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Title

Macro-economic performance, Political trust, and the Great Recession:
A multilevel analysis of the effects of within-country fluctuations in macro-economic performance on political trust in fifteen EU countries, 1999-2011

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Abstract

Recent cross-national comparative studies have found no effect of countries' macro-economic performances on trust in national political institutions, once political explanations (most notably corruption) are taken into account. Although political trust is not determined by the comparison of national economic performance to other countries, we argue that it is affected by comparisons to the own past performance. In a multilevel, fixed effects analysis of Eurobarometer data (21 waves in 15 EU member states between 1999 and 2011) we test to what extent within-country variations in economic performance affect political trust longitudinally. We reach three major conclusions. First, within-country, longitudinal changes in performance (growth, deficits, unemployment, and inflation) affect political trust. Second, the impact of macro-economic performance is stronger among the lower educated. Third, in times of economic duress budgetary deficits no longer undermine political trust.

Keywords: Political trust, Macro-economic crisis, Great recession, longitudinal analysis

Introduction

The Great Recession that hit Europe since 2008 has renewed the ongoing debate on the extent to which economic performance in general and crises in particular affect trust in political institutions and ultimately the legitimacy of representative democracy. Public wisdom holds that economic recessions undermine political trust. The economic downturn would thereby pave the way for anti-establishment parties. In the darkest scenarios, parallels have been drawn to Weimar Germany, where economic recession preceded a democratic recession.

Nevertheless, there is little scholarly agreement that economic performance affects political trust. Political scientists have debated the fundamental nature of this relationship for decades. Surely, perceptions of economic performance matter. Political trust is high when citizens evaluate the economy positively and low when they do not (e.g. Citrin & Green 1986; Chanley et al. 2000; Hetherington & Rudolph 2008; but see Finkel et al. 1989). However, these subjective evaluations tell us little about actual macro-economic effects.

Studies that relate objective macro-economic performance to political trust offer mixed results. Some studies find that strong economic performance stimulates trust (Anderson 2009; Clarke, et al. 1993; Cusack 1999; Kotzian 2011b; Miller & Listhaug 1999; Mishler & Rose 2001; Taylor 2000; Weil 1989), whereas others do not (Dahlberg & Holmberg 2014; Dalton 2004; Hakhverdian & Mayne 2012; McAllister 1999; Oskarsson 2010; Van der Meer 2010;). The mixed results mirror the theoretical ambiguity of the supposed relationship and the methodological designs that were used to test the effects. Nevertheless, some of the most recent studies, which use more rigorous (multilevel, multivariate) models and include measures of quality of governance as a rival explanation, uniformly find no effect of economic performance on political trust.

Yet, we argue that many of these recent studies may have looked in the wrong direction. They are based on cross-national comparisons, omitting longitudinal variation from their design and implicitly assuming that citizens only evaluate performance in relation to the performance of other countries (or else on a cross-nationally equivalent absolute standard). Nevertheless, citizens do not necessarily evaluate macro-economic performance in comparison to other countries, or on the basis of absolute standards. Instead, they may well evaluate it longitudinally, i.e., in comparison to the performance that they expect in their own country. While some authors have included time in their analysis, they either cover a very short time span (Van der Meer 2010) or have large time intervals between the points (Citrin & Green 1986).

Theoretically and methodologically the prime innovation of this study is therefore the (re)introduction of the perspective that political trust is based on within-country longitudinal changes rather than on between-country comparisons. We aim to solve the puzzling outcomes of previous research using a stringent, multilevel design that focuses on longitudinal variance within countries. Our first research question reads: *To what extent do longitudinal, within-country fluctuations of macro-economic performance influence the trust that citizens have in their national parliament and government?*

Macro-economic outcomes are unlikely to affect the trust of all citizens equally. On the one hand, highly educated citizens are better equipped to evaluate the state of the economy than the low educated. On the other hand, low educated citizens are more vulnerable to economic deterioration and therefore more likely to judge political institutions for their economic performance. Studying differences between educational groups leads to the second research question: *To what extent does the longitudinal effect of macro-economic performance on trust in national parliament and government differ between educational groups?*

Finally, we test to what extent the specific event of the Great Recession affected public opinion beyond what we would expect from our general models. While various recent studies (Armingeon & Guthmann 2013; Braun & Tausendpfund 2014; Kenworthy & Owens 2011; Torcal 2014) raised the question whether the crisis led to a downturn in political trust, it remains unresolved. Moreover, the Great Recession is likely to affect the ways in which economic performance relates to political trust. Hence, our third research question reads: *To what extent did the Great Recession affect the level of trust in national parliament and government, and its relationship to macro-economic performance?*

To answer these research questions, we analyze the stapled Eurobarometers between 1999 and 2011, covering fifteen countries and a total of 21 waves in six month intervals. The data cover traditional, western EU member states, allowing a rather focused comparison of longstanding democracies. A stringent multilevel setup accounts for within-country, longitudinal variation and controls for various rivaling determinants of trust.

MACRO-ECONOMIC PERFORMANCE AND POLITICAL TRUST

Fundamentally, trust is a relational characteristic, defined by a subject who trusts and an object who is trusted (Hardin 2000). To the extent that this relationship is rational, it is based on an evaluation of the object by the subject (Van der Meer 2010). In this paper we specifically focus on trust in national representative institutions. Although other governmental institutions are also part of the latent construct of political trust (Marien 2011; Van Elsas 2014), government and parliament are often put at its core (cf. Norris 2011). Moreover, both are held most accountable for the state of the economy by citizens (Clarke et al. 1988).

Macro-economic performance is a straightforward criterion for citizens to evaluate national politics. The regulation of the macro-economy is one of the most salient issues for citizens (Dalton 1999), one that citizens hold their government strongly responsible for (e.g. Clarke et al. 1988; Crewe & Searing 1988; Dalton 2004; Stimson 1991). Hence, economic performance is likely to have direct repercussions for the level of trust in politics. If economic performance deteriorates this will drive down confidence that parliaments and governments are sufficiently competent to solve problems. Similarly, economic growth may boost citizens' confidence in political competence, increasing their trust.

While it is plausible that macro-economic performance affects trust, it is surely not self-evident. There are several reasons to question the relationship. As this study cannot model these reasons empirically, we rely on earlier discussions in the literature.

First, the opportunities of national governments to influence economic policy have declined in favor of international and non-political actors (Peters & Pierre 1998). Citizens who are aware of these limitations may not judge government and parliament by their macro-economic policies, but on other factors such as the process of decision-making or the fairness of policies (Hibbing & Theiss-Morse 2001; Rudolph 2003).

Second, it is unclear which aspects of the economy citizens find important. While earlier research focuses on inflation, unemployment, the budget deficit and GDP (e.g. Clarke et al. 1993; Miller & Listhaug 1999; Kotzian 2011b; Van der Meer & Hakhverdian 2015), it is uncertain which of these indicators citizens mainly use to evaluate the economy. Moreover, especially with regard to inflation and budget deficits, citizens' judgments of economic performance is not straightforward. A high inflation rate might be undesirable to the general public of consumers, but nevertheless be preferred by minority groups such as entrepreneurs (Hibs 1977; Kotzian

2011b; Mishler & Rose 2011). Similarly, although most agree that low budget deficits indicate good economic performance in times of economic prosperity, opinions diverge in times of recession: Some prefer austerity to keep budget deficits low, while others favor Keynesian policies and higher deficits.

Third, it is not self-evident that citizens have enough information to make an accurate judgment about the economic performance of their country (Duch et al. 2000; but see Ansolabehere et al. 2011). However, changes in unemployment and inflation rates are well reflected in the salience of these problems among the general public (Dolan et al. 2009). Despite substantial variation the median public perceptions of growth and inflation trends across various time spans are strongly related to the actual trends (Christensen et al. 2006). Duch and Stevenson (2008: 160) conclude that citizens have “well-formed beliefs about [longitudinal] variation in their national economies” that “are grounded in economic reality”. Nevertheless, the type of information may differ between indicators. Unemployment for example is more commonly discussed by national media than inflation. Indeed, in economic voting models “the public responds very slowly to changes in the rate of inflation but very quickly to changes in unemployment” (Conover et al. 1986: 585).

Fourth, while evaluations tend to be based on comparisons, the benchmark for these comparisons is unclear. The benchmark may be an absolute standard that is equivalent across time and space, in which case the type of model (longitudinal or cross-national) would not matter. Otherwise, the comparison is likely to be either cross-national or longitudinal. The former implies that an economic decline may not be judged harshly if this decline is worse in other countries. The latter implies that an unemployment rate of 10% may be judged positively in the light of an unemployment rate of 15% in the previous year, or negatively if it was 5%. Various studies suggest that citizens’ understanding of the economy reflects longitudinal developments (e.g. Duch & Stevenson 2008; Dolan et al. 2009).

MIXED EVIDENCE

Empirical research has not yet given a clear answer whether or not macro-economic performance affects political trust, although recent cross-national studies that employ more rigorous models indicate that there is no effect. To a large extent the mixed findings are due to methodological choices and rigor. In general, the literature may be divided into three groups.

A first group studies macro-economic effects at the individual level, disaggregating contextual characteristics as if they were individual level characteristics (e.g. Miller & Listhaug 1999; Taylor 2000). Consequently, these studies vastly underestimate the standard errors of macro-economic effects, making it much more likely to find significance.

A second group of studies focuses on the relationship at the aggregate level, testing whether trust is higher in countries with stronger economic performance. It covers both cross-national comparisons and time-series analyses. Generally, these studies conclude that macro-economic performance stimulates political trust (e.g. Anderson 2009; Clarke et al. 1993; Cusack 1999; Mishler & Rose 2001; but see McAllister 1999 who finds an inverse effect). Yet, the aggregate design is problematic, as crucial rivaling explanations at the individual level (most notably citizens' income and unemployment) cannot be taken into account. Moreover, most aggregate level studies in this group do not control for crucial rivaling country level explanations, such as the level of corruption.

The third group of studies solves some of the problems, using a multilevel approach taking both contextual and individual variables into account. Yet, the results are mixed. Some find significant macro-economic effects (Kotzian 2011a, 2011b; Taylor 2000), whereas others find few (Van der Meer & Hakhverdian 2015) or no effects at all (Oskarsson 2010; Van der Meer 2010; Hakhverdian & Mayne 2012; Dahlberg & Holmberg 2014). These differences coincide with the inclusion of corruption as a rivaling explanation. The studies that find significant macro-economic effects did not control for corruption, whereas the studies that find few or no macro-economic effects did. The latter studies even illustrate that macro-economic effects turn non-significant once corruption is included in the models.

Multilevel studies that control for corruption offer the most stringent tests of the supposed macro-economic performance effects. However, all of these studies have been cross-sectional comparisons of countries, lacking a seriously varying time-element. Their implicit assumption is that political trust is the consequence of a comparison to a cross-national (or cross-nationally equivalent) benchmark rather than a longitudinal benchmark. This ought to be tested. Even if macro-economic performance may not explain cross-national differences in trust (as various recent studies suggest), it may explain fluctuations within countries over time. Our study solves the limitations of the multilevel studies by drawing back to the longitudinal designs offered in some of the earlier studies.

Hypotheses

The choice for a cross-sectional design is not self-evident, as citizens do not necessarily compare their country's performance to performances across the border. We therefore test to what extent there is evidence for macro-economic effects on political trust in a within-country comparison across time.

Hypothesis 1: *Citizens are more likely to trust politics in times when the economy performs well than in times when it does not.*

We follow earlier research (e.g. Clarke, et al. 1993; Kotzian 2011b; Miller & Listhaug 1999) and use economic growth, unemployment, inflation and budget deficit as indicators of macro-economic performance.

Although it may not always affect citizens directly, the national income per capita provides an overall measure of the welfare level that a society has reached (Kotzian 2011b). GDP growth thus reflects that the economy, and the welfare of the country in general, is doing well. This will boost citizens' confidence in the competence of the national political institutions to handle the macro-economy. On the other hand, a lack of growth and particularly a decline mark an economic downturn that we hypothesize not only affects consumer confidence but also undermines citizens' confidence in government and parliament.

Hypothesis 1a: *Citizens are more likely to trust politics in times of economic growth.*

Inflation is more likely to be motivated by pocketbook evaluations, i.e., the personal socio-economic status. Citizens will feel the consequence of higher prices in their wallets (Clarke et al. 1993). We expect that citizens will blame the government for these rising prices, lowering support (Monroe 1984), and leading to a drop in political trust.

Hypothesis 1b: *Citizens are more likely to trust politics in times of low inflation.*

Citizens are known to respond quite directly to changes in unemployment rates (Conover et al. 1986: 585). Not only will citizens who become unemployed blame the government for their new situation, but the political trust of other citizens may deteriorate as well in times of high unemployment, as they may respond to feelings of threat of losing their jobs by blaming government. The sociotropic approach suggests that high high unemployment rates marks an economic downturn in the economy, for which citizens may hold government accountable.

Hypothesis 1c: *Citizens are more likely to trust politics in times of low unemployment.*

Finally, governments and parliaments can be held most directly accountable for their own budget deficits. Generally, the public tends to agree that budget surpluses are to be preferred over deficits (or rather: smaller deficits are to be preferred over large deficits) (Clarke et al. 2013). We thus expect political trust to deteriorate with increasing budget deficits. However, this public agreement is not unconditional, itself depending on the state of the macro-economy. In times of economic recession, some citizens may get to prefer Keynesian policies, accepting higher deficits to stimulate the economy.

Hypothesis 1d: *Citizens are more likely to trust politics in times when the governmental budgetary balance shows a surplus.*

Macro-economic performance is unlikely to influence all citizens equally: Citizens differ (1) in the extent to which they can detect economic changes, and (2) in the extent to which they hold political institutions accountable for economic outcomes. One evident factor related to such differences is the level of education. Some level of education is necessary to acquire and process information and to judge political institutions on objective criteria (Delli Carpini & Keeter 1996; Duch et al. 2000; Hakhverdian & Mayne 2012; Van der Meer 2010). Thus, we expect that macro-

economic performance has a stronger effect on the political trust of higher educated, as they are more likely to detect economic changes.

Yet, the inverse might also hold. Some studies show that the lower educated do not differ from the higher educated in their use of rational indicators to evaluate the government (Van Elsas 2014). Studies on economic voting even find that less educated voters are more likely to use sociotropic evaluations to judge the government (Gomez & Wilson 2001). This may reflect differential degrees to which different educational groups are vulnerable to the state of the economy (especially on indicators such as unemployment) on which political institutions are held accountable. In the end we have two rivalling hypotheses about the conditioning role of education.

Hypothesis 2a: *The effect of macro-economic performance on political trust is stronger for higher educated citizens than for lower educated citizens.*

Hypothesis 2b: *The effect of macro-economic performance on political trust is stronger for lower educated citizens than for higher educated citizens.*

Finally, the general explanations may not suffice to understand the impact of the economic crisis of 2008 and its continuing aftermath. Recent studies (Armingeon & Guthmann 2013; Braun & Tausendpfund 2014; Kenworthy & Owens 2011; Torcal 2014) speculated that the shock induced by the Great Recession across the western countries caused a decline in political trust that is steeper than one would expect from the mere economic downturn on individual indicators alone. Especially in the European Union, governments' inability to successfully tackle the recession stimulated an image of incapability and raised concerns of an upcoming breakdown of the monetary union. However, these studies have been unable to test such expectations head-on due

to limitations in their research designs. They either focus only on perceptions of the crisis, study a time period that is too narrow to reach valid conclusions or fail to include a longitudinal element in their design at all. We hypothesize:

Hypothesis 3a: *The Great Recession has driven down political trust beyond any drop caused by the sum macro-economic performance indicators.*

Moreover, we argue that the relevance of macro-economic performance itself differs under external conditions. The Great Recession is likely to have influenced those macro-economic outcomes that citizens consider to indicate good performance. Before the economic crisis most attention in the public debate went to economic growth, inflation and unemployment. Since 2009, however, the budget deficit has become an increasingly hot topic of debate in the Eurozone, not only among elites (economists, policy makers, opinion leaders) but also among the general public (cf. Clarke et al. 2013; TNS 2010). Yet, whereas both camps in this debate normally agree on bringing down deficits, Keynesians have argued that austerity in times of recession deepens the economic woes. As a result, the austerity debate is likely to have weakened any positive effect of budgetary surpluses on political trust that existed before the Great Recession. Tests of this claim are as scarce as evidence is inconclusive. Armingeon & Guthmann (2013) find no consistent evidence that austerity affected political trust in Europe after 2007, but find that interest rates (which capture more broadly defined financial risks) do matter.

Hypothesis 3b: *Since the beginning of the Great Recession the effect of the budgetary balance has become significantly weaker.*

DATA AND METHOD

Our hypotheses link the individual level of citizens to a contextual level of specific countries at specific points in time. To assess the dynamic nature of the relationship between macro-economic performance and political trust in a longitudinal design, we require repeated measures over a long time with short time intervals. The Eurobarometer data offer such measures. This survey is conducted biannually in a longitudinal (non-panel) setup, and contains 21 waves between the Spring of 1999 and the Spring of 2011. We only select those countries that already participated in the Eurobarometer of 1999, the set of 15 traditional EU member states.¹² Respondents with missing values are omitted listwise to ensure that all analyses are based on the same sample. The final sample size of this study is 243,261 respondents, in 314 country-wave combinations.³

Operationalization

Political trust is measured by two dichotomous questions: ‘*Do you tend to trust or not tend to trust the national government?*’ and ‘*Do you tend to trust or not tend to trust the national parliament?*’. We combine the two measures (Cronbach’s alpha: 0.83), and dichotomize our joint measure: respondents that trust both institutions score 1, respondents that answer negatively on at least one of the questions score 0. Lack of trust in even one of these core institutions thus signals a lack of political trust.

¹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, the Netherlands and the United Kingdom.

² These countries’ political systems differ in their institutional design. We checked whether the impact of the four economic determinants is stronger in the non-proportional systems (UK and France) than in the 13 other countries. The interaction effect was non-significant. This suggests that clarity of responsibility is not a major moderator in our models.

³ The first wave of Greece was excluded due to lack of data on its inflation rate.

We rely on four indicators to measure the economic performance of a country: unemployment rate, economic growth (growth of the GDP), inflation rate, and the budget surplus/deficit. Data on these indicators is collected from Eurostat. Because citizens may not be directly aware of economic changes, we include these variables with a six months lag. We opted for the smallest time lag available, though one that would still allow citizens to become aware of macro-economic developments (for instance through governmental or media reports that are written at the end of term). Because the choice for a 6 month time lag is ultimately arbitrary, we run robustness checks with a lag of one year and no lag at all.

At the individual level, education is measured in the Eurobarometer as the number of years of education. As all independent variables are centred within countries (see below), there is no cross-national equivalence problem. Moreover, we add a dummy variable to our model to identify respondents that are still studying.

Finally, we control for additional factors at the individual and country-wave level that commonly affect political trust. At the individual level these encompass age, gender, employment status, and left-right self-placement. Unfortunately, we are not able to control for income; its effect is, however, to some extent covered by citizens' education and employment status. At the system level we control for corruption, the formation of a new government and the time that has passed since the last elections, as both elections and a new government may temporarily boost trust (Clarke, et al. 1993). Especially corruption is found to be a crucial determinant in cross-national analyses (e.g. Hakhverdian & Mayne 2012; Oskarsson 2010). We measure corruption via the Corruption Perception Index (CPI) of Transparency which runs from 0 (high corruption) to 10 (low corruption). Appendix A offers descriptive statistics for the context level independent variables.

Model: fixed-effects, longitudinal, multi-level analysis

As we are only interested in fluctuations within a country over time, we eliminate all cross-national and survey wave variance. Dummy variables for countries remove the time-invariant, cross-sectional variance on the intercepts. Dummy variables for survey waves control for commonalities due to period effects that take place cross-nationally. This fixed effects model only leaves variance at the country-wave and individual level, allowing us to study fluctuations over time *within* each single country: a difference-on-difference model. Finally, we center the independent variables on the country mean to ease interpretation as within-country effects.

Ultimately, our model deals with two substantive levels of analysis, namely individuals and country-wave combinations (as country and wave effects are fixed). This calls for a multi-level model (cf. Snijders & Bosker 1999). Since the dependent variable is dichotomous, we employ logistic regression analysis.

As a way to contrast our findings below, we also estimated the outcomes of ‘conventional’ cross-national models at one point in time for each of the 20 Eurobarometer waves. Appendix B shows the outcomes of these 20 cross-national analyses. The outcomes strongly echo the lack of support for economic explanations in the recent multilevel, cross-national studies: our cross-national analysis of EB data only finds a consistent effect of budgetary deficits.⁴

RESULTS

⁴ This effect strongly mirrors the cross-national study of a much larger and more diverse set of countries in the European Values Survey 2008 by Van der Meer & Hakhverdian (2015).

Table 1 illustrates the differences between countries' levels of political trust: Trust is highest in the Nordic countries and Luxembourg and lowest in Southern Europe and the UK. More importantly, trust fluctuates strongly within each country. Even in the most stable country, Luxembourg, trust ranges between 0.58 and 0.67. The volatility of trust rates is rather high.⁵ The most volatile country is Ireland where trust fluctuates on average with 8%. The least volatile countries is Denmark (4%).

-Table 1 about here-

With table 2 we move to our multilevel tests (for the full models, see Appendix C). Model 1 shows the variance component model. There is significant variance at the country-wave level (0.127): 3.7% of the remaining variance in political trust (after the inclusion of the dummy variables) can be explained by factors that fluctuate over time within each country.

Model 2 adds the four economic indicators with a lag of 6 months. The most important result is that economic growth and the unemployment rate have the expected effect on political trust: citizens are significantly more trustful when the within-country level of unemployment is lower than average and when economic growth is higher. By contrast, the effects of inflation and the budget deficit are insignificant. We find no evidence that these two economic indicators unconditionally influence fluctuations in political trust. This result is not that surprising, as there is less consensus as to what constitutes good performance on these two indicators.

-Table 2 about here-

⁵ Calculated as the total absolute differences in political trust rates between each subsequent set of waves, divided by the number of waves minus 1.

Model 3 adds control variables at the individual level. All these variables are significant: men, the elderly, higher educated, students and right-wing citizens have more political trust. The inclusion of these controls does not affect the macro-economic effects: unemployment and economic growth remain significant.

The effects are also robust to the inclusion of the time-varying control variables at the country-wave level in model 4. As expected, citizens are more trustful just after the elections. They also gain more trust when corruption is low (i.e., when the CPI score is relatively high). However, there is no evidence for a honeymoon effect of having a relatively new government.

The results may be driven by influential cases. The Great Recession hit some countries in our study (the so-called PIIGS) especially hard, which may affect our findings. Scatterplots (see Appendix D) suggest that especially the Irish waves during the Great Recession (2009Q3 to 2011Q1) are influential cases. The other PIIGS are not identified as influential cases, implying that the regression model does not fit them worse than the rest.

To test the robustness of our models to the influential cases from Ireland, we add dummy variables that identify the four Irish country-wave combinations in model 5. The model shows that the effects of economic growth and unemployment remain significant when we control for the influential cases. More strikingly, the effects of a budget surplus and inflation both turn significant.⁶ However, the effect of inflation runs counter to our expectations as a higher inflation generates more political trust.

⁶ Based on Figure B3 we also estimated a model where the influence of both the Irish and Spanish waves after 2009Q3 are left out of the model. These results do not differ from model 5.

All in all, we find robust support for hypothesis 1a and 1c, but less consistent evidence supporting hypothesis 1b and 1d. To deal with this inconsistency, we will continue with both the original models and the models in which we control for the influential cases.

The marginal plots in figure 1 give more insight to the strength of the robust effects of economic growth and unemployment rate. *Ceteris paribus*, when economic growth is at an average level, the probability to trust national representative institutions is .41. When the growth is higher than the average the trust rate increases: the probability to be trustful is .46 when economic growth is 5%-points above the average and .36 when it is 5%-points below the country average.

-Figure 1 about here-

The effect of unemployment is substantial as well. With longitudinally average unemployment rates, the probability to be trustful is .41. However, this probability declines with increasing unemployment rate.

Conditionality

Next, we examine whether economic effects are moderated by education. Models 6A (full data set) and 6B (excluding influential cases) in table 3 add interaction terms between the economic indicators and education. Both models give similar results. The effects of economic growth and unemployment rate differ significantly between lower and higher educated citizens. The strength of both effects is stronger among lower educated citizens than among higher educated citizens (see Figure 2). Apparently, the trust rates among the lower educated are more sensitive to macro-economic performance, supporting hypothesis 2b. This could be because they are more

vulnerable to economic deterioration or because they are more likely to blame government and parliament for it.

-Table 3 & Figure 2 about here-

The Great Recession

Europe went into a recession after 2008 on all macro-economic indicators under study. But is the resulting effect of the Great Recession on political trust more than the sum of these parts? To test whether the Great Recession had an effect beyond the economic downturn on individual indicators, figure 3 plots the effect sizes of the wave dummies in models 1 (light grey) and 5 (dark grey). The conclusions based on these trend lines are unaffected by the in- or exclusion of the post-2008 Irish survey waves (see also Appendix C).

The light grey line – without any macro-economic effects in the model – shows that political trust peaked twice across Europe: in Autumn 2001 (after 9/11) and in Spring 2007. With the start of the Great Recession in 2008 political trust remained low, especially during the height of the Eurocrisis in 2010. The dark grey line shows the effects after we take the four macro-economic indicators into account. Until 2008 we basically see the same pattern. Yet from 2008 onwards, we no longer find additional evidence for a decline in political trust. In other words, the low levels of political trust since the start of the Great Recession can be fully explained by the developments on the four macro-economic indicators.

-Figure 3 about here-

Finally, we interact the macro-economic performance measures with a dummy for the Great crisis. When we cover all cases (Model 7a), we find that the effect of the budgetary surplus significantly changed since the Great Recession. Whereas before the economic crisis of 2008 a budget surplus boosted political trust, this effect is no longer apparent since the start of the Great Recession (see Figure 4). This would support hypothesis 3b.

However, once we control for the influential cases (Ireland post-2008) the significant interaction effect disappears completely (model 7b). Apparently, the experiences of Ireland since the Great Recession completely drive the effect: at that point in Irish history, extreme budget deficits did not serve as a cause for low trust. In model 7b budgetary surpluses boost political trust even during the Great Recession. This would reject hypothesis 3b.

Ultimately, both interpretations are correct. We should not discard the Irish experiences, as we have no reason to reject the data. However, the lack of robustness of these effects signal that these experiences are not common. Apparently, only under extreme economic circumstances do citizens not blame national politics for having budget deficits.

-Table 4 & figure 4 about here-

Robustness

Finally, we test the robustness of our findings in our baseline model (Model 4, Table 2) to various model specifications (table 5). First, we operationalized political trust as a combination of trust in parliament and government. When model trust in parliament (model A1) and trust in

government (model A2) as separate dependent variables, the outcomes are substantively similar to the baseline model.

Second, our estimation of economic performance effects with a six month lag is fundamentally arbitrary. The lag could have been longer, the whole relationship may be endogenous (implying no lag), or causality might even be inverted (implying a negative lag). Models B1 to B3 models different lags. We find more significant macro-economic effects once we increase the time lag. Whereas the detrimental effect of unemployment rates is significant in all models regardless of the time lag, the positive effect of economic growth disappears if we eliminate the time lag, let alone inverse it. The effect of budget deficits would be significant with a longer lag.

Third, we model the longitudinal effect using a different assumption. Our main analyses implicitly assume a within-country fixed point of reference to which performance is compared in the whole time span between 1999 and 2011. An alternative approach would set recent economic performance solely against the average performance in the immediately preceding period. Model C1 tests the economic effects when we understand recent performance (here: a 6 months lag) in comparison to the average performance in the two years before that. The effect of unemployment rates remains negative and significant. The effect of budgetary surpluses remains non-significant. The effect of economic growth drops below significance at $p < .05$ (two-tailed). By contrast, the level of inflation turns significant, implying somewhat counter-intuitively that higher levels of inflation stimulate political trust. The latter result diverges from all other analyses in this paper. Intriguingly, it suggests that different performance indicators might have different benchmarks. We return to this idea in the conclusion below.

-Table 5 about here-

Finally, we check for multicollinearity. To test whether there is harmful multicollinearity we conducted perturbation analyses (Belsey 1991). Harmful collinearity would become apparent if adding small random noise to the potentially collinear measures affect the direction and/or the significance of one or more estimators. We therefore reran the model 25 times, each time with unique slight random error terms assigned to the economic performance measures and the corruption measure. The maximum value of this error term was based on half of the standard deviation at the country-wave level.

The analysis in table 5 confirms that none of the effects in our original model are affected by harmful multicollinearity. The significant effects of model 4 (Table 2) and also the interactions remain significant at $p < .05$ in all or nearly all re-estimations, evidently in the same direction.

CONCLUSION AND DISCUSSION

The relationship between economic performance and trust in national representative institutions has long been contested. Although there is a strong relationship between perceived performance and political trust, cross-national studies have at best found mixed evidence that actual macro-economic outcomes affect trust. Rather, the more recent cross-national, multi-level studies do not even find a significant effect of macro-economic outcomes once quality of governance (most notably corruption) is taken into account.

While these findings tell us that citizens do not base their political trust on a comparison to the economic performance of other countries or on the basis of absolute standards, this does not mean that objective economic performance does not matter. Rather, citizens may base their political trust on a comparison to (historically) average levels of economic performance. This

paper sets out to test to what extent within-country variations in economic performance do indeed affect political trust longitudinally. We reach three major conclusions.

First, we find that political trust is affected by comparisons of national economic performance to the own country's longitudinal fluctuations. Fluctuations in economic growth and the unemployment rate have a consistent and substantial impact on fluctuations in political trust over time. The effects of the inflation rate and the budget deficit are less consistent: these effects only become apparent once we control for influential cases in our analyses, i.e. the extreme experiences of the Irish people after the start of the Great Recession.

Second, our study shows that the effects of economic performance on political trust are conditional on education level. In general the effect of the economy on political trust is stronger for the lower educated. This finding is in line with Gomez and Wilson (2001) who conclude that economic voting is more apparent among the lower educated, as they are more likely to hold the government accountable for the economic situation.

Third, we find tentative evidence that since the start of the Great Recession in 2008 in Europe budget deficits no longer undermine political trust. Despite its increased salience, the austerity debate is likely to have weakened any positive effect of budgetary surpluses on political trust that existed before the Great Recession.

These conclusions raise new questions. First, the within-country effect of macro-economic performance is probably non-linear. Some of our findings were sensitive influential cases, most notably Ireland since the start of the Great Recession. While the performance drop in Ireland since 2008 has been extraordinary, we cannot discard the Irish data for being invalid. Rather, they suggest that some macro-economic evaluations lose relevance under such extraordinary

circumstances: citizens may consider budget deficits to be less problematic when the country is under extreme economic duress.

Second, different types of performance may have different points of reference that citizens use to evaluate. This point of reference may be an absolute standard, cross-national, or longitudinal. Yet, even within these frameworks there may be various subdivisions. Citizens may assess economic performance longitudinally in comparison to a historical standard or in comparison to the recent past (cf. Table 5); some performance indicators may affect citizens more immediately than others (Conover et al. 1986: 585; cf. Table 5). Although the current general longitudinal and comparative models of political trust have proven their use, we would advocate to move to more specific models that do not require points of reference and time lags to be fixed across determinants and even respondents. This evidently requires a better understanding of the mechanisms that take place at the individual level.

Third, and related to this, the causal mechanisms through which the economic performance affects political trust remain implicit. Between general sociotropic evaluations and pocketbook evaluations lie a range of possible considerations and mechanisms. Although data limitations made it impossible to focus on such mechanisms here, future studies ought to delve into these causal pathways.

Regardless of conditions and mechanisms, we show that the macro-economic performance matters. This suggests that citizens make a longitudinal comparison (to their own country's performance over time) rather than a cross-national comparison (to their neighboring countries) when they evaluate (governments') economic performance.

This finding has important implications. Political trust is not independent from policy output. Rather than a stable buffer for institutions in times of economic hardship, trust is directly linked to economic performance. An economic recession will directly lead to a slump in political trust. Policy makers ought to be aware of these risks. In times of crisis it will not help to point to neighbouring countries that are performing even worse.

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Table 1: Descriptive statistics of political trust

Country	Mean	Minimum	Maximum	Volatility
Austria	0.49	0.38	0.61	.06
Belgium	0.39	0.21	0.62	.06
Denmark	0.54	0.37	0.67	.04
Finland	0.58	0.45	0.74	.06
France	0.28	0.19	0.44	.06
Germany	0.34	0.22	0.48	.06
Greece	0.36	0.16	0.55	.07
Ireland	0.35	0.09	0.46	.08
Italy	0.30	0.16	0.44	.05
Luxembourg	0.67	0.58	0.77	.05
Portugal	0.34	0.19	0.60	.05
Spain	0.39	0.16	0.60	.07
Sweden	0.49	0.33	0.64	.05
The Netherlands	0.49	0.35	0.71	.07
The United Kingdom	0.26	0.14	0.42	.06

Table 2: Estimation of the multilevel logit random intercept models

	Model 1 b(SE)	Model 2 b(SE)	Model 3 b(SE)	Model 4 b(SE)	Model 5 (with control for Ireland) b(SE)
Constant	-.40(.11)*	-.89(.10)*	-.94(.08)*	-.95(.08)*	-.93(.10)*
<i>Level 2 determinants</i>					
Economic growth (6 months lag)		.05(.01)*	.05(.01)*	.04(.01)*	.04(.01)*
Inflation (6 months lag)		.02(.02)	.02(.02)	.03(.02)	.07(.02)*
Unemployment rate (6 months lag)		-.07(.01)*	-.07(.01)*	-.06(.01)*	-.05(.01)*
Budget surplus (6 months lag)		.01(.01)	.01(.01)	.01(.01)	.05(.01)*
Corruption (CPI)				.16(.06)*	.11(.05)*
Elections (≤6 months = 1)				.21(.06)*	.20(.05)*
Time in office (≤6 months = 1)				-.02(.05)	-.04(.05)
<i>Level 1 determinants</i>					
Gender (0=women; 1 = men)			.09(.01)*	.09(.01)*	.09(.01)*
Age			.01(.00)*	.01(.00)*	.01(.00)*
Education			.06(.00)*	.06(.00)*	.06(.00)*
Still studying			.36(.02)*	.35(.02)*	.36(.02)*
Left-right placement			.09(.00)*	.09(.00)*	.09(.00)*
<i>State dependency</i> (ref.: working citizens)					
• Unemployed			-.37(.02)*	-.37(.02)*	-.37(.02)*
• Retired			.02(.01)	.02(.01)	.02(.01)
• Other			.08(.02)*	.08(.02)*	.08(.02)*
σ^2_{u0}	0.13	0.07	0.07	0.07	0.06

N (individuals):243,261. N (country-waves):314.

*p<.05

Controlling for time and wave dummies.

Source: Eurobarometer waves 51-75.

Table 3: Estimation of the multilevel logit random intercept models with interactions

	Model 6A	Model 6b (with control for Ireland)
	b(SE)	b(SE)
<i>Level 2 determinants</i>		
Economic growth (6 months lag)	.04(.01)*	.04(.01)*
Inflation (6 months lag)	.03(.02)	.06(.02)*
Unemployment rate (6 months lag)	-.06(.01)*	-.05(.01)*
Budget surplus (6 months lag)	.01(.01)	.05(.01)*
<i>Level 1 determinants</i>		
Education	.06(.00)*	.06(.00)*
Still studying	.36(.02)*	.36(.02)*
<i>Cross-level interaction effects</i>		
Economic growth (6 months lag) * Education	-.00(.00)*	-.00(.00)*
Economic growth (6 months lag) * Still studying	.01(.01)	.02(.01)
Inflation (6 months lag) * Education	.00(.00)	.00(.00)
Inflation (6 months lag) * Still studying	.03(.02)	.03(.02)
Unemployment (6 months lag) * Education	.00(.00)*	.00(.00)*
Unemployment (6 months lag) * Still studying	.02(.01)	.02(.01)
Budget surplus (6 months lag) * Education	.00(.00)	-.00(.00)
Budget surplus (6 months lag) * Still studying	-.01(.01)	-.01(.01)

N (individuals): 243,261. N (country-waves): 314.

*p<.05

Controlling for time and wave dummies and control variables model 4.

Source: Eurobarometer wave 51-75.

Table 4: Effects of the economic crisis

	Model 7a	Model 7b (with control for Ireland)
	b(SE)	b(SE)
<i>Level 2 determinants</i>		
Economic growth	.08(.02)*	.07(.02)*
Inflation	.02(.03)	.03(.03)
Unemployment	-.06(.02)*	-.05(.02)*
Budget surplus	.03(.01)*	.04(.01)*
Economic Crisis	.15(.13)	.24(.13)
<i>Cross-level interaction effects</i>		
Economic Crisis * Economic growth	-.06(.03)	-.04(.03)
Economic Crisis * Inflation	.01(.06)	.08(.06)
Economic Crisis * Unemployment	-.02(.03)	-.01(.03)
Economic Crisis * Budget surplus	-.03(.02)*	.02(.03)

N (individuals): 243,261. N (country-waves): 314.

*p<.05

Controlling for time and wave dummies and control variables model 4.

Source: Eurobarometer wave 51-75.

Table 5: Robustness checks

	Model A1	Model A2	Model B1	Model 4	Model B2	Model B3	Model C1	Perturbation analysis	
	<i>government</i> b(SE)	<i>parliament</i> b (SE)	<i>1y lag</i> b(SE)	<i>6m lag</i> b(SE)	<i>no lag</i> b(SE)	<i>-6m lag</i> b(SE)	<i>t_{-6m} - avg(t_{-30m:-6m})</i> b(SE)	Max. error	% significant p<.05
Economic growth	.05(.01)*	.04(.01)*	.05(.01)*	.04(.01)*	.02(.01) †	.02(.01)	.03(.01) †	0.9%	100%
Inflation	.01(.02)	.03(.03)	.03(.02)	.03(.02)	.03(.02)	.02(.02)	.08(.03)**	1.78%	8%
Unemployment	-.05(.01)*	-.07(.01)*	-.05(.01)*	-.06(.01)*	-.07(.01)*	-.05(.01)*	-.15(.02)**	2.5%	100%
Budget surplus	.02(.01)*	.01(.01)	.02(.01)*	.01(.01) †	.01(.01) †	.01(.01)	-.01(.01)	3.20%	32%

N (individuals): 243,261. N (country-waves): 314.

*p<.05

†p<.05, one-tailed

Controlling for time and wave dummies and control variables model 4.

Source: Eurobarometer wave 51-75.

Figure 1: Marginal effects plot of Economic growth and unemployment rate

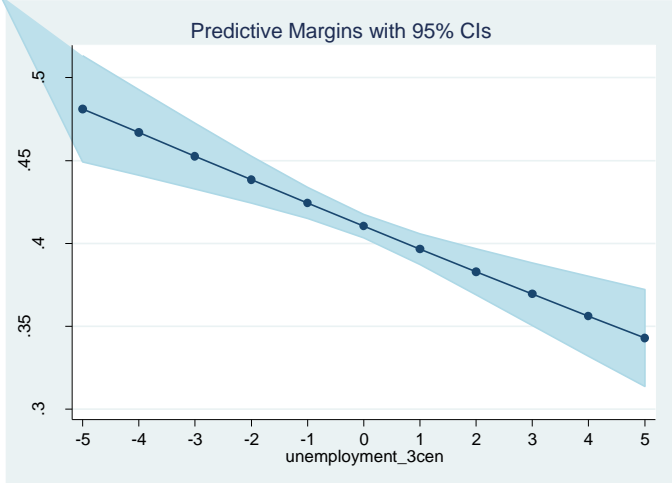
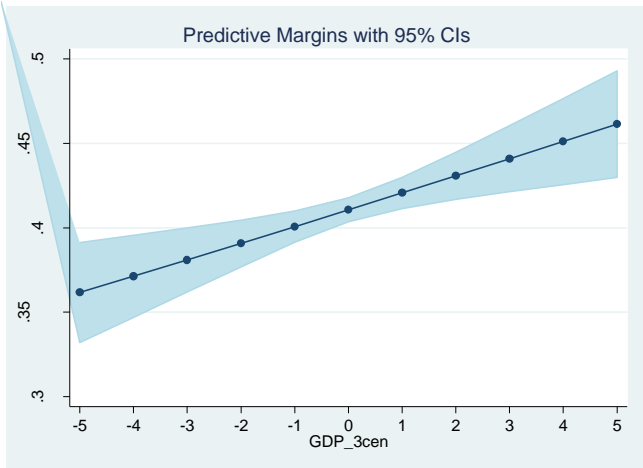


Figure 2: Marginal effects of the economic growth and unemployment rate by education

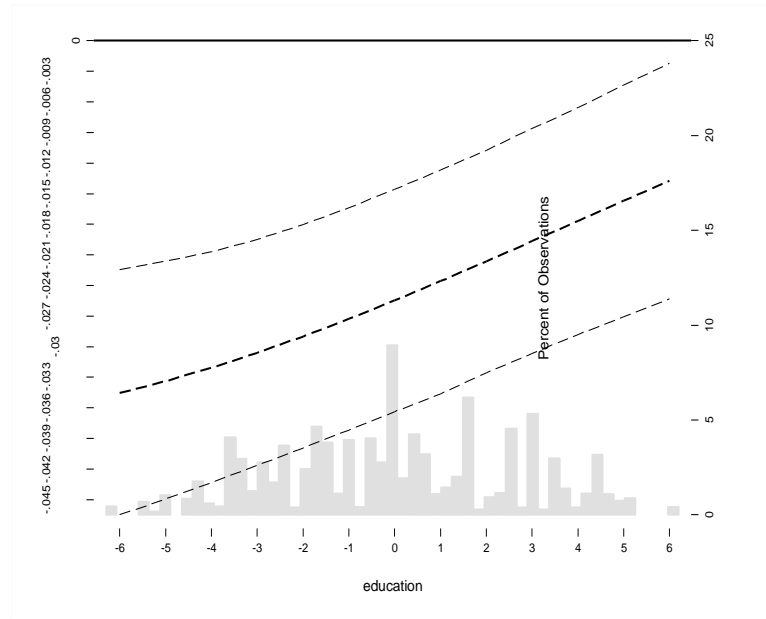
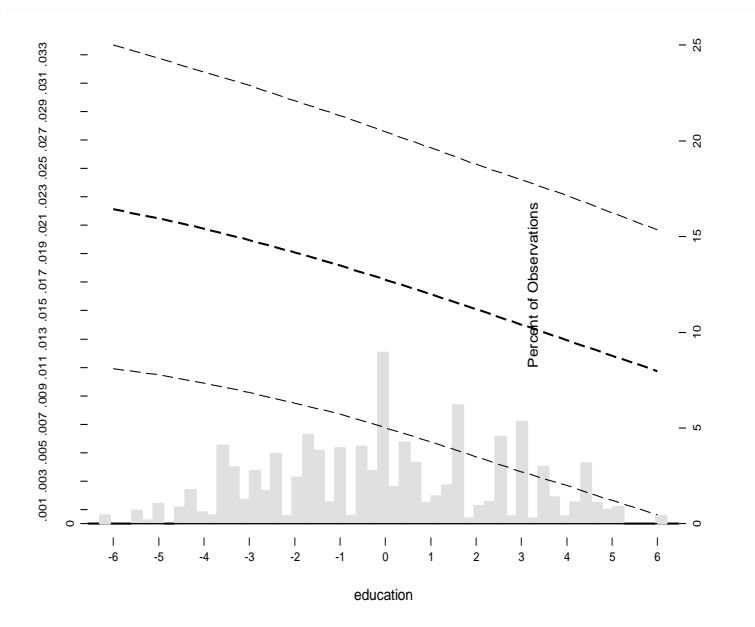


Figure 3: An overview of the effect sizes of the wave dummies

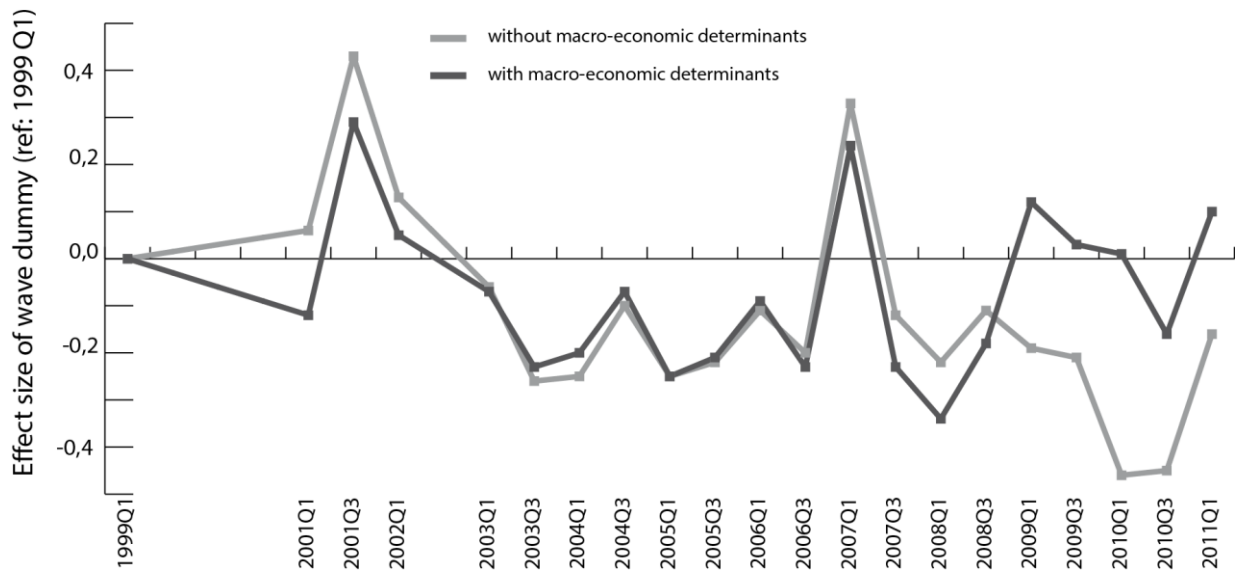
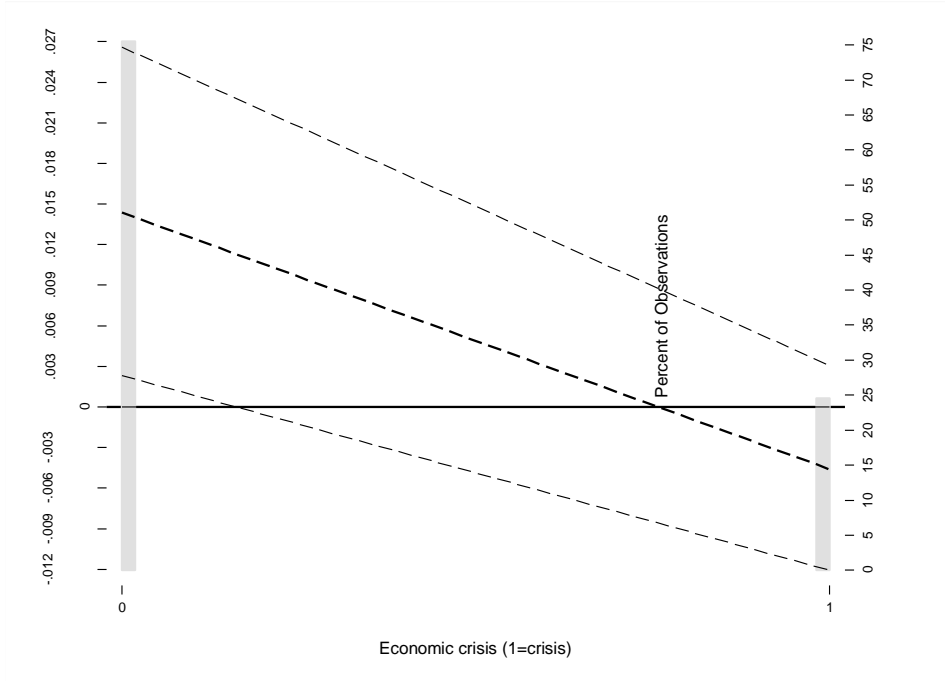


Figure 4: marginal effect of budget deficit before and during the crisis



Appendix A

Table A1. Descriptives

Country	CPI	Economic growth (%)	Inflation (%)	Unemployment rate (%)	Budget deficit (%)
France	6.99	1.26	1.78	9.03	-3.81
Belgium	7.12	1.55	2.08	7.86	-1.38
The Netherlands	8.83	1.55	2.12	3.96	-1.70
Germany	7.88	1.20	1.56	8.77	-2.50
Italy	4.82	.45	2.21	7.87	-3.49
Luxembourg	8.52	2.91	2.66	4.09	1.41
Denmark	9.45	.76	1.94	5.12	1.60
Ireland	7.60	2.95	2.27	6.90	-4.80
UK	8.25	1.78	2.10	5.84	-4.44
Greece	4.23	1.10	3.41	10.29	-7.82
Spain	6.68	2.10	2.77	12.53	-2.49
Portugal	6.30	.76	2.47	8.39	-4.93
Finland	9.46	1.94	1.72	8.28	2.35
Sweden	9.22	2.39	1.79	7.05	1.05
Austria	8.11	1.71	1.82	4.45	-2.12

Wave	CPI	Economic growth (%)	Inflation (%)	Unemployment rate (%)	Budget deficit (%)
1999 Q1	7.58	4.30	1.49	7.65	-.09
2001 Q1	7.55	2.25	2.77	6.19	-.11
2001 Q3	7.55	2.25	2.89	6.37	-.11
2002 Q1	7.56	1.89	2.86	6.47	-1.23
2003 Q1	7.71	1.70	2.53	7.01	-1.80
2003 Q3	7.71	1.65	2.45	7.19	-1.80
2004 Q1	7.69	2.10	2.09	7.42	-1.25
2004 Q3	7.69	3.01	1.93	7.39	-1.25
2005 Q1	7.73	2.60	2.05	7.36	-1.13
2005 Q3	7.73	2.59	2.14	7.29	-1.13
2006 Q1	7.71	3.53	2.25	7.03	-.17
2006 Q3	7.71	3.61	2.37	6.69	-.17
2007 Q1	7.65	3.53	2.17	6.41	.14
2007 Q3	7.65	3.53	1.97	6.23	.14
2008 Q1	7.50	.14	2.49	6.05	-1.66
2008 Q3	7.50	-.01	3.61	6.73	-1.66
2009 Q1	7.34	-4.43	2.09	8.52	-6.69
2009 Q3	7.34	-4.43	.73	8.88	-6.69
2010 Q1	7.32	1.73	.76	9.19	-7.06
2010 Q3	7.32	1.73	1.75	9.23	-7.06
2011 Q1	7.32	.93	2.41	9.29	-4.49

Appendix B: Effects of macro-economic determinants in cross-sectional analyses of 21

Eurobarometer waves

	<i>Models without economic controls</i>			<i>Models with economic controls</i>		
	Positive	ns	Negative	Positive	ns	Negative
Economic growth	45%	55%	0%	35%	60%	5%
Inflation	20%	70%	10%	0%	95%	5%
Unemployment	0%	75%	25%	20%	70%	10%
Budget surplus	95%	5%	0%	80%	20%	0%

Effects based on $p < .05$, *one-tailed*.

Appendix C

Table C1. Estimation of the multilevel logit random intercept models (full results)

	Model 4 b(SE)	Model 5 (with control for Ireland) b(SE)
Constant	-.95(.10)*	-.93(.10)*
<i>Level 2 determinants</i>		
Economic growth (6 months lag)	.04(.01)*	.04(.01)*
Inflation (6 months lag)	.03(.02)	.07(.02)*
Unemployment rate (6 months lag)	-.06(.01)*	-.05(.01)*
Budget surplus (6 months lag)	.01(.01)	.05(.01)*
Corruption (CPI)	.16(.06)*	.11(.05)*
Elections (≤ 6 months = 1)	.21(.06)*	.20(.05)*
Time in office (≤ 6 months = 1)	-.02(.05)	-.04(.05)
<i>Level 1 determinants</i>		
Gender (0=women; 1 = men)	.09(.01)*	.09(.01)*
Age	.01(.00)*	.01(.00)*
Education	.06(.00)*	.06(.00)*
Still studying	.35(.02)*	.36(.02)*
Left-right placement	.09(.00)*	.09(.00)*
<i>State dependency</i> (ref.: working citizens)		
• Unemployed	-.37(.02)*	-.37(.02)*
• Retired	.02(.01)	.02(.01)
• Other	.08(.02)*	.08(.02)*
<i>(Ref. 1999 Q1)</i>		
2001 Q1	-.12(.11)	-.24(.10)*
2001 Q3	.29(.11)*	.19(.10)
2002 Q1	.05(.11)	-.02(.11)
2003 Q1	-.07(.11)	-.09(.11)
2003 Q3	-.23(.11)*	-.24(.10)*
2004 Q1	-.20(.11)	-.20(.10)*
2004 Q3	-.07(.11)	-.06(.10)
2005 Q1	-.25(.11)*	-.23(.10)*
2005 Q3	-.21(.11)*	-.21(.10)*
2006 Q1	-.09(.11)	-.11(.10)
2006 Q3	-.23(.11)*	-.27(.10)*
2007 Q1	.24(.11)*	.19(.10)
2007 Q3	-.23(.11)*	-.28(.10)*
2008 Q1	-.34(.11)*	-.40(.10)*
2008 Q3	-.18(.11)	-.25(.11)*
2009 Q1	-.12(.13)	-.20(.12)
2009 Q3	.03(.13)	.09(.12)
2010 Q1	.01(.14)	.16(.14)
2010 Q3	-.16(.12)	.00(.12)
2011 Q1	.10(.11)	.11(.11)
<i>(Ref. France)</i>		
Belgium	.47(.09)*	.48(.08)*

Netherlands	.87(.09)*	.88(.08)*
Germany	.26(.09)*	.26(.08)*
Italy	.04(.09)	.05(.08)
Luxembourg	1.66(.09)*	1.66(.08)*
Denmark	1.08(.09)*	1.08(.08)*
Ireland	.30(.09)*	.12(.09)
UK	-.13(.09)	-.14(.08)
Greece	.33(.09)*	.33(.08)*
Spain	.49(.09)*	.48(.08)*
Portugal	.25(.09)*	.25(.08)*
Finland	1.25(.09)*	1.25(.08)*
Sweden	.88(.09)*	.88(.08)*
Austria	.89(.09)*	.89(.08)*
Ireland 2010Q1		.69(.31)*
Ireland 2010Q3		.29(.36)
Ireland 2011Q1		2.43(.39)*
σ^2_{u0}	0.07	0.06

