	(0.04)	(0.04)	(0.02)	(0.02)	
Residence Scale	0.03	0.09***	0.04**	0.06**	0.12***
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Class = Middle/Upper Class	−0.01	−0.01	–	–	0.01
	(0.01)	(0.01)			(0.01)
Class Ordinal	–	–	−0.02***	−0.03***	–
			(0.01)	(0.01)	
Financial Security	–	–	0.10***	0.10***	0.06***
			(0.01)	(0.01)	(0.01)
Economic Security	0.15***	0.16***	–	–	–
	(0.02)	(0.02)			
Gender = Female	0.02**	0.03***	0.02***	0.04***	0.05***
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
Age	0.01	0.07***	0.05***	0.09***	0.11***
	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)
Education Level = Higher	0.07***	0.09***	0.07***	0.09***	0.08***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Religious	0.03***	0.03***	0.02***	0.02**	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Dummy * Residence Scale	0.29***	0.26***	0.10***	0.10***	–
	(0.04)	(0.05)	(0.02)	(0.03)	
Dummy * Class = Middle/ Upper Class	−0.02*	0.01	–	–	–
	(0.01)	(0.01)			
Class Ordinal	–	–	0.04***	0.02*	–
			(0.01)	(0.01)	
Dummy * Financial security	–	–	−0.11***	−0.08***	–
			(0.01)	(0.01)	
Dummy * Economic security	−0.16***	−0.13***	–	–	–
	(0.02)	(0.03)			
Dummy * Gender = Female	0.01	−0.01	0.03***	0.01**	–
	(0.01)	(0.01)	(0.01)	(0.01)	
Dummy * Age	0.20***	0.15***	0.06***	0.03*	–
	(0.03)	(0.04)	(0.02)	(0.02)	
Dummy * Education Level = Higher	−0.01	−0.00	−0.03***	−0.03***	–
	(0.01)	(0.01)	(0.01)	(0.01)	
Dummy * Religious	−0.04***	−0.04***	−0.03**	−0.04***	–
	(0.01)	(0.02)	(0.01)	(0.01)	
R-squared	0.12	0.12	0.09	0.09	0.10
N	4,616	4,616	11,052	11,052	5,526

Note: Weighted; 0.1 < * < 0.05 < ** < 0.01 < ***.