University of Warsaw
Faculty of Economic Sciences

Aleksander Jabłoński
(432022)

Who votes left? Who votes right?
Econometric analysis of political ideology in France

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supervised by Rafał Woźniak, PhD

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Abstract:

Determining one's political ideology quantitatively is a challenging endeavour undertaken regularly by the political scientists. The following report uses the last round of European Social Survey data to estimate the effects of economical, psychological and environmental factors on one's self-identification on left/right political spectrum. First, we describe the theory of classical left/right cleavage. Then, we associate particular values with both ends of political spectrum. Finally, we apply Ordinary Least Squares (OLS), in order to test those theories empirically.

Key words:

ideology, political identification, OLS, European Social Survey

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Introduction

Defining determinants of one's political ideology has been an object of numerous studies in the fields of psychology, political science and economics. As the political spectrum evolves dynamically in the age of globalisation, classical cleavages become obsolete, making it increasing more difficult to identify predictors of ideology and further associate them with straight-forward left/right labels. Nevertheless, there is still a strong evidence for the significant correlation of particular factors (income, psychological traits) with the self-proclaimed political affiliation, which we are going to test empirically on the newest data provided by European Social Survey.

1. Theory of left/right cleavage

Classical split between political left and right has its roots in French Revolution, when politicians opting for a preservation of monarchy situated themselves to the right of the king*, as opposed to those in favour of republican regime (Baszkiewicz, 1999). This ideological cleavage between desire to preserve the hierarchy of *ancien régime* and striving for an egalitarian society gave birth to the dichotomy of political spectrum that is still frequently evoked today. In spite of their longevity, the meaning behind left/right labels has evolved and got progressively more complex, due to socio-economic changes and post-revolutionary development of political thought. As a result, in order to empirically analyse the determinants of political identification, it is essential to describe the spectrum of our analysis and values associated with its different parts.

1.1. Uni- and multidiemensionalism

Modern studies of political taxonomy have frequently contested the unidimensional approach to ideology modelling, due to the structural heterogeneity within both conservatism and

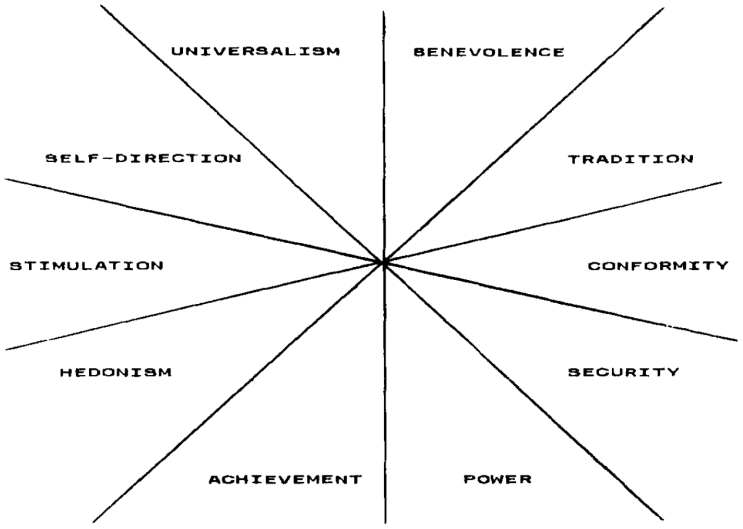
* From the journal of Baron de Gauville, deputy of nobility for the Estates General in 1789, we learn: 'On 29th, we started to recognise ourselves: those, who were attached to the religion and the king situated themselves to the right of the marshal, in order to avoid shouts, remarks and indecencies coming from the opposite side'.

liberalism (Feldman & Johnston, 2014). The development of a multidimensional framework has addressed complexity of political ideology, as voters may display different preferences in response to different policies. At its core, the extended framework preserves the left/right (liberal/conservative) terminology, covering two distinct dimensions, economic and socio-cultural, at the same time. This allows for a more accurate representation, as voters may self-identify differently, depending on the subject matter of the proposed policy. The choice of these dimensions is motivated by the evidence that economical and sociocultural conservatism remain two distinct ideologies (Altemeyer, 1998; Zumbrunnen & Gangl, 2008).

Another argument for the multidimensional approach is the case of less- and moderately sophisticated voters. Those displaying little to average interest in politics are more likely to identify with left/right labels for purely symbolic reasons, thus creating a lot of room for inconstancies within their policy preferences (Conover & Feldman, 1981). As shown by Palfrey & Poole (1987), the political sophistication is positively correlated with higher level of extremism (being closer to the ends of the left/right spectrum), so an uninformed voter will likely fall into moderate or centrist category when we aggregate their preferences. As a result, attitudes towards certain policies and effects of certain determinants of ideology may be obscured in the one-dimensional model.

Nevertheless, a great share of public debate, as well as academic research relies on classical dichotomy, which is a handy starting point for several reasons. First, voters are likely to put more weight to the dimension they are more concerned about (Lefkofridi *et al.*, 2013). The dynamics affecting the economic and geopolitical stability will shape people's sensitivity to certain issues. In France, for example, the adoption of a pension reform in early 2023 highlighted the debate on the economics of welfare state, whilst the recent project of a new, more conservative immigration law contributes to the ideological disputes on the sociocultural ground. Though a subject to short-term fluctuations, these tendencies may profoundly affect the self-identification of an individual at the time of data collection. Secondly, political parties are prone to bundle liberal/conservative agenda for the country's economy with a liberal/conservative stance on sociocultural matters consecutively. This, combined with a low level of political sophistication, may lead to the adoption of ideological labels that are not necessarily in line with one's true preferences (Knutsen, 1997).

Figure 1. Theoretical structure of relations among motivational types of values (Schwartz, 1992)



1.2. Association of values within the spectrum

In order to properly shape our expectations towards potential determinants of political ideology, we must first define core human values associated with left/right labels. Jost *et al.* (2009) have summarised a significant body of studies on the classical dichotomy, providing a concise list of ideas and adjectives describing political left/right. In particular, left has been associated with terms like "progressive," "system change," "equality," "solidarity," "protest," "opposition," "radical," "socialism" and "communism", whilst right: "conservative," "system maintenance," "order," "individualism," "capitalism," "nationalism" and "fascism." It is worth noting that these associations remain consistent for western countries with their unique political offers.

The roots of such opposition can be found in Schwartz's theory of value (1992). Schwartz lists ten fundamental elements of one's ideology (Figure 1) and proposes potential conflicts between them. For example, self-direction (independence and freedom in choosing own goals) will likely collide with tradition and conformity (need for order and stability); universalism and benevolence (transcendence of selfish interest) will oppose themselves with a need for achievement and power. Similar disparities are described in Lipset & Rokkan's theory of cleavage (1967), which mentions four dimensions of potential conflicts: "owner vs worker," "church vs state," "urban vs rural" and "center vs periphery".

2. Determinants of political ideology

The literature on political ideology mentions at least four distinct categories of determinants shaping one's preferences and voting behaviour: economic, motivational (psychological), environmental and genetical. Such classification implies a significant problem for our OLS approach, as we cannot observe some of the important variables. Alford *et al.* (2005) raise this issue by stating, that heritability of political attitudes (towards for example: capitalism, socialism, gay rights, immigration, women's liberation) can range between 18% and 41%. On the top of that, authors underline the influence of interactions between genes and environment, further suggesting that a significant amount of variance cannot be explained with easily quantifiable variables.

The influence of economic factors can be explained with a median voter theorem, according to which one's preferences for a strong (big) government are shaped by their income (Meltzer & Richard, 1981; Alesina & Rodrik, 1994). The support for redistributive policies, associated with the left-wing egalitarianism (Rueda & Stegmueller, 2016), should be higher amid voters, whose income is lower than the median income in their country. Such voters will likely opt for higher tax rate, larger scale of social security programmes and more public goods (Lind, 2010). However, there is also a counterargument that conservatism and authoritarianism can be positively correlated with preference for redistribution, as it helps to maintain a longterm stability and lower the risk of expropriation (Airkan & Sekercioglu, 2019; Sharun & Rodrik, 2020).

Education has been frequently included in the models predicting political behaviour, albeit its effect has remained ambiguous at best. Gerber *et al.* (2010) find that obtaining at maximum high school education is positively correlated with liberal self-identification, whilst those with at least college degree were more likely to self-identify as conservative. Feldman & Johnston (2014), while comparing unidimensional model with two models predicting social and economic conservatism independently, come up with the evidence that education, though insignificant within simple left/right framework, yields parameters of an opposite sign in more specified models. In other words, education turned out to be positively correlated with economic conservatism and negatively correlated with its sociocultural

counterpart. This is expected, as education contributes to the development of values like universalism, egalitarianism and tolerance, (Parziale & Vatrella, 2019) and, at the same time, we shall expect more self-directed and achievement-driven people to pursue higher levels of education, thus obtaining higher levels of income (OECD, 2019).

For the motivational factors (related to one's personality), our analysis will take into the account the traits related to the Schwartz's (1992) value theory. The previous studies have frequently controlled for one's preferences for egalitarianism/authoritarianism, conformity (obedience to rules), self-direction (ambition and striving for achievement), attitude towards tradition and religiosity (Feldman & Johnston, 2014; Airkan & Sekercioglu, 2019; Goren *et al.*, 2020). The studies is psychology have provided a theoretical framework for interpreting these measures in the context of political ideology. The Right-Wing Authoritarian (RWA) personality is associated with higher levels of obedience, religiosity, submissiveness, pessimistic outlook (viewing world as a dangerous a place) and conservative sociocultural values (traditional role of women, opposition against LGBT community). There is also a case of Social Dominance Orientation (SDO), which puts more weight to individualism and seeking socio-economical superiority without a significant concern about the tradition. On the ground of this theory, we could also derive of the potential role of gender. As women score generally lower in both of these categories, gender appears often as a significant predicator of ideology. Thus, women are consistently associated with both sociocultural (Gerber *et al.*, 2010; Feldman & Johnston, 2014) and economic left (Corneo *et al.*, 2002; Gerber *et al.*, 2010).

Finally, our analysis will also address modern challenges of European economies, such as immigration and climate change. The skepticism towards both of these issues has been strongly associated with a right-wing political agenda. (Halla *et al.*, 2017). We are also including the support for democracy, in order to address the raise in popularity of populist-right in the EU.

3. Empirical analysis

3.1. Data

The data used for our analysis comes from Round 10 of European Social Survey (ESS). ESS is a biennial, cross-country survey that systematically examines the attitudes, beliefs and behaviours of individuals across a multitude of European countries, based on an hour-long face-to-face interview. Round 10 focused on the impact of COVID-19 pandemic and the attitudes towards democracy, interviewing citizens of 22 European countries ($N = 376111$). Aside from its time-specific questions, the survey covers subjects like: social conditions and indicators, social behaviour and attitudes, political behaviour and attitudes, political ideology, minorities, inequality, religion and values.

For our model, we extract 19 variables from ESS10 database and create a separate data frame for France (Table 1). The data cleaning process consisted of eliminating the records where responses were not defined explicitly ("Refusal," "Don't know," "No answer," "Missing value"). The final table contains 1507 observations. All of the variables are quantified with discrete, non-negative numbers.

3.2. Hypotheses

H1: Estimated parameters differ between sophisticated and non-sophisticated voters

The main hypothesis relates to the major role of sophistication in predicting one's political ideology. According to the literature, the higher levels of political interest are correlated with higher level of extremism, so we shall expect different effect of our predicators on self-identification for sophisticated voters.

H2: R-squared is higher for sophisticated voters

As non-sophisticated voters may adopt ideological labels for purely symbolic reasons (and often in spite of their true preferences), a major part of their ideology may be obscured within their answers to the survey. Thus, it is likely that model will better explain political self-identification for sophisticated voters.

Table 1. Variables included in the model

NAME	DEFINITION	RANGE	TYPE
LR	Self-positioning on left/right scale	0 - 10 (left - right)	O
Income	Household's total net income (descrete deciles)	1 - 10	O
Age	Age of a respondent (years)	16 - 90	Q
Education	Years of education	1 - 30	Q
Male	Gender of a respondent	0 - Female; 1 - Male	C
Union	Union membership	0 - No; 1 - Yes	C
Sophistication	Self-proclaimed interest in politics	1 - 4 (1 -Very interested; 2 - Quite interested; 3 - Hardly interested; 4 - Not at all interested)	C
	Vector: Values		
Ambition	*Important to be successful and that people recognise achievements*	1 - 6 (1 - Very much like me; 2 - Like me; 3 - Somewhat like me; 4 - A little like me; 5 - Not like me; 6 - Not like ma at all)	O
Authoritarianism	*Important: government is strong and ensures safety*	1 - 6 (1 - Very much like me; 2 - Like me; 3 - Somewhat like me; 4 - A little like me; 5 - Not like me; 6 - Not like ma at all)	O
Benevolence	*Important: the government protects all citizens against poverty*	0 - 10 (0 - Not at all important for democracy; 10 - Extremely important for democracy)	O
Egalitarianism	*Important: people are treated equally and have equal opportunities*	1 - 6 (1 - Very much like me; 2 - Like me; 3 - Somewhat like me; 4 - A little like me; 5 - Not like me; 6 - Not like ma at all)	O
Inequality	*Government should reduce differences in income levels*	1 - 5 (1 - Agree strongly; 2 - Agree; 3 - Neither agree nor disagree; 4 - Disagree; 5 - Disagree strongly)	O
Obedience	*Important to do what is told and follow rules*	1 - 6 (1 - Very much like me; 2 - Like me; 3 - Somewhat like me; 4 - A little like me; 5 - Not like me; 6 - Not like ma at all)	O
Religiosity	*How religious are you?*	0 - 10 (0 - Not at all religious; 10 - Very religious)	O
Tradition	*Important to follow traditions and customs*	1 - 6 (1 - Very much like me; 2 - Like me; 3 - Somewhat like me; 4 - A little like me; 5 - Not like me; 6 - Not like ma at all)	O
	Vector: Issues		
Climate	*How worried about climate change?*	1 - 5 (1 - Not at all worried; 2 - Not very worried; 3 - Somewhat worried; 4 - Very worried; 5 - Extremely worried)	O
Democracy	*How important for you to live in democratically governed country?*	0 - 10 (0 - Not at all important; 10 - Extremely important)	O
Immigration	*Immigration bad or good for country's economy*	0 - 10 (0 - Bad; 10 - Good)	O
LGBT	*Gays and lesbians free to live life as they wish*	1 - 5 (1 - Agree strongly; 2 - Agree; 3 - Neither agree nor disagree; 4 - Disagree; 5 - Disagree strongly)	O

Variable types: C - categorical; O - ordinal; Q - quantitative

H3: Income is positively correlated with the political right

In line with the median voter theorem, we shall expect higher levels of income to push one's self-identification towards the right end of a political spectrum. The effect should be amplified for individuals with above-median income.

H4: Income, age and education interactions

This hypothesis addresses the evidence form Helgason & Rehm (2023) that income's role in one's political ideology crystallises over the course of life. As a result, age should amplify the effect (interaction parameter shall be of the same sign as the one for income). Similarly, more years of education should be associated with higher earnings and more conservative voting.

H5: 'Issues' variables (i.e.: worried about climate change, in favour of immigrants, LGBT people and democracy) are positively correlated with political left.

The motivation for this hypothesis is that right-wing parties will likely include a strong, conservative sociocultural agenda in their programmes, thus attracting high RWA voters.

H6: Education remains insignificant in unidimensional model

As shown by Feldman & Johnston (2014), the influence of education on ideology is rather ambiguous and obscured in simple left/right approach, which is due to higher sophistication of values amid educated people.

3.3. Model specification

The starting point for our OLS estimation is the following model:

$$\begin{aligned} \mathrm{LR}_i = {} & \beta_0 + \beta_1 \mathrm{INCOME}_i + \beta_2 \mathrm{AGE}_i + \beta_3 \mathrm{AGE}_i^2 + \beta_4 \mathrm{EDUCATION}_i + \beta_5 \mathrm{INCOME}_i \times \mathrm{AGE}_i \\ & + \beta_6 \mathrm{INCOME}_i \times \mathrm{EDUCATION}_i + \beta_7 \mathrm{MALE}_i + \beta_8 \mathrm{UNION}_i + \beta_{\mathbf{9}} \cdot \mathbf{Values}_i + \beta_{\mathbf{10}} \cdot \mathbf{Issues}_i + \epsilon_i \end{aligned}$$

The variables are as defined in Table 1. *LR* decodes our dependant variable of subjective placement on the unidimensional political spectrum (0 - Left; 10 - Right). The allocation of variables between **Values** and **Issues** vectors is also specified in Table 1.

We estimate the model for entire sample and test for a properly specified linear relationship between variables. As RESET test yields p-value equal to 0.01105, we reject the hypothesis that our initial model lives up linearity assumption of Gauss-Markov theorem.

In order to verify H1, we split sample for sophisticated* (*Sophistication = 1; N = 268*) and non-sophisticated (*Sophistication > 1; N = 1239*) voters. We estimate two identically-specified models for both subgroups and perform Chow test, which determines that parameters differ between two subpopulations (*F-statistic = 1.971252*; *p-value < 0.01*). Further estimations and diagnostic will be performed on these two models separately.

After first estimation on a sophisticated sample, we also encountered the problem of wrongly specified function form (RESET: *p-value = 0.04246*). To counter this, we have added a square of Income variable, which fixed the issue (*p-value = 0.07481*). The refined model for

* We politely inquire the reader to overlook the "not-so-sophisticated" repetitions in this section.

our analysis is described below and it lives up to both linearity and homoskedasticity (Breusch-Pagan test: *p-value = 0.1073*) assumption of Classical Linear Regression. The residuals follow the normal distribution (Jarque-Bera test: *p-value = 0.08261*). The lack of autocorrelation is expected, due to the cross-sectional nature of our data (Durbin-Watson test: *p-value = 0.6587*).

$$\begin{aligned}\mathrm{LR}_i = \beta_0 + \beta_1 \mathrm{INCOME}_i + \beta_2 \mathrm{INCOME}_i^2 + \beta_3 \mathrm{AGE}_i + \beta_4 \mathrm{AGE}_i^2 + \beta_5 \mathrm{EDUCATION}_i + \beta_6 \mathrm{INCOME}_i \times \mathrm{AGE}_i \\ + \beta_7 \mathrm{INCOME}_i \times \mathrm{EDUCATION}_i + \beta_8 \mathrm{MALE}_i + \beta_9 \mathrm{UNION}_i + \beta_{\mathbf{10}} \cdot \mathbf{Values}_i + \beta_{\mathbf{11}} \cdot \mathbf{Issues}_i + \epsilon_i\end{aligned}$$

3.4. Results and OLS diagnostic

3.4.1. Sophisticated voters

In Table 2, we present the regression results for sophisticated voters. Model 2 has been obtained by eliminating one-by-one the least significant variable from the initial model, while controlling for linearity and homoskedasticity after each iteration. We purposefully omit *Income* and its interactions in the process, in order to verify our hypotheses. The final iteration passes RESET (*p-value = 0.1274*), Breusch-Pagan (*p-value = 0.1415*) and Jarque-Bera (*p-value = 0.2151*) tests, indicating compliance with the OLS assumptions. The results are mostly in line with our hypotheses. *Income* is positively associated with the political right, though not in a linear way. Other right-wing defining traits are: *Authoritarianism*, *Religiosity* and opposition to income redistribution (*Inequality*). Being male, more years of education and age are positively correlated with the political right only at 10% significance level. Both worry about the *Climate* change and good view on *Immigration*'s impact on economy expectedly define political left. The interactions of *Income* with *Age* and *Education* remained insignificant throughout entire process, proving H4 wrong.

For the Model 3, we stick to the same strategy without intentional preservation of interaction of *Income*. The final iteration passes RESET (*p-value = 0.2594*), Breusch-Pagan (*p-value = 0.0937*) and Jarque-Bera (*p-value = 0.317*) tests. The conclusions differ for two variables: *Democracy* and *Income.*

Table 2. Regression Results For Sophisticated Voters

	Dependent variable:		
	LR		
	(1)	(2)	(3)
Income	0.089	0.006	−0.411*
	(0.318)	(0.315)	(0.229)
I(Incomeˆ2)	0.042**	0.050***	0.044**
	(0.019)	(0.019)	(0.018)
Age	0.036	0.036*	
	(0.049)	(0.020)	
I(Ageˆ2)	−0.00001		
	(0.0004)		
Education	0.164*	0.157*	
	(0.086)	(0.085)	
Male	0.481*	0.476*	0.505*
	(0.273)	(0.265)	(0.264)
Union	−0.374		
	(0.288)		
Ambition	0.097		
	(0.093)		
Authoritarianism	−0.316***	−0.339***	−0.345***
	(0.098)	(0.090)	(0.090)
Benevolence	−0.072		
	(0.078)		
Egalitarianism	0.133		
	(0.143)		
Inequality	0.522***	0.593***	0.587***
	(0.114)	(0.108)	(0.107)
Obedience	−0.076		
	(0.093)		
Religiosity	0.099**	0.131***	0.138***
	(0.041)	(0.035)	(0.035)
Tradition	−0.111		
	(0.091)		
Climate	−0.337**	−0.381***	−0.411***
	(0.140)	(0.134)	(0.134)
Democracy	0.150*		0.157*
	(0.090)		(0.086)
Immigration	−0.389***	−0.437***	−0.442***
	(0.061)	(0.056)	(0.055)
LGBT	0.043		
	(0.171)		
Income:Age	−0.004	−0.004	
	(0.003)	(0.003)	
Income:Education	−0.019*	−0.018	
	(0.011)	(0.011)	
Constant	4.008	5.043**	7.712***
	(2.501)	(2.048)	(1.223)
Observations	268	268	268
R^2	0.499	0.479	0.475
Adjusted R^2	0.456	0.454	0.457
Residual Std. Error	1.962 (df = 246)	1.966 (df = 255)	1.961 (df = 258)
F Statistic	11.675*** (df = 21; 246)	19.527*** (df = 12; 255)	25.979*** (df = 9; 258)
Note:			*p<0.1; **p<0.05; ***p<0.01

In contrary to the previous model, *Democracy* survived the elimination of insignificant variables at 10% significance level and turned out to be positively correlated with political right. This might be expected for France, due to the very particular characteristic of French politics in the recent years. As the government in power has been frequently using the infamous Article 49.3 of the French constitutions (allowing for the promulgation of law without the majority vote in the parliament), some voters might not associate centrist government of Emmanuel Macron with democratic values, further radicalising in the direction of French populist far-right parties (*Le Front National, La Reconquête*).

As for *Income*, the positive effect on the right-wing self-identification in only visible from the 5th decile and above. This is firmly in line with our hypothesis motivated by the median voter theorem, which states that support for egalitarian, redistributive policies (classically associated with political left) should decrease as our income surpasses the median income.

3.4.2. Non-sophisticated voters

For non-sophisticated voters, we start with the same specification as at the end of 3.3. We do not obtain an adequate RESET test result (*p-value = 0.02004*), which violates the linearity assumption, implying the bias of our estimators. To fix the function form, we have removed the quadratic terms and added some interactions between certain **Values** by following Schwartz's (1992) theory, thus obtaining the following starting point:

$$\begin{aligned} LR_i = {} & \beta_0 + \beta_1 \text{INCOME}_i + \beta_2 \text{AGE}_i + \beta_3 \text{EDUCATION}_i + \beta_4 \text{INCOME}_i \times \text{AGE}_i + \beta_5 \text{INCOME}_i \times \text{EDUCATION}_i \\ & + \beta_6 \text{MALE}_i + \beta_7 \text{UNION}_i + \beta_{\mathbf{8}} \cdot \mathbf{Values}_i + \beta_{\mathbf{9}} \cdot \mathbf{Issues}_i + \beta_{10} \text{BENEVOLENCE}_i \times \text{MALE}_i \\ & + \beta_{11} \text{MALE}_i \times \text{RELIGIOSITY}_i + \beta_{12} \text{RELIGIOSITY}_i \times \text{TRADITION}_i + \epsilon_i \end{aligned}$$

With our new model, we are in line with linearity assumption (RESET: *p-value = 0.0724*). Breusch-Pagan test, however, indicated problem of heaterskedasticity (*p-value = 0.02104*). This implies that our estimations for Model 1 in Table 3 are not effective and we cannot determine the true p-values for our t-statistics. We decided to weight our regression with *Age,* as it yielded the lowest p-value for Breusch-Pagan test while regressing LR on it (*p-value = 0.0729*). Performing Weighted Least Squares (WLS; Model 2 and 3) fixed the issue, significantly improving the performance of our model in Breusch-Pagan test (*p-value =*

0.9989) without violating the linearity assumption (RESET: *p-value = 0.0724*). Jarque-Bera test rejected the hypothesis that residuals follow a normal distribution (*p-value = 0.00*), albeit it does not invalidate our model due to the big sample size (*N = 1239*). We are following the same approach as for sophisticated voters, removing gradually the insignificant variables from our WLS model while controlling for both linearity and homoskedasticity. Model 3 is the most specific iteration of this process at the 10% significance level. For other methods, the Generalised Least Squares (GLS; Model 4) has not solved the issue of heteroskedasticity. Additionally, we decided to perform White's robust standard errors estimation (Model 5 and 6), also controlling for linearity after each iteration.

The first thing to note is that R-squared for all models estimated on non-sophisticated sample are inferior to these obtained for the sophisticated voters, this proving H2. The best performing model for the non-sophisticated (WLS2) explains 19.8% of variance in the left/ right self-identification, whilst all of the models for sophisticated voters scored above 45%.

On the way, we lost the non-linear relation between *Income* and political ideology, which can be explained with more obscured policy preferences for non-sophisticated voters. Alternatively, we could also justify this pattern with a raise in popularity of populist far-right parties among workers (Oesch, 2008), usually gaining under-median income. Some of the findings mimic those for sophisticated voters (Authoritarianism, Religiosity, Immigration, Climate, What's unique about the non-sophisticated sample is the significant role of certain variables not included in final model for sophisticated sample. As expected, the care for *Tradition* correlates positively with political right, *Union* membership with political left. There is also an interesting finding that, for non-sophisticated, the opposition to redistributive policies walks hand-in-hand with the belief in general equality of people, as well as equality of chances. With a robust std. errors approach, we also yielded a significant interaction between gender and religiosity, indicating that more religious men in France would lean slightly towards left.

Table 3. Regression Results For Non-sophisticated Voters

	Dependent variable:					
	LR					
	OLS				*coefficient test*	
	OLS	WLS1	WLS2	GLS		
	(1)	(2)	(3)	(4)	(5)	(6)
Income	0.208*	0.101	0.077***	0.079***	0.208*	0.074***
	(0.110)	(0.101)	(0.020)	(0.021)	(0.109)	(0.022)
Age	0.022***	0.015**	0.013***	0.012***	0.022***	0.013***
	(0.008)	(0.008)	(0.003)	(0.003)	(0.008)	(0.003)
Education	0.008	−0.019		−0.017	0.008	
	(0.040)	(0.041)		(0.019)	(0.042)	
Male	−0.441	0.185	0.668***	−0.241	−0.441	0.678***
	(0.681)	(0.654)	(0.178)	(0.673)	(0.797)	(0.190)
Union	−0.491***	−0.445***	−0.476***	−0.481***	−0.491***	−0.524***
	(0.154)	(0.164)	(0.162)	(0.156)	(0.162)	(0.162)
Ambition	0.007	0.037		0.012	0.007	
	(0.042)	(0.040)		(0.042)	(0.046)	
Authoritarianism	−0.160***	−0.175***	−0.184***	−0.165***	−0.160***	−0.170***
	(0.048)	(0.047)	(0.046)	(0.048)	(0.053)	(0.052)
Benevolence	−0.124**	−0.103*	−0.071*	−0.117**	−0.124*	
	(0.058)	(0.057)	(0.037)	(0.058)	(0.066)	
Egalitarianism	0.255***	0.285***	0.285***	0.262***	0.255***	0.268***
	(0.059)	(0.057)	(0.057)	(0.058)	(0.060)	(0.058)
Inequality	0.274***	0.281***	0.266***	0.272***	0.274***	0.277***
	(0.059)	(0.056)	(0.055)	(0.058)	(0.064)	(0.062)
Obedience	−0.031	−0.042		−0.037	−0.031	
	(0.041)	(0.040)		(0.040)	(0.043)	
Religiosity	0.035	0.013	0.039*	0.024	0.035	0.070***
	(0.044)	(0.042)	(0.023)	(0.043)	(0.050)	(0.025)
Tradition	−0.171***	−0.153***	−0.121***	−0.170***	−0.171**	−0.135***
	(0.063)	(0.058)	(0.038)	(0.061)	(0.068)	(0.043)
Climate	−0.180***	−0.154**	−0.163**	−0.174***	−0.180**	−0.192***
	(0.067)	(0.065)	(0.064)	(0.066)	(0.072)	(0.071)
Democracy	0.042	0.017	0.010	0.037	0.042	0.024
	(0.033)	(0.033)	(0.032)	(0.033)	(0.037)	(0.035)
Immigration	−0.126***	−0.157***	−0.163***	−0.142***	−0.126***	−0.137***
	(0.026)	(0.025)	(0.025)	(0.026)	(0.031)	(0.031)
LGBT	0.021	−0.016		0.001	0.021	
	(0.074)	(0.075)		(0.075)	(0.095)	
Income:Age	−0.002	−0.001			−0.002	
	(0.001)	(0.001)			(0.001)	
Income:Education	−0.004	0.0003			−0.004	
	(0.006)	(0.006)			(0.006)	
Male:Religiosity	−0.068**	−0.043	−0.042	−0.060*	−0.068**	−0.071**
	(0.034)	(0.032)	(0.032)	(0.033)	(0.034)	(0.034)
Religiosity:Tradition	0.009	0.008		0.009	0.009	
	(0.011)	(0.010)		(0.011)	(0.012)	
Male:Benevolence	0.121*	0.053		0.100	0.121	
	(0.073)	(0.071)		(0.073)	(0.088)	
Constant	6.099***	6.844***	6.429***	7.032***	6.099***	5.572***
	(1.056)	(1.011)	(0.523)	(0.746)	(1.104)	(0.468)
Observations	1,239	1,239	1,239	1,239		
R^2	0.174	0.201	0.198	0.181		
Adjusted R^2	0.159	0.186	0.189	0.168		
Residual Std. Error	1.986 (df = 1216)	0.297 (df = 1216)	0.297 (df = 1224)	2.110 (df = 1218)		
F Statistic	11.622*** (df = 22; 1216)	13.870*** (df = 22; 1216)	21.565*** (df = 14; 1224)	13.460*** (df = 20; 1218)		
Note:						*p<0.1; **p<0.05; ***p<0.01

Conclusions

In our analysis, we leveraged the OLS methodology to measure the effect of economic, behavioural and environmental factors on one's self-declared political ideology in France. By using the data provided by European Social Survey, we have addressed a standard problem while modelling political preferences, i.e. sophistication of a voter. Our estimations are generally in line with the existing literature on the subject. In particular, we have showed that voters displaying higher political interest are more accurate with their political preferences, thus allowing for better fitted regressions. Our main hypothesis based on the median voter theorem and vast literature on relation between income and voting behaviour proved right, as higher levels of income were associated with more right-wing identification. The relation was even more precise for sophisticated voters, as true positive effect was found only for those whose scored higher than median in the net household's income. We also observed the classical distribution of values within the political spectrum. Austhoriratism and religiosity were efficient predicators of political right, whilst good view on immigrants' impact on the economy and worry about the climate change were associated with more left-wing identification.

It is also important to address the limitation of this study. First, the models operate in the unidimensional left/right spectrum, which is not in line with modern research underlining the heterogeneity within the liberalism and conservatism and high chance that voters will identify differently, depending of the issues raised. Second, our main income variable was standardised for the aggregated income distribution in 22 countries participating in the survey. As a result, people falling into the 10th decile of income distribution accounted for 23.56% of observations, thus heavily skewing our sample. Third, though we managed to live up to the OLS assumption for our main model, there is a high chance that we would obtain better estimations of parameters while leveraging different, more advanced method (ordinal regression; logistic regression on discrete party choice). Addressing these issues simultaneously should be taken into account during the future studies on the subject.

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