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# The Poorer You Are, the More You Trust? The Effect of Inequality and Income on Institutional Trust in East-Central Europe\*

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**Abstract:** Compared to Western Europe, the new democracies of East-Central Europe (ECE) demonstrate substantially lower levels of institutional trust. Because trust in state institutions is an indicator of the public approval and legitimacy of a political system, low trust levels are a cause for concern. The paper addresses a particular aspect of this broad issue by focusing on how country-level wealth and inequality and individual-level economic situation and sociotropic evaluations affect institutional trust in ECE in comparison with Western Europe. A multi-level analysis performed on the 2010 European Social Survey dataset reveals that substantial differences exist between the two sides of the continent. While sociotropic measures show a uniformly strong, positive association with institutional trust, the marginal effect of relative income is positive in Western but negative in East-Central Europe. Moreover, although social inequality is inversely related to institutional trust, four ECE countries (the Czech Republic, Hungary, Slovakia and Slovenia), where relatively low inequality is accompanied by low levels of institutional trust, deviate from the general trend. The paper suggests that the causes of these differences may be attributed to the interplay between specific characteristics of ECE political economies and the strongly egalitarian attitudes of East-Central European citizens.

**Keywords:** institutional trust, East-Central Europe, income, inequality  
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## **Introduction**

Institutional trust is an individual expectation that the given institution will produce positive outcomes [Levi and Stoker 2000]. On the one hand, higher levels of trust in state institutions are associated with greater compliance with governmental policies and regulations [Gyórfy 2013; Hetherington 2005; Lieberman 2007; Scholz 1998]. On the other hand, higher institutional trust may also contribute to more effective institutional performance and easier policy implementation [Tyler 2006] because greater trust in institutions is tied to a greater likelihood of civic cooperation [Tyler 2011]. Since democratic governments are limited in the exercise of coercion on their own citizens, they need to encourage people to cooperate with them. That is why civic cooperation and institutional trust are crucial issues in democratic systems. Trust in the government and in state institutions is thus directly related to the concept of legitimacy [Beetham 1991], which is a prerequisite of democratic politics.

In light of this, it is not surprising that declining levels of institutional trust in the past decades in established democracies have been a cause of great concern for politicians and social scientists alike. However, this phenomenon is even more pronounced in the new democracies of East-Central Europe (ECE), which, compared to Western European countries, demonstrate substantially lower levels of institutional trust [Boda and Medve-Bálint 2010]. Some authors consider this a consequence of the transition process and raise general concerns about the public approval and legitimacy of ECE political systems and institutions [Kornai and Rose-Ackerman 2004; Rose-Ackerman 2001; Sztompka 1999]. We assume that the mainstream literature on trust and, in particular, on institutional trust rightly claims that confidence in state institutions is desirable, while low or decreasing trust levels are the warning signs of problems with the legitimacy and/or effectiveness of a political system. Because of the high significance attributed to institutional trust, a better understanding of its determinants has become a key issue in social science research.

In our paper, we intend to contribute to the debate on the roots of institutional trust by focusing on the effects of income and inequality. There is much confusion about how wealth and inequality at the country-level and income at the individual-level affect trust in institutions. Depending on the data sources, the samples, and the methods applied, scholars have reached strikingly different conclusions. The situation is even more frustrating in the case of East-Central Europe, which has been a preferred analytical target for social scientists since the change of regime. In spite of this, few works have yet analysed the patterns of institutional trust in the region and even more limited is the number of those that have attempted to systematically analyse how the individual and country-level economic situation has influenced institutional trust in ECE. Most studies have only taken into account individual-level explanatory factors and have not tested country-level effects. These works are also quite limited in their analytical scope because they are either case studies or examine only a handful of countries

from the region. In short, there is plenty of room for more empirical research in this field.

We find the role of the individual economic situation especially intriguing because, unlike in Western Europe, in ECE people have been accustomed to considering the government responsible for their economic well-being [McIntosh et al. 1994], and this may have consequences for public trust in state institutions. In addition, these countries are believed to have a 'materialistic' political culture [Inglehart 2006], where people are predisposed to forming trusting attitudes in state institutions according to a general evaluative pattern, which is largely based on their personal economic situation and the perceived development prospects of their country [Catterberg and Moreno 2006; Lühiste 2006]. This leads to the assumption that people's relative income status and personal evaluation of their nation's economic performance may be stronger predictors of institutional trust in ECE than in Western Europe. However, the analysis of these micro-level determinants must also take into account two important contextual factors. On the one hand, East-Central European countries are poorer than Western European states, and this could reinforce differences in how personal income status and economic perceptions affect institutional trust in ECE and in Western Europe. On the other hand, the two parts of the continent do not exhibit strikingly diverse patterns of income inequality: in both regions there are countries that have either relatively low or high levels of inequality, which may also influence trust judgements and the explanatory power of micro-level factors.

## **Theory and previous research**

This article focuses on five possible determinants of institutional trust in East-Central and Western Europe. First, at the individual level, we test how (1) relative income, (2) the personal evaluation of one's financial situation, and (3) perceptions about the national economy's performance affect trust judgements. Second, we are interested in how (4) country-level development and (5) inequality are associated with institutional trust. In spite of the burgeoning literature on institutional trust, very few studies so far have tested these country- and individual-level economic effects simultaneously, which is a substantial shortcoming of the existing literature and a possible reason for the strong dissimilarity of empirical findings. In the literature review, we first summarise empirical findings about the role of individual-level factors and then go on to discuss country-level effects.

Scholars sharply disagree over how individual income affects institutional trust. In certain cases researchers draw very different conclusions even when they use exactly the same datasets. The contradicting findings of Kaasa and Parts [2008] and Catterberg and Moreno [2006] are examples at hand. In their study of 31 countries, Kaasa and Parts [2008] focused on the various micro-level determinants of trust. They considered institutional trust to constitute one of the

main dimensions of social capital. They drew on data from the fourth wave of the World Values Survey (1999–2002) and found that income—operationalised as household income deciles—did not have a significant connection to institutional trust. In addition, they distinguished between transition (Eastern European) and non-transition countries, but their conclusions did not reach beyond the already well-established claim that, overall, institutional trust was lower in Eastern than in Western Europe.

Catterberg and Moreno [2006] relied on the 1995–2001 waves of the World Values Survey (WVS) and analysed institutional trust (which they termed political trust) on a sample of 26 countries. In their analysis the authors included both self-reported levels of financial satisfaction and household income deciles. They found that while financial satisfaction was positively and significantly associated with institutional trust, household income deciles behaved differently across the country groups. Their results suggested that income decreased institutional trust in established democracies but boosted it in Eastern Europe and in Latin-America. These findings differ from those of Kaasa and Parts [2008] even though both works relied on the same dataset. This seems puzzling, but the unreliability of the authors' data may explain the contradicting results. While the WVS is a popular source for scholars who want to analyse patterns of social and institutional trust, Donnelly and Pop-Eleches [2012] have recently demonstrated that the use of WVS income data is problematic because household income has been asked about inconsistently across different countries and waves of the survey.

Drawing on the much more reliable data of the European Social Survey (ESS), van der Meer [2010] found, on a sample of 26 European countries, that household income deciles were negatively related to institutional trust [ibid.: 527]. Even though the author chose trust in parliament as his dependent variable instead of using a composite index of institutional trust, his findings are still relevant for the current discussion, especially because his is the only empirical contribution so far to use a multilevel analysis, which allows for the simultaneous testing of individual- and country-level effects. However, even this study has its shortcomings. Although individual determinants of trust did not constitute the author's main focus, his treatment of the income data raises some concerns. In the ESS, the household income variable has a lot of missing values. To resolve this problem, van der Meer applied a dummy variable adjustment by assigning average scores to the missing values and adding a dummy indicating 'missingness' [ibid.: 533]. Yet, this is not the most reliable method because it generally produces biased parameter estimates [see, e.g., Jones 1996]. Because of this, the author's findings about the negative effect of income on trust should be treated with caution.

In studies of institutional trust, however, indicators of personal income and/or the subjective assessment of one's financial situation are often contrasted with people's subjective perceptions of the performance of the national economy (so-called sociotropic economic evaluations), and in most cases the latter are

found to have greater explanatory power. In other words, sociotropic evaluations of the economy play a larger role than egocentric views in assessing public institutions [Kinder and Kiewiet 1979]. This proposition has been empirically tested and confirmed in a number of contexts, including the United States and Western Europe [Hetherington 1998; Lewis-Beck 1990] and, more recently, East-Central Europe as well.

For instance, Hibbing and Patterson [1994] showed that subjective perceptions of the state of the economy were significantly associated with parliamentary trust in the new democracies of East-Central Europe. Mishler and Rose [1997] also found that subjective evaluations of the state of the economy were much stronger determinants of institutional trust than a person's own financial situation. They claimed that people in ECE evaluated political institutions according to the perceived economic performance of their countries, and that their personal financial situation did not have a significant effect on institutional trust. In subsequent studies, Mishler and Rose [2001, 2002] drew similar conclusions by showing that evaluations of current macro-economic conditions were the most consistent and important predictors of regime support and institutional trust in post-communist societies. At the same time, they found that individual-level income had no effect on institutional trust. Similarly, in his comparison of East and West Germany, Campbell [2004] concluded that personal income had no impact on trust. Instead, he argued that the better economic position of former West Germany and people's subjective perceptions of this situation explained why overall institutional trust was higher there. Most recently, Lyons [2013] showed on Czech survey data that sociotropic evaluations of the economy were positively associated with public trust across a broad range of political institutions, while egocentric measures played a much weaker role.

However, some empirical works have found that in addition to the sociotropic measures, personal income and evaluation of one's financial situation were also positively and significantly related to institutional trust. Among these studies Lühiste's analysis [2006] on the Baltic States is one of the most comprehensive. The author included both sociotropic and egocentric measures in her models and found that even though self-reported personal economic circumstances had less explanatory power than sociotropic evaluations, those who were satisfied with their own economic situation demonstrated significantly higher trust in institutions than those who were not. More recently, based on a Hungarian survey, Bakonyi [2011] found a similar relationship, although she used a direct measure (monthly household income per capita) of income. Her analysis revealed that people with higher income placed greater trust in institutions.

In sum, the above-reviewed works have firmly established that people's perceptions of the national economy's performance are strongly and positively associated with institutional trust, but they have reached different conclusions about the role of income and personal economic conditions. So far we have confined the review to the possible role of the individual-level economic indicators

in determining institutional trust, while the contextual, country-level effects have only come up indirectly through the discussion of sociotropic evaluations of economic performance. However, as we mentioned in the introduction, contextual factors, in particular the level of economic development and income inequality, may influence how micro-level determinants of institutional trust behave. In spite of this important theoretical and empirical connection between individual- and country-level determinants, relatively few studies have attempted to explore the impact of contextual factors on institutional trust.

Among these works, McAllister [1999]—using the 1990–1991 wave of the WVS on a sample of 24 OECD members—found that higher levels of GDP were negatively related to institutional trust. He explained this surprising result by arguing that greater wealth generated higher expectations towards public authorities, which they were unable to satisfy. However, the author used country-level aggregates, so his analysis did not reveal anything about the potential association between the level of GDP and micro-level determinants of institutional trust. Regarding East-Central Europe, Mishler and Rose [2001] showed that the level of economic development measured as GDP per capita was weakly but positively related to aggregate levels of institutional trust. Contrary to these results, van der Meer's study [2010] did not find any significant associations between GDP per capita and trust in parliament.<sup>1</sup> This means that the above-cited three studies have reached entirely different conclusions about how the level of development affected institutional trust. At the same time, none of them attempted to explore the potential link between economic development and micro-level determinants of trust.

Only Catterberg and Moreno's contribution [2006] tried to distinguish micro-level effects by country groups. They found that individual-level income behaved differently in richer than in poorer countries (established democracies vs. former communist East European states). The authors suspected that income differences were responsible for this outcome: they argued that if income inequality was higher in a society (and they presumed that this was the case in Eastern Europe), then individuals in the upper income levels would be more likely to trust political authorities. However, they did not test this proposition. What is more, the assumption that income inequality may potentially have a negative effect on institutional trust has rarely been explored in the literature.

The only complex multi-level study on how inequality affects institutional trust conducted to date is by Anderson and Singer [2008], who, on a sample of 20 European countries, found that higher social inequality was indeed associated with lower trust in institutions. In spite of the lack of empirical works on the link

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<sup>1</sup> However, the author included GDP per capita and a dummy for former communist countries into his models simultaneously, even though the two variables are strongly correlated. This raises the question whether the effect of GDP became insignificant because of collinearity problems.

between inequality and institutional trust, there are several studies that chose social trust instead of institutional trust as their dependent variable and have established that higher inequality in a society was associated with lower social—or in other words interpersonal—trust. For instance, based on country-level data, Knack and Keefer [1997] demonstrated on a sample of 29 market economies that social trust was greater in countries with higher and more equal income. Uslaner [2000] also observed that the incremental increase in income inequality in the United States since the 1960s has been accompanied by a steady decline in social trust. Based on WVS data on a sample of 60 countries, Delhey and Newton [2005] found a significant negative association between inequality and social trust. In their sophisticated study, Wang and Gordon [2011] performed a multi-level analysis on a sample of 65 countries by using the 2000–2008 waves of the WVS and found that more severe inequality in a society was associated with lower levels of social trust.

Why are the above findings about inequality and social trust relevant for the current discussion? First, the positive association between social trust and institutional trust has already been firmly established in the literature [Keele 2007]. In short, the level of institutional trust is higher in societies where general social trust is higher [Kunioka and Woller 1999; Zmerli, Newton and Montero 2007]. Second, the relatively strong association between social and institutional trust implies that factors affecting social trust may influence institutional trust in a similar way. It follows that if income inequality is negatively associated with social trust, then the same relationship may also hold between institutional trust and inequality. In this respect, findings that suggest a negative relationship between inequality and social trust could possibly be applied to the study of the determinants of institutional trust, too.

This brief review of the literature has revealed that besides a general agreement about the positive relationship between subjective evaluations of economic performance and institutional trust, scholars markedly disagree on how economic development, inequality, and relative income affect institutional trust. Empirical findings are especially mixed regarding these effects in ECE. The sharp differences may be attributable to the sometimes improper choice of analytical approaches: in only rare cases did the researchers choose a method that had the ability to detect simultaneous country-level and individual-level effects and very few of them tested whether contextual factors played a role in how individual-level variables behaved. In this article, we aim to address these gaps in the literature and offer a more nuanced analysis than previous works. Although we focus on East-Central Europe, we place the region into a broader geographical context thereby offering a comparison with Western Europe. In the next section, we outline our hypotheses and introduce both the data and our analytical strategy, which is followed by a discussion and interpretation of the results.

## **Hypotheses**

Because of the sharply differing empirical findings, the literature offers limited guidance for us to formulate our hypotheses. Only the positive effect of socio-tropic economic evaluations has been well-established in the literature. In this respect, we anticipate that:

- (H1) Individual evaluations of the national economy's performance are positively related to institutional trust.

Although scholarly views differ on whether personal income and (subjective) evaluation of one's financial situation is positively or negatively associated with institutional trust (or whether there is any relationship at all), most studies tend to find a positive association. Accordingly, we also assume that income is likely to have a positive relationship with institutional trust. We base this on the so-called 'winner hypothesis', which posits that those people show greater trust who are successful in social, economic, and political life. First, it has been demonstrated that happiness and well-being are associated with trusting attitudes [Inglehart 1999]. Second, those who possess higher educational attainment also tend to be more trusting of political institutions [Schoon and Cheng 2011]. Third, people with a higher socio-economic status have been found to trust other citizens [Alesina and La Ferrara 2002] and public institutions [Parker and Parker 2003; Schoon and Cheng 2011] more than their less affluent counterparts. It therefore seems plausible that relatively well-off people place greater trust in those social and political institutions that have indirectly enabled their prosperity. Lately, the 'winner hypothesis' has gained prominence in the scholarly community and has also been reinforced by recent empirical works [see, e.g., Zmerli and Newton 2011]. Therefore, we expect that:

- (H2) Individual income is positively associated with institutional trust  
and  
(H3) a better subjective evaluation of a person's financial situation is positively related to institutional trust.

We also expect that a similar relationship prevails at the country level, therefore we anticipate that:

- (H4) The level of economic development is positively related to institutional trust.

Regarding income inequality we assume that:

- (H5) Country-level income inequality is negatively associated with institutional trust.

In the literature we have also identified two implicit and so far untested assumptions about potential interactions between country-level factors and personal income, which might affect institutional trust. On the one hand, McAllister [1999] suggested that as countries grew richer institutional trust would decrease as a result of the rising but unfulfilled expectations of the citizenry towards public authorities. On the other hand, Catterberg and Moreno [2006] found a similar relationship in that income had a positive effect on institutional trust in relatively poor Eastern European countries, but it showed a significant negative association in established democracies, including Western Europe. This argument also reinforces the proposition about the materialistic political culture prevailing in East-Central Europe. All in all, these observations jointly imply that at higher levels of development individual income is more likely to be negatively associated with institutional trust. In other words:

- (H6) Higher country-level development decreases the positive impact of individual income on institutional trust.

Finally, based on the assumption of Catterberg and Moreno [2006], who claim that in societies with high inequality wealthier people are more likely to trust institutions, we expect to find a positive interaction between the level of inequality and individual-level income:

- (H7) Higher inequality increases the positive impact of individual income on institutional trust.

## **Data and methods**

In this section we introduce our analytical strategy and the operationalisation of the dependent and independent variables. Our research question and hypotheses expect variation in institutional trust across countries and among individuals, which calls for the simultaneous testing of country-level and individual-level effects. This requires estimating a series of multi-level regression models where individuals (Level 1) are nested in countries (Level 2 or contextual level). The data are therefore organised into a hierarchical, two-level structure. By following this analytical strategy we will also be able to test cross-level interactions, which, as we stated in (H6) and (H7), may influence institutional trust.

In order to assess the hypothesised relationships, we drew on the fifth wave (2010) of the European Social Survey (ESS). The ESS is an academically driven survey based on face-to-face interviews. It is commonly regarded as one of the most reliable cross-national datasets, providing high-quality data [Zmerli and Newton 2008] and covering both Western and Eastern European countries. Because of its rigorous methodology, which ensures the validity and comparability of the concepts across the participating countries, the ESS is ideal for cross-coun-

try analysis (on this point see also Marien [2011b: 716]). For the purpose of the current analysis, we selected 14 Western European and 9 East-Central European countries from the ESS.<sup>2</sup>

## **Dependent variable**

To measure institutional trust, we calculated an 11-point indicator by taking the mean value of the valid responses to the questions about respondents' trust in the national parliament, the legal system, the police, and political parties. Because we are interested in the trust people place in domestic state institutions, we did not take into account trust in the United Nations or the European Parliament. We also omitted trust in politicians, as this indicator does not refer to a specific institution and is extremely strongly correlated with trust in political parties, which we have already included in the trust index. Our measure captures trust in institutions that are heavily exposed to politics (parliament and political parties), but it also incorporates much less politicised entities (legal system and police). This way we offer a relatively broad indicator of trust in domestic state institutions, especially compared to those studies that measure trust in a single institution.<sup>3</sup>

However, the use of such a composite index as a proxy for institutional trust has been criticised, for instance, by Fisher, van Heerde and Tucker [2010], who claim that citizens develop different forms of trust judgements that may vary both in application and significance depending on the given institution. But as Almond and Verba [1963] argue, citizens are likely to develop a single comprehensive attitude towards trust in institutions, which is influenced by the prevailing political culture in their country. More recent studies [Hooghe 2011; Zmerli, Newton and Montero 2007] have also established that 'institutional trust can be conceptualised as a one-dimensional attitude' [Marien 2011a: 19].

In order to assess whether the four indicators of institutional trust do indeed measure the same background concept, we ran a principal component analysis (PCA), which confirmed our expectations. The PCA showed that the

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<sup>2</sup> Countries included from Western Europe: Cyprus, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom. Countries included from East-Central Europe: Bulgaria, Croatia, the Czech Republic, Estonia, Lithuania, Hungary, Poland, Slovakia, and Slovenia. Income data for Portugal were unavailable in the dataset; therefore, we excluded it from the analysis. The article explicitly compares Western and East-Central European countries, so we did not include Israel, Russia, or Ukraine because they do not belong to either of these country groups.

<sup>3</sup> Anderson and Singer [2008], who also relied on ESS data, operationalised institutional trust in exactly the same way and argued that this composite indicator 'gauges people's trust in a fairly specific set of institutional actors—each more specific, certainly, than asking about the political system as a whole' and that this measure 'is considered an indicator of support for regime institutions' [ibid.: 576–577].

four items loaded strongly on a single dimension (each factor loading was above .75) explaining 67.18% of the total variance with an Eigenvalue of 2.69. Furthermore, we also calculated the value of Cronbach's alpha (.836), which reinforced the appropriateness of calculating a single index of institutional trust from these four variables. Because our dependent variable has 11 categories and is normally distributed, we chose to run linear multivariate regressions employing the Full Maximum Likelihood estimation procedure, which also allows for comparisons across nested models [Hox 2010].

### **Individual-level variables**

In our models we test the effect of three key individual-level explanatory variables that reflect economic well-being (relative income and people's subjective evaluations of their financial situation) and attitudes towards the state of the national economy (sociotropic evaluations). Among these, the operationalisation of income is the most challenging task. Scholarly works prefer to use a relative income measure because, as it is often argued, relative income is a better indicator of welfare than absolute income in that it involves an external reference point, which incorporates a positional, status-related aspect [Clark, Frijters and Shields 2008].

In line with this, we chose an income variable from the ESS database that measures the household income of the respondents, classified according to the income deciles in the corresponding country. This indicator thus shows the relative wealth of the respondent's household on a 10-point scale, where higher values represent relatively richer households.<sup>4</sup> However, in some of the country samples we found that many of the data points were missing (up to 30%). This is problematic because a large share of missing data could affect the representativeness of the sample, which could lead to biased estimators in the models. To avoid this, we applied a multiple imputation technique in order to impute the missing income values.<sup>5</sup> Multiple imputation is advantageous in that it produces better statistical validity than listwise deletion and is also statistically efficient as it uses the entire

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<sup>4</sup> An obvious limitation to using household income deciles is that this measure does not take into account the number of people living in the household. In this sense, the variable does not strictly reflect individual welfare. Although the ESS contains data on household size, it is not possible to adjust income deciles accordingly.

<sup>5</sup> We created five imputed datasets using the fully conditional specification (FCS) method (chained equations). FCS specifies regression models for the variable with missing data, conditional on all of the other variables in the imputation model, which are used for imputing the missing values. We included the following variables in the imputation model: the respondent's feelings about current household income, the extent to which the respondent's household had to draw on savings or debt to cover ordinary living expenses in the past three years, happiness, sociability, satisfaction with life, social trust, age, educational attainment, gender.

dataset in the analysis. Although theoretical concerns have been raised regarding the use of this method, van Buuren et al. [2006] demonstrated that it produces reasonable imputed values with appropriate coverage.

For the egocentric measure of income, we created a dummy variable that represents those respondents who claimed that they were living comfortably or coping on current household income. We treated those respondents who reported difficult or very difficult financial conditions as the reference group. Finally, for the sociotropic measure we chose an indicator that shows the respondents' satisfaction with the current state of the national economy on an 11-point scale.<sup>6</sup>

In addition to the above indicators, we introduced several socio-economic controls into the models. As has already been noted, social trust is positively related to institutional trust. We thus calculated an index of social trust by taking the mean values of the valid responses to the questions on how much people trust each other, how fair people consider their fellow citizens, and how helpful they perceive others. Similarly to the procedure we followed with the components of the institutional trust index, we performed a PCA on the three indicators of social trust to determine whether they do indeed measure the same concept. The results confirmed our expectations: the three items loaded strongly on a single dimension (factor loadings above .77), which explained 63.76% of the total variation with an Eigenvalue of 1.91. The high Cronbach's alpha score (.715) reinforced the choice of these indicators for calculating our social trust index.

Furthermore, the 'winner hypothesis' assumes that successful and happy people are also more likely to trust institutions. Accordingly, we created a happiness indicator from the mean values of the valid responses to the questions about happiness and satisfaction with life. We also added an indicator of social integration, and, although not a central concern of our research, we included a measure of religiosity into the analysis because it has been found to be positively associated with institutional trust [see, e.g., Rohrschneider and Schmitt-Beck 2002]. Finally, following those studies that suggest a relationship between the frequency of media use and institutional trust [see, e.g., Gross, Aday and Brewer 2004], we also selected an indicator of media consumption. In addition, we added controls for age, gender, education, place of residence, and membership in a minority group.

## **Country-level variables**

Turning to the contextual variables, we chose the 2010 GDP per capita in Purchasing Power Standard (PPS) as the indicator of country-level development. PPS is an artificial currency unit created by Eurostat, which is based on euros adjusted for price level differences across countries. In theory, one PPS can buy the same amount of goods and services in each country, which makes it a particularly use-

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<sup>6</sup> For a detailed description of all the variables, please consult Appendix 1.

ful measure for cross-country comparisons of economic indicators. Regarding the level of inequality, we employed the most commonly used measure, the GINI index. Furthermore, we also introduced a binary variable that distinguishes between East-Central European and Western European states in order to determine whether being a new democracy explains any of the variation in the dependent variable at the country level.

## Analysis and results

We assumed that the level of economic development had a positive, whereas the level of inequality a negative relationship with institutional trust. Figure 1 presents a visualisation of institutional trust levels in our country sample as a function of GDP per capita. The chart reveals a remarkably strong and significant correlation ( $r = .817, p < .001$ ) between economic development and institutional trust, but it also shows a nearly perfect clustering of the countries into two groups: East-Central European states score low on both dimensions, while Western Europe, with the exception of Greece, is wealthier and also demonstrates higher levels of institutional trust.

The position of the countries relative to the vertical reference line in Figure 1, which is set to the mean of GDP per capita, reveals a further pattern: all ECE countries are far below the average GDP level, while almost every Western European state is above it. This means that economic development has a strong negative association ( $r = -.814, p < .001$ ) with the East-Central-European country group. Consequently, the inclusion of both the GDP and the ECE variable into a regression model may cause serious problems of multicollinearity. For this reason, we treated these two country-level indicators separately.

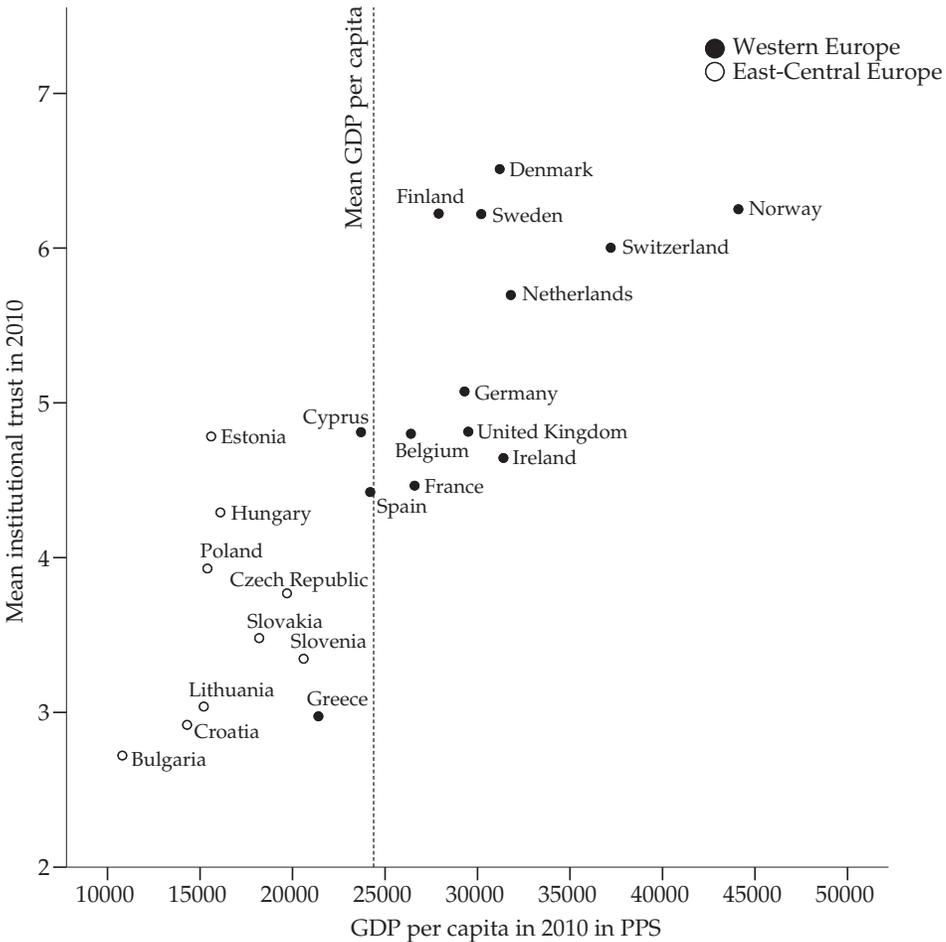
Contrary to GDP, inequality does not show the expected relationship with institutional trust. Although Figure 2 may suggest a slight negative association between the two variables, it is quite weak and statistically not significant ( $r = -.398, p > .05$ ). Another difference from the case of the GDP levels is that East-Central and Western European countries are evenly spread around the mean of the GINI index, which means that the inequality indicator and the ECE dummy are not correlated ( $r = .062, p > .05$ ) and their simultaneous inclusion into the regression models will not bias the results.

Because we have a relatively large number of individual-level variables, collinearity problems could arise during the analysis. However, the correlation matrix<sup>7</sup> shows that, in spite of the statistically significant bivariate associations between most of the indicators, the coefficients remain small enough not to that expect multicollinearity substantially will affect our results. Nevertheless, to enhance the interpretation of the regression coefficients and to mitigate all potential collinearity problems because of the inclusion of cross-level interactions in our

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<sup>7</sup> For the full correlation matrix of Level 1 variables, please consult Appendix 2.

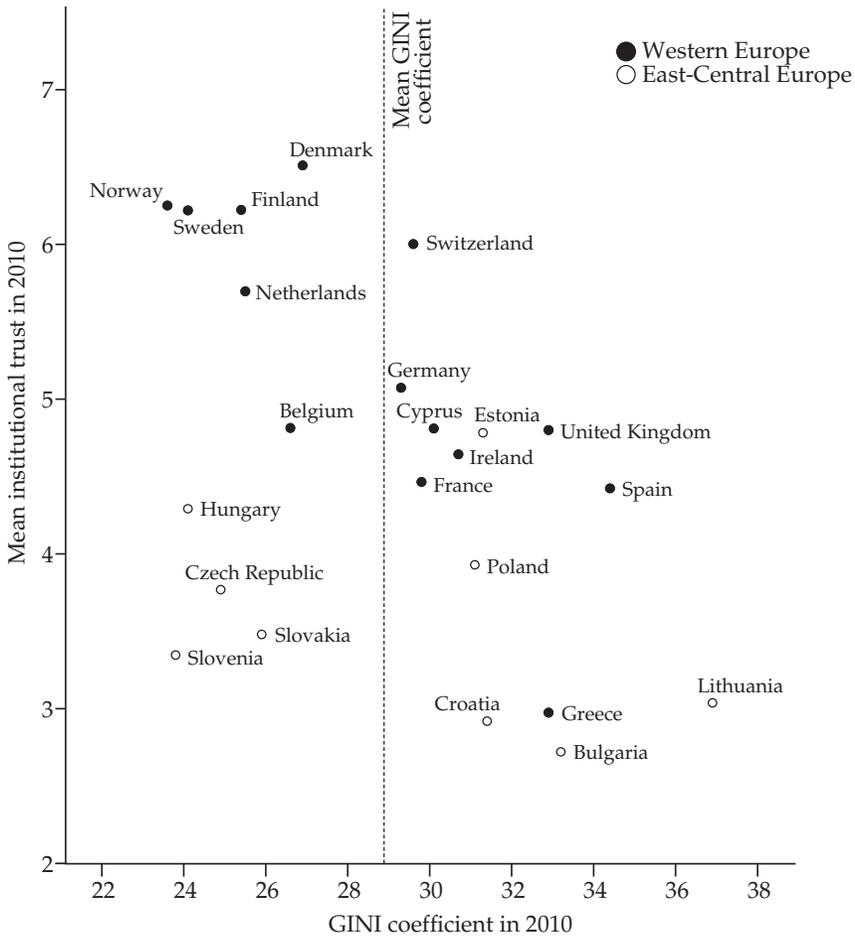
Figure 1. Connection between economic development and institutional trust



final models, we ensured that all the explanatory variables have a meaningful zero point. In this vein, we centred both the GDP indicator and the GINI index on their grand mean, which is a recommended step to take in multi-level analyses [Hox 2010].

We first estimated an intercept-only model (the null model) without explanatory variables, which served as a benchmark for the subsequent analysis. Next, we built two series of nested models. In the first series (Table 1) we included the indicator of household income and the sociotropic measure, whereas in the second series (Table 2) we replaced the income variable with the egocentric measure of financial situation. In both cases we added the various parameters step by step.

**Figure 2. Connection between inequality and institutional trust**



First, we calculated the fixed effects of the Level 1 explanatory variables (Model 1 and Model 6), which was followed by the inclusion of the country-level fixed effects. Next, we estimated the effects of the ECE dummy and the inequality measure (Models 2 and 7) and, separately, that of GDP and inequality (Models 4 and 9). Finally, we included the cross-level interactions (Models 3, 5 and 8, 10).

The null model was useful in that it gave us an estimate of the intra-class correlation, which shows the proportion of the total variance in institutional trust that can be found at the country level. According to this figure, 27.9% of the variation in the dependent variable is at the country level, which indicates that multi-level modelling is indeed an appropriate method to apply. Even after controlling for the

Table 1. Pooled parameter estimates of the multi-level linear regression models for institutional trust

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	SE								
Intercept	1.332**	.129	1.669**	.149	1.671**	.153	1.326**	.121	1.348**	.122
<i>Individual-level fixed effects</i>										
Income decile	.014*	.006	.014*	.006	.026**	.007	.014*	.006	.013*	.005
Economic satisfaction	.297**	.013	.297**	.014	.289**	.016	.296**	.013	.296**	.012
Social trust	.240**	.018	.240**	.018	.239**	.018	.239**	.018	.239**	.018
Happiness	.080**	.009	.080**	.009	.080**	.009	.080**	.009	.081**	.009
Religiosity	.006*	.002	.006*	.002	.006*	.002	.006*	.002	.006*	.002
Sociability	.004	.009	.004	.009	.004	.009	.004	.009	.004	.009
Media consumption	.003	.006	.003	.006	.003	.006	.003	.006	.004	.006
Metropolitan resident	-.045	.047	-.045	.047	-.038	.046	-.045	.047	-.037	.046
Tertiary education	.131**	.044	.131**	.043	.130**	.043	.131**	.044	.129**	.044
Age	.001	.002	.001	.002	.001	.002	.001	.002	.001	.002
Age squared	.000**	.000	.000**	.000	.000**	.000	.000**	.000	.000**	.000
Minority member	.276**	.081	.277**	.081	.273**	.075	.276**	.081	.273**	.075
Male	-.032	.030	-.032	.030	-.030	.030	-.032	.030	-.029	.030
<i>Country-level fixed effects</i>										
GINI coefficient			-.042*	.018	-.050*	.022	-.007	.027	-.009	.026
ECE			-.886**	.159	-.841**	.174				
GDP per capita					.049**	.014	.050**	.014	.050**	.014

Table 1. Pooled parameter estimates of the multi-level linear regression models for institutional trust—cont'd

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE	B	SE	B	SE
<i>Cross-level interactions</i>										
Income decile * ECE			-.033*	.013						
Income decile * GINI			-.003	.002						
Income decile * GDP									.0029**	.0006
Economic satisf. * ECE			.020	.024						
Economic satisf. * GINI			.005	.004						
Economic satisf. * GDP									-.0028	.0014
<i>Random effects</i>										
Individual-level variance	2.586**		2.586**		2.582**		2.586**		2.581**	
Country-level variance	.329**		.109**		.105**		.165**		.150**	
Intra-class correlation	.113		.041		.039		.060		.055	
Number of cases	41465		41465		41465		41465		41465	
-2Log Likelihood	157206.702		157181.576		157116.942		157190.996		157104.05	

Note: Unstandardised coefficients, robust standard errors. Figures are rounded to the third decimal.  
 Full Maximum Likelihood estimates. Design weights applied.  
 \*\* significant at 99%, \* significant at 95%.

Table 2. Multi-level linear regression models for institutional trust

	Model 6		Model 7		Model 8		Model 9		Model 10	
	B	SE	B	SE	B	SE	B	SE	B	SE
Intercept	1.350**	0.126	1.683**	.146	1.714**	.145	1.343**	.118	1.356**	.123
<i>Individual-level fixed effects</i>										
Comfortable/coping	.067*	.029	.067*	.029	.121*	.048	.066*	.029	.088**	.027
Economic satisfaction	.296**	.014	.296**	.014	.288**	.016	.295**	.014	.295**	.012
Social trust	.239**	.018	.240**	.018	.239**	.018	.239**	.018	.238**	.018
Happiness	.081**	.008	.081**	.008	.079**	.008	.081**	.008	.080**	.008
Religiosity	.006**	.002	.006**	.002	.006*	.002	.006**	.002	.006**	.002
Sociability	.002	.008	.002	.008	.002	.008	.002	.008	.002	.008
Media consumption	.003	.006	.003	.006	.003	.006	.003	.006	.003	.006
Metropolitan resident	-.041	.047	-.041	.047	-.039	.047	-.041	.047	-.038	.047
Tertiary education	.147**	.045	.147**	.045	.148**	.045	.147**	.045	.149**	.045
Age	.001	.002	.001	.002	.001	.002	.001	.002	.001	.002
Age squared	.000**	.000	.000**	.000	.000**	.000	.000**	.000	.000**	.000
Minority member	.267**	.082	.268**	.082	.269**	.080	.268**	.083	.270**	.080
Male	-.028	.031	-.028	.031	-.027	.032	-.028	.031	-.025	.031
<i>Country-level fixed effects</i>										
GINI coefficient			-.041*	.018	-.055**	.020	-.007	.027	-.009	.026
ECE			-.874**	.159	-.905**	.157				
GDP per capita					.048**	.014			.053**	.015

Table 2. Multi-level linear regression models for institutional trust—cont'd

	Model 6		Model 7		Model 8		Model 9		Model 10	
	B	SE	B	SE	B	SE	B	SE	B	SE
<i>Cross-level interactions</i>										
Comfortable/coping * ECE					-.099	.067				
Comfortable/coping * GINI					-.012	.007				
Comfortable/coping * GDP									.012**	.004
Economic satisf. * ECE					.020	.023				
Economic satisf. * GINI					.005	.003				
Economic satisf. * GDP									-.003*	.001
<i>Random effects</i>										
Individual-level variance	2.580**		2.580**		2.578**		2.580**		2.578**	
Country-level variance	.322**		.109**		.105**		.164**		.153**	
Intra-class correlation	.111		.040		.039		.060		.056	
Number of cases	41180		41180		41180		41180		41180	
-2Log Likelihood	155769.814		155745.006		155710.626		155754.428		155713.396	

Note: Unstandardised coefficients, robust standard errors. Figures are rounded to the third decimal.  
Full Maximum Likelihood estimates. Design weights applied.  
\*\* significant at 99%, \* significant at 95%.

effect of the individual-level variables, a substantial degree of country-level variance remained (11% in Models 1 and 6), which justifies the inclusion of Level 2 explanatory variables. In Table 1 and Table 2 we report the results of the estimates.<sup>8</sup>

The figures show that the sociotropic indicator is positively and significantly associated with institutional trust and this effect is consistent across all specifications. In fact, personal satisfaction with the economy seems to be the strongest predictor of institutional trust. Our results thus provide firm support for (H1). Similarly, with respect to their main effects, the income variable and the egocentric measure of financial situation are significantly and positively related to the dependent variable. To put it differently, the main effect of income is positive, which implies that if all other things are held constant, then, on average, those respondents whose households belong to higher income deciles tend to trust institutions more. The results also suggest that those respondents who feel comfortable about their household income, or at least claim to cope on present income, significantly differ from those who face financial difficulties: on average, the more affluent group demonstrates higher institutional trust. These findings support both (H2) and (H3).

Regarding the main effects of the country-level indicators, the figures reveal a significant negative coefficient for the ECE dummy and a significant positive one for GDP. On the one hand, this confirms that people in East-Central Europe demonstrate lower institutional trust if all other things are equal. On the other hand, because the ECE coefficient is negative and because ECE countries are poorer than Western European states, the measure of country-level economic development has to be positively associated with institutional trust. Indeed, GDP shows the expected positive sign: in richer countries people tend to report higher trust in institutions than in poorer ones, if all other things are held constant. This provides evidence in support of (H4).

The interpretation of the role of the inequality indicator is less straightforward than that of the other country-level factors. Although the models consistently show a negative effect of inequality on institutional trust, it is significant only when the ECE dummy is also present. The solution to this seemingly puzzling phenomenon lies in Figure 2, which shows that the GINI coefficient would have a strong negative correlation with institutional trust if four ECE countries (the Czech Republic, Hungary, Slovakia and Slovenia) were excluded from the analysis. In these states the level of inequality is fairly low, yet their institutional trust levels are also low, which makes them 'deviant' cases. The ECE dummy captures their effect on the dependent variable, and after having controlled for

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<sup>8</sup> Models 1 to 5 were run on the five imputed datasets. Table 1 reports the pooled parameter estimates. We also ran these models on the original dataset applying listwise deletion for the missing household income values. The results were fully consistent with the estimates based on the imputed datasets. Because Models 6 to 10 do not involve imputed data, we ran those models on the original dataset only.

this, the negative influence of inequality on institutional trust becomes significant. The GDP variable does not perform the same role as the ECE dummy and this is why in those models where both the GDP and the inequality measures are included the coefficient of the GINI index shows the expected negative, yet statistically not significant relationship with institutional trust. We have thus found partial evidence in support of (H5), but it requires a more detailed explanation about why four ECE countries are outliers.

There are at least two possible explanations for this phenomenon. It might be the case that inequality has a negative effect on institutional trust only in Western Europe but not in ECE. However, we argue instead that a specific, common attribute of the political economies of the four 'deviant' countries explains why they do not fit the overall picture. We claim that it is not social inequality *per se* but its public perception influenced by egalitarian attitudes that is related to institutional trust. As inequality grows, the feeling of relative deprivation within the society also rises, which may generate mistrust of state institutions. This is the general mechanism behind the negative relationship between social inequality and institutional trust. However, expectations about the role of the state in treating inequality also play a role. If people think that the state should actively engage in reducing income differences and at the same time there is a widespread belief that social inequality is high, then this also implies that people will perceive the state to be unable to deliver what they expect from it, which may result in lower trust in state institutions. As we demonstrate below, citizens of the four ECE states share exactly these two key features: they substantially overestimate the level of social inequality in their countries and at the same time demonstrate strongly egalitarian attitudes.

After the change of regime, rising inequality made people sensitive to this issue and it has caused a lasting misperception of the actual income differences all over East-Central Europe. Recent surveys have shown that a vast majority of citizens in ECE (60% to 95%) believe that income differences are too big in their countries [Redmond, Schnepf and Suhrcke 2002] or there is too much social inequality [Loveless and Whitefield 2011]. Although attitudes towards inequality are quite similar across ECE, the differences between public perceptions and objective measures are especially striking in the case of the Czech Republic, Hungary, Slovakia, and Slovenia, which, as their GINI index shows, are relatively equal societies. The other ECE states demonstrate relatively high income inequality, thus in their case there is a narrower gap between public perceptions and reality.

Furthermore, our data suggest that citizens of the four East-Central European countries express strongly egalitarian public attitudes. According to the 2010 ESS survey, only 26% of Western European citizens agreed strongly with the statement that the government should reduce income differences as opposed to 40% of ECE respondents. However, the share of these respondents in the four ECE countries was higher (43%) than in the other ECE states (38%). We therefore assume that the strongly egalitarian attitudes combined with the high gap

between perceived and actual social inequality in the Czech Republic, Hungary, Slovakia, and Slovenia explain why they demonstrate lower institutional trust in spite of the relatively low internal income differences.

But why do these four countries differ so much from the others? We argue that their outlier status stems from their political economy. After the regime change, ECE governments gave different policy responses to rising social inequality. In the Czech Republic, Hungary, Poland, Slovakia, and Slovenia, subsequent governments became committed to maintaining a relatively generous welfare state in order to compensate the population for the losses suffered during transition. High social spending has become a systemic feature of these countries, especially in comparison with other ECE states where the governments were either unable or unwilling to provide extensive social benefits (for more on this, see Bohle and Greskovits [2012]). Central government policies have thus reinforced egalitarian attitudes in these societies, yet they failed to mitigate public concerns about the level of inequality. This has led to the paradoxical situation that misperceptions about income differences are the greatest in the Czech Republic, Hungary, Slovakia, and Slovenia, which spend the highest per capita amount of state resources on social protection<sup>9</sup> and have been the most successful among ECE states in keeping social inequality at a relatively low level.

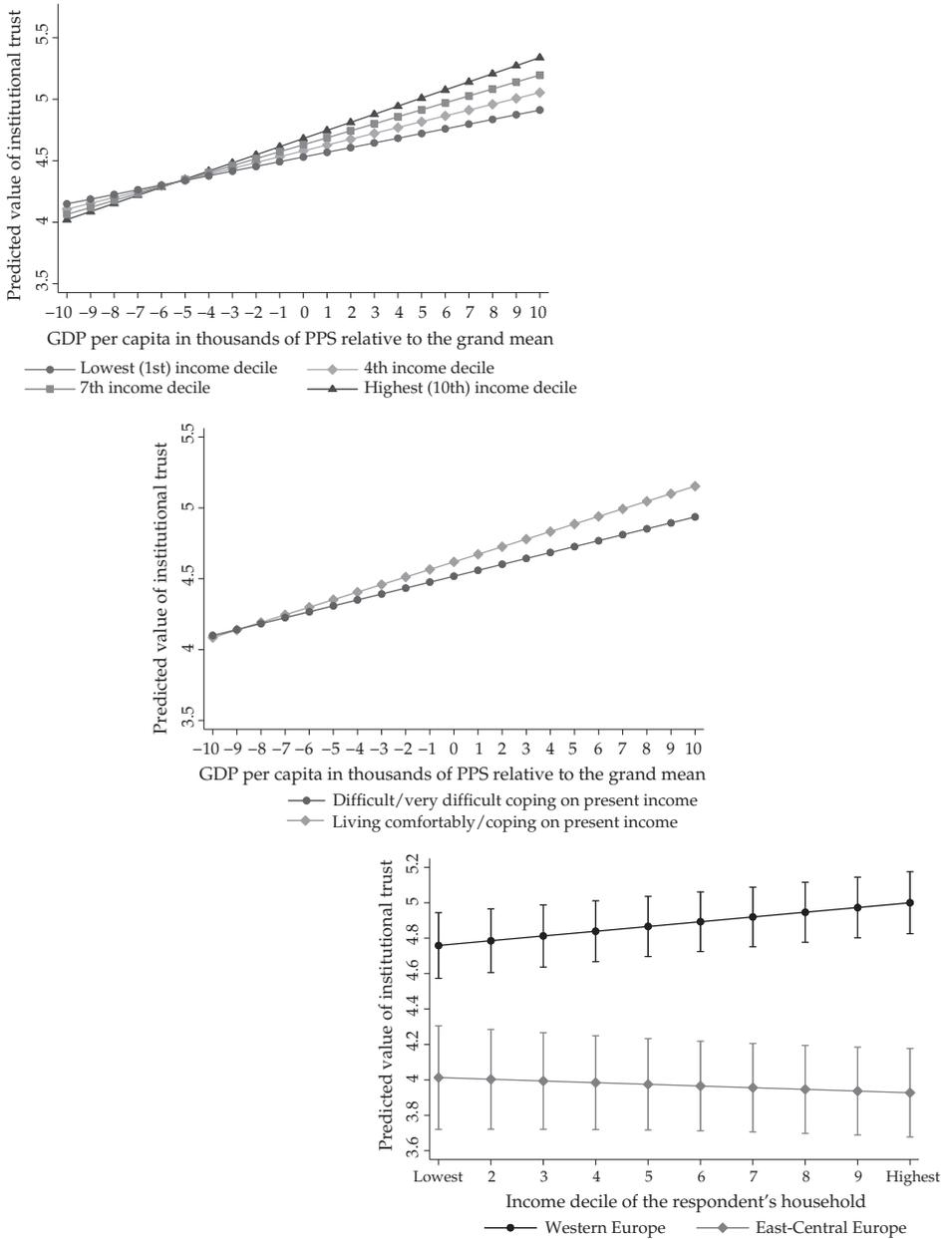
In the previous paragraphs we reflected on the main effects of the key independent variables. Next, we discuss the cross-country interactions. Following McAllister's argument [1999] that in richer countries wealthier people may harbour greater but partly unmet expectations of the state, we assumed that higher GDP would decrease the positive effect of income on institutional trust (H6). The argument about the materialistic political culture prevailing in East-Central Europe and Catterberg and Moreno's claim [2006] that individual-level income was positively associated with institutional trust in the relatively poor ECE countries further reinforces this assumption.

However, our results reveal that a different mechanism is at play. The first two charts in Figure 3 show the marginal effects of income deciles and economic coping on institutional trust at different levels of GDP (Models 5 and 10) when all other variables are at their mean, while the third chart displays the marginal effect of income deciles on institutional trust in East-Central and Western Europe (Model 3). Contrary to our expectations, as GDP per capita grows, the positive effect of both relative household income and the egocentric measure of a person's financial situation increases. In other words, the difference in institutional trust between respondents belonging to two different household income deciles is greater at high-

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<sup>9</sup> In 2011, these four countries had the highest social protection expenditure per capita in East-Central Europe (Slovenia (5231), Czech Republic (4275), Hungary (4064), Slovakia (3583), expressed in the Purchasing Power Standard (PPS). Source of the data: EUROSTAT: <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>; and [http://epp.eurostat.ec.europa.eu/NavTree\\_prod/NodeInfoServices?lang=en&nodeId=222574](http://epp.eurostat.ec.europa.eu/NavTree_prod/NodeInfoServices?lang=en&nodeId=222574) (explanatory notes for the social protection data) retrieved 14 April 2014.

**Figure 3. Marginal effects of income deciles and economic coping at different GDP levels and the marginal effect of income deciles in East-Central and Western Europe (all other variables are at their mean)**



er levels of GDP than at lower levels, if all other things are held constant. Similarly, all else being equal, the difference in the average institutional trust level between those who report financial difficulties and those who live comfortably or cope on present income is bigger at higher than at lower levels of GDP per capita.

However, Figure 3 also shows that the marginal effect of household income deciles is negative in East-Central Europe as opposed to a positive relationship in Western Europe (Model 3). To put it differently, holding all other variables constant, a Western European whose household belongs to a higher income decile will, on average, place greater trust in institutions than his or her fellow citizen from a household in a lower income decile. In East-Central Europe, there is an inverse relationship: higher relative household income is associated with lower institutional trust, all else being equal. In other words, after having controlled for the effect of all the other variables in the model, relative income shows a significant positive association with institutional trust in Western Europe, whereas the results suggest a significantly different (slightly negative) relationship in East-Central Europe. The negative cross-level interaction between the egocentric measure and the ECE dummy (Model 8) exposes a similar association, even though this interaction term is statistically not significant. This means that the positive main effect of relative income applies only in Western Europe and not in East-Central Europe.

The significant interaction term of relative income and economic coping with GDP reinforces the above finding because every ECE country is well below the average GDP per capita of the whole sample, whereas, with the exception of Greece, the Western European states perform well above it (or at least Cyprus and Spain are very close to the grand mean). To put it differently, the significant negative interaction effect of relative income with ECE is reflected in the significant positive interaction term of both relative income and economic coping with per capita GDP. While in Western Europe higher GDP levels slightly amplify the positive effect of relative income and economic coping on institutional trust (if all other conditions are the same), this is not the case in East-Central Europe. Regarding Western Europe, this finding brings further support for the winner hypothesis and refutes McAllister's argument [1999] about the negative effect of higher income status on institutional trust in richer countries. At the same time, in terms of relative income, the winner hypothesis does not fully hold in East-Central Europe: our results suggest that, all else being equal, an ECE citizen from a household in a lower income decile will, on average, place slightly higher trust in state institutions than his or her fellow citizen from a household belonging to a higher income decile. This effect is small, but it is significant and becomes quite striking in an East-West comparison. We thus did not find evidence for (H6). Instead of the expected negative relationship, GDP per capita increases the positive effect of relative income on institutional trust but only in Western Europe and not in ECE.

Why do East-Central European countries differ from Western Europe in this respect, or to put it differently, why do people from richer households in ECE trust institutions less than people from poorer ones if all other conditions are the

same? Because the significant negative relationship of relative household income on institutional trust appears after the effect of all the other variables included in the estimations is controlled for, this puzzling outcome has to be related to a factor that is unobserved in our models. On the one hand, it is possible that a particular characteristic of ECE countries that affects people in more affluent households may trigger less trust in state institutions among them compared to those in households from lower income deciles but with the same individual attributes in every other aspect. On the other hand, a specific, common feature of people in relatively richer households may also explain the difference. It is beyond the scope of this paper to provide a fully-fledged explanation for this puzzle and further research is necessary to explore it in more detail. Nevertheless, in the following paragraphs we try to formulate some plausible assumptions.

Regarding the potential country-level characteristics, it may be the case that it is not the relatively rich citizens but those who live in poorer conditions who are in some ways affected by the state and that particular influence generates more trust in state institutions. We have already discussed that in East-Central Europe people tend to share strong egalitarian attitudes and expect the state to decrease income inequalities, which also implies that they anticipate transfers from the social welfare system. Because citizens who live in poorer households are presumably more dependent on social transfers, within this context they may express even stronger egalitarian attitudes than people in richer households. If this is indeed the case, then those in the lower household income deciles who anticipate and also receive social benefits from the state could possibly trust state institutions more than people in wealthier households.

Although we cannot test the above proposition on our data, some preliminary analysis points to this line of inquiry. According to the 2010 ESS survey, in every ECE country (with the exception of Croatia) respondents from the lowest three household income deciles expressed much higher levels of egalitarian attitudes than people in the highest three deciles. In each case, the share of those who agreed strongly with the statement that the government should reduce differences in income levels was higher among those whose households belonged to the lowest three income deciles than those who lived in households in the top three deciles. The difference in these proportions ranged between 6% (Hungary) and 21% (Bulgaria).<sup>10</sup> These data do not confirm our assumption, but at least they increase its plausibility. Further research on the relationship between ECE social welfare systems and institutional trust is required to elaborate on this point.

With respect to individual-level characteristics, a potential explanatory factor could be that the aspirations of those who live in richer households differ from those in poorer ones. It is possible that the wealthiest people in ECE compare

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<sup>10</sup> The only exception was Croatia, where 36% of the respondents from the top three household income deciles agreed strongly with the above statement, compared to only 31% of those from the lowest three income deciles.

their situations to that of the rich in Western European countries and not to their fellow citizens. As a result of such a comparison, they may think that they would be able to achieve an even higher standard of living in the West but domestic state institutions prevent them from fulfilling their aspirations. If this argument holds, then it may result in lower institutional trust among citizens in the relatively rich households. Because of the lack of relevant data, however, we cannot test whether such a mechanism indeed exists in East-Central Europe.

Finally, concerning our last hypothesis (H7), which assumed that higher social inequality may enhance the positive effect of income on institutional trust, our models did not bring evidence in support of this expectation. While the main effect of income inequality is negative on institutional trust, it seems that the level of inequality does not influence the association between relative income or economic coping and trust in state institutions. Although the signs of the coefficients of the corresponding cross-level interaction terms are negative (Models 3 and 8), they are statistically not significant. Moreover, these effects are so small that they can be considered irrelevant even in the case of statistical significance.

All things considered, the explanatory power of our models is reasonably high. Models 3 and 8 explain 92% of the country-level variation in institutional trust, while the corresponding figure is 88% for Models 5 and 10. They also capture a relatively large share (25%) of the individual-level variance in the dependent variable. In spite of this, our analysis faces the common limitations of cross-sectional studies: all of the results should be interpreted as correlative because causal claims cannot be derived based on cross-sectional samples.

## **Conclusion**

Because trust in state institutions is a component of political legitimacy and contributes to the effective implementation of government policies, it is important to explore and understand its determinants. The task is especially relevant in the context of East-Central Europe where, compared to Western European levels, institutional trust is persistently low. In order to shed some light on this issue, in this paper we focused on how an individual's economic situation, perceptions about the state of the national economy and country-level development, and inequality shape public trust in state institutions across the two sides of the continent.

The claim about East-Central Europe's materialistic political culture and the assumption of the winner hypothesis, which contends that people who are successful in economic and social life trust state institutions more than others, constituted our theoretical points of departure. It follows from these propositions that individual economic well-being may substantially determine institutional trust and that this relationship would be more pronounced in ECE than in Western Europe in the sense that an individual's economic situation would have a greater effect on institutional trust there. The study was further motivated by the sharply

different findings of those works that have examined the relationship between various measures of individual well-being and institutional trust.

The empirical analysis has revealed an East-West divide which contradicts both the expectations based on ECE's materialistic political culture and those assumptions that anticipate a negative relationship between individual well-being and institutional trust in rich democracies. Although in the case of Western Europe the results have confirmed the winner hypothesis, in East-Central Europe we found only partial evidence in support of it. On the one hand, subjective evaluations of the national economy are uniformly strongly and positively associated with trust in institutions. On the other hand, the effect of relative income is different in ECE than in Western Europe. While it shows a positive sign in the West, East-Central European citizens who live in relatively poor households place slightly more trust in state institutions than their fellows in wealthier households, all else being equal.

Furthermore, we found that at higher levels of per capita GDP the positive effect of both relative income and the egocentric measure of financial situation increases. Nevertheless, this result is consistent with the previous findings, because all the ECE countries in our sample have a much lower GDP per capita than the Western European states. Finally, the paper revealed that while country-level inequality is negatively associated with institutional trust, the Czech Republic, Hungary, Slovakia, and Slovenia are exceptions in that their relatively low levels of social inequality are accompanied by similarly low trust in institutions.

Although it is beyond the scope of our work to conduct a thorough investigation into the possible reasons for the unveiled differences between the East and the West, we suspect that the strongly egalitarian attitudes of ECE citizens, which are even more pronounced among those who live in the poorest households and who are presumably the most dependent on social transfers, may explain why the relatively poor are more trustful of state institutions than the rich, if all other conditions are the same. Regarding the four ECE countries where low social inequality does not result in proportionally higher institutional trust, we assume that a common feature of their political economies, the generous social welfare systems, combined with the citizens' strong egalitarian attitudes and their substantial misperception of the actual level of social inequality cause this unexpected phenomenon. All things considered, the findings of this study suggest that future research should devote more attention to how the interplay between social welfare systems and egalitarian attitudes may influence public trust in state institutions in East-Central Europe.

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## Appendix 1: A description of the variables

### Individual-level variables

Income indicators:

– *Income*: The net total income of the respondent's household classified according to the national income deciles (0 = first decile – lowest income; 9 = tenth decile – highest income)

– *Economic satisfaction*: The respondent's satisfaction with the present state of the national economy (0 = extremely dissatisfied; 10 = extremely satisfied)

The responses to the question about how the respondent felt about household income nowadays were re-coded as two dummy variables:

– *Living comfortably/coping on present income*: Respondents who claimed to be living comfortably or coping on present income

– *Difficult/very difficult to cope on present income*: Respondents who reported that they found it difficult or very difficult to live on present income (reference group)

Individual-level controls:

*Age*: Respondent's age in years centred on the grand mean

*Age squared*: The age variable squared

*Happiness/satisfaction with life*: Mean of the valid responses to the question 'how happy are you?' and 'how satisfied are you with your life?' (0–10)

*Institutional trust*: Mean of the valid responses to the questions concerning trust in the national parliament, the legal system, the police, and political parties (0–10)

*Male*: Dummy (1 = male respondent)

*Media consumption*: Watching TV on an average weekday (0 = no time at all; 7 = more than 3 hours)

*Metropolitan resident*: Dummy (1 = the respondent lives in a big city or in the suburbs or outskirts of a big city)

*Minority member*: Dummy (1 = the respondent belongs to a minority group)

*Religiosity*: How religious are you? (0 = not at all; 10 = very much)

*Sociability*: How often do you meet socially with friends, relatives, colleagues? (0 = never; 6 = every day)

*Social trust*: Mean of the valid responses to the questions: 'how much do you trust other people?'; 'how fair do you think others are?'; and 'how helpful do you find others?' (0–10)

*Tertiary education*: Dummy (1 = the respondent has more than 12 years of completed education)

### **Country-level variables**

*GDP*: GDP per capita in 2010 in thousands of the Purchasing Power Standard centred on the grand mean (source: EUROSTAT)

*GINI coefficient*: Inequality measure of the national income distribution in 2010 (original scale: 0–100) centred on the grand mean (source: EUROSTAT SILC)

*ECE*: Dummy (1 = East-Central European country)



## Appendix 2: Correlation matrices of the independent variables

### Correlation matrix of the contextual variables

	GINI	GDP	ECE
GINI	1		
GDP	-.398	1	
ECE	-.062	-.814**	1

\*\* significant at 99%