Examining Macroeconomic Determinants of Trust in Parliament: A Dynamic Multilevel Framework

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Abstract The extensive literature on political trust has long suggested a link between macroeconomic conditions and public trust in political institutions. However, empirical evidence regarding this relationship remains ambiguous. Conflicting results appear to be related to differences in research design: while cross-sectional studies tend not to find evidence of a link between macroeconomic variables and trust in political institutions, most longitudinal studies do. In this paper, using recent advances in multilevel methodology, we examine both cross-sectional and longitudinal effects of macroeconomic variables on trust in national parliament within a single dynamic multilevel framework. By analyzing all seven waves of the European Social Survey (2002-2014), we demonstrate that declining macroeconomic performance has a negative within-country effect on trust in national parliament. At the same time, we find limited evidence in support of this association at the between-country level. This discrepancy suggests the presence of confounding factors that are unaccounted for in cross-sectional designs. We therefore argue for the importance of examining within-country effects as they provide a more stringent test of causality.

Keywords: political trust, trust in parliament, macroeconomic performance, European Social Survey, multilevel modeling

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1. Introduction

Researchers of political trust[1] have begun to develop increasingly comprehensive models that combine individual and macro-level characteristics, as well as the interplay between them. The motivating premise underlying these studies is that trust in political institutions, such as national parliaments, constitutes a complex phenomenon and that its determinants are not limited to the factors at the micro-level (Van der Meer, 2010). To complement the explanations emphasizing individual-level characteristics, most studies focused on exploring the link between different aspects of macroeconomic performance and political trust. In recent years, following the financial and economic crisis of 2008-2009, there has been a significant increase in studies examining the relationship between macroeconomic performance and trust. Although few would deny the relevance of macroeconomic characteristics in relation to political trust, the exact nature of this relationship remains unclear. In fact, the empirical literature examining the relationship between *objective* macroeconomic performance and trust in political institutions has been equivocal, reporting positive relationships between macroeconomic variables and trust in some cases and negative or null relationships in other cases (cf. Clarke et al., 1993; Cusack, 1999; Miller and Listhaug, 1999; Dalton, 2004; Van der Meer, 2010; Hakhverdian and Mayne, 2012; Van der Meer and Hakhverdian, 2017).

Given the conflicting pattern of results, there is a general concern in political trust literature about the consistency of evidence supporting a causal relationship between contextual factors and political trust (Zmerli and Van der Meer, 2017). In light of such comments, our study is set to examine one potential source of contradictory findings in the past research. Specifically, we argue that inconsistent findings of prior studies may have resulted from methodological differences in research design. Indeed, while cross-sectional studies tend not to find evidence of a link between macroeconomic performance and trust in political institutions, most studies employing a longitudinal design or time-series analysis do (e.g. Anderson, 2009; Clarke et al., 1993; Cusack, 1999; Mishler and Rose, 2001). The difference is that the cross-sectional studies analyze the effects of macroeconomic variables on trust between countries (between-country effects) whereas longitudinal studies rely on within-country analysis. Each of these designs is characterized by certain advantages and limitations. The cross-sectional design is static as it considers data at a single time point (i.e. a year or a survey wave). By relying on a snapshot in time, studies that employ a cross-sectional design are vulnerable to the influence of confounding factors that are difficult to remove. Therefore, a demonstration of cross-sectional differences alone does not provide conclusive evidence of a causal role of contextual characteristics in influencing political trust. Longitudinal studies that analyze changes in political trust over time may be especially useful in

[1] Although there is some debate on whether institutional trust, political trust and political confidence refer to the same concept, in the current literature these terms are often used interchangeably.

shedding additional light on the relationship between macroeconomic performance and political trust. Yet, to date, most longitudinal studies on trust in political institutions have primarily relied on aggregated survey data (e.g., Mishler and Rose, 2001), or on a single-country study (e.g. Poznyak et al., 2014) and, therefore, have limited generalizability to other spatial and temporal contexts.

In this paper, using recent advances in multilevel methodology, we provide a methodologically rigorous examination of the effects of macroeconomic characteristics on public trust in national parliaments. The present study contributes to the political trust literature in a number of ways. First, while prior studies focus either on a period of stability or a period of economic turmoil, we are able to examine the evolution of trust in national parliament for a more extended period, namely from 2002 to 2014, by using all seven waves of the European Social Survey (ESS). Examining a longer time span is important considering that contextual effects can have different influence in normal and crisis times (Kumlin and Haugsgjerd, 2017). Second, in the present study, we apply a more dynamic view by focusing on longitudinal (within-) as well as cross-sectional (between-) effects of macroeconomic variables. This strategy allows us to examine not only the effect of macroeconomic context on between-country differences in political trust but also its effects on the differences within countries over time. At the same time, by using multilevel approach, we simultaneously control for compositional effects of each national sample. Altogether, this work contributes new theoretical and empirical insights to the established debate regarding the relationship between macroeconomic performance and political trust.

2. Theoretical background

Although a wide variety of political trust definitions exist, there is a converging understanding of political trust as a basic *relational* and *evaluative* orientation towards political institutions and actors with the expectation that these institutions and actors will act according to one's interest and normative disposition (Van der Meer, 2010; Hakhverdian and Mayne, 2012; cf. Newton, 1999; Levi and Stoker, 2000; Hetherington, 1998). Political trust is not only an essential prerequisite for the functioning of the democratic institutions, such as domestic parliaments (Easton, 1965; Mishler and Rose, 2001; Newton, 2001; Kumlin and Rothstein, 2005; Keele, 2007; Freitag and Buhlmann, 2009) but it also, together with norms and values, constitutes a fundamental component of social capital (Van Oorschot and Arts, 2005).

Recent scholarship on political trust has become increasingly interested in the performative evaluation of the state (Kumlin and Haugsgjerd, 2017). Specifically, 'trust-as-evaluation' perspective suggests that the evaluation of the actual performance of the state may impact the levels of political trust at the individual level (Van der Meer, 2017). To date, most empirical and theoretical work that adopts a performance-oriented framework has been concerned with a single policy domain, namely macroeconomic performance.

The proponents of the political economy perspective have long argued that institutional ability in meeting the socio-economic demands of the citizenry represents a key determinant of public trust in political institutions (Lipset 1960; Offe 1984). According to this view, public support of political institutions depends on the economic performance of the country (Miller and Listhaug, 1999). Both egotropic and sociotropic concerns of the individuals regarding their economic situation have been linked to changes in attitudes towards political institutions (Lewis-Beck and Stegmaier, 2000). Egotropic concerns relate to the direct individual experiences of economic vulnerability that can be either transitory or stable. In contrast, sociotropic concerns reflect the overall assessment of economic conditions in the country regardless of individual economic circumstances. To illustrate these two types of subjective evaluations, it may be helpful to consider an example of an economic crisis, typically characterized by economic contraction and increased unemployment. At the individual level, experiences of unemployment and loss of income constitute the key examples relating to egotropic concerns. Sociotropic concerns, on the other hand, can reflect a general anxiety of citizens about a worsening economic situation in the country and dissatisfaction with the performance of political institutions in handling the consequences of the crisis. It is clear that both types of reactions can be affected by the actual macroeconomic performance of the state.

At the individual level, a number of studies examining the utility of egotropic evaluations point out to the importance of class structure and socioeconomic status, as key determinants of political trust (Lipset 1960; Hout et al., 1995; Clarke et al., 1993). In particular, this logic suggests that political trust is lower among individuals in more economically vulnerable positions, such as poor and low-educated. Recent studies have also established a connection between the experience of unemployment and lower levels of trust (Polavieja, 2013; Van Erkel and Van der Meer, 2016). As an alternative, a sociotropic perspective focuses on establishing the link between trust in political institutions and individual perceptions of macroeconomic performance (also termed 'retrospective evaluations' see Torcal, 2014). Studies using this approach, tend to find a strong connection between a *subjective* opinion about national economic performance and political trust (e.g., Citrin and Green, 1986; Hetherington and Rudolph, 2008; Van der Meer and Dekker, 2011, Ellinas and Lambrianou, 2014). However, as aptly observed by Van Erkel and Van der Meer (2016): "these subjective evaluations tell us little about *actual* [emphasis is ours] macroeconomic effects" (p. 177).

In contrast to the studies focusing on subjective individual factors (either individual characteristics or perceptions of economic situation), the role of *objective* economic performance in determining political trust remains a subject of debate (Van der Meer, 2017; Van der Meer and Hakhverdian, 2017). Many argue that political trust benefits from solid macroeconomic performance (e.g., Clarke et al., 1993; Cusack, 1999; Miller and Listhaug, 1999; Taylor, 2000; Anderson, 2009). Given that citizens use a country's economic performance as a main criterion for judging political performance it is not surprising that in times of economic prosperity public trust in national political institutions tends to rise, while in

times of economic crisis, it tends to suffer. Still other empirical studies do not confirm a significant relationship between macroeconomic performance and political trust (e.g., Dalton, 2004; Van der Meer, 2010). Furthermore, more recent research has emphasized the importance of political aspects of government performance, such as public sector corruption, in determining political trust (Della Porta, 2000; Anderson and Tverdova, 2003; Morris and Klesner, 2010; Uslaner 2017). According to this perspective, public-sector corruption undermines the performance of political institutions and results in unresponsiveness to citizens' demands and expectations (Hakverdian and Mayne, 2012; Torcal, 2014). In the latest empirical work examining the determinants of political trust, corruption serves as a rival explanation to the influence of macroeconomic performance. For example, on the basis of the ESS data Van der Meer (2010) concludes that corruption has "a consistent, negative effect on trust in parliament" (p. 530) while no effect of the actual economic performance on trust in parliament is found. Similarly, Van der Meer and Hakverdian (2017), using cross-sectional data from the European Value Survey 2008, find that macroeconomic characteristics lose their significance once corruption is taken into account. The authors, however, emphasize that it is essential to conduct within-country, longitudinal analyses before definite conclusions about the relationship between macroeconomic performance and trust can be made (Van der Meer and Hakverdian, 2017).

3. Current study and research hypotheses

3.1. A dynamic approach to studying macroeconomic effects

The conflicting pattern of results constitutes 'the perception-performance paradox' of macroeconomic performance in its influence on political trust (Van der Meer, 2017). A potentially important explanation for this paradox is methodological, relating to the research design used to assess the relationship between macroeconomic performance and political trust (cf. Van Erkel and Van der Meer, 2016). In the past, most of the studies examining the role of objective macroeconomic characteristics relied on cross-sectional designs that measure the effect of macroeconomic variables at a single point in time. A well-known drawback of the traditional cross-sectional design is the relatively weak internal validity: this design does not allow to establish causal claims about the relationships between contextual variables at the country level and individual-level outcomes. Cross-sectional evidence that economically better-performing countries have higher levels of political trust hardly confirms that macroeconomic factors determine citizens' levels of political trust, because the presence of confounding variables (e.g. the welfare regime) cannot be ruled out and the temporal order cannot be ascertained. In contrast, if one would observe that trust in national parliaments decreases after a period of economic downturn, then the evidence for a causal relationship between macroeconomic performance and political trust is much stronger. Supporting this view, a number of recent studies on political trust have criticized the use of the

cross-sectional design and have recommended the use of longitudinal designs (Armingeon and Guthmann, 2014; Van Erkel and Van der Meer, 2016; Van der Meer and Hakhverdian, 2017; Van der Meer, 2017). Unfortunately, comparative longitudinal data on individual attitudinal variables are scarce, and the results derived from single-country time-series designs (e.g. Poznyak et al., 2014) are not generalizable directly to other contexts.

In order to address this challenge, the present study implements a recently developed multilevel model that decomposes the cross-sectional and longitudinal components at the context level, while simultaneously controlling for compositional effects at the individual level (Allison, 2009; Schunck, 2013; Curran and Bauer, 2011; Fairbrother, 2014; Schmidt-Catran, 2016; Meuleman et al., 2017). Such a dynamic model for repeated cross-sectional, cross-national data combines the strength of comparative cross-sections (that is, the wide range of comparison across countries) and longitudinal models (the focus on change over time). Concretely, this model, separates cross-sectional and longitudinal effects of macroeconomic factors on trust in national parliament. To elaborate, when considering macroeconomic factors, cross-sectional effects refer to the relationship between macroeconomic characteristics and trust in national parliament between countries (i.e. national parliaments in countries with stronger macroeconomic performances enjoy more trust), while longitudinal effects refer to the relationship between changes in macroeconomic characteristics and political trust within a country (i.e. the stronger a country's macroeconomic performance becomes the more trust its national parliament will enjoy). In addition to the advantages outlined above, by using this modeling approach, we are able to examine a longer time span that includes a period of relative economic stability and a period of the economic crisis. Given the wide variation in the effects of the crisis on countries' macroeconomic performance, the context of the crisis provides a quasi-natural experimental setting for testing our hypotheses.

3.2. Research hypotheses

Considering the theoretical propositions discussed above, we formulate a set of hypotheses regarding the relationship between trust in national parliament and the individual and macroeconomic characteristics. Drawing on the individual-level explanations, we expect that lower socioeconomic status is negatively associated with trust in domestic parliaments (*Hypothesis 1*). Moreover, according to the proponents of the political economy perspective, poor macroeconomic performance results in lower levels of political trust. It follows then that the higher a country's level of macroeconomic performance, the more citizens are likely to trust the national parliament (between-country effects) (*Hypothesis 2*). Furthermore, we expect that the relationship between macroeconomic performance and trust in parliament also holds longitudinally. This implies that the positive changes in national macroeconomic performance are positively related to changes in trust in domestic parliaments (within-country effects) (*Hypothesis 3*). Finally, to test a competing explanation for the level and changes in public trust in

parliament, namely corruption, we evaluate the following alternative hypothesis: the relationship between macroeconomic performance and trust in parliament will be insignificant both between and within countries, once we control for corruption at the country level (*Hypothesis 4*). [2]

4. Data and measurements

Data

This study investigates the relationship between macroeconomic performance and political trust in national parliament. To test our hypotheses, we combine data from different sources. The individual-level data are available through the European Social Survey (ESS), 2002-2014. The ESS is a high quality biennial comparative survey, frequently used in research on political trust (e.g. Listhaug and Ringdal, 2008; Marien, 2011: Van der Meer, 2010). The item of trust in national parliaments analyzed in this study belongs to the core ESS module. This core module, repeated every two years, allows us to combine all seven waves of the ESS survey. Our final sample includes 28 countries, 157 country-periods, and 295,226 individual respondents. The number of respondents per country and per ESS wave is summarized in Supplementary Materials, Table 1. For this study, individual-level data were combined with country-level data on macroeconomic performance and control of corruption provided by the World Bank.

Measures

Dependent variable

Trust in national parliament is operationalized by using the European Social Survey's question to what extent citizens trust their national parliament. The individual responses are recorded on eleven-point scale ranging from 0 ('having no trust at all') to 10 ('having complete trust'). The official question wording used in the ESS was: "Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out [here country's parliament]. 0 means you do not trust an institution at all, and 10 means you have complete trust."

[2] We have chosen not to include a hypothesis regarding sociotropic concerns for two main reasons: 1) the relevance of *subjective* evaluations of macroeconomic performance is firmly established in the literature; 2) our inclusion of a measure of perception of economic performance may lead to underestimating the effect of objective macroeconomic indicators on political trust, considering that part of the *objective* performance is incorporated into the *subjective* evaluation (see also comment of Van der Meer (2017) regarding the studies of Rahn and Rudolph (2005) and Oskarsson (2010)).

Independent and control variables

To capture the effects of macroeconomic performance, we use the data on the real GDP growth rate and the unemployment rate (% of total labour force), provided by the World Bank. These two indicators are most indicative of the condition of the national economy and are most frequently used in the literature to capture the effects of macroeconomic performance (Dolan et al., 2009; Van der Meer, 2010; Van Erkel and Van der Meer, 2016). To control for the effect of corruption, we use the Control of Corruption (CCI) indicator, one of the key Worldwide Governance Indicators (WGI) from the World Bank. This indicator provides country scores ranging between -2.5 and 2.5 with higher scores indicating greater perceived control of corruption (Kaufmann et al., 2011). The Corruption Perception Index (CPI), published by Transparency International (TI), often serves as an alternative indicator of perceived corruption. However, the changes in methodology in the CPI over the time period used in this study do not allow for making valid comparisons over time (Rohwer, 2009). Although the Control of Corruption indicator might also not be an ideal measure for longitudinal comparisons, it offers more consistency across time. In addition, the correlation between the two corruption measures (CCI and CPI) is generally reported to be very high (e.g. corr. = 0.97 in Bohara et al., 2004) which increases our confidence in this indicator. Lastly, given that previous research suggests a link between political trust and the former communist regime (e.g. Mishler and Rose, 2001; Van der Meer and Dekker, 2011; Závecz, 2017), we include a dummy variable for former communist countries as a control variable into the analysis. Table 2 in the online supplement gives an overview of the descriptive statistics for the independent variables at the country level.

In keeping with our hypotheses and prior research, we include the following variables at the individual level: respondent's gender (female as reference); age (in years) and the squared term of age; employment status measured as the main activity of a respondent in the last seven days and operationalized using ten constructed categories (white collar as reference, self-employed, higher service class, blue collar, unemployed, retired, in education, doing housework, disabled, and other), and the degree of urbanization of the respondent (recoded as 1 'living in farm or home in countryside' to 5 'living in a big city'). As a proxy for socioeconomic status, we use educational level measured in years of full-time education completed.[3] In addition to the control variables, empirical research on political trust suggests a number of potentially influential variables at the individual level to be included into analysis. Specifically, financial situation is operationalized using the ESS subjective income item asking respondents to indicate their feeling about household's present income ranging from 'living comfortably' to 'very difficult'. Since this item is originally reverse coded, we recoded the scores so that a higher score

[3] While we can also operationalize educational background by using separate categories we choose to use a continuous measure to facilitate interpretation.

indicates people who see themselves as living more comfortably on the present income. Additionally, respondents' political views may be important for their trust attitudes (Torcal, 2014; Van Erkel and Van Der Meer, 2016). Accordingly, we introduce the self-positioning of the individual on the political spectrum into the analysis by using the ESS item asking respondents about their position on an ideological scale ranging from left '0' to right '10'. We divide this scale into three groups: left (scores 0 to 4), center (score 5), and right (scores 6 to 10), and add a fourth category to account for missing data on this item. Furthermore, we include a measure of religiosity operationalized using the mean of three ESS items reflecting various aspects of religious involvement, namely, religious attendance (ranging from 1 'never' to 7 'every day'), frequency of praying (ranging from 1 'never' to 7 'every day'), and subjective religiosity (ranging from 0 'not at all religious' to 10 'very religious'). Finally, we also include a variable that indicates whether an individual is a member of minority (member of majority as reference) based on the data from three separate ESS indicators: (1) self-identification of belonging to a minority ethnic group in the country, (2) not being a citizen of the country and (3) not being born in the country. Table 3 in the online supplement provides an overview of the descriptive statistics for the independent variables and for the control variables at the individual level.

5. Modeling strategy

Given that our hypotheses predict the effects of individual- and contextual factors on political trust in a dynamic perspective, we use the modeling strategy that combines individual-, country-period-, and country-level data. We take advantage of multilevel modeling by estimating a series of models with between-country and within-country effects to determine the relationship between macroeconomic performance and political trust in country's parliament (for other examples of applications, see Fairbrother, 2014; Bell and Jones, 2015; Schmidt-Catran, 2014; Meuleman et al., 2017). In the absence of the individual time-series data, such a 'between-within' approach allows us to use cross-national survey data sampled in various time-points in order to account for the causal relationships. Accordingly, we specify the following baseline multilevel model in its general form:

$$y_{itj} = \beta_0 + \beta_1 time_{tj} + v_{1j} time_{tj} + v_{0j} + u_{0tj} + e_{itj}, \qquad (1)$$

with random effects following normal distribution with a mean of 0 and constant variance σ^2:

$$v_{0j} \sim N(0, \sigma_{v0}^2)$$

$$v_{1j} \sim N(0, \sigma_{v1}^2)$$

$$u_{0tj} \sim N(0, \sigma_u^2)$$

$$e_{itj} \sim N(0, \sigma_e^2). \quad (2)$$

In (1), y_{itj} is the level of political trust of individual respondent *i*, surveyed at time *t* in country *j*. At the second or the country-period level, we include the indicator of time as a fixed effect to account for the longitudinal or change effect. This indicator represents a growth curve on a societal level (Fairbrother, 2014; Meuleman et al., 2017). In turn, β_0 is a grand intercept that indicates the predicted level of trust when the time indicator equals zero. Since we grand-mean centered the time, β_0 is the level of trust in the middle of time series. Time can be modeled as a linear effect, as shown in (1), or can be included as a more complex effect i.e. quadratic or cubic. Random components include a random effect for the intercept (v_{0j}), a random effect for the slope (v_{1j}), a random component at the country-period level (u_{0tj}) indicating a country-period deviation from the average growth curve, and a random effect at the individual level (e_{itj}), reflecting a deviation at the individual level.

To estimate more complex models, we include the individual and contextual predictors into the baseline model (1). Following the approach of Fairbrother (2014), we account for both cross-national and longitudinal effects of macroeconomic performance by decomposing these contextual effects into their cross-sectional (between-country) and longitudinal (within-country) components. The between-country component represents the value of a given contextual variable averaged over the entire observed period (e.g., the average GDP growth rate between 2001 and 2014). The parameter for this component indicates the cross-sectional relationship between this macroeconomic variable and the level of trust in national parliament. The longitudinal component, in contrast, represents the deviation of the observed value of the macroeconomic variable at a specific time point from the country's average value over the entire period under observation. In practice, we simultaneously include the country means i.e. time-invariant component of contextual variables (GDP growth rate, unemployment rate, and control of corruption), and the mean-differenced i.e. time-varying component of these three indicators in the model (see also Schmidt-Catran, 2014; Schmidt-Catran and Fairbrother, 2015). Because our hypotheses examine the effects of macroeconomic variables on subsequent changes in political trust, we lag the macro-level variables. Specifically, we combine the contextual information of two years to refer to a specific point of time (e.g., the average unemployment rate of 2001 and 2002 is taken to predict political trust in the 2002 survey wave). The advantage of such multilevel models over the analysis of pooled time-series cross-section data is that, in addition to estimating both longitudinal (within-) and cross-sectional (between-) effects, we can also control for compositional effects at the individual level and for the time trend. The continuous predictor variables at the individual level (education and age) are grand-mean centered prior to the analysis. Because they are grand-mean centered rather than group-mean centered (see Raudenbush and Bryk 2002), the averages for these independent variables can differ across groups, and compositional effects are controlled for.

To address the item non-response, listwise deletion was applied to the records with missing values, except for the political self-positioning variable, for which we created a separate category for missing values (see above). The number of missing values was lower than 5% on average and ranged between

0.02% for the minority variable and 2.85% for the trust in national parliament variable. Thus, applying listwise deletion is unlikely to introduce bias into our results (see also Schafer and Graham, 2002).

All models were estimated in SAS 9.4 using the MIXED procedure with restricted maximum likelihood and robust standard errors. All the analyses were weighted using the ESS design weight to account for the sampling designs in various countries.

6. Results

Descriptive results: Evolution of trust in national parliaments, 2002-2014

We begin our empirical analysis by examining trends in the evolution of public trust in domestic parliaments over the period 2002 to 2014. Figure 1 shows considerable differences between countries in their levels of trust in national parliaments. On a scale from 0 to 10, the average trust in national parliament ranges from as low as 1.87 in Bulgaria in 2008 to as high as 6.49 in Denmark in 2008. These cross-country differences tend to follow the regional patterns. In Northern Europe, for example, we observe the highest level of political trust. The Nordic countries mostly score higher than 5, which is the midpoint of the scale. In contrast, Eastern and Southern European countries mostly score below 5. The countries of Western Europe score somewhat in the middle. In the context of cross-national differences, this configuration of a low level of trust in national parliaments in Southern, Central and Eastern Europe and a high level of trust in Northern and Western European countries is aligned with the previous research findings (Listhaug and Wiberg, 1995; Dogan, 2005; Van de Walle et al., 2008).

Regarding longitudinal trends, most European countries have experienced some decline in trust in national parliaments particularly over the period of the economic crisis (2008-2010) (Figure 1). The declining trends are especially prominent in the countries that were most severely affected by the crisis such as Cyprus, Greece, Portugal, and Spain. Notably, whereas trust in national parliaments in a number of countries of Southern and Eastern Europe appears to follow a continuous declining trend, trust levels in Nordic and Western European countries appear to ultimately recover to the pre-crisis levels. A noticeable exception is Iceland, which experienced a considerable drop in trust in national parliament from 5.92 in 2004 to 4.21 in 2012 without visible recovery over the observation period.

Taken together, these descriptive findings suggest a decreasing trend in trust in national parliaments and appear to support the association between the worsening of macroeconomic conditions and declining trust in political institutions. In countries where the impact of the economic crisis was more pronounced (Iceland, Ireland, Greece, Portugal, Spain), this decline in public trust is considerable. At the same time, mere descriptive analyses cannot serve as strong evidence of the actual linkage between national macroeconomic performance and the decline in trust in national parliaments. Therefore, in the next section we turn to the results of the estimation of the multilevel models.

INSERT FIGURE 1 ABOUT HERE

Results of multilevel models

To test the explanatory power of our hypotheses, we estimate a sequence of three-level models with random effects at the individual, country-period, and country level. The results of the estimation for the time effects, individual-level variables, macro-level effects and variance components are given in Table 1. First, the results of the null model (not presented) indicate that there is a significant variation at all three levels of the empty model. The calculated intraclass correlation coefficient (ICC) suggests that 16.8% of the total variation in trust in national parliament is located at the country-level and 4% at the country-period level. In other words, about 20.8% of the total variance in the sample is not located at the individual level. Although the variance at the country-period level is small compared to the total variance, it is significant and therefore needs to be accounted for (Schmidt-Catran, 2014). Considering that the dataset offers only 5.6 waves for an average country, there is more variation between countries than within countries over time.

In the following step, we include the linear effect of time as a predictor into the baseline model. The results of the estimation indicate that for trust in national parliament the linear time effect is negative and significant (Model 1). This finding confirms that, on average across European countries, trust in domestic parliaments has decreased during the period 2002-2014. This result is in line with the literature reporting a general declining trend in public trust in national parliaments and domestic political institutions (Pharr et al., 2000, Pharr and Putnam, 2000; Dalton, 2004; Bovens and Wille, 2008, Van de Walle et al., 2008; Hendriks, 2009). In addition, the random effect for time included in Model 2 is also found to be significant. The significant random slope for the time effect indicates that there is significant variation between countries in their longitudinal trends in trust. In other words, in some countries trust in domestic parliaments has decreased, in others it has increased, while yet in other countries, the level of trust has remained stable. To confirm that the general linear time trend provides a good description of the data for the period under investigation, we have also tested a model that included a dummy variable for the year 2010. In 2010, a number of countries introduced austerity measures in order to counteract the effects of the economic crisis. The dummy for 2010 would account for any additional change in political trust that might have taken place in 2010 beyond the linear time trend. The dummy coefficient for the year 2010 was found to be insignificant, confirming that the general linear time trend provides an adequate description of the data. We therefore excluded the dummy variable for the year

2010 from further analyses.[4] The quadratic effect of time was likewise found to be insignificant.

In Model 3, we include individual-level predictors and controls along with a dummy variable for former communist countries. Most of the individual variables are significant, which is not surprising given the established relevance of these characteristics in the theoretical literature and a large sample size at the individual level. Consistent with *Hypothesis 1*, respondents with lower socioeconomic status (as determined by years of education and subjective income) appear to be more distrustful of national parliaments. Regarding employment status, respondents in most of the occupational categories are less trustful of national parliament than the individuals occupying a white collar position. Two exceptions to this pattern are individuals in education and those in the higher service class jobs. Next, in line with previous research (e.g. Van der Meer and Hakhverdian, 2017), we find that religious respondents are more trustful of national parliaments. The area of residency (urban vs. rural) appears to be significant in influencing the level of trust in national parliament, suggesting that respondents who live in the urban environment are more trustful of national parliaments compared to the rural residents. Moreover, we note a very small but significant quadratic effect of age. Furthermore, we find that female respondents are less trustful of national parliaments than male respondents (for similar results, see Van der Meer, 2010; Van der Meer and Hakhverdian, 2017). Right-oriented respondents are significantly more likely to exhibit higher levels of trust in national parliament (see also Torcal, 2014: Van Erkel and Van der Meer, 2016. Interestingly, minorities tend to bestow more trust upon domestic parliaments. While, at first, this result may appear counterintuitive, this result is consistent with prior findings on trust among migrants (Michelson, 2003; Maxwell, 2010; Strömblad and Adman, 2010; Röder and Mühlau, 2012; Heath et al., 2013, Van der Meer and Hakhverdian, 2017) and is often explained by the tendency of immigrants to provide a more positive evaluation of the political institutions in their host countries than of those in their country of origin. Finally, the dummy variable for former communist countries is likewise significant confirming that countries with a communist legacy tend to have lower levels of trust in their domestic parliaments (for similar findings see Van der Meer, 2010; Van der Meer and Dekker, 2011; Závecz, 2017).

INSERT TABLE 1 ABOUT HERE

Effects of macroeconomic performance indicators

[4] As a further robustness check, we tested a model that included dummy variables for the survey waves 2002-2014. The resulting time trend is negative and largely monotonic (with two exceptions), which supports our notion that linear time trend provides an adequate description of the time trend in our sample.

In addition to the predictors at the individual level,[5] Model 4 includes two indicators of macroeconomic context, namely the real GDP growth rate and the unemployment rate. As discussed in the modeling part of the paper, these indicators are introduced into the model in two forms: as a cross-sectional or time-invariant component and as a longitudinal or time-varying component. This strategy allows us to estimate between-country and within-country effects of macroeconomic performance on political trust. The results of Model 4 (Table 1) clearly indicate that the longitudinal component of growth rate and the longitudinal component of unemployment rate significantly influence trust in national parliament. In other words, when GDP growth rate is falling or when unemployment rate is rising, trust in national parliament tends to decline. These findings confirm *Hypothesis 3*, which stipulates that longitudinal changes in macroeconomic performance are related to the changes in trust in national parliament. Specifically, a decrease in real GDP growth rate or an increase in the unemployment rate of one percentage point reflects a decrease in trust in domestic parliament of 0.047 and 0.048 points, respectively. While seemingly small, these effects represent substantial changes. For example, between 2003 and 2012, Greece experienced an increase in the unemployment rate of 15.03 percentage points. This change in the unemployment rate can lead to the decline in trust in national parliament by 0.72, as predicted by Model 4, which constitutes a considerable decrease. It should be emphasized that these effects refer to the longitudinal influences of macroeconomic performance. In other words, they reflect the effect of macroeconomic characteristics on trust in national parliament within countries at a specific point of time, while controlling for cross-sectional effects of these two macroeconomic variables and for compositional effects.

A somewhat different picture emerges when we only consider the between-country effects of macroeconomic variables. While the between-country effect of the unemployment rate is found to be significant, in the case of the GDP growth rate, the between-effect is insignificant. This result suggests that the relationship between this latter macroeconomic indicator and trust in national parliaments does not hold cross-sectionally providing partial evidence against *Hypothesis 2*. However, as previously argued, the between-country effects are more susceptible to the influence of confounding variables, and it is the within-country (longitudinal) effects, instead, that should be given more weight in the interpretation.

Altogether, the individual and macroeconomic indicators in Model 4 lead to the reduction in variance of 5.9% at the individual level, of 57.7% at the country-period level, and of 68.7% at the country level, compared to Model 1. The fact that more than half of the longitudinal variation is explained highlights the effectiveness of Model 4 in clarifying why in some periods trust in national parliaments is higher while in other periods, it is lower.

[5] Given that the individual parameters have not changed substantially we omit them from further discussion in the subsequent models with contextual effects.

To assess the robustness of our findings, we include macroeconomic variables and the control of corruption variable along with the individual characteristics into our final model (Model 5). With the inclusion of the control of corruption indicator, the longitudinal effects of the economic growth and of the unemployment rate remain significant. This result provides evidence against *Hypothesis 4* and supports the robustness of our findings about the influence of changes in macroeconomic context on changes in trust in national parliaments. The between-country effects of both macroeconomic variables are now insignificant but, as mentioned previously, this discrepancy provides support to our argument that cross-sectional effects are subject to unobserved heterogeneity and should be considered along with the within-effects for a more accurate interpretation. At the same time, both cross-sectional and longitudinal effects of the control of corruption indicator are strong and significant, which supports earlier findings about the effect of corruption on political trust (e.g. Anderson and Tverdova, 2003; Morris and Klesner, 2010; Hakverdian and Mayne, 2012; Van der Meer, 2010). The final model, Model 5, reduces between-country variance by 83.3% compared to Model 1.

7. Discussion and Conclusion

The present study has responded to a general call in political trust research to supplement the existing cross-sectional evidence for the causal relevance of macro-level factors with longitudinal designs (Van der Meer, 2017). Concretely, we analyzed seven waves of the ESS (2002-2014) by means of multilevel models that disentangle the cross-sectional and longitudinal effects of contextual variables on trust in national parliaments. The results of this study have implications that are important for theory building and empirical research on political trust.

More specifically, the current study provides support for the notion that it is important to distinguish between within-country and between-country effects and its results serve as an important stepping stone to resolve a growing controversy in the literature regarding the influence of macroeconomic variables on trust in political institutions. Various studies have reached opposite conclusions about the effects of macroeconomic performance, but, as the present work demonstrates, these results might reflect differences in research design. Our findings suggest that the cross-sectional effects of macroeconomic indicators on political trust that are repeatedly reported in the literature cannot be generalized in a straightforward manner to longitudinal developments. As such, there is a need to carefully disentangle between- and within-country relationships. Both types of effects can be reconciled in a single framework if one uses the design that allows for simultaneous modeling of the between-and within-country effects. By testing and interpreting longitudinal effects, we can shed new light on the causal relationship between trust in national parliaments and macroeconomic performance. While the between-effects are more vulnerable to confounding variables and do not offer insight into the temporal order, the within-effects provide a more robust test of causality. In other words, if there exists a causal relationship between

macroeconomic characteristics and political trust then the changes in these characteristics are expected to lead to visible changes in trust in political institutions over time.

In the present study, we find no consistent significant cross-sectional relationship between macroeconomic variables, on the one hand, and trust in national parliaments on the other. However, we do find strong longitudinal effects of economic growth and unemployment rate on political trust, even when controlling for the individual effects and corruption. This result is consistent with the previous findings indicating the significant effects of within-country changes in economic performance on political trust (Van Erkel and Van der Meer, 2016). That the within-country effects are significant but not the between-country effects, points in the direction of the presence of confounding factors at the country level. This result illustrates our argument that that differences in trust between countries and between time points can be driven by distinct mechanisms, and can therefore show diverging relationships with other variables. Just what these confounding macro-level factors are should be considered in future studies. In our view, looking at criteria related to the welfare performance of countries, such as, for example, the extent of welfare provision or quality of public services, could provide promising insights.

The divergence between within-country and between-country macroeconomic effects in their influence on political trust may not be solely due to methodological factors but may also require further theoretical probing. Specifically, it may be that citizens evaluate the national economy by comparing its performance historically over time (within-country effects) rather than using other countries' macroeconomic performance (between-country effects) as a benchmark (Van Erkel and Van der Meer, 2016; Van der Meer, 2017). In such a case, cross-sectional and longitudinal effects can also be expected to differ, depending on a point of reference for the evaluation. This theoretical avenue needs to be explored more thoroughly in future research. Our findings also generate additional insights by examining macroeconomic and corruption effects simultaneously within the same model. Contrary to a number of studies employing cross-sectional design, we find evidence that the effect of macroeconomic variables does not disappear after we include the control of corruption measure into the model. Instead all three within-country effects are found to be significant. This result suggests that corruption and macroeconomic performance should be viewed as complementary rather than competing explanations for the differences in political trust. Exactly how they complement each other should be the subject of future research.

In conclusion, the results of this study provide evidence of the importance of macroeconomic factors for determining trust in national parliaments. Furthermore, we believe that a more dynamic perspective focusing on both cross-sectional and longitudinal effects of macroeconomic performance has the potential to contribute to the development of a more comprehensive account of the relationship between contextual factors and political trust in institutions.

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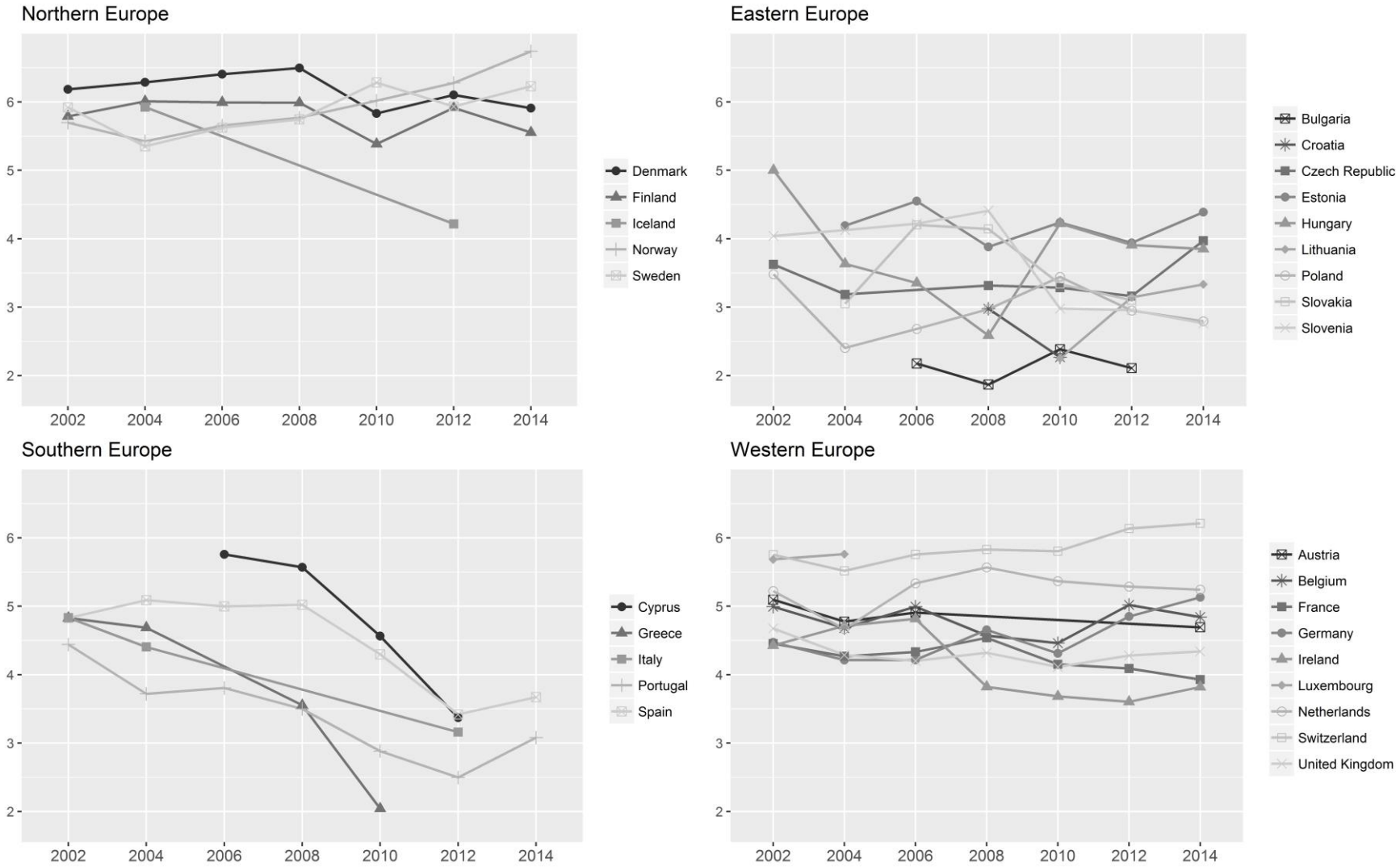
Figure 1. Evolution of trust in National Parliament in 28 countries grouped by region, 2002-2014



Note: The y-axis indicates average score in trust in National Parliament measured on 0-10 scale.

Table 1. Multilevel regression results. The dependent variable is “trust in national parliament”

		Model 1		Model 2		Model 3		Model 4		Model 5	
		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Intercept		4.3753***	0.1982	4.3442***	0.2050	3.2464***	0.2249	3.9964***	0.3573	1.9230**	0.5170
Time trend		-0.0762*	0.0326	-0.1093*	0.0402	-0.1087**	0.0368	-0.0579*	0.0272	-0.0328	0.0250
(1) Individual predictors											
Age						0.0017	0.0013	0.0017	0.0013	0.0017	0.0013
Age squared						0.0002***	0.0000	0.0002***	0.0000	0.0002***	0.0000
Gender	female (ref. cat)										
	male					0.2155***	0.0272	0.2155***	0.0272	0.2155***	0.0272
Education						0.0445***	0.0066	0.0447***	0.0066	0.0445***	0.0067
Subjective income						0.3313***	0.0227	0.3311***	0.0227	0.3310***	0.0227
Employment status	white collar (ref.cat)										
	self-employed					-0.2476***	0.0276	-0.2475***	0.0275	-0.2474***	0.0276
	higher service class					0.1490***	0.0207	0.1491***	0.0207	0.1491***	0.0207
	blue collar					-0.3317***	0.0380	-0.3318***	0.0380	-0.3318***	0.0380
	unemployed					-0.2772***	0.0467	-0.2766***	0.0467	-0.2768***	0.0467
	retired					-0.2487***	0.0365	-0.2486***	0.0365	-0.2487***	0.0365
	in education					0.3431***	0.0358	0.3434***	0.0358	0.3432***	0.0358
	doing housework					-0.1410***	0.0296	-0.1409***	0.0296	-0.1410***	0.0296
	disabled					-0.4883***	0.0704	-0.4885 ***	0.0705	-0.4886***	0.0705
	other					-0.1758*	0.0695	-0.1758*	0.0695	-0.1756*	0.0694
Urbanization						0.0278*	0.0135	0.0276*	0.0135	0.0279*	0.0135
Left-right placement	left (ref. cat.)										
	centre					-0.1766***	0.0415	-0.1766***	0.0415	-0.1766***	0.0415
	right					0.2125***	0.0624	0.2126***	0.0624	0.2126***	0.0624
	missing					-0.5263***	0.0487	-0.5263***	0.0487	-0.5263***	0.0487
Religiosity						0.0967***	0.0065	0.0967***	0.0064	0.0967***	0.0064

Minority	member of majority (ref. cat.)									
	member of minority				0.2842**	0.0863	0.2839**	0.0864	0.2839**	0.0864
(2) Contextual predictors										
Former communist regime					-1.3590***	0.2705	-1.1927***	0.3327	0.0151	0.3823
GDP growth – cross-sectional							0.1162	0.1200	-0.0434	0.1097
GDP growth – longitudinal							0.0475**	0.0169	0.0406**	0.0166
Unemployment rate – cross-sectional							-0.1322***	0.0342	-0.0246	0.0338
Unemployment rate – longitudinal							-0.0485**	0.0155	-0.0423**	0.0155
Corruption – cross-sectional									0.9545***	0.1778
Corruption – longitudinal									0.8699*	0.3634
Variance components										
(1) Variance country intercept		1.0854***	0.3097	1.1809***	0.3344	0.4860***	0.1437	0.3395***	0.1042	0.1811**	0.06026
(2) Variance slope time				0.0356**	0.0142	0.0284**	0.011	0.0180*	0.0081	0.0134*	0.0065
(3) Variance country-year intercept		0.2433***	0.0311	0.1330***	0.0201	0.1205***	0.018	0.1028***	0.0157	0.1009***	0.0154
(4) Residual variance		5.2595***	0.0142	5.2595***	0.0142	4.9550***	0.0134	4.9550***	0.0134	4.9550***	0.0134
Deviance				1252984		1236783		1236764		1236743	

* $p < .05$, ** $p < .01$, *** $p < .001$, N country = 28.