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## Understanding Free Trade Attitudes: Evidence from Europe

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# Understanding Free Trade Attitudes: Evidence from Europe\*

MARTIN T. BRAML<sup>†</sup> and GABRIEL J. FELBERMAYR<sup>‡</sup>

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Work in progress - please do not cite

## Abstract

Our paper contributes by demonstrating that public opinion on open-market policies is mainly shaped by ideology rather than by rational considerations and economic self-interest. Exploiting data on attitudes towards TTIP, Free Trade, Protectionism, and Globalization from the Eurobarometer, a comprehensive biannual survey across EU citizens, we find that individual preferences towards different trade policies can hardly be explained by variables that typically determine personal advantages of trade liberalization. Nevertheless, rational considerations follow expected patterns but are not overly relevant. Rather, we find trust variables and country-fixed-effects being predominant drivers of individual open-market attitudes. Our data also allow for a spatial analysis at the European NUTS-2 level. Performing a cross-country analysis, we find a causal relation between anti-Americanism and national TTIP approval rates. Macroeconomic performance variables contribute only to a minor extent in shaping regional and national preferences.

**Keywords:** International Political Economy, Free Trade Attitudes, TTIP

**JEL-Classification:** F13, F53, F68

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# 1 Introduction and Literature Review

The economic benefits of free trade are a well-established finding in both theoretical and empirical research. However, a renewed strengthening of protectionist politics has become increasingly popular in many industrialized economies most recently. Massive protests against the Transatlantic Trade and Investment Partnership (TTIP) especially in German-speaking Europe, the UK's vote to leave the EU, Donald Trump's anti-globalization campaign, and the rise of neo-nationalist movements in Europe exemplify this process. Simultaneously, we observe a divergence of public opinions from academic perspectives. Explaining how the public attitudes towards trade integration are formed is crucial in order to assess the democratic legitimacy of open-market policies. This study sheds light on drivers, time-trends, and correlations of attitudes towards open-market policies in EU member states on the individual, regional, and national level. Data in use stem from the Eurobarometer, Europe's largest survey on various policy and social issues.

Thereby, we examine thoughts expressed by Pascal Lamy (2015), who proclaims a *new world of trade*. At the risk of some simplification, this new world of trade can be briefly described as follows: technical progress turned national production systems into regionally integrated or even global supply chains. Formerly, in order to prevent states from protecting these national production systems, quotas, tariffs, and subsidies were subject to trade negotiations. By contrast, recent obstacles to trade are the administration of precaution, including but not limited to security, safety, health, and environmental sustainability. The predominant role of efforts to eliminate non-tariff barriers in recent free trade agreements (FTAs) directly affects policy areas that are sensitive to the broader public. Thereby, patterns of support and disapproval of trade liberalization are nowadays diametrically opposed to traditional ones: in the past consumers favored tariff cuts due to the expectation of lower prices, while domestic producers often disapproved them in the fear of increased competition. At odds with the formerly observed patterns, producers now are in favor of regulatory convergence, while opposition is formed by consumers, or more precisely, by consumer organizations. Needless to say, as we are not yet fully out of *the old world of trade* the diverging lines are fluent and exemptions still prove the rule. However, the mere existence of a public debate on recent trade deals, e.g. TTIP and CETA in the European, and TPP and NAFTA in the US debate, indicates that public interest in trade policy has risen. Hard to imagine in the past, campaigns against FTAs succeed to form a movement that mobilizes masses on both sides of the Atlantic, and that creates massive waves of protest.

For the purpose of this study, we are going to empirically address the following key questions: First, do education and income on the individual level affect people's attitudes

towards open-markets, as classical labor economics theory suggests? In other words, do people express preferences towards free trade following their self-interest? According to the Ricardo-Viner (Specific-Factors) Model, for instance, trade liberalization makes those worse off that are endowed with specific production factors used in comparative disadvantaged sectors. For the reason that production factors across sectors are only imperfect substitutes (in opposite to a Ricardian world with perfect substitutes), the Ricardo-Viner Model answers theoretically the question who are the losers of trade liberalization. For high income countries with comparative advantages in skill intensive sectors, low skilled employees are typically seen as a broader group that is negatively affected by trade liberalization.

Second, as we observe large variation in the support of TTIP across European countries, we examine country-specific fundamentals, e.g. macro variables, that may explain the observed patterns. It stands out that macro variables as unemployment, openness, GDP level explain the cross-country variation only to a limited extent. However, we find other national preferences to have significant impact on the support or opposition of TTIP. We are able to construct a measure for anti-Americanism which is exogenous to TTIP as it is based on data from 2005. At the country level, this attitude towards the US/ sympathy for the US can causally explain a substantial share of the cross-country variation in TTIP support rates. The data allow to break down average attitudes towards Free Trade, TTIP, and other globalization measures to the regional level (NUTS2 or NUTS3<sup>1</sup>). Using economic statistics for these regions, we are also able to shed light on the regional determinants that shape free trade and globalization attitudes.

Third, we are going to analyze inconsistent responses. For instance, we observe people who dislike TTIP but are in favor of free trade at the same time. Or, identify ideological groups who presumably respond inconsistently, e.g. the political left which opposes free trade at the one hand and protectionism at the other hand. Also at odds with expected patterns, we find protectionist tendencies at the political right.

Our paper is closely related to Mayda and Rodrik (2005), who find, based on survey data, among people in 23 countries in 1995 that pro-trade preferences are correlated with individual human capital and trade exposure of the sector, in which an individual is employed. They also find that high degrees of neighborhood attachment and nationalism is associated with protectionist tendencies. We will test their findings based on new data and can show some differences indicating that political economy of trade has

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<sup>1</sup> The Akronym NUTS describes the "Nomenclature des unités territoriales statistiques", a regional classification used by Eurostat. The Number describes the level on descending order, e.g. NUTS3 has a higher resolution than NUTS2. For further information, cf. <http://ec.europa.eu/eurostat/web/nuts/overview>.

changed in a way as Pascal Lamy describes. Dutt and Mitra (2005) investigate the relation between government ideology and endogenous trade policy; according to their findings, left-wing governments tend to adopt more protectionist trade policies in capital-rich countries and more pro-trade policies in labor-rich economies. At the individual level, we are also able to connect political stance with other variables that might explain the within political ideology variation with respect to free trade attitudes. Rho and Tomz (2017) challenge the underlying assumption of international political economy of individual policy preferences that reflect economic self-interest. According to them, economic ignorance ultimately causes voting behavior contradicting rational considerations. Moreover, their experiments indicate that individuals express more selfish interest once they know about direct consequences of trade policies on them. Additionally, the framing how information are provided to participants matters for the outcome. This is in line with our finding which provides evidence that the national narrative of a certain open-market policies is relevant for its consent. Going one step further, Caplan (2007) argues that not economic ignorance but four biases (Anti-Market Bias, Anti-Foreign Bias, Make-Work Bias, and Pessimistic Bias) shape individual preferences. All of these biases would work against individual attitudes pro open markets. In our setting, these biases may explain, for instance, attitudes towards Protectionism for people who would even suffer from Protectionism (e.g. unemployed, who do not have a job that can be protected but who would face higher prices).

Brexit Literature to be added here...

We are aware of the fact that causation cannot easily be disentangled due to some obvious endogeneity issues; these issues include both omitted variable and reverse causality problems. Assessing individual attitudes, which is mostly based on survey data, has no best practice to fully overcome these issues. By exploiting a rich set of individual characteristics as well as fixed-effects, our data allow controlling for many potential channels through which omitted variable biases could step in. In cases, where we cannot exclude having identified just correlations, we state this explicitly. Other well established estimation approaches, for example applying time-leads of explanatory variables, may resolve potential endogeneity issues, too. Nevertheless, we believe that correlations, which are a priori not obvious, can also be insightful and valuable for the understanding of international political economy. Moreover, our aim is to identify groups of variables that can explain a substantial fraction of the variance of the outcome variables.

The outline of the paper reads is follows: Section 2 provides an overview of the data bases that are used and provides some descriptive statistics in order to motive our research question. Section 3 derives some theoretical predictions and highlights the empirical strategy, which is used to test the aforementioned hypotheses. Subsequently, Section 4 discusses the results at both the individual level (refer to Subsection 4.1) and the cross-

national level (see Subsection 4.3). Section 6 summarizes the main results and concludes.

## 2 Data Description

The Standard Eurobarometer (EB) has been established in 1974 in order to monitor public opinions of citizens across EU member states and candidate countries. Since its beginning, the EB had a strong focus on opinions about the common market, asking for attitudes towards free trade and globalization, and addressing concrete topics, such as the Transatlantic Trade and Investment Partnership. We exploit this comprehensive data set to better understand political dimensions of far-reaching trade agreements. The EB survey is one of the world’s largest survey-based repeated cross-sections, biannually interviewing 1,000 participants in each EU member state and also in candidate countries. The interviews take place in spring (March/April) and autumn (October/November). To the best of our knowledge, EB data have not been used ever before for the evaluation of the political economy of trade.

The question on TTIP was first asked in the second semester 2014 and has been repeated in all waves since then.<sup>2</sup> The variable is binary (*for* vs. *against*) and thus, does not need any further preparation. Additionally, we also use so-called concept images: after participants were told simple terms or statements, they answer “whether the term brings to mind something very positive, fairly positive, fairly negative, or very negative”. These concept images exist for the terms *Free Trade*, *Protectionism*, and *globalization*. Moreover, a further question addresses whether globalization is considered as an opportunity for economic growth; the set of answers comprises 4 possibilities: *totally agree*, *tend to agree*, *tend to disagree*, and *totally disagree*. Whenever these concept images and the globalization opportunity question serve as dependent variables, they are re-coded into binary variables by combining the two positive-agree answers and the two negative-disagree answers, respectively. All dependent variables take the value 1 if the individual is in favor of TTIP, free trade, protectionism, or globalization, respectively. For the sake of simplicity, the variable "globalization as opportunity for economic growth" will have the abbreviation “Globalization 1” while the concept image of globalization is referred to “Globalization 2”.

In total, we employ a data set of 166,000 observations. The data stem from 28 EU member states plus two additional regions.<sup>3</sup> At the sub-national level, data for most countries are available at the NUTS-2 level.<sup>4</sup> Due to a rich set of socio-economic control

<sup>2</sup> The latest available wave stems from 2017-1.

<sup>3</sup> Germany is reported twice (Germany-East and Germany-West), and the same is true for the United Kingdom (Great Britain and Northern Island).

<sup>4</sup> For the United Kingdom, Germany, and Italy only NUTS-1 regional data are provided. For Croatia, Estonia, Latvia, Lithuania and Ireland, even NUTS-3 level data are available.

variables and other individual characteristics provided by the survey, we are able to identify systematic patterns of correlations which shape open-market attitudes. The GESIS database, through which data are accessed, does not provide a full data set combining different survey waves; for this purpose, some preparation effort has been made to create a combined comprehensive data set.

In order to stress the strong cross-country heterogeneity observed in the independent variables, Figure 1 shows national approval rates with respect to TTIP and Free Trade. With respect to TTIP, these are lowest in Austria (22.4 percent) and highest in Lithuania (89.4 percent).<sup>5</sup> The unweighted European mean is at 65.2 percent, the population weighted mean at around 60.9 percent. The variation of attitudes towards Free Trade is remarkably lower, in particular it ranges from only 53.5 to 90.6 percent. The correlation between the two variables is positive, the correlation coefficient yields 0.68. It stands out that in only 4 out of 30 observations public consent to TTIP exceeds the national free trade attitude. This is the case in Cyprus, Greece, Lithuania, and Romania. The huge gap between TTIP approval rates and the free trade concept image in many countries might be explained by a public perception that new and comprehensive trade agreements are genuine different to what people relate to Free Trade; or, a reason could be a general mistrust against Free Trade with the United States of America (i.e. anti-Americanism). An alternative approach that might influence response behavior is the fact that TTIP is forward-looking (respondents have never had any experience with TTIP) while Free Trade is backward-looking (participants might respond according to their personal experience). Thus, by assuming risk-aversion for future wealth, lower TTIP approval rates could be rationally explained.

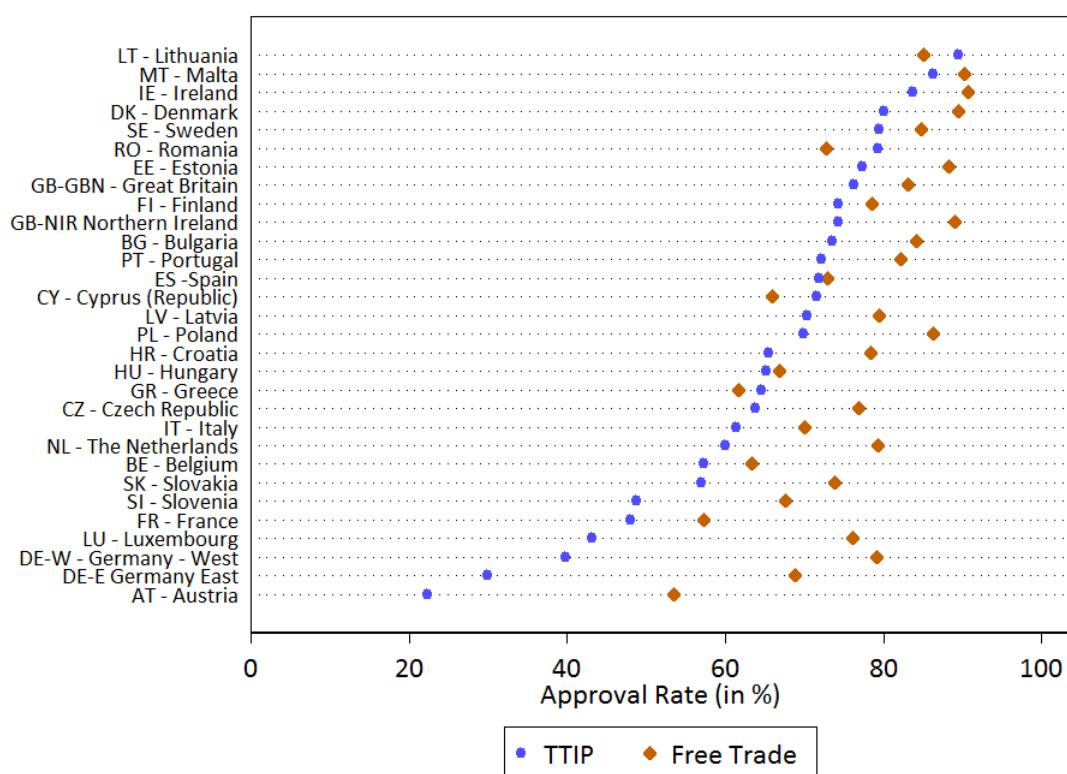
Figure 2 illustrates the average approval rate of different open-market attitudes of European citizens over time: first, and to the joy of any trade economist, Europeans have strong belief that free trade is beneficial. This is reflected by 74 to 77 percent of Europeans for whom the term free trade brings something positive to mind. Lowest consent rates (47 to 49 percent) are found for protectionism, which was asked in only 3 waves. Slightly growing approval rates are also reported for the two globalization variables, which increased from 64 to 65 percent (globalization as opportunity for economic growth) and 49 to 54 (globalization concept image). When the question on TTIP was asked the first time, roughly 68.6 percent of Europeans were in favor of the EU-US FTA. This rate fell afterwards continuously to 59.6 percent in 2016-1, and recovered afterwards to roughly 63 percent. As a side note, this turning point is interesting in so far as timely coincides with the ratification of the EU-Canada FTA (CETA). The ratification was threatening to fail due to the political blockade of Wallonia, a province of Belgium. Subsequently, the

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<sup>5</sup> Unconditional mean, only survey wave 2016-2; earlier waves do not reveal substantially different results.

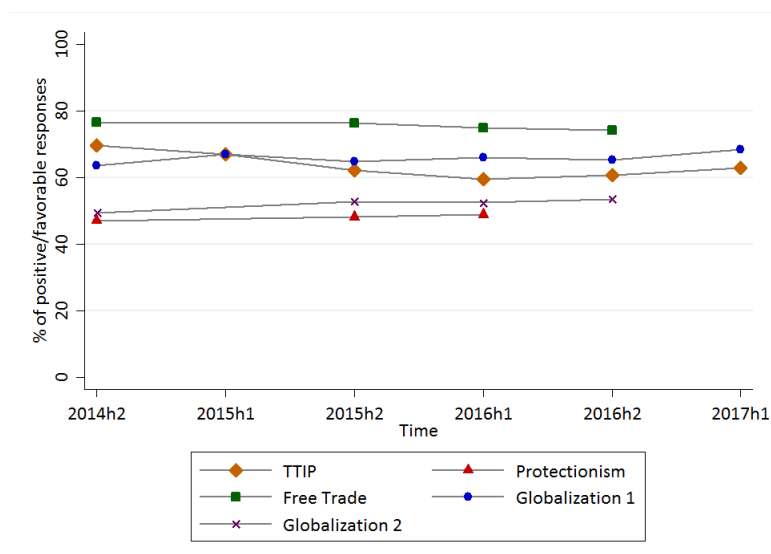


**Figure 1:** Attitudes towards TTIP and Free Trade, unconditional mean in EU member states



**Note:** The figure illustrates the average approval rate for the Transatlantic Trade and Investment Partnership and the national free trade attitude for all EU member states (plus East Germany and Northern Ireland).

**Figure 2:** European attitudes towards open-market politics



**Note:** The figure illustrates the average approval rate for TTIP, Protectionism, Free Trade, and Globalization (concept image and globalization opportunity) among European citizen over period 2014-2 to 2017-1. National means are population weighted for the calculation of an European average. Only for TTIP and Globalization opportunity the full time period is covered.

European public questioned whether the EU will still be able to negotiate future trade agreements, if unanimity not only among EU member states but in some cases also among regions within an EU member states is required.

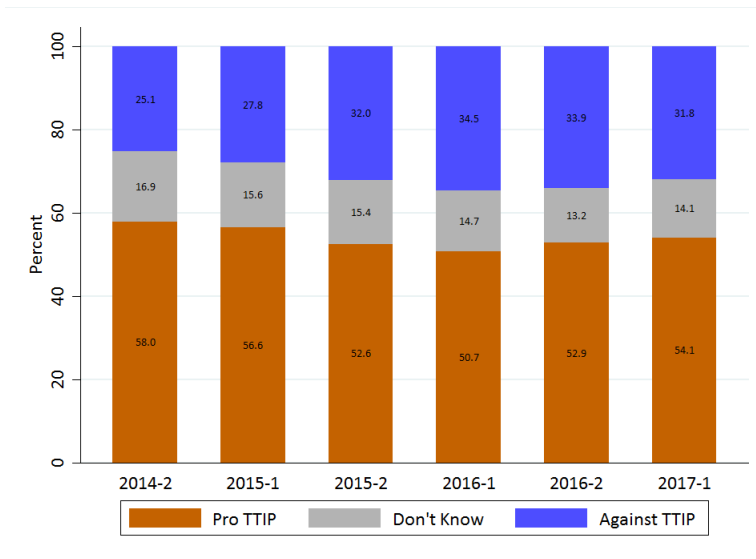
Figure 1 and 2 suggest that time-variance of the variables of interest is close to irrelevance while cross-country are predominant. In order to further elaborate the idea that our core attention will be to cross-country variation, we have performed a panel variance decomposition for the variables of interest. For each variable, national means for each survey are calculated based on binary answers excluding missings, i.e. *don't know*. The results are presented in Table 1 which disentangles the within and between variance. It stands out that in for all variables the between variance is greater than 90 percent, while the within variance is 4 percent for TTIP and less or equal than 1 percent for all other open-market attitudes. Thus, with respect to national attitudes, we will focus on the large cross-country variation.

The example of the average TTIP approval rate will exemplify that missing responses, i.e. *don't know*, do not systematically vary over time either. Figure 3 shows the the response distribution over the 6 waves. As the EB surveys 1,000 participants in each countries, results would be biased towards the attitudes in smaller countries if one would simply aggregate responses. Thus, we have calculated national averages which are then population weighted in order to obtain an European average. As the share of missing

**Table 1:** Panel Variance Decomposition

	TTIP	Free Trade	Protectionism	Globalization 1	Globalization 2
Variance between	0.913	0.915	0.956	0.938	0.942
Variance within	0.039	0.010	0.001	0.009	0.007
Combined	0.952	0.923	0.957	0.947	0.948

**Note:** The table shows the panel variance decomposition for the five dependent variables. The variance is decomposed by the comparison of R-squares using country vs. time fixed effects. The variance between reflects the variance between country, the variance within the time-variance within countries.

**Figure 3:** European attitudes towards TTIP over time

**Note:** The figure illustrates the average approval rate for TTIP among European citizen over period 2014-2 to 2017-1 including missing responses, i.e. *don't know*. National means are population weighted for the calculation of an European average.

responses fell only to a limited extent over time (from 16.9 percent to 14.1), we can conclude that the exclusion of non-responses does not systematically bias our results.

For the assessment of the impact of anti-Americanism on the TTIP debate, we look for data that can serve as proxies for US attitudes. The second Eurobarometer survey wave in 2005 asks Europeans how they evaluate the the role of the US on (1) peace in the world, (2) fighting terrorism, (3) economic growth worldwide, (4) fighting poverty worldwide, and (5) environment protection. Survey participants can each question answer with *positive*, *negative*, *neither positive nor negative*, and *don't know*. We translate each question into a binary variable which takes the value one if the US image is positive. Then, we sum and normalize the answers to one variable at the individual level which ranges between zero and one. Finally, we calculate averages at the country level. On the one hand, the drawback of this constructed US image measure is the long time

lag. The United States in 2005 did not enjoy a high favorability in the world which might be related to the presidency of George W. Bush and the US war on terrorism. However, we are not interested in absolute levels but rather in the variation of US perception across European countries. Assuming time-persistence in the variation of national attitudes, this variable can serve as proxy for the US image even today. The specific questions on the US image have no bilateral dimension, e.g. the role of the US on the above listed global issues should not be systematically different for Portuguese people than for Finnish, nor any other Europeans. Therefore, cross-country differences will not stem from adverse treatment but from general country-specific attitudes towards the US. On the other hand, the major advantage of this variable is the exogeneity with respect to TTIP. The EU was mandated by its member states to negotiate the Transatlantic Trade and Investment Partnership in 2013; in order to prepare these negotiations, the Transatlantic Economic Council (TEC)<sup>6</sup> was set up in 2007, thus 2 years after the survey on the US image variables was conducted. Hence, this is our preferred measure for the US image.

The macroeconomic variables of interest are taken from Eurostat. We use data from 2016 on median age of population, GDP level (in PPPs), unemployment rate, openness measured by the sum of import and exports over GDP, and the trade balance as share of GDP. Our aim is to identify the variables that shape national attitudes, which are typically formed over a long time and do not change much over time. Thus, these cross-sectional observations fit to this approach as they show only little time but large cross-country variation. By contrast, economic performance measured by current GDP growth is too noisy. Thus, we test if the GDP growth over the last decade had any effect on the national attitudes.

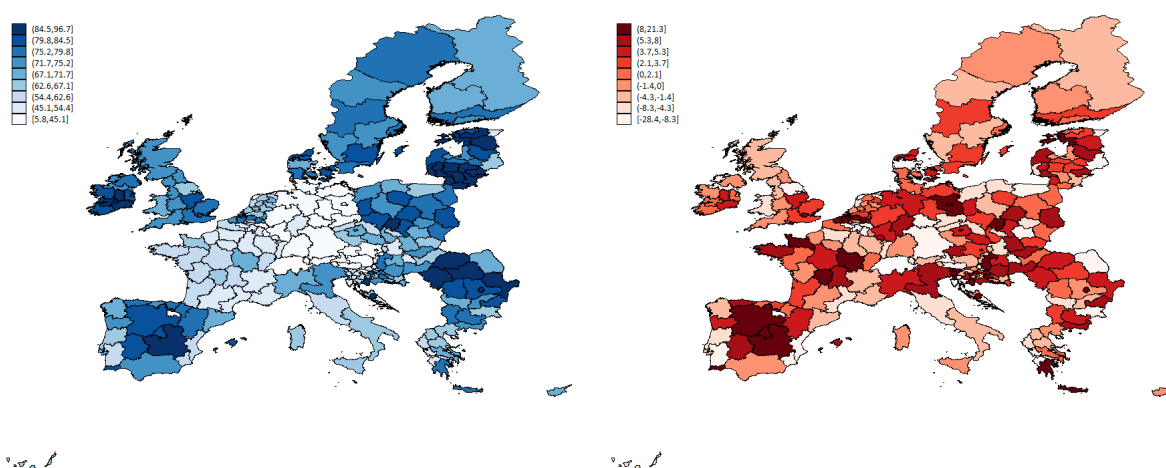
The performed cross-country analysis suffers, obviously, from low numbers of observations, and thus from drawbacks related to small-sample regressions. Increasing the number of observations, and for the purpose of an assessment of regional differences within countries, we use regional identifiers in the data and calculate attitudes at the regional level. Regional data are not available for all countries at a same resolution. As we do not want to aggregate at the highest level (NUTS-1), we apply regional data at different NUTS levels. For the sake of convenience, we use the term region synonymously for NUTS-1 regions in Germany and the UK, NUTS-3 regions in Croatia, Estonia, Ireland, Latvia, and Lithuania and NUTS-2 regions in all other EU member states. In total, we end up with 247 European regions.

Figure 8 illustrates the regional variation at the example of TTIP approval rates. The left figure shows absolute approval rates, which are lowest in the core of Europe and

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<sup>6</sup> <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1263>

**Figure 4:** Regional attitudes towards TTIP



**Note:** The left figure illustrates average TTIP approval rates in percent at the 247 NUTS regions in Europe. The right figures shows the deviation of regional approval rates from the country mean in percentage points.

highest in the periphery. More interestingly, the variation across regions within countries is still notable: The right-hand side of Figure 8 shows the deviation of regional TTIP approval rates from the country mean. It's summery statistics reveal that a substantial fraction of variance is observed between regions within countries: the deviation ranges between minus 26.4 and plus 26.5 percentage points, it's standard deviation yields 8.3 percentage points, its distribution is leptokurtic and slightly left-skewed.

Analogously, these figures are also replicated for the variables Free Trade, Protectionism, and Globalization in Appendix A.

Table 2 shows the share of the variation between regions which cannot be explained by country fixed-effects. Country fixed-effects explain best the regional TTIP attitudes leaving only 22 percent unexplained. For the other open-market attitudes, country fixed-effects take out less variation. Attitudes towards free trade is left for 38 percent to be explained by regional characteristics. Protectionism is least explained by nation-wide characteristics, while regional preferences for globalization depend on regional variation by 32 and 37 percent, respectively.

Aside from Eurostat data at the regional level, we employ regional trade exposure data from Badinger and Reuter (2017)<sup>7</sup>, who provide changes in import and net-export exposure at the NUTS-3-level for the two periods of time, namely 1991-2001 and 2001-2011; the regional exposure is calculated following the approach of Autor et al. (2013) and takes the following form:

<sup>7</sup> We are thankful to Harald Badinger and Wolf Heinrich Reuter for sharing their data.

**Table 2:** Variation between regions

	TTIP	Free Trade	Protectionism	Globalization 1	Globalization 2
Regional variation	0.219	0.380	0.438	0.320	0.373

**Note:** The table shows the variance between regions within countries for the five dependent variables. It exemplifies that variation between European regions is to a large extent actually variation between European countries.

$$\Delta E_{i_r p t}^M = \sum_{j=1}^J \frac{L_{i_r j t}}{L_{i j t}} \frac{\Delta M_{i j t}^p}{L_{i_r t}} \quad (1)$$

The change in import exposure ( $\Delta E^M$ ) is change of total imports (M) over period t in industry j per employed person (L) in country i's region r coming from partner country p. Change in imports is then assigned to country i's region r according to its share in country i's total employment in industry j. Total import exposure ( $\Delta E_{i_r p t}^M$ ) of region  $i_r$  from partner country p is then obtained by summing the import changes in industry j assigned to region  $i_r$  over all industries.

### 3 Theoretical Predictions and Empirical Strategy

This paper empirically tests theory driven hypotheses that directly follow from standard trade literature. The Ricardo-Viner Model, for instance, predicts losers and winners according to the degree to which a production factor is specific to a single economic sector, and to the degree to which this sector is affected by trade liberalization. In the case of trade liberalization in general and TTIP in specific, we expect the European agriculture sector to have a comparative disadvantage and thus European farmers to be against TTIP. Whether self-employed have a positive attitude towards free trade depends on firm-specific competitiveness and is ex ante unclear: one would expect that self-employed support TTIP if potential gains from exporting to the US exceed losses due to increased competition in the home market. Less competitive self-employed are likely to be in favor of protectionism. As blue-collar worker are typically less mobile than white-collar worker, we conjecture a stronger support for trade liberalization and globalization among white-collar employees.

The arguments made above suggest that sector reallocation costs determine individual attitudes towards free trade. After trade liberalization, comparative advantage sectors

are expected to expand and vice versa, relative unproductive sectors will shrink. These necessary adjustments are related with costs beared by affected individuals (e.g. for re-training, temporary unemployment, job search, relocation et cetera), which we denote as sector reallocation costs. These sector reallocation costs are fixed costs in a sense as they occur only during the transition from an old equilibrium to a new equilibrium. Gains from trade are typically found in the long-run, when production factors are allocated to a more productive sector in the new equilibrium. In this new equilibrium, not every single sector but the economy as an aggregate is better off and thus, e.g. higher wages are payed after sector reallocation. Individuals face a trade-off between short-run sector reallocation costs and long-run gains after the sector reallocation. Trivially, younger individuals benefit more from long-run gains and thus, attitude towards free trade and TTIP approval rates should decline in age.

The above-stated hypotheses can be categorized as attitudes following individual rationality; however, as we will show later, ideological reasons play a more important role in explaining people’s free trade attitudes. The EB provides detailed information on the political orientation of the survey participants. The data allow to classify them on a left-right scale; we would expect that individuals who report themselves more to the right are rather pro business, and therefore support trade liberalization, free trade and TTIP. The opposite is expected for left people, potentially due to equality preferences as trade liberalization tends to increase within-country inequality (Zhu and Trefler, 2005). Lowest positive attitudes towards open-markets should therefore be found at the very left; at odds with this general pattern, we also expect very right individuals to not be in favor of globalization and free trade because of autarky reasons and other nationalistic preferences. In the very case of TTIP, also anti-Americanism might impact individual preferences beyond the general free trade attitude.

In order to test our hypotheses, we apply ordinary least square estimates. The estimated linear probability model (LPM) takes the following structural form:

$$\mathbb{1}_i = \alpha + \mathbf{X}_i\beta + \zeta_{t(i)} + \eta_{c(i)} + \epsilon_i \quad (2)$$

The indicator variable  $\mathbb{1}$  of individual  $i$  takes the value one if an individual is in favor of of the binary dependent variable  $in$ , i.e. “Pro Free Trade”, “Pro TTIP”, “Pro Protectionism”, “Pro Globalization”. It is a function of a constant  $\alpha$ , the  $k$ -dimensional vector of explanatory variables  $\mathbf{X}_i$ , time and country fixed-effects,  $\zeta_{t(i)}$  and  $\eta_{c(i)}$  respectively, and an error term denoted by  $\epsilon_i$ . The regression coefficients of interest are comprised in the vector  $\beta$ .

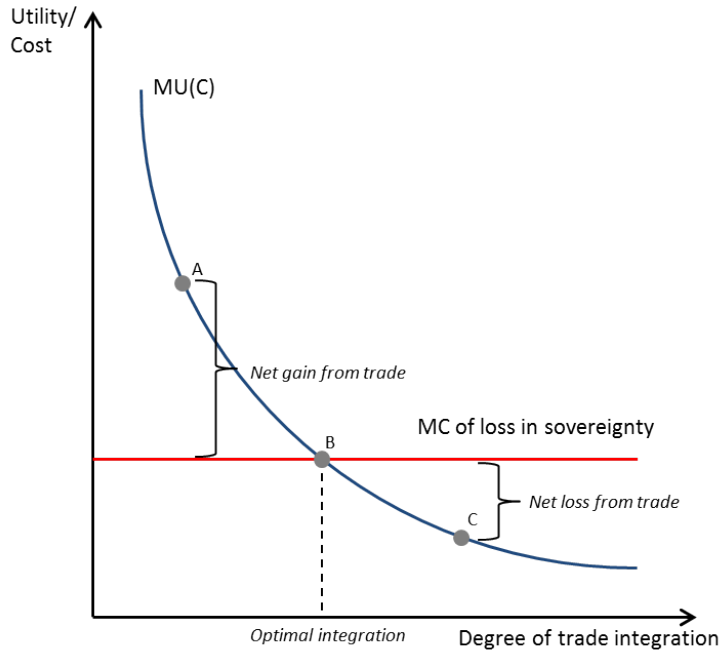
As stated earlier, we aim at identifying macroeconomic performance variables that are able to explain the large cross-country variation observed in the dependent variables. Analogously to the predictions made above, we distinguish between variables ideological and macroeconomic drivers. Without a national utility function, a statement on national rationality can hardly be made. Thus, we try to derive predictions from macroeconomic performance indicators. In the case of TTIP, we suppose that countries that favor the US more (according to their US image) will show higher TTIP approval rates. Obviously, the national free trade attitude should also be positively correlated to the TTIP attitude.

From a macroeconomic perspective, we conjecture that openness measured by export and import shares over GDP will positively impact the TTIP attitude. For trade economists, trade surpluses do neither indicate national success nor are trade deficits economically harmful. They are the direct consequence of intertemporal optimization of consumption at the country level. By contrast, public perception follows more a Mercantilistic line of arguing, according to which achieving high net exports is the ultimate economic goal. Even economic experts in a global survey judge net exports as favorable (Garnitz et al., 2017). We believe that this public understanding of trade imbalances – even if it is wrong – leads to higher positive free trade attitudes in trade surplus countries. Unemployment might also affect public opinion on free trade in general and free trade agreements in specific. Ex ante, meaning before a trade liberalization occurs, its labor market effects are ambiguous: while some sectors expand, others will shrink. At odds with classical trade theory, Autor et al. (2013) show empirically for the US that job destruction effects can dominate job creation effects. We conjecture that people fear the risk of job destruction in a good employment situation (low unemployment rate), whereas the chance for job creation is put more weight on in an economy with an already desolate job market.

Given convex preferences, an increase in income or rather consumption possibilities generates decreasing marginal utility; the marginal disutility from losing sovereignty in sensible areas (NTB reductions), however, may be constant or even increase in trade liberalization. As long as it decreases not by a higher rate than the marginal utility of consumption, there exists a cut off point that represents the optimal trade integration; otherwise ever more trade integration would globally be the optimal policy. Figure 5 illustrates this trade-off graphically: the marginal utility of consumption is shown by the blue line, marginal costs from losing sovereignty are assumed to be constant (red line). For the poorer country A, further trade integration would be beneficial, country B is already optimally integrated, and C should dis-integrate even at the cost of lower consumption capabilities. Assuming the national preferences to be same for all EU member states, the variation in income across EU member states should explain why attitudes towards increasing trade integration differ.



**Figure 5:** Cost benefit analysis of trade integration



Finally, we test if the GDP growth of the last decade has any influence on open-market attitudes. Potentially this effect is negative: countries with higher growth during the last decade made the experience that economic prosperity can also be achieved without increasing global trade integration.<sup>8</sup>

Similar to equation 2, the regression equation for national preferences, i.e. regressions on the member state level, reads as follows:

$$\frac{1}{n} \sum_{i=1}^N (y_i)_c = \alpha + \mathbf{X}_c \gamma + u_c \quad (3)$$

The independent variables of the left-hand side are not binary any more; these are the means at the country level of the respective variable; for the following, we denote them as national attitudes or national preferences. As we do not observe much variation over time, a cross sectional analysis is preferred over a panel. Specifically, we are more interested in absolute level effects than in changes.

## 4 Discussion of Results

The subsequent section presents our main findings with respect to the above-stated hypotheses. For the sake of clarity, we show the results for individual, regional, and national

<sup>8</sup> Obviously, this line of reasoning leaves a counterfactual analysis completely out of consideration and ignores other EU trade agreements, e.g. with the Republic of Korea in 2011.

attitudes separately. Subsection 4.1 comprises the former results while the following Subsections 4.2 and 4.3 show the results of the aggregated level.

## 4.1 Individual Attitudes

### At a glance

Explaining how individual attitudes towards the open-markets are shaped, we have classified four sets of explanatory variables. The first includes variables that ask people how much they trust certain institutions, e.g. the European Union, political parties, their national parliament, and their national government. The second set of variables provides information on the individual ideology and political stance; the third set contains socio-economic characteristics that might shape attitudes towards open-market policies, e.g. social class, age, gender, and education. Finally, we exploit information about the respondents' occupation and tests for hypotheses that directly follow from the specific-factor trade models. These sets of variables are shown descending order with respect of their contribution to explain individual attitudes. As stressed above, we include both time and region fixed-effects for our baseline regressions in Table 3 and 4. As robustness check, the same estimations are replicated including time and country fixed-effects; they are presented in the Appendix (Table 10 and 11).

Table 3 shows the determinants of individual attitudes towards TTIP and Free Trade. The first set of variables, trust in institutions, reveals that for TTIP only trust in the EU and trust in the national government. The probability of being in favor of TTIP is 15.5 percentage points (in the full specification, column 4) higher if people have trust in the EU. This is the largest coefficient for a single variable that we can estimate. With respect to the inclusion of other covariates, this effect seems quite stable. Trust in national government has a comparably small effect (2.8 percentage points) and trust in political parties and the national government have no effects. For a positive Free Trade attitude, trust in the EU is the ultimate prerequisite as well. It increases its attitude by 12.4 percentage points; the effect of trust in the government is even higher compared to TTIP (4.5 percentage points) and also trust in the national parliament has a positive effect (2.4 percentage points). Trust in political parties does not have any effect either. Column 2 and 6 include variables that account for political stance and ideology. Political Interest is categorical and is a self-assessment about the interest in and knowledge about political issues. It ranges from 1 to 4 and increases in the self-reported interest. The variables Left, Center-Left, Center-Right, and Right indicate the political stance; Center is left out due to perfect multi-collinearity reasons.<sup>9</sup>

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<sup>9</sup> The self-assessment of political stance is on a scale from 1 (left) and 10 (right). We have grouped two

Politically more informed individuals tend to disapprove TTIP by a slightly higher rate. The magnitude of the effect is close to irrelevance (-0.6 percentage points) but it is robust in all specifications. This negative relationship is consistent with our perception of a biased public debate about TTIP, i.e. an anti-TTIP campaign that became visible in some countries. Interestingly and perfectly in line with Pascal Lamy's proclamation of the new world of trade, these campaigns focused mainly on precaution related issues and not left out standard arguments for protection (job losses in certain industries). Thus, it is not surprising that people who more interested in politics have lower approval rates. By contrast, Political Interest does not seem to have effect on a positive Free Trade Attitude; there is a significant effect in column 6, which becomes insignificant in combination with other covariates.

In line with our priors, leftists are less likely to approve TTIP by around 9 percentage points. Not surprising either, the effect on Free Trade goes in the same direction, however, the magnitude becomes slightly smaller (-7.9 percentage points). All effects show statistical significance at the one-percent level. Please recap that the variable needs to be interpreted by comparing with individuals who locate their political stance at the Center. Individuals from the center-left follow the same response behavior as the very leftists but the size of their disapproval rates are smaller, i.e. they do not deviate from centrists as much as far-left people. Also right people follow expected pattern: center-right individuals have a statistically higher probability to be in favor of TTIP by 2.1 percentage points and Free Trade by 1.7 percentage points, respectively. Moving from left to center-right on the political spectrum, we observe increasing TTIP approval rates and stronger attitudes towards Free Trade; for the very right individuals, however, this effect becomes slightly weaker (1.7 percentage points for TTIP) or disappears completely (Free Trade). Thus, we conjecture that other than typical pro-business preferences for very right people must be decisive, too. Interestingly, it stands out that the size of these ideology coefficients is smaller for rightists compared to leftists. This implicitly means that those have „stronger“ attitudes against open-market policies than rightists have towards open-market policies.

Including Education<sup>10</sup> shows a negative effect on TTIP of 0.1 percentage points per year (the mean of Education is 19.4 years and its standard deviation 5.1 years); this effect is significant at the one-percent level and does not change after including highly correlated occupation variables in column 4. Education shows no effect on the probability to support Free Trade. These both results are at odds with classical labor-market arguments accord-

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index points to one binary variable; for instance, Left contains people who self-assessed them as 1 or 2, Center-Left 3 and 4, et cetera.

<sup>10</sup> This variable provides information on the age of an individual when finishing its education. Thus, it increases in the level of education.

ing to which workers with a higher stock of human capital are more mobile and thus, can easily find a new job after a sector-reallocation. Males and females do not substantially deviate in their consent to TTIP and a priori there is no such reason that could rationally explain a gender-difference in this case. Of course, this holds only when omitted variable biases can be ruled out; however, we are quite confident to have control variables for all relevant confounding factors. Against this prior, we observe a two-percentage point higher positive Free Trade attitude for men. The age effect is u-shaped for both the TTIP and Free Trade estimations and the same is true for Protectionism and Globalization in Table 4. This finding, and the minima in particular seem quite interesting to us. Therefore, we will discuss age-related results more extensively later. Social class is categorical, has five expressions<sup>11</sup> and increases in status of the self-reported class. An increase in social class rises the probability of being in favor of TTIP by 1.2 percentage points at the margin; the effect on Free Trade goes in the same direction and exceeds the latter in magnitude (2 percentage points at the margin). Accumulating these marginal effects, individuals from the higher class have a 4.8 percentage points more positive TTIP attitude; the same effect on Free Trade accounts cumulatively for 8 percentage points.

When it comes to occupation variables, the Ricardo-Viner Model would predict those being negatively affected by trade liberalization who are endowed with production factors in comparatively disadvantaged sectors. For the EU, the agricultural sectors are often referred to be less efficient than US competitors. Thus, one should not wonder about the strong TTIP disapproval by European farmers and fishermen by 6.8 percentage points. The occupation that is left out from the set of variables due to multi-collinearity is "Inactive"<sup>12</sup>. For self-employed the direction of an expected effect is ex ante ambiguous as they can benefit from trade liberalization due to better foreign market access and lose due to enhanced competition in the domestic market. In fact, there is no effect for self-employed which could be that both effects outweigh each other. There is also statistically distinguishable effect from TTIP approval rates for blue and white collar worker compared to inactive individuals. Unemployed have a 2.2 percentage point lower probability to be in favor of TTIP. With respect to Free Trade, there is no effect of any occupation group with the only exemption of unemployed, who disapprove Free Trade by 2.4 percentage points.

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<sup>11</sup> Working class, lower middle class, middle class, upper middle class, and higher class

<sup>12</sup> Retired persons, students, people unable to work, and homemakers.

**Table 3:** Determinants of individual open-market attitudes 1/2

	TTIP				Free Trade			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Life Satisfaction	0.033*** (0.002)	0.031*** (0.002)	0.029*** (0.002)	0.028*** (0.002)	0.046*** (0.002)	0.044*** (0.002)	0.039*** (0.003)	0.038*** (0.003)
Trust European Union	0.151*** (0.003)	0.150*** (0.003)	0.148*** (0.003)	0.148*** (0.003)	0.125*** (0.004)	0.124*** (0.004)	0.121*** (0.004)	0.120*** (0.004)
Trust Political Parties	0.005 (0.004)	0.007 (0.004)	0.006 (0.004)	0.006 (0.004)	0.006 (0.005)	0.008 (0.005)	0.008 (0.005)	0.008* (0.005)
Trust Nat. Government	0.026*** (0.004)	0.024*** (0.004)	0.025*** (0.004)	0.024*** (0.004)	0.039*** (0.005)	0.036*** (0.005)	0.037*** (0.005)	0.037*** (0.005)
Trust Nat. Parliament	-0.000 (0.005)	0.002 (0.005)	0.002 (0.005)	0.002 (0.005)	0.019*** (0.005)	0.021*** (0.005)	0.021*** (0.005)	0.021*** (0.005)
Political Interest		-0.005*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)		0.005** (0.002)	0.004* (0.002)	0.003* (0.002)
Left		-0.095*** (0.005)	-0.093*** (0.005)	-0.092*** (0.005)		-0.087*** (0.006)	-0.083*** (0.006)	-0.083*** (0.006)
Center-Left		-0.053*** (0.004)	-0.052*** (0.004)	-0.052*** (0.004)		-0.040*** (0.005)	-0.039*** (0.005)	-0.039*** (0.005)
Center-Right		0.025*** (0.004)	0.024*** (0.004)	0.024*** (0.004)		0.019*** (0.005)	0.017*** (0.005)	0.016*** (0.005)
Right		0.007 (0.006)	0.007 (0.006)	0.007 (0.006)		-0.009 (0.006)	-0.010 (0.006)	-0.010 (0.006)
Education (finish age)			-0.001*** (0.000)	-0.002*** (0.000)			-0.000 (0.000)	-0.000 (0.000)
Male			0.004 (0.003)	0.005* (0.003)			0.017*** (0.003)	0.017*** (0.003)
Age			-0.002*** (0.001)	-0.002*** (0.001)			-0.002*** (0.001)	-0.003*** (0.001)
Age squared			0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)	0.000*** (0.000)
Social Class			0.008*** (0.002)	0.007*** (0.002)			0.014*** (0.002)	0.013*** (0.002)
Rural			-0.001 (0.004)	0.000 (0.004)			-0.008* (0.004)	-0.008* (0.004)
Large City			-0.004 (0.004)	-0.004 (0.004)			0.002 (0.005)	0.002 (0.005)
Farmer and Fisherman				-0.060*** (0.017)				-0.032* (0.019)
Self-Employed				-0.005 (0.006)				0.013* (0.007)
Blue Collar Worker				0.006 (0.004)				-0.002 (0.005)
White Collar Worker				0.009** (0.004)				0.005 (0.005)
Unemployed				-0.012* (0.006)				-0.014** (0.007)
Observations	92664	92664	92664	92664	59553	59553	59553	59553
R <sup>2</sup>	0.155	0.162	0.162	0.163	0.105	0.110	0.112	0.113

Table 4 follows the same structure as 3. The dependent variables are now the favorability of Protectionism and the statement whether Globalization is an opportunity for economic growth. Protectionism is clearly the opposite of Free Trade and hence, comparing the coefficients with those stemming from the Free Trade regressions becomes obvious. If respondents answered consistently we actually would expect only the sign of the coefficients to flip. The chosen question on Globalization is insofar of interest, as there is a widespread consensus among economists that Globalization increases aggregate income. And even people with a skeptical view on Globalization often admit that Globalization might cause economic growth. According to them, however, the costs of growth (e.g. environmental costs) are disproportionately higher than the positive effects on income.

Again, trust variables are the predominant drivers of our results: trust in the European Union, which basically is not only responsible for the Union's trade politics but also for its industry protection, increases the protectionist attitudes by 5.6 percentage points. Even more important is trust in political parties, which increases the likelihood of being in favor of protectionism by 8.8 percentage points. This might be due to the fact, that the EU officially propagates Free Trade, while advocates of protectionism are typically found in left-wing partisan politics and, to a lesser extent, in some right-wing parties as well. Trust in national government has an effect of 3.3 percentage points and least important is trust in the national parliament, which increases protectionism attitudes by 1.9 percentage points. With respect to Globalization, individuals who tend to trust the EU are 19.2 percentage points more likely to agree with the statement that Globalization is an opportunity for economic growth. This is quite substantial given the comparably small effects of trust in political parties (2.2 percentage points), trust in national government (3.6 percentage points), and trust in the national parliament (2.3 percentage points). With exemption of trust in national parliament in the protectionism regressions, all trust variables are significant at the one-percent level.

Politically more interested individuals tend disapprove protectionism and agree on Globalization is source for economic growth. These effects are significant, but small in size (less than 1 percentage point). Ordering political stance according to protectionism attitude yields (from lowest to highest, percentage points in parentheses: center-left (-3.3), left (-2.8), center-right (-1.9), center (baseline, 0), and center-right (2.4). This is at odds with our expectations and inconsistent with the Free Trade regressions. Roughly speaking, those who are in favor of Free Trade have preferences for protectionism at the same time and vice versa for those disapproving Free Trade. The result is all the more astonishing as typically left parties support protectionism, which is, apparently, not in line with their voters view. For some right-extreme parties it is more targeted to praise protectionism. With respect to Globalization, we observe an inverted u-shape relation of

political stance. Having the opinion that Globalization is an opportunity for economic growth is most likely for centrists and decreases in the tails of the distribution.

Education lowers the probability of being in favor of protectionism quite substantially<sup>13</sup> by 0.6 percentage points at the margin. This effect seems robust and is highly significant. However, it is again inconsistent with the Free Trade regressions for which we could not identify any education effect. Education has no effect on individuals' assessment whether Globalization is an opportunity for economic growth. Interestingly, men do less likely support protectionism by 5.3 percentage points in column 3; one would expect this effect to diminish after including correlated occupation variables in column 4 (supporter of protectionism are blue collar worker and those are to a larger extent men). However, the effect is relatively stable and even increases slightly to 5.4. We do not observe any gender differences in the Globalization attitude. The age effect, again, is u-shaped for both dependent variables and will subject to later discussions. Consistent to prior results, the support for protectionism decreases in the status of the social class (0.8 percentage points at the margin) and the globalization attitude increases substantially by 2.3 percentage points per marginal unit.

A closer look at occupations reveals that there is only one group that significantly favors protectionism and there are blue collar worker (4.7 percentage points). This follows self-interest and rational considerations, as blue collar jobs are often subject to trade protection. The support for the globalization statement varies only slightly across occupation groups. For farmers and fishermen, we observe 4.1 percentage point lower approval rates and also unemployed report significantly lower consent (2.9 percentage points) compared to the base group (Inactive). The reasons for these two groups to differ in their assessment of Globalization can hardly be explained by our data. But it is a matter of fact, the agricultural industries have experienced an economic decline over the past decades which might be ascribed to the consequences of globalization by those who are affected (and not technical progress instead). For unemployed the same logic applies as well and they might ascribe their personal situation to a general trend and not to an idiosyncratic shock. However, this explanation is purely speculative and might serve as a food for thought for the later discussion.

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<sup>13</sup> Recap: the mean is 19.4 and the standard deviation 5.1.

**Table 4:** Determinants of individual open-market attitudes 2/2

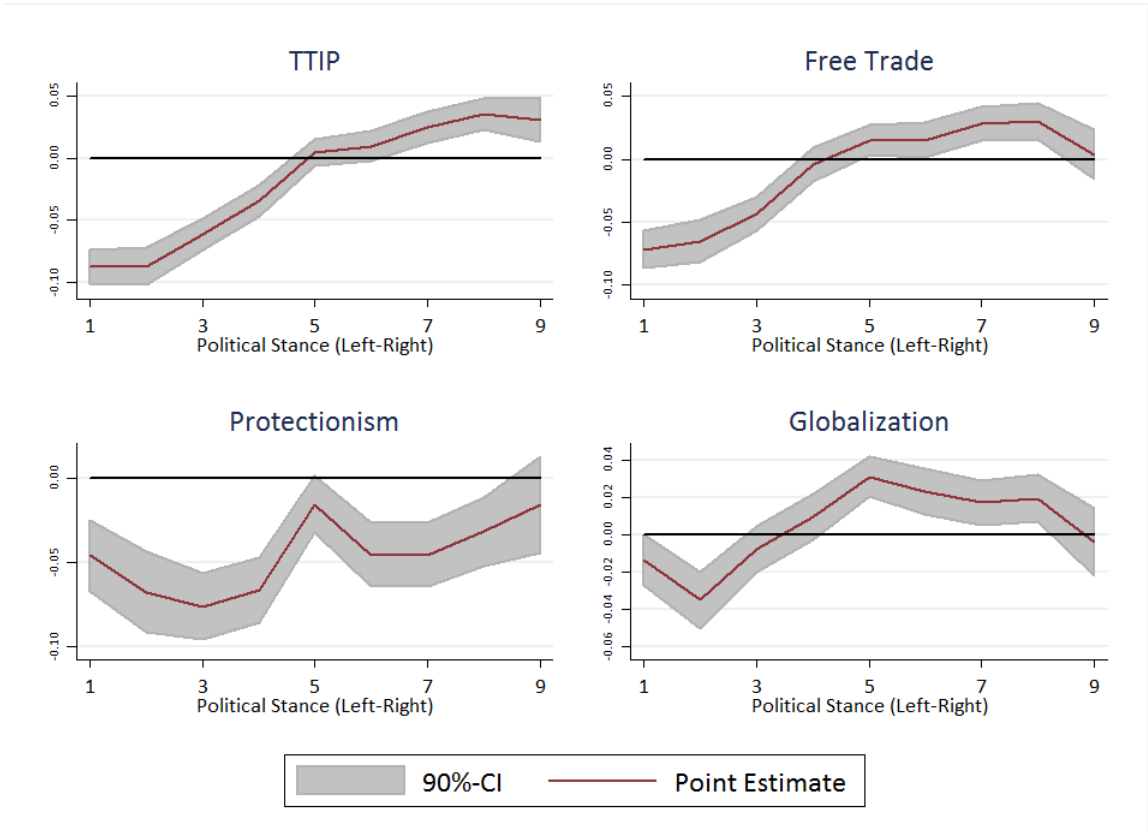
	Protectionism				Globalization			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Life Satisfaction	0.019*** (0.003)	0.020*** (0.003)	0.021*** (0.003)	0.021*** (0.003)	0.054*** (0.002)	0.053*** (0.002)	0.045*** (0.002)	0.044*** (0.002)
Trust European Union	0.055*** (0.005)	0.055*** (0.005)	0.054*** (0.005)	0.054*** (0.005)	0.196*** (0.003)	0.195*** (0.003)	0.190*** (0.003)	0.190*** (0.003)
Trust Political Parties	0.081*** (0.007)	0.083*** (0.007)	0.081*** (0.007)	0.080*** (0.007)	0.018*** (0.004)	0.019*** (0.004)	0.019*** (0.004)	0.019*** (0.004)
Trust Nat. Government	0.019*** (0.007)	0.019*** (0.007)	0.023*** (0.007)	0.023*** (0.007)	0.032*** (0.004)	0.031*** (0.004)	0.033*** (0.004)	0.033*** (0.004)
Trust Nat. Parliament	0.017** (0.007)	0.019*** (0.007)	0.024*** (0.007)	0.025*** (0.007)	0.019*** (0.005)	0.020*** (0.005)	0.020*** (0.005)	0.020*** (0.005)
Political Interest		-0.023*** (0.003)	-0.010*** (0.003)	-0.009*** (0.003)		0.007*** (0.002)	0.007*** (0.002)	0.007*** (0.002)
Left		-0.034*** (0.008)	-0.028*** (0.008)	-0.027*** (0.008)		-0.055*** (0.005)	-0.049*** (0.005)	-0.049*** (0.005)
Center-Left		-0.050*** (0.006)	-0.045*** (0.006)	-0.045*** (0.006)		-0.027*** (0.004)	-0.026*** (0.004)	-0.026*** (0.004)
Center-Right		-0.022*** (0.006)	-0.015** (0.006)	-0.014** (0.006)		-0.008** (0.004)	-0.010** (0.004)	-0.010** (0.004)
Right		0.016* (0.009)	0.023*** (0.009)	0.025*** (0.009)		-0.026*** (0.006)	-0.025*** (0.005)	-0.025*** (0.005)
Education (finish age)			-0.006*** (0.001)	-0.005*** (0.001)			-0.000 (0.000)	-0.000 (0.000)
Male			-0.047*** (0.005)	-0.049*** (0.005)			0.003 (0.003)	0.003 (0.003)
Age			-0.011*** (0.001)	-0.011*** (0.001)			-0.004*** (0.001)	-0.004*** (0.001)
Age squared			0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)	0.000*** (0.000)
Social Class			-0.013*** (0.003)	-0.010*** (0.003)			0.019*** (0.002)	0.019*** (0.002)
Rural			-0.006 (0.006)	-0.006 (0.006)			-0.011*** (0.004)	-0.011*** (0.004)
Large City			-0.008 (0.007)	-0.007 (0.007)			-0.003 (0.004)	-0.003 (0.004)
Farmer and Fisherman				0.007 (0.027)				-0.027 (0.017)
Self-Employed				-0.016 (0.010)				-0.006 (0.006)
Blue Collar Worker				0.045*** (0.007)				0.001 (0.004)
White Collar Worker				-0.008 (0.006)				-0.000 (0.004)
Unemployed				-0.005 (0.010)				-0.016*** (0.006)
Observations	42009	42009	42009	42009	92666	92666	92666	92666
R <sup>2</sup>	0.120	0.124	0.136	0.137	0.160	0.162	0.166	0.166



The lessons learned from this supports the indication that modern trade politics has a broad impact on individuals that goes beyond self-interests related to occupation. If Pascal Lamy’s hypothesis is true that in the new world of trade precaution – and not protection – is for sale, it is not far-fetched that trust in institutions that are ultimately responsible for trade politics is overly important. Our findings also illustrate that the classical antagonism between left and right cannot consistently explain attitudes towards open-markets at the individual level. The dividing line is rather a between center and center-right who are pro open-markets and (center-)leftists and far right people who are against open-markets. Thus, it is best described by second dimension independent of the left-right spectrum which ranges between people who believe that open-markets a beneficiary and those, who prefer closed economies.

### The Effect of Political Stance

**Figure 6:** The effect of political stance on open-market attitudes



**Note:** The figure illustrates the effect of political stance on a scale between 1 (very left) and 10 (very right) on the the four variables of interest. For each category, this effect is estimated separately by including binary variables. Due to multicollinearity reasons, the one category is left out and serves as reference point. The choice is arbitrary in our case it is the far-right (10). All else is equal to the most comprehensive estimations (column 4 and 8) in Table 3 and 4.

## The Effect of Age

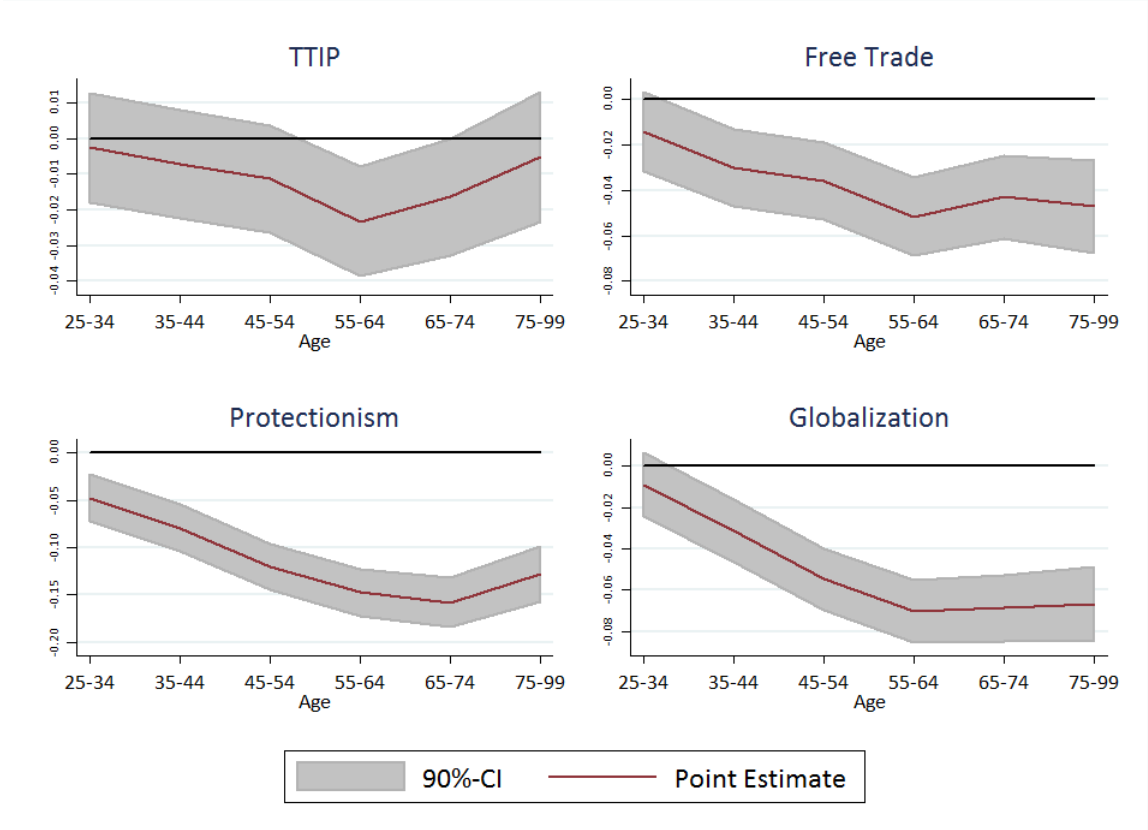
Tables 3 and 4 indicate non-linearity of age the effect of age on open-market attitudes. The tables were not very insightful, as the squared age effects show quite small, positive coefficients, which are rounded to three decimal digits still zero. Specifically, we have estimated u-shaped relationships for all four outcome variables, which have their minima at the age of 66 (Protectionism), 69 (TTIP and Free Trade), and 77 (Globalization). Again, this is again inconsistent in a sense that we actually would expect an inverted u-shape relationship for Protectionism given u-shapes for the other variables. However, it seems that people in this age seem to have lower approval rates to any kind of trade policy regardless whether it is open or closed economy related.

Our priors for the effect of age on open-market attitudes work in reverse directions: simple arguments based on standard trade theory suggests that trade liberalization leads to sector reallocation which is related to adjustment costs. As those adjustments costs (e.g. for retraining, job search) come as fixed costs but have as consequence, for instance, a higher wage in a more productive sector in the future. Trivially, trade liberalization has a higher net present value for younger people who benefit due to a higher number of future periods. Contrarily, and this arguments refers back to Pascal Lamy, all individuals are affected symmetrically by the *sale of precaution*; hence, age is not supposed not make a difference for the consent to TTIP. If the public believes that TTIP lowers the quality of food, it does so for students, workers, and retired people.

And indeed, the latter argument seems to hold for TTIP and Free Trade. Figure 7 shows age coefficients when including them as binary variables for each year to the most comprehensive estimations shown above (Column 4 and 8 in Table 3 and 4, respectively). For these estimations we have excluded all individuals below age 20 and older than 80, as the low number of observations per single age yields noisy results. Due to multicollinearity, age 20 is left out and serves as reference point. The figure also shows 90-percent confidence intervals around the point estimators. Neither for TTIP, nor for Free Trade we can reject the hypothesis that the age coefficients varies significantly with respect to age. The coefficient, particularly in the case of Free Trade, tends to decline with age; however, the confidence intervals still include the zero line. For Protectionism, by contrast, Figure 7 shows that the coefficients declined systematically. Also the confidence interval falls below the zero line for ages in the range of mid 50 to mid 70. Hence, older individuals tend (1) to be less in favor of Protectionism. Stressing a rational argument, older people will not at all, or with a lower net present value benefit from the advantages of Protectionism (job protection) while they shoulder the burden of this policy, namely higher consumer prices. Moreover, older also tend to (2) believe less in Globalization being an opportunity

for economic growth. The figure indicates that the effect of age declines steadily until 60, and remains then unchanged.

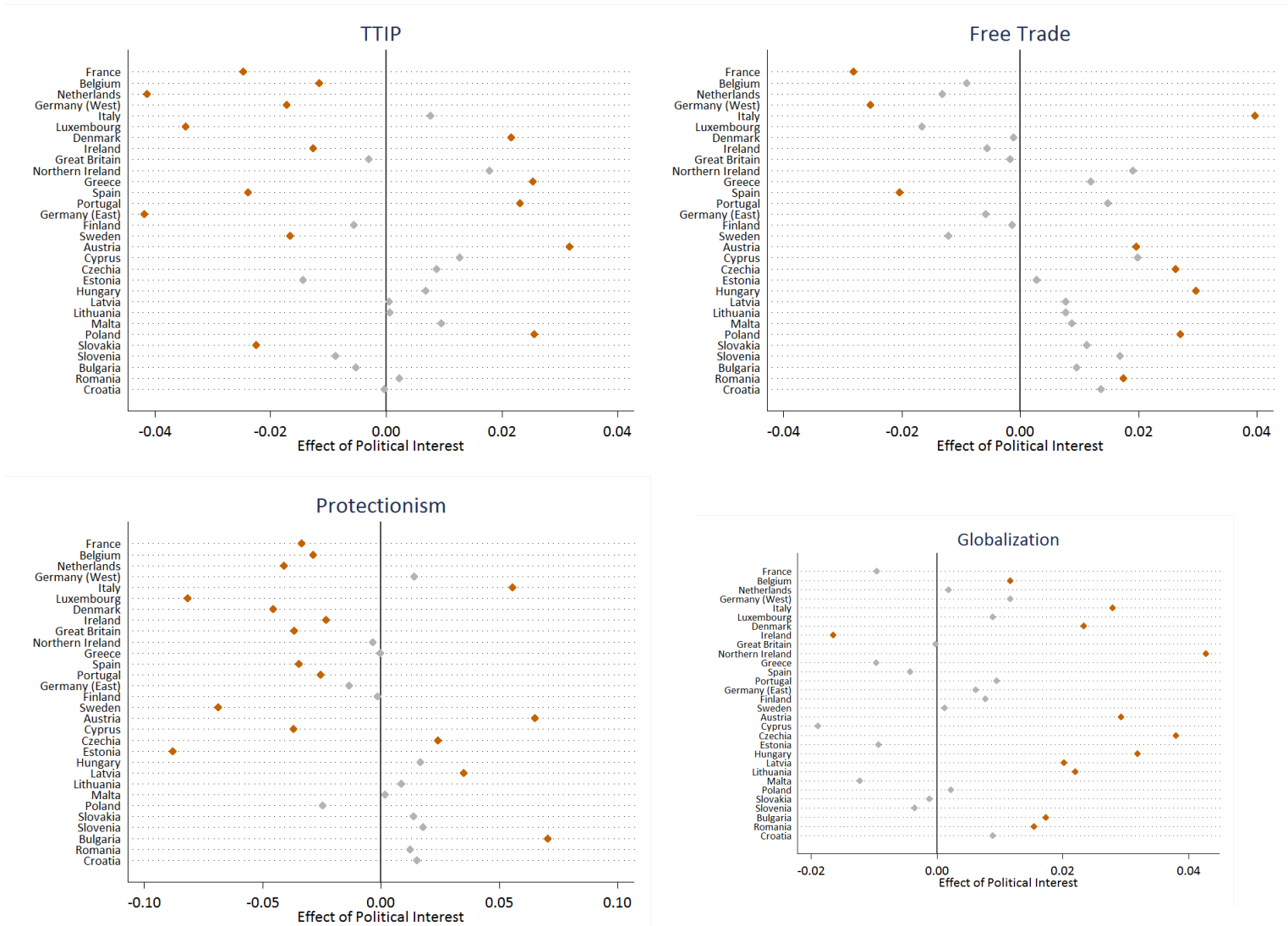
**Figure 7:** The effect of age on open-market attitudes



**Note:** The figure illustrates the effect of age on the the four variables of interest. The effects are estimated separately for different age groups by including binary variables. Due to multi-collinearity reasons, the youngest group (15-24) is left out and serves as reference point. All else is equal to the most comprehensive estimations (column 4 and 8) in Table 3 and 4.

**The Effect of Political Interest**

Figure 8: The importance of country-specific narratives



**Note:** The figures illustrate the effect of political interest on the outcome variables. The coefficients can vary across countries and exemplify the existence of different country narratives. Significant coefficients (p-val < 0.1) are drawn in color. All else is equal to the most comprehensive estimations (column 4 and 8) in Table 3 and 4

## The Effect of Occupation

The effects of employment characteristics on the the outcome variables in Table 3 and 4 seem not to explain a substantial fraction of the individual attitudes. Systematic disapproval was found for Farmers and Fishermen as well as unemployed. Both groups also disagree to a higher rate with the statement that Globalization is an opportunity for economic growth. Unemployed are also the only occupation group that deviates from the reference group (inactive persons) with respect to their Free Trade approval, which is 2.4 percentage points lower. For protectionism we found only blue collar worker having significantly higher consent rates (4.7 percentage points).

These findings leave some scope for interpretation. Farmer and Fishermen may in deed be the losers of TTIP as comparative advantages are presumably found in the US agri-food sectors. Moreover, assuming self-interested preferences, blue collar worker should in deed be in favor of protectionism as they may benefit by the protection of their jobs. These findings are in line with the Stolper-Samuelson Theorem. However, when it comes to TTIP, unemployed can per definition not lose in terms of labor market outcomes as they cannot be worse off than they already are. Thus, self-interested and forward-looking individuals should actually be in favor of TTIP as it may offer an opportunity (e.g. finding a job) but no further risk. By contrast, their responses on Free Trade and Globalization seem more plausible as those statements are rather backward-looking by construction; then the respective attitudes are shaped based on personal experiences which might be negative given their employment situation.

When individuals assess certain open-market policies, they actually should differentiate between idiosyncratic and systematic shocks; in more detail, one would expect that an unemployed person evaluates his specific situation relative to his environment. Thus, these evaluations could rather be relative statements than absolute assessments. Hence, we interact occupation variables with region specific import and net-export exposures to identify whether the job determines open market attitudes differently depending on the regional trade exposure. Columns 1 and 5 of Table 5 and 6 show the baseline regressions including all control variables and region as well as time fixed-effects. Column 2 and 6, respectively, interact all occupation groups with import exposure (IXP), and Column 3 and 7 with net-export exposure (NXXP). Column 4 and 8 combine both interactions, which is equivalent to including a measure for export exposure.

As mentioned in section 2, our trade exposure measures are the change in exposure between 2001 and 2011 that originates from China and Eastern Europe. Thus, we only have data for EU15 member states, which obviously reduces our sample size. Not surprisingly,

change in Chinese and Eastern Europe import exposure interacted with occupation variables does not reveal substantially different results for TTIP. For Free Trade, conversely, higher regional import exposure increases the probability of individuals to disapprove Free Trade. This is true for almost all occupation groups except blue collar worker and unemployed. To put numbers on this effect, a one standard deviation increase in import exposure (8.9 percentage points) decreases the Free Trade approval rate by 2.7 to 3.6 percentage points.<sup>14</sup> Adding net-export exposures shows only effects on farmers for TTIP. On the one hand, increased net-export exposure with China and Eastern Europe should not shape attitudes towards an FTA between the EU and the US as these are different shocks; on the other hand, farmers in regions which experienced a positive demand shock from opening up to the east and the far east, may be less pessimistic to opening up to the US. Then, however, we should observe such a similar effect for Free Trade, which we do not and what is still puzzling.

With regard to Protectionism and Globalization (Table 6), we observe that for the former only change in import exposure matters. We can show that for inactive persons, blue collar worker, unemployed and also weakly for self-employed that regional import exposure raises a positive attitude towards Protectionism. This effect accounts for 4.5 percentage points higher protectionism approval per standard deviation increase of IXP. These effects seem to remain stable after adding net-export exposure. Changes in net-export exposures do not influence protectionism attitudes at all. Job-related globalization attitudes tend to not be shaped by regional import exposures. Similar to Free Trade attitudes, the only exception in this respect are white collar worker (1.8 percentage points per one standard deviation increase in IXP). For the same group, also changes in net-exports seem to shape globalization attitudes, an effect that we would *ex ante* expect to have a positive sign. In the combined specification (Column 8), both effects become statistically insignificant at least at the 5-percent level.

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<sup>14</sup>I.e., 2.7 percentage points for inactive individuals and white collar workers, 3.6 for self-employed. For farmers, whose effect may also have higher standard errors due to lower numbers of observations on the regional level, this effect would even reach 6.2 percentage points.

**Table 5:** The effects of occupation 1/2

	TTIP				Free Trade			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Farmer and Fisherman	-0.085*** (0.023)	-0.074** (0.030)	-0.088*** (0.023)	-0.066** (0.030)	-0.024 (0.025)	-0.005 (0.032)	-0.027 (0.025)	-0.002 (0.032)
Self-Employed	-0.016* (0.008)	-0.011 (0.011)	-0.015* (0.008)	-0.009 (0.012)	0.007 (0.009)	0.014 (0.013)	0.007 (0.009)	0.012 (0.013)
Blue Collar Worker	0.006 (0.006)	0.002 (0.008)	0.006 (0.006)	-0.000 (0.008)	-0.003 (0.006)	-0.002 (0.009)	-0.003 (0.006)	0.000 (0.009)
White Collar Worker	0.003 (0.005)	0.010 (0.007)	0.003 (0.005)	0.009 (0.007)	-0.002 (0.006)	0.000 (0.008)	-0.003 (0.006)	-0.008 (0.008)
Unemployed	-0.019** (0.008)	-0.037*** (0.012)	-0.019** (0.008)	-0.038*** (0.012)	-0.021** (0.009)	-0.027** (0.013)	-0.021** (0.009)	-0.030** (0.013)
Inactive × IXP		-0.001 (0.001)		-0.001 (0.001)		-0.002* (0.001)		-0.002** (0.001)
Farmer × IXP		-0.002 (0.004)		-0.005 (0.004)		-0.005 (0.004)		-0.006* (0.004)
Self-Employed × IXP		-0.001 (0.001)		-0.002 (0.001)		-0.002 (0.001)		-0.002 (0.001)
Blue Collar × IXP		0.000 (0.001)		0.000 (0.001)		-0.001 (0.001)		-0.001 (0.001)
White Collar × IXP		-0.001 (0.001)		-0.001 (0.001)		-0.002 (0.001)		-0.001 (0.001)
Unemployed × IXP		0.002 (0.001)		0.002 (0.001)		-0.001 (0.002)		-0.001 (0.002)
Inactive × NXXP			0.003 (0.002)	0.004* (0.002)			0.002 (0.003)	0.003 (0.003)
Farmer × NXXP			0.023*** (0.007)	0.024*** (0.007)			0.007 (0.008)	0.012 (0.008)
Self-Employed × NXXP			0.004 (0.003)	0.005* (0.003)			0.000 (0.003)	0.002 (0.003)
Blue Collar × NXXP			0.001 (0.002)	0.000 (0.002)			0.002 (0.002)	0.003* (0.002)
White Collar × NXXP			0.002 (0.002)	0.003 (0.002)			-0.002 (0.002)	-0.001 (0.002)
Unemployed × NXXP			0.002 (0.003)	0.003 (0.003)			-0.001 (0.003)	-0.000 (0.003)
Observations	54304	54304	54304	54304	37690	37690	37690	37690
R <sup>2</sup>	0.167	0.167	0.167	0.168	0.110	0.110	0.110	0.111
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Note:** Ordinary least square estimates, standard errors in parentheses. All specifications include region and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 6:** The effects of occupation 2/2

	Protectionism				Globalization			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Farmer and Fisherman	-0.005 (0.035)	0.000 (0.046)	-0.003 (0.036)	-0.004 (0.046)	-0.032 (0.022)	-0.024 (0.029)	-0.033 (0.022)	-0.022 (0.029)
Self-Employed	-0.024* (0.013)	-0.032* (0.018)	-0.024* (0.013)	-0.034* (0.018)	-0.001 (0.008)	0.011 (0.011)	-0.001 (0.008)	0.012 (0.011)
Blue Collar Worker	0.055*** (0.009)	0.033*** (0.012)	0.055*** (0.009)	0.030** (0.013)	-0.007 (0.005)	-0.008 (0.008)	-0.007 (0.005)	-0.003 (0.008)
White Collar Worker	-0.010 (0.008)	-0.002 (0.011)	-0.010 (0.008)	-0.010 (0.012)	0.010** (0.005)	0.018*** (0.007)	0.010** (0.005)	0.016** (0.007)
Unemployed	-0.012 (0.013)	-0.037** (0.018)	-0.011 (0.013)	-0.037** (0.018)	-0.028*** (0.008)	-0.025** (0.011)	-0.028*** (0.008)	-0.024** (0.011)
Inactive $\times$ IXP		0.003** (0.001)		0.003** (0.001)		0.000 (0.001)		0.001 (0.001)
Farmer $\times$ IXP		0.001 (0.005)		0.002 (0.005)		-0.001 (0.003)		-0.001 (0.003)
Self-Employed $\times$ IXP		0.003* (0.002)		0.004* (0.002)		-0.001 (0.001)		-0.001 (0.001)
Blue Collar $\times$ IXP		0.004*** (0.001)		0.004*** (0.001)		0.000 (0.001)		-0.000 (0.001)
White Collar $\times$ IXP		0.001 (0.001)		0.002 (0.001)		-0.001 (0.001)		-0.000 (0.001)
Unemployed $\times$ IXP		0.006*** (0.002)		0.006*** (0.002)		-0.000 (0.001)		0.000 (0.001)
Inactive $\times$ NXXP			0.002 (0.004)	0.000 (0.004)			-0.003 (0.002)	-0.003 (0.002)
Farmer $\times$ NXXP			-0.004 (0.012)	-0.006 (0.012)			0.001 (0.006)	0.001 (0.006)
Self-Employed $\times$ NXXP			0.002 (0.004)	-0.001 (0.004)			-0.003 (0.003)	-0.003 (0.003)
Blue Collar $\times$ NXXP			0.002 (0.003)	-0.001 (0.003)			0.001 (0.002)	0.001 (0.002)
White Collar $\times$ NXXP			-0.002 (0.003)	-0.003 (0.004)			-0.004** (0.002)	-0.004* (0.002)
Unemployed $\times$ NXXP			0.006 (0.004)	0.004 (0.005)			-0.001 (0.003)	-0.001 (0.003)
Observations	25159	25159	25159	25159	55268	55268	55268	55268
R <sup>2</sup>	0.100	0.100	0.100	0.101	0.180	0.180	0.181	0.181
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Note:** Ordinary least square estimates, standard errors in parentheses. All specifications include region and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val.  $< 0.01$ , p-val.  $< 0.05$ , and p-val.  $< 0.1$ .



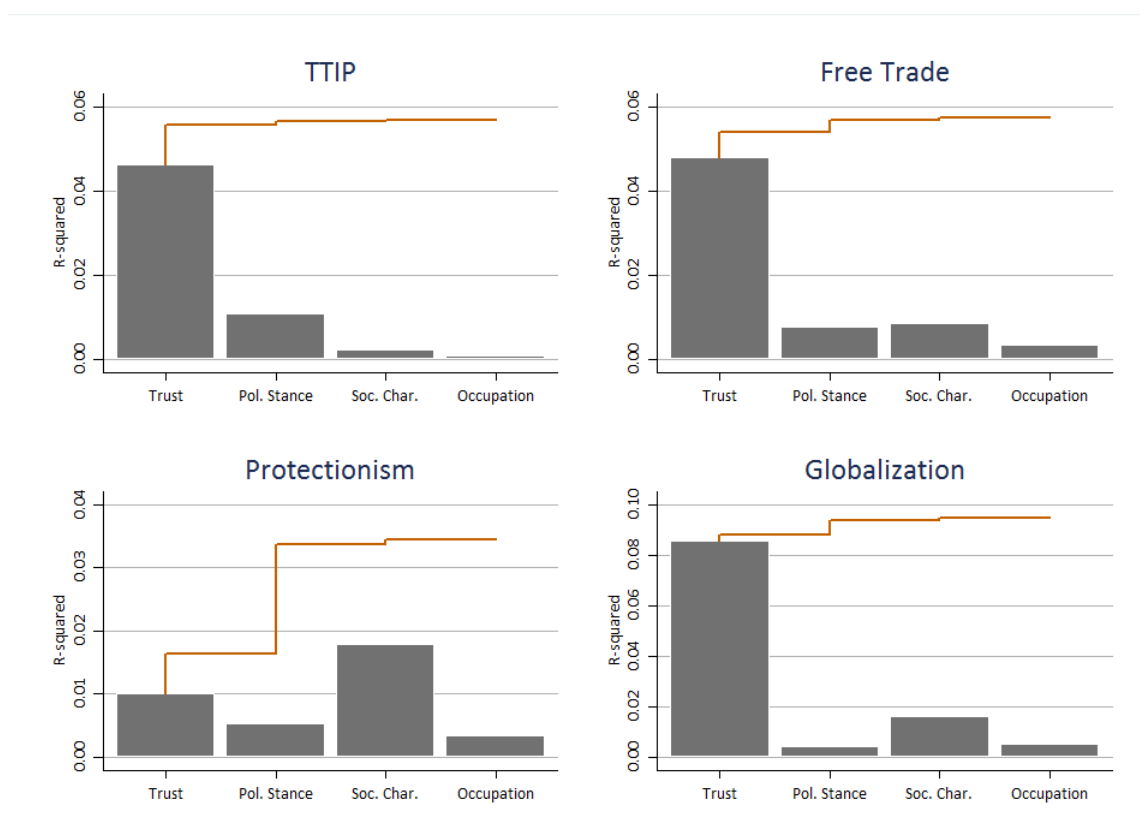
## R-squared decomposition

To better illustrate the share of variance that is explained due to the inclusion of different sets of explanatory variables, we graphically show their contribution to the R-squared. The estimations follow the structure of our baseline regressions (Table 3 and 4) but exclude fixed-effects. The bars indicate the R-square that is explained by a set of variables leaving out all other variables. The orange lined shows the R-squared when – beginning from the left bars – more sets of variables are added to the regression. The step-wise increase thus indicates the marginal effect of a set of variables given the previous sets of variables.

As mentioned earlier, our trust variables contributed the most in explaining attitudes at least for TTIP, Free Trade, and Globalization. For Protectionism, socio-economic characteristics are more important. Although economic self-interest is best reflected by occupation, in three out of four open-market attitudes it is the least important regressor. In no a single regression, it was able to add more than 0.5 percent in explaining the total variance. The question on TTIP relies on trust and political stance and is thus rather a question of faith than of rational considerations. Slightly attenuated, the same is true for Free Trade. For protectionism, there is no completely dominating set of variables; if, at all, it would be social characteristics. And for Globalization, finally, only trust matters remarkably.

This variance decomposition is insofar enlightening, as it shows that the dominating drivers in open-market attitudes are not those that can be explained by economic self-interest but rather ideology. This may also be the reason, why the public debate on TTIP in specific and Globalization in general dodges from rational arguments. Roughly speaking, if TTIP and Free Trade are disapproved because of a lack of trust in institutions, simple pro trade reasoning will shift change public opinion.

**Figure 9:** R-squared decomposition



**Note:** The figure shows R-squared statistics based on results from Table 3 and 4 excluding fixed effects. The bars indicate for each dependent variable the explanatory power of one set of independent variables. The model behind are OLS estimations with only those sets of independent variables. The orange line shows the cumulative R-square when adding sets of variables in the same order as in Table 3 and 4.

## 4.2 Attitudes across European Regions

Section 2 already stresses the importance of country and region fixed effects meaning that a large heterogeneity between countries is present in all response variables. Abstracting from individual attitudes and characteristics, and shifting our focus on the variance between European regions is the aim of this sub-section. Following our theoretically derived hypotheses, we would expect (1) income and (2) age having negative effects on open-market attitudes, and (3) unemployment positively affecting attitudes towards open markets. Moreover, the higher a regional change in import exposure was during the last decade (2001-2011), the higher we expect the refusal of open-market policies. Contrarily, positive changes of net-export exposures should amplify pro open-market attitudes.

Table 7 regresses regional average approval rates for TTIP (ranging from 0 - 100 percent) on macroeconomic characteristics (Column 1), further includes country fixed-effects (Column 2), adds trade exposure data with (Column 4) and without (Column 3) coun-

try fixed-effects. The tables for the other response variables are constructed accordingly. Recap, that these regional averages have no time-dimension. Column 1 is fully in line with our priors; after controlling for country fixed-effects, only the negative GDP effect survives. Including trade exposure data has the drawback that our sample collapses to western European EU members. Both trade exposure measures point in the expected direction, while at the same time the GDP effect becomes insignificant and the age variable significant again. After controlling for country fixed-effects, there is hardly any significant effect visible, while at the same time 83 percent of the total variance can be explained. Adding country fixed-effects is overwhelmingly important for explaining regional attitudes as the R-square increases by 66 and 59 percent points, respectively. The results for Free Trade do not reveal substantial differences in both magnitude and statistical significance of the reported coefficients. However, the explanatory power of the model is noticeably weaker compared with TTIP.

Table 8 repeats the same estimations for Protectionism and Globalization as dependent variables. It stands out that unemployment has a strong effect on both Protectionism (+) and Globalization (-). In column 1, we observe also a positive GDP effect indicating that Protectionism attitudes is a phenomenon more popular with richer regions. This effect becomes insignificant and flips its sign after adding more regressors. However, the Globalization attitude increases significantly in income. The median age of a region seems to positively impact Protectionism (column 4) and to negatively influence attitudes towards Globalization (column 7). Although most of these results are more or less consistent with economic rationality, the effects are less stable and highly depend on the inclusion of country fixed-effects which are, apparently, by far the most important driver. Hence, we conclude that economic theory is not utterly outdated, but what matters the most are non-economic country characteristics. We conjecture that national narratives on open-market economies vary substantially between countries and those narratives ultimately determine trade attitudes.

**Table 7:** Determinants of regional open-market attitudes 1/2

	TTIP				Free Trade			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment	0.308*	-0.247	0.285	-0.433	-0.248**	0.340*	-0.366**	-0.016
	(0.161)	(0.208)	(0.226)	(0.276)	(0.119)	(0.192)	(0.185)	(0.245)
Ln GDP per Capita (PPP)	-2.256***	-2.184***	-1.559	0.811	-1.166***	-1.266*	0.329	1.233
	(0.715)	(0.656)	(1.299)	(0.901)	(0.432)	(0.663)	(1.012)	(0.823)
Median Age	-1.887***	0.308	-1.759***	0.733*	-0.581***	0.261	-0.616**	0.462
	(0.342)	(0.393)	(0.375)	(0.386)	(0.211)	(0.301)	(0.257)	(0.321)
$\Delta$ Import Exposure			-0.796***	-0.056			-0.498	0.571
			(0.191)	(0.628)			(0.305)	(0.444)
$\Delta$ Net-Export Exposure			0.586*	0.153			-0.158	0.063
			(0.333)	(0.358)			(0.201)	(0.175)
Observations	247	247	139	139	247	247	139	139
R <sup>2</sup>	0.139	0.805	0.245	0.858	0.048	0.609	0.092	0.710
Country FE		✓		✓		✓		✓

**Note:** Ordinary least square estimates, heteroskedasticity robust standard errors in parentheses. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 8:** Determinants of regional open-market attitudes 2/2

	Protectionism				Globalization			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment	0.957***	0.149	0.840***	0.683	-0.717***	0.501**	-1.173***	-0.255
	(0.150)	(0.386)	(0.169)	(0.514)	(0.186)	(0.200)	(0.239)	(0.219)
Ln GDP per Capita (PPP)	2.345***	1.310	-0.321	-0.095	-1.063**	-1.390*	1.671	2.435**
	(0.631)	(1.177)	(0.922)	(1.566)	(0.538)	(0.726)	(1.139)	(1.068)
Median Age	-0.261	0.458	-0.768**	0.699	-0.143	0.271	-0.936***	-0.027
	(0.398)	(0.516)	(0.323)	(0.623)	(0.293)	(0.393)	(0.309)	(0.424)
$\Delta$ Import Exposure			-0.566*	-0.466			-0.688*	-0.106
			(0.287)	(0.704)			(0.366)	(0.726)
$\Delta$ Net-Export Exposure			0.538***	0.371			-0.454	0.057
			(0.199)	(0.233)			(0.289)	(0.291)
Observations	247	247	139	139	247	247	139	139
R <sup>2</sup>	0.138	0.610	0.389	0.642	0.094	0.687	0.310	0.789
Country FE		✓		✓		✓		✓

**Note:** Ordinary least square estimates, heteroskedasticity robust standard errors in parentheses. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

### 4.3 National Attitudes

All previous results have emphasized the importance of country fixed-effects; although a cross-country analysis for our purposes from low number of observations (N equal to 30) and typical omitted variables biases. Being aware of these drawbacks, we still want to

dare an attempt in opening the black box country fixed-effects. As mentioned earlier, our sample consists of 30 countries (EU28 plus Eastern Germany and Northern Ireland). The measure of US Image varies between 14 and 68 percent (the standard deviation yields 13 percentage points); as explained in great detail, this measure is exogenous to TTIP and level effects do not drive our results, as we are interested in the variation across countries. The national Free Trade Attitudes from 2007 are taken from the Eurobarometer as well. We have chosen this measure for the same reason, as we want to rule out reverse causality. The macroeconomic variables are self-explaining.

Column (1) only includes national US Image and Free Trade Attitudes; an one percentage point better US Image increases the national TTIP approval rate by 0.42 percentage points, which is a quite strong effect. Free Trade, by contrast, has no significant effect. These two variables account for 13 percent of total cross-country variance. Column (2) only looks at macroeconomic determinants. An one year older nation is on average by 3.7 percentage points less likely in favor of TTIP. This effect is significant at the one-percent level. There is no effect of unemployment and, as expected, a negative one of the GDP level. If the national GDP level increases by 1 percent relative to the EU average, it lowers the national TTIP attitude by 0.17 percentage points. Specification (2) explains one third of the total variance. Column (3) adds the US Image to column (2) and leaves out Free Trade in order save degrees of freedom. However, this does not drive our results. The US Image effect becomes even larger, while the age influence slightly shrinks. The effect of unemployment now becomes significant; a one percentage point higher unemployment rate increases national TTIP attitudes by 1.2 percentage points. The GDP effect is now only half in size and significant only at the ten-percent level. Including US Image increases the total variance that is explained by the model by 11 percentage points.

**Table 9:** Determinants of national TTIP attitudes

	TTIP		
	(1)	(2)	(3)
Positive US Image (2005)	0.420** (0.198)		0.557** (0.219)
Free Trade Attitude (2007)	0.112 (0.317)		
Median Age		-3.740*** (1.299)	-3.407*** (0.964)
Unemployment Rate		0.157 (0.362)	1.206** (0.552)
GDP per capita (PPP), E28=1		-0.176*** (0.044)	-0.097* (0.050)
Observations	30	30	30
R <sup>2</sup>	0.132	0.337	0.446

**Note:** Ordinary least square estimates, heteroskedasticity robust standard errors in parentheses. \*\*\*, \*\* and \* indicate statistical significance levels for p-val.  $< 0.01$ , p-val.  $< 0.05$ , and p-val.  $< 0.1$ .

## 5 Robustness Checks

Tables 13 and 14 regress analogously to previous results with Probit and Logit. Table 15 introduces ordered Probit and Logit regressions, as three of the dependent variables (Free Trade, Protectionism, Globalization) initially were categorical with 4 possible responses. All those checks show not a single coefficient flipping its sign; only for a very limited number, the effects slightly change which does qualitatively not matter at all. Hence, we are quite confident to have identified robust results which presented in section 4.1.

## 6 Conclusion

Our paper confirms existing literature which has stressed economic ignorance and different voter biases that lead to open-market attitudes which cannot by rational considerations and economic self-interest be explained. The new world of trade, into which we are turning, is characterized by distinct individual preferences that do not follow standard economic theory. In some cases, people indeed respond according to self-interest which can be theoretically derived by specific-factors models. However, the explanatory power of these regressors is negligible; predominantly, what matters the most, is trust in institutions, and to a minor extent, the political stance. We have identified non-linearity with respect to age, while the minimum approval rates for certain trade politics are located in an age spectrum between 65 and 75. The effects of occupations varies across regions with

respect to trade exposure. Higher import exposure leads typically to lower preferences for open-markets, while the reverse effect of export exposure are lower. This is an indication that potential losses are higher weighted than gains. For all outcome variables, we find large cross-country heterogeneity which can only be partially explained by macroeconomic variables. This is a first indication for the existence of different national narratives when it comes to trade policy. Further research on this will be necessary. With respect to TTIP, we are confident to have identified a causal channel determining national attitudes: anti-Americanism.

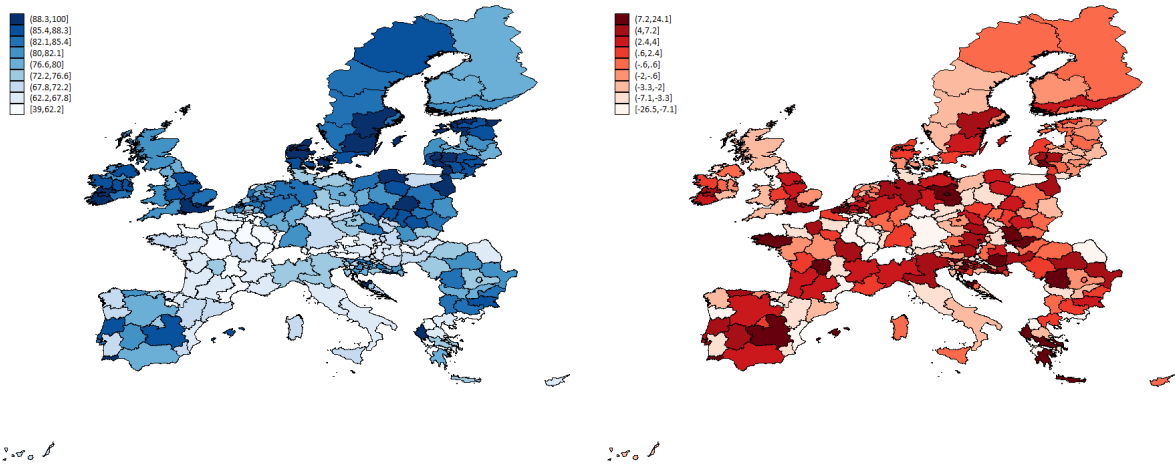
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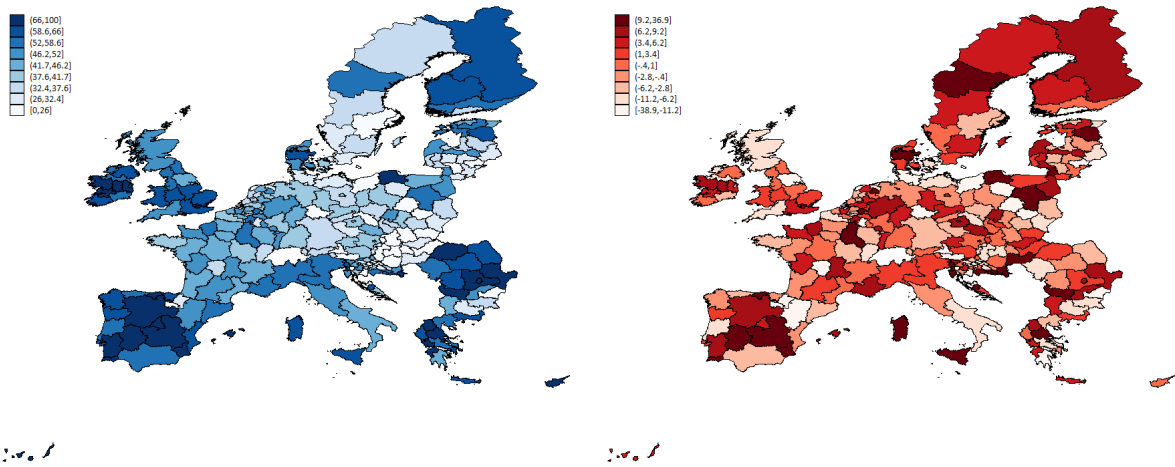
Appendix A

**Figure 10: Regional attitudes towards Free Trade**



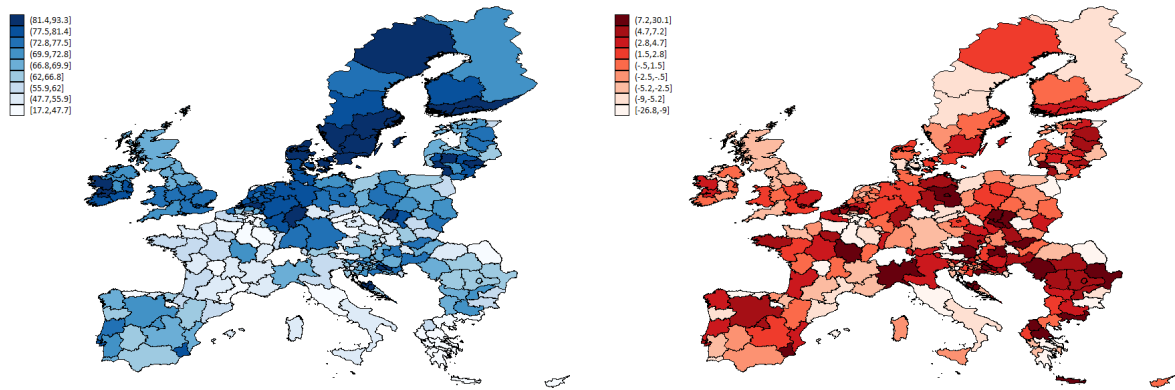
**Note:** The left figure illustrates average Free Trade approval rates in percent at the 247 NUTS regions in Europe. The right figures shows the deviation of regional approval rates from the country mean in percentage points.

**Figure 11: Regional attitudes towards Protectionism**



**Note:** The left figure illustrates average Protectionism approval rates in percent at the 247 NUTS regions in Europe. The right figures shows the deviation of regional approval rates from the country mean in percentage points.

Figure 12: Regional attitudes towards Globalization



**Note:** The left figure illustrates average Globalization approval rates in percent at the 247 NUTS regions in Europe. The right figures shows the deviation of regional approval rates from the country mean in percentage points.

Appendix B

**Table 10:** Determinants of individual open-market attitudes 1/3

	TTIP				Free Trade			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust European Union	0.161*** (0.003)	0.159*** (0.003)	0.157*** (0.003)	0.157*** (0.003)	0.135*** (0.004)	0.133*** (0.004)	0.129*** (0.004)	0.128*** (0.004)
Trust Political Parties	0.004 (0.004)	0.006 (0.004)	0.005 (0.004)	0.005 (0.004)	0.008 (0.005)	0.010** (0.005)	0.010** (0.005)	0.010** (0.005)
Trust Nat. Government	0.032*** (0.004)	0.029*** (0.004)	0.029*** (0.004)	0.029*** (0.004)	0.043*** (0.005)	0.040*** (0.005)	0.041*** (0.005)	0.040*** (0.005)
Trust Nat. Parliament	0.002 (0.005)	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)	0.022*** (0.005)	0.023*** (0.005)	0.022*** (0.005)	0.022*** (0.005)
Political Interest		-0.005*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)		0.005*** (0.002)	0.004* (0.002)	0.003 (0.002)
Left		-0.098*** (0.005)	-0.094*** (0.005)	-0.094*** (0.005)		-0.086*** (0.006)	-0.081*** (0.006)	-0.080*** (0.006)
Center-Left		-0.055*** (0.004)	-0.054*** (0.004)	-0.054*** (0.004)		-0.040*** (0.005)	-0.040*** (0.005)	-0.040*** (0.005)
Center-Right		0.028*** (0.004)	0.027*** (0.004)	0.027*** (0.004)		0.021*** (0.005)	0.018*** (0.005)	0.018*** (0.005)
Right		0.015*** (0.006)	0.014*** (0.006)	0.015*** (0.006)		-0.002 (0.006)	-0.003 (0.006)	-0.003 (0.006)
Education (finish age)			-0.001*** (0.000)	-0.001*** (0.000)			-0.000 (0.000)	-0.000 (0.000)
Male			0.005 (0.003)	0.005* (0.003)			0.016*** (0.003)	0.016*** (0.003)
Age			-0.002*** (0.001)	-0.002*** (0.001)			-0.003*** (0.001)	-0.003*** (0.001)
Age squared			0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)	0.000*** (0.000)
Social Class			0.011*** (0.002)	0.010*** (0.002)			0.017*** (0.002)	0.016*** (0.002)
Farmer and Fisherman				-0.057*** (0.017)				-0.035* (0.019)
Self-Employed				-0.004 (0.006)				0.018** (0.007)
Blue Collar Worker				0.008* (0.004)				-0.002 (0.005)
White Collar Worker				0.009** (0.004)				0.005 (0.005)
Unemployed				-0.021*** (0.006)				-0.025*** (0.007)
Observations	92672	92672	92672	92672	59558	59558	59558	59558
R <sup>2</sup>	0.133	0.140	0.141	0.141	0.081	0.087	0.090	0.090

**Note:** Ordinary least square estimates, standard errors in parentheses. All specifications include country and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 11:** Determinants of individual open-market attitudes 2/3

	Protectionism				Globalization			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust European Union	0.056*** (0.005)	0.057*** (0.005)	0.055*** (0.005)	0.055*** (0.005)	0.208*** (0.003)	0.207*** (0.003)	0.200*** (0.003)	0.199*** (0.003)
Trust Political Parties	0.086*** (0.007)	0.087*** (0.007)	0.084*** (0.007)	0.084*** (0.007)	0.021*** (0.004)	0.023*** (0.004)	0.022*** (0.004)	0.022*** (0.004)
Trust Nat. Government	0.024*** (0.007)	0.024*** (0.007)	0.029*** (0.007)	0.029*** (0.007)	0.037*** (0.004)	0.036*** (0.004)	0.038*** (0.004)	0.038*** (0.004)
Trust Nat. Parliament	0.016** (0.007)	0.018** (0.007)	0.023*** (0.007)	0.024*** (0.007)	0.021*** (0.005)	0.021*** (0.005)	0.021*** (0.005)	0.021*** (0.005)
Political Interest		-0.023*** (0.003)	-0.010*** (0.003)	-0.010*** (0.003)		0.008*** (0.002)	0.007*** (0.002)	0.007*** (0.002)
Left		-0.037*** (0.008)	-0.030*** (0.008)	-0.029*** (0.008)		-0.060*** (0.005)	-0.052*** (0.005)	-0.051*** (0.005)
Center-Left		-0.050*** (0.006)	-0.045*** (0.006)	-0.045*** (0.006)		-0.030*** (0.004)	-0.029*** (0.004)	-0.028*** (0.004)
Center-Right		-0.022*** (0.006)	-0.015** (0.006)	-0.013** (0.006)		-0.006 (0.004)	-0.008* (0.004)	-0.008* (0.004)
Right		0.025*** (0.009)	0.031*** (0.009)	0.032*** (0.009)		-0.021*** (0.006)	-0.020*** (0.006)	-0.019*** (0.006)
Education (finish age)			-0.006*** (0.001)	-0.005*** (0.001)			0.000 (0.000)	0.000 (0.000)
Male			-0.046*** (0.005)	-0.048*** (0.005)			0.001 (0.003)	0.001 (0.003)
Age			-0.011*** (0.001)	-0.011*** (0.001)			-0.004*** (0.001)	-0.005*** (0.001)
Age squared			0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)	0.000*** (0.000)
Social Class			-0.010*** (0.003)	-0.007** (0.003)			0.023*** (0.002)	0.022*** (0.002)
Farmer and Fisherman				0.032 (0.027)				-0.011 (0.017)
Self-Employed				-0.015 (0.010)				-0.002 (0.006)
Blue Collar Worker				0.046*** (0.007)				0.002 (0.004)
White Collar Worker				-0.006 (0.006)				0.002 (0.004)
Unemployed				-0.010 (0.010)				-0.028*** (0.006)
Observations	42009	42009	42009	42009	92673	92673	92673	92673
R <sup>2</sup>	0.094	0.098	0.111	0.112	0.138	0.140	0.145	0.145

**Note:** Ordinary least square estimates, standard errors in parentheses. All specifications include country and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 12:** Determinants of individual open-market attitudes 3/3

	Positive Globalization Image							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust European Union	0.196*** (0.004)	0.195*** (0.004)	0.185*** (0.004)	0.185*** (0.004)	0.198*** (0.004)	0.198*** (0.004)	0.188*** (0.004)	0.188*** (0.004)
Trust Political Parties	0.080*** (0.006)	0.081*** (0.006)	0.080*** (0.006)	0.080*** (0.006)	0.085*** (0.006)	0.086*** (0.006)	0.085*** (0.006)	0.085*** (0.006)
Trust Nat. Government	0.034*** (0.006)	0.033*** (0.006)	0.035*** (0.006)	0.035*** (0.006)	0.034*** (0.006)	0.033*** (0.006)	0.036*** (0.006)	0.035*** (0.006)
Trust Nat. Parliament	0.025*** (0.006)	0.027*** (0.006)	0.028*** (0.006)	0.027*** (0.006)	0.025*** (0.006)	0.026*** (0.006)	0.027*** (0.006)	0.027*** (0.006)
Political Interest		-0.001 (0.002)	0.002 (0.002)	0.002 (0.002)		-0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
Left		-0.049*** (0.007)	-0.039*** (0.007)	-0.038*** (0.007)		-0.051*** (0.007)	-0.041*** (0.006)	-0.041*** (0.006)
Center-Left		-0.039*** (0.005)	-0.036*** (0.005)	-0.037*** (0.005)		-0.041*** (0.005)	-0.039*** (0.005)	-0.039*** (0.005)
Center-Right		-0.009* (0.005)	-0.010* (0.005)	-0.010* (0.005)		-0.008 (0.005)	-0.009* (0.005)	-0.009* (0.005)
Right		-0.002 (0.007)	-0.000 (0.007)	-0.000 (0.007)		0.002 (0.007)	0.004 (0.007)	0.004 (0.007)
Education (finish age)			-0.000 (0.000)	-0.001 (0.000)			-0.001 (0.000)	-0.001* (0.000)
Male			-0.010*** (0.004)	-0.010*** (0.004)			-0.011*** (0.004)	-0.011*** (0.004)
Age			-0.010*** (0.001)	-0.010*** (0.001)			-0.010*** (0.001)	-0.010*** (0.001)
Age squared			0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)	0.000*** (0.000)
Social Class			0.023*** (0.002)	0.022*** (0.002)			0.021*** (0.002)	0.020*** (0.002)
Farmer and Fisherman				-0.031 (0.022)				-0.017 (0.022)
Self-Employed				0.009 (0.008)				0.009 (0.008)
Blue Collar Worker				0.004 (0.005)				0.003 (0.005)
White Collar Worker				0.010** (0.005)				0.012** (0.005)
Unemployed				-0.010 (0.008)				-0.012 (0.008)
Observations	61750	61750	61750	61750	61750	61750	61750	61750
R <sup>2</sup>	0.152	0.154	0.162	0.162	0.133	0.135	0.143	0.143
Country-FE					✓	✓	✓	✓
Region-FE	✓	✓	✓	✓				
Time-FE	✓	✓	✓	✓	✓	✓	✓	✓

**Note:** Ordinary least square estimates, standard errors in parentheses. . . \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 13:** Robustness Check: OLS vs. Probit vs. Logit 1/2

	TTIP			Free Trade		
	(1)	(2)	(3)	(4)	(5)	(6)
main						
Trust European Union	0.151*** (0.003)	0.470*** (0.011)	0.789*** (0.018)	0.124*** (0.004)	0.453*** (0.014)	0.794*** (0.025)
Trust Political Parties	0.007* (0.004)	0.023* (0.014)	0.042* (0.024)	0.011** (0.005)	0.066*** (0.019)	0.125*** (0.034)
Trust Nat. Government	0.027*** (0.004)	0.092*** (0.014)	0.156*** (0.023)	0.040*** (0.005)	0.158*** (0.018)	0.278*** (0.032)
Trust Nat. Parliament	0.003 (0.005)	0.009 (0.015)	0.013 (0.025)	0.023*** (0.005)	0.084*** (0.019)	0.142*** (0.033)
Political Interest	-0.004** (0.002)	-0.012** (0.005)	-0.022** (0.009)	0.004* (0.002)	0.012* (0.007)	0.021* (0.012)
Left	-0.094*** (0.005)	-0.282*** (0.016)	-0.474*** (0.026)	-0.084*** (0.006)	-0.287*** (0.019)	-0.480*** (0.033)
Center-Left	-0.053*** (0.004)	-0.166*** (0.012)	-0.275*** (0.021)	-0.038*** (0.004)	-0.141*** (0.016)	-0.232*** (0.027)
Center-Right	0.024*** (0.004)	0.084*** (0.013)	0.142*** (0.022)	0.014*** (0.004)	0.067*** (0.017)	0.114*** (0.029)
Right	0.008 (0.006)	0.032* (0.018)	0.056* (0.031)	-0.009 (0.006)	-0.022 (0.023)	-0.044 (0.039)
Education (finish age)	-0.001*** (0.000)	-0.005*** (0.001)	-0.008*** (0.002)	-0.000 (0.000)	-0.001 (0.001)	-0.002 (0.002)
Male	0.005* (0.003)	0.016* (0.009)	0.025 (0.015)	0.018*** (0.003)	0.068*** (0.012)	0.114*** (0.020)
Age	-0.002*** (0.001)	-0.008*** (0.002)	-0.014*** (0.003)	-0.003*** (0.001)	-0.012*** (0.002)	-0.022*** (0.004)
Age squared	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Social Class	0.010*** (0.002)	0.033*** (0.005)	0.055*** (0.009)	0.016*** (0.002)	0.057*** (0.007)	0.102*** (0.012)
Farmer and Fisherman	-0.059*** (0.017)	-0.184*** (0.052)	-0.306*** (0.086)	-0.031 (0.019)	-0.102 (0.064)	-0.169 (0.109)
Self-Employed	-0.003 (0.006)	-0.011 (0.020)	-0.020 (0.034)	0.016** (0.007)	0.061** (0.026)	0.104** (0.045)
Blue Collar Worker	0.006 (0.004)	0.018 (0.013)	0.033 (0.022)	-0.002 (0.005)	-0.011 (0.017)	-0.018 (0.029)
White Collar Worker	0.010** (0.004)	0.032** (0.013)	0.055** (0.021)	0.005 (0.004)	0.020 (0.016)	0.038 (0.028)
Unemployed	-0.019*** (0.006)	-0.059*** (0.019)	-0.097*** (0.032)	-0.026*** (0.007)	-0.086*** (0.024)	-0.141*** (0.041)
Observations	92672	92672	92672	64645	64633	64633
R <sup>2</sup>	0.161			0.105		
Pseudo-R <sup>2</sup>		0.133	0.133		0.102	0.102
Model	OLS	Probit	Logit	OLS	Probit	Logit

**Note:** Standard errors in parentheses. All specifications include region and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 14:** Robustness Check: OLS vs. Probit vs. Logit 2/2

	Protectionism			Globalization		
	(1)	(2)	(3)	(4)	(5)	(6)
main						
Trust European Union	0.057*** (0.005)	0.161*** (0.015)	0.264*** (0.025)	0.195*** (0.003)	0.599*** (0.011)	1.011*** (0.018)
Trust Political Parties	0.081*** (0.007)	0.229*** (0.020)	0.375*** (0.032)	0.020*** (0.004)	0.106*** (0.015)	0.192*** (0.025)
Trust Nat. Government	0.025*** (0.007)	0.071*** (0.020)	0.117*** (0.033)	0.037*** (0.004)	0.121*** (0.014)	0.205*** (0.023)
Trust Nat. Parliament	0.026*** (0.007)	0.076*** (0.021)	0.126*** (0.034)	0.022*** (0.005)	0.073*** (0.014)	0.123*** (0.025)
Political Interest	-0.009*** (0.003)	-0.024*** (0.008)	-0.041*** (0.013)	0.008*** (0.002)	0.022*** (0.005)	0.037*** (0.009)
Left	-0.028*** (0.008)	-0.081*** (0.023)	-0.133*** (0.037)	-0.051*** (0.005)	-0.158*** (0.016)	-0.261*** (0.026)
Center-Left	-0.045*** (0.006)	-0.128*** (0.018)	-0.212*** (0.029)	-0.027*** (0.004)	-0.086*** (0.013)	-0.140*** (0.021)
Center-Right	-0.014** (0.006)	-0.039** (0.018)	-0.066** (0.030)	-0.010** (0.004)	-0.030** (0.013)	-0.053** (0.022)
Right	0.025*** (0.009)	0.075*** (0.025)	0.122*** (0.042)	-0.025*** (0.006)	-0.082*** (0.017)	-0.141*** (0.029)
Education (finish age)	-0.005*** (0.001)	-0.014*** (0.001)	-0.024*** (0.002)	0.000 (0.000)	0.001 (0.001)	0.001 (0.002)
Male	-0.049*** (0.005)	-0.137*** (0.013)	-0.227*** (0.022)	0.003 (0.003)	0.010 (0.009)	0.015 (0.016)
Age	-0.011*** (0.001)	-0.031*** (0.003)	-0.051*** (0.004)	-0.005*** (0.001)	-0.016*** (0.002)	-0.026*** (0.003)
Age squared	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Social Class	-0.007*** (0.003)	-0.021*** (0.008)	-0.034*** (0.013)	0.024*** (0.002)	0.076*** (0.005)	0.128*** (0.009)
Farmer and Fisherman	0.007 (0.027)	0.015 (0.076)	0.023 (0.125)	-0.028* (0.017)	-0.090* (0.052)	-0.142 (0.088)
Self-Employed	-0.014 (0.010)	-0.042 (0.028)	-0.067 (0.047)	-0.003 (0.006)	-0.010 (0.020)	-0.020 (0.034)
Blue Collar Worker	0.045*** (0.007)	0.128*** (0.019)	0.211*** (0.031)	0.001 (0.004)	-0.002 (0.013)	0.000 (0.022)
White Collar Worker	-0.007 (0.006)	-0.023 (0.018)	-0.034 (0.030)	0.002 (0.004)	0.009 (0.013)	0.016 (0.021)
Unemployed	-0.010 (0.010)	-0.031 (0.027)	-0.050 (0.045)	-0.027*** (0.006)	-0.083*** (0.019)	-0.136*** (0.032)
Observations	42009	42002	42002	92673	92673	92673
R <sup>2</sup>	0.137			0.162		
Pseudo-R <sup>2</sup>		0.107	0.107		0.136	0.137
Model	OLS	Probit	Logit	OLS	Probit	Logit

**Note:** Standard errors in parentheses. All specifications include region and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.

**Table 15:** Robustness Check: Ordered Probit and Logit

	Free Trade		Protectionism		Globalization	
	(1)	(2)	(3)	(4)	(5)	(6)
main						
Trust European Union	0.361*** (0.011)	0.631*** (0.019)	0.128*** (0.013)	0.221*** (0.022)	0.515*** (0.009)	0.899*** (0.015)
Trust Political Parties	0.063*** (0.014)	0.102*** (0.024)	0.211*** (0.016)	0.361*** (0.028)	0.098*** (0.011)	0.164*** (0.019)
Trust Nat. Government	0.121*** (0.014)	0.205*** (0.024)	0.054*** (0.016)	0.099*** (0.028)	0.086*** (0.011)	0.149*** (0.019)
Trust Nat. Parliament	0.047*** (0.014)	0.076*** (0.025)	0.069*** (0.017)	0.118*** (0.029)	0.068*** (0.011)	0.114*** (0.020)
Political Interest	0.030*** (0.005)	0.056*** (0.009)	-0.019*** (0.006)	-0.037*** (0.011)	0.030*** (0.004)	0.055*** (0.008)
Left	-0.200*** (0.015)	-0.343*** (0.027)	-0.054*** (0.019)	-0.093*** (0.032)	-0.123*** (0.013)	-0.213*** (0.022)
Center-Left	-0.099*** (0.012)	-0.171*** (0.021)	-0.089*** (0.015)	-0.165*** (0.025)	-0.065*** (0.010)	-0.113*** (0.017)
Center-Right	0.108*** (0.012)	0.190*** (0.022)	-0.033** (0.015)	-0.056** (0.026)	-0.002 (0.010)	-0.005 (0.018)
Right	0.077*** (0.017)	0.158*** (0.030)	0.062*** (0.021)	0.114*** (0.036)	-0.016 (0.014)	-0.020 (0.025)
Education (finish age)	-0.002** (0.001)	-0.004** (0.002)	-0.013*** (0.001)	-0.023*** (0.002)	0.002*** (0.001)	0.004*** (0.001)
Male	0.083*** (0.009)	0.152*** (0.016)	-0.118*** (0.011)	-0.203*** (0.019)	0.051*** (0.007)	0.088*** (0.013)
Age	-0.014*** (0.002)	-0.026*** (0.003)	-0.027*** (0.002)	-0.047*** (0.004)	-0.014*** (0.001)	-0.025*** (0.002)
Age squared	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Social Class	0.058*** (0.005)	0.104*** (0.009)	-0.008 (0.006)	-0.016 (0.011)	0.078*** (0.004)	0.136*** (0.007)
Farmer and Fisherman	-0.170*** (0.051)	-0.280*** (0.091)	-0.013 (0.063)	-0.020 (0.108)	-0.074* (0.043)	-0.127* (0.073)
Self-Employed	0.083*** (0.020)	0.147*** (0.034)	-0.041* (0.023)	-0.074* (0.040)	0.011 (0.016)	0.017 (0.028)
Blue Collar Worker	-0.029** (0.013)	-0.051** (0.022)	0.090*** (0.016)	0.163*** (0.027)	-0.012 (0.010)	-0.016 (0.018)
White Collar Worker	0.015 (0.012)	0.022 (0.022)	-0.021 (0.015)	-0.033 (0.026)	0.001 (0.010)	-0.005 (0.018)
Unemployed	-0.076*** (0.019)	-0.137*** (0.034)	-0.049** (0.023)	-0.080** (0.039)	-0.059*** (0.016)	-0.109*** (0.027)
Observations	64645	64645	42009	42009	92673	92673
Pseudo-R <sup>2</sup>	0.061	0.061	0.075	0.076	0.088	0.089
Ordered Probit	✓		✓		✓	
Ordered Logit		✓		✓		✓

**Note:** Standard errors in parentheses. All specifications include region and time fixed-effects. \*\*\*, \*\* and \* indicate statistical significance levels for p-val. < 0.01, p-val. < 0.05, and p-val. < 0.1.