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The sources of generalized trust and institutional confidence in Europe

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Besides the exponential growth of written pages on social capital and trust, we have seen a considerable increase in empirical comparative studies on the topic. Despite that, it is not always clear how differences between individual and aggregate level factors are taken into account when exploring the sources of trust. The purpose of the article is to find out a) what the explanatory power of individual and country level factors is when explaining generalized and institutional trust among the Europeans and b) what the most essential differences are in the determinants of social capital between different types of European welfare states. The data come from the European Social Survey (ESS 2004). Multilevel analyses are accomplished in order to combine different levels of data and explanations. The results reveal many similarities but also remarkable differences in the generation of horizontal and vertical trust between different types of welfare states and support hypotheses emphasizing institutional characteristics of the states in the generation of trust.

Keywords: trust, institutions, welfare state, social capital, comparative research.

Introduction

It is almost unnecessary to mention that along with social capital, trust seems to be one of the most studied phenomena in the social sciences nowadays. A lot of empirical and theoretical work has been done during the past two decades. However, despite the considerable body of literature on the topic, discussion about the factors that generate trust in society is still open to a certain degree. The number of open questions derives at least partially from the fact that concept is based on a rather heterogeneous theoretical background allowing it to be used for numerous purposes in numerous ways. On the other hand, the empirical use of this conceptual tool is also diverse.

Portes (1998) notes that one of the biggest obstacles to making sound conclusions regarding the mechanisms is the inability to separate the individual and aggregate level of social capital-related phenomena from each other. Though he sees the original meaning of the concept as an individual level feature as being more promising, there is nothing intrinsically wrong with redefining it as a property of communities or countries. This, however, requires more precise theoretical and empirical work than that displayed before Portes published his article. (Portes, 1998, 21.)

Besides the exponential growth of written pages on social capital, we have seen a considerable increase in empirical comparative studies since the remarks of Portes (Delhey & Newton, 2003, 2005; Kääriäinen & Lehtonen, 2006; Rothstein & Uslaner, 2005; Freitag & Bühlmann, 2009; Pichler & Wallace, 2007). Final causal conclusions over the logic of social capital and trust are probably yet to come, but these contributions have provided us with plenty of information on the mechanisms at work between the elements of social capital at the aggregate level. However, only a few studies have also addressed the question of dynamics of social capital generation by combining both the individual and aggregate-level perspectives (Kääriäinen & Lehtonen, 2006; Oorschot et al., 2006; Freitag & Bühlmann, 2009). As is mentioned, "in order to explain individual differences in the particular dimensions of social capital, the inclusion of national characteristics – in addition to individual level characteristics – may thus be a fruitful endeavour for future research" (Scheepers et al., 2002, 205).

Another remarkable notion of the research on the sources of social capital is the gradual shift towards institutional explanations. To make a rough divide, the discussion over the sources of social capital has been highly vibrant between two groups of scholars. Some authors stress the importance of civic engagement especially in the associations and grassroots of civil society (society-centered hypothesis). Others emphasize fair and well-functioning public institutions as the most important sources of social capital in society (institution-centered hypothesis). (Hooghe & Stolle, 2003, 3.) The latter approach in particular has gained more support. The debate is also sometimes closely associated with the discussion about the effects of the welfare state on social capital (Oorschot et al., 2006; Kääriäinen & Lehtonen, 2006; Fukuyama, 2001; Albrekt Larsen, 2007).

This study stems from the proposed micro- and macro-level explanations of the generation of trust in different types of welfare states by utilizing data from 22 European countries. The variables to be explained are generalized trust and institutional confidence. The purpose of the paper is to find out how different explanations concerning the formation of

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generalized and institutional trust function in different institutional settings. First, social capital and trust are defined and competing assumptions concerning their sources are presented. Secondly, the study empirically clarifies the sources of multidimensional trust among Europeans.

Generalized trust and institutional confidence - sources of trust in a comparative perspective

As a community-level good we may describe social capital "as a societal resource that links citizens to each other and enables them to pursue their common objectives more efficiently" (Stolle, 2003, 19). Despite fact that the different definitions of social capital vary a lot, the elements social capital are often defined and measured as trust, the norms of reciprocity and networks (Putnam, 1993; Hooghe & Stolle, 2003, 2).

The purpose of this article is to bring about information regarding the generation of the first element, trust, in contemporary European society. Despite the fact that ideas of trust can be found in early sociological literature, it has never been a focus of social theory (Misztal, 1996). Still, there are numerous instances that can be regarded as attempts to call attention to the "concern for the condition of moral bonds and moral community". Early mention of the concept of trust may be found in the writings Tocqueville, Tönnies, Weber, Durkheim and Simmel. What is common to these early writers is the perception of the dark sides of modernity or the search for order. (Sztompka, 1999, 6–7; see also Misztal, 1996.)

Two specific indicators of social trust are used in this article: generalized trust between people and confidence in institutions. *Generalized trust* expresses to what extent people rely on each other – also on those they do not personally know. *Institutional confidence*, on the other hand, focuses on actors and institutions such as politicians, officials and organizations. Perhaps in this case the question pertains to an outcome of social capital. However, this distinction between social capital and its consequences has varied much in previous studies and thus institutional confidence is seen as one singular indicator of the phenomenon (see Brehm & Rahn, 1997; Paxton, 1999; Oorschot et al., 2006). To sum up, trust may occur in "the isolated dyad of two actors, between individuals in the presence of third parties and between an individual and the collection of individuals" (Barber, 1983; Paxton, 1999, 98).

These two indicators of trust are important in society because instead of particular trust representing bonding social capital, they both point to a wider society and thus could be seen as the measures of the bridging type of social capital (Putnam, 2000, 23). Generalized trust denotes the feeling a person has about the trustworthiness of other citizens s/he does not personally know. Thus we are dealing here with the horizontal aspect of trust. Almost analogously, institutional confidence could be described as vertical trust in institutions from which a citizen may have very limited amount of information. (see Hardin, 1999; Warren, 1999.)

The reciprocal relationship between trust and grassroots sociability, the so-called Tocquevillean (1835) model, has been a "basic assumption" about the generation of social capital. In the model, the source of generalized trust is ikan the associational life and grassroots sociability in general. Citizens who engage in face-to-face interaction with members in voluntary associations are more eager to express higher levels of trust in strangers than others (Brehm & Rahn, 1997; Putnam, 2000). This view has also gained a lot of critique. In the critique, the real importance of associations in modern society is questioned. It is plausible that other forms of social life, for example family or other informal networks, might have as a great an impact on trust as formal associations whose impact on social capital is often rather limited for the individual in contemporary society (Freitag, 2003; Stolle, 2003). The Tocquevillean model has also been updated. For example, the effects of associational activity may have importance at the country level through the so-called "rainmaker effects" concerning the non-members of associations as well (Meer, 2003). This means that memberships or activity in associations may benefit also those who do not belong to associations. However, though it is an interesting question and has been approached in other studies (Meer, 2003; Kouvo, 2009), this is not within the focus of this article. Moreover, instead of overemphasizing the benefits of association membership for an individual, it is possible to sum up that voluntary associations are strong correlates of trust also at the societal level. Still, it might be that associations are outcomes rather than sources of trust (Sønderskov, 2011).

Citizens' confidence in public institutions is also closely linked with generalized trust and civic engagement. The explanation is based on the idea that the emergence of interpersonal trust requires that societal and political institutions provide a fair and efficient environment where trusting or civicness will be rewarded and not exploited (Knack & Keefer, 1997; Brehm & Rahn, 1997; Rothstein & Stolle, 2003). Following the discussion regarding sources of social capital it is possible to make a distinction between two main approaches. The society-centered approach derives from the ideas of Tocqueville (1981) and advocates the importance of social interactions such as civic engagement and personal networks as the source of social capital and desired outcomes of it. The institution-centered approach stresses that the source of social capital could be found in the design of public institutions and governing policies. (Hooghe & Stolle, 2003, 3.)

The two approaches presented above are often entangled with discussion about whether welfare state may "make or break social capital" (see Kumlin & Rothstein, 2005). Some argue that excessive state intervention is detrimental to the creation of social capital (Fukuyama, 2001, 18). In other words, social expenditures and generous social programs "crowd out" informal social networks and thus deteriorate citizens' ability to benefit from face-to-face social capital. Contrary to these arguments, many current studies seem not to favor the "crowding-out" hypothesis (Rothstein & Stolle, 2003; Kumlin & Rothstein, 2005; Oorschot & Arts, 2005;

Kääriäinen & Lehtonen, 2006). Again, as we can see from Figure 1, whatever measure is used, social capital tends to be at the highest level especially in Nordic welfare states equipped with generous and universal welfare state policies.

Argumentation for and against the institution or society-centered hypotheses is often based on limited information. Social capital is measured using different indicators in different studies, or results come from particular individual countries. There is also often a risk of ecological or individualistic fallacies when arguments are based on either individual or aggregate-level results (see Robinson, 1950). Moreover, it may also be possible that both hypotheses are correct, but the results depend on the level and target of measurement.

The aim of this article is to contribute to this discussion by employing both individual and aggregate level analyses in order to clarify the generation of social trust and institutional confidence on different levels of observation and in different institutional settings. Taking both the effects of the individual level determinants and the type of the welfare state into account makes it possible to argue about underlying factors behind the phenomenon.

Research questions, data and methods

The first task of the analysis is to evaluate how different types of explanatory factors can predict the interpersonal and institutional dimension of trust among European citizens. Among these factors is also the type of the welfare state. The examination of these macro-level differences is carried out through the comparison of 22 countries that represent five types of European welfare states. The research questions can be summarized as follows:

(1) What is the explanatory power of the individual and country-level factors when explaining generalized and institutional trust among Europeans?

(2) What are the most essential differences in the determinants of social capital between different types of European welfare states?

The data come from the European Social Survey (ESS) gathered in the year 2004 (N=43 467), which covers the citizens over 15 years of age in 22 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and United Kingdom (see ESS, 2005a, for more details). The dependent and independent variables are described in Appendix 1.

The dependent measures of the analysis are based on two common indicators of social capital social trust and institutional confidence. A measurement of generalized trust consists of three different elements: trustworthiness, helpfulness and fairness of people (Cronbach alfa = 0.77). These items are among the most traditional measures of "faith in people" and were first published in the study of Rosenberg (1956). It is possible to argue that only one of them is measuring trust exactly. However, a closer look into the variables encourages us to include them all in the measure. As with trust, also helpfulness and fairness capture the elements of trustworthiness and integrity of others (Paxton, 1999, 105–6). It is possible to say that all of these items carry the "moral obligation" which is a fundamental feature of trust that again is transformed into aggregate-level social capital. (Barber, 1983; Paxton, 1999; Uslaner, 2001, 571–2)

Institutional confidence is measured by reported trust in several societal institutions: parliament, the legal system, police and political parties (Cronbach alfa = 0.84). Although the wording of the questions ("How much do you personally trust each of the institutions") employs the word 'trust', many authors point out that in the case of institutions, we should now apply the concept of confidence rather than trust in order to describe a more or less taken-for-granted attitude towards complicated institutions (Sztompka, 1999, 24–26). However, this widely discussed topic is not within the focus of this paper.

The regimes

The regime is used as a criterion to classify countries for analyses within regimes. The categorization of countries into regimes is done on the basis of their differences in terms of institutional characteristics in order to contribute to the discussion of the impacts of the welfare state on social capital (Oorschot & Arts, 2005; Kääriäinen & Lehtonen, 2006). Five regimes, Nordic + NL ("Social democratic"; Denmark, Finland, Norway, Netherlands and Sweden), Continental (Austria, Belgium, Germany and France) Liberal (Great Britain, Ireland, Switzerland), Mediterranean (Greece, Portugal and Spain) and Post-socialist (Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia and Ukraine) are included in the analyses. According to Esping-Andersen's regime theory (1990), for example, Nordic welfare societies and the Netherlands are characterized by commitment to equality as well as universal welfare state institutions. However, the Netherlands could be considered to be an exceptional case of the group, balancing between characteristics of both the conservative and Nordic group. Still, in the terms of welfare state institutions affecting trust it has more common with the Nordic regime (see Albrekt Larsen, 2007). Esping-Andersen defines Great Britain as society in which social benefits are relatively modest. In practice, means-tested social security is restricted in British society to a low-income clientele. Switzerland and Ireland, though not as stereotypical, are situated in this group in our analysis based on the same criterion. The continental regime, on the other hand, is characterized by commitment to full employment, but many forms of social insurance are not universal. In addition, family benefits also encourage the persistence of a male breadwinner culture. The Mediterranean regime is in many respects similar to the continental one, but has certain unique features associated with the Catholic culture. (Esping-Andersen, 1990, 12–13; 26–29.) This is why Mediterranean culture is often considered to significantly emphasize the family's capability to provide well-being (Ferrera, 1996).

Post-socialist European countries are added to the analysis as a unique regime. It should be noted that this solution

does not follow the original typology of Esping-Andersen or others. There are several cultural, social and economic differences inside the eastern bloc. For the historical and cultural reasons some of the countries have certain similarities with liberal or Mediterranean regimes, for example. However, it is appropriate to group these countries together due to the similarities they share with one another at the moment. Each country in the post-socialist regime could be described as a still-developing welfare state attempting to cope with both the social problems deriving from the socialist period and the new social challenges of transition. Thus, the question is about welfare states with limited social services and relatively low levels of social spending. (Kääriäinen & Lehtonen, 2006; Oorschot & Arts, 2005; Deacon, 2000). In the analyses with data from all countries, the regimes are included in the models as a variable with 5 categories. Since the accumulation of trust in the countries in the 'Nordic Countries and Netherlands' cluster is a puzzling question also in this article, it is chosen as a reference category to which the effects of other regimes can be compared.

Individual-level independent variables

The first independent variable is associational activity. This variable is important because it is at the heart of the bottom-up approach of the sources of social capital. It is measured through self-reported work in both political and non-political associations. We use friends meeting as a more informal proxy to detect the grassroots mechanisms of social capital accumulation. People are classified from the item available in the data to those meeting friends once a week or more (=1) and those meeting friends less than once a week (=0). As society-centered model suggests, we may expect higher levels of generalized trust among those who tend to be more social – either formally in associations or when meeting with friends. This, of course, does not exclude the possibility that informal and formal sociability are the consequences of trust (e.g. Stolle, 2003; Sønderskov, 2011), but enables us to control other proposed mechanisms of trust accumulation for grassroots sociability.

The other independent variables of the analysis include several micro-level determinants that have been found to be essential predictors of trust in previous studies. Though measured at the individual level, discrimination and safety are variables that could be described as being situated between individual and country-level predictors of social capital. Belonging to a group that is discriminated against in the country or feelings of insecurity are typical characteristics of the nation and the community that may have an impact on the feelings of trustworthiness of others and institutions (Delhey & Newton, 2003, 99–100).

Previous research suggests that education furthers open-mindedness, bridging contacts with others and thus also furthering social capital. Therefore, higher-educated citizens are assumed to accept "otherness" better than less educated ones do. (Putnam, 1993, 2000.) The idea is based on the so-called "Luke theorem" presented already in the Holy Bible. Those with a higher amount of resources do not suffer as much when trusting the wrong person as citizens with poorer resources (Delhey & Newton, 2003; Freitag, 2003). Correspondingly, the position in the labor market could be assumed to predict trust as well. Employment status is used as a dichotomous variable by separating the employed and the unemployed into two categories.

Age is used as a demographic control. There might, of course, be some evidence of the presence of life-cycle or cohort effects. However, here the idea is to control the effect of other determinants by age, rather than to base the use of it on any well-founded theoretical ideas.

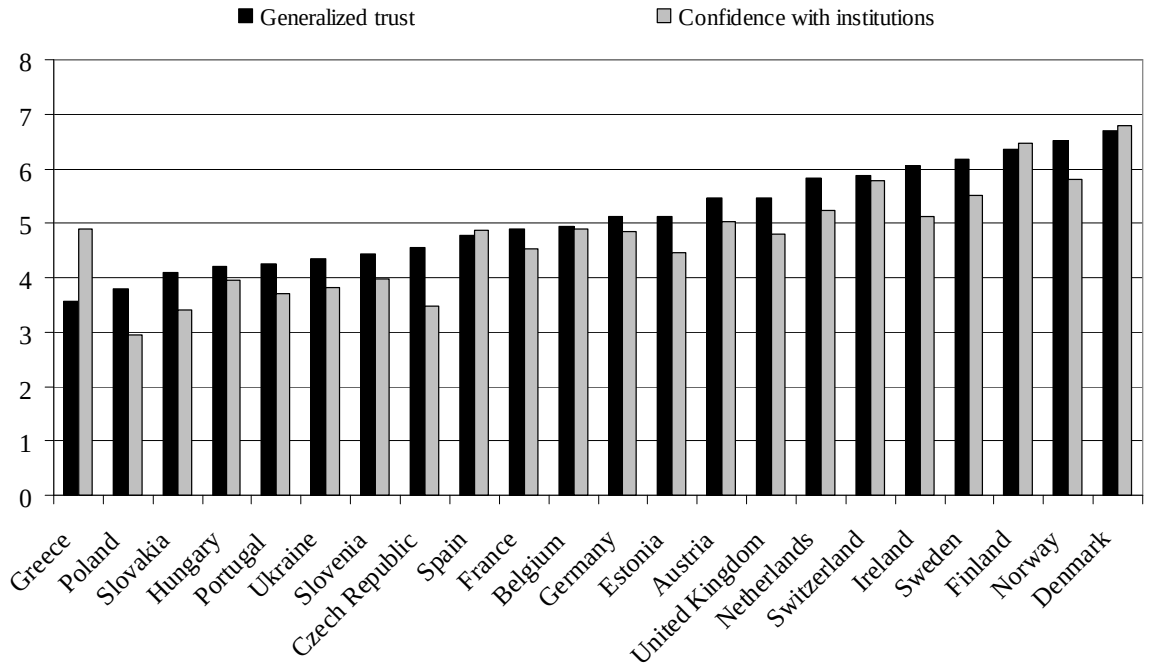
Besides descriptive statistics and correlations, multi-level analyses are used as the statistical techniques. As the ESS authorities suggest, the 'design' weights that correct the sampling differences between countries are applied in the analyses. The 'population size' weights are applied when calculating macro-level correlations from all the countries (for details, see ESS, 2005b). However, with the multilevel analyses we use only the design weights. Though the question is about clusters of countries, the regimes consist of more ideal typical and cultural clusters of countries than real geographical entities. Therefore, applying population size weights would bias our results of the regime based differences by emphasizing too greatly the differences in the sizes of populations of the countries in each regime.

Comparing the aggregate and individual levels

Along with previous international studies on social capital (Delhey & Newton, 2003; 2005; Oorschot & Arts, 2005), our results also provide a marvelous image of trustworthy institutions and horizontal generalized trust in the Nordic countries where both our dependent variables, generalized trust in the unknown citizens and confidence in public institutions are at a high level (see Figure 1). The southern and eastern parts of the Europe score repeatedly lower. Middle Europe situates in the middle of our scale.

But what are the characteristics of these nations that produce such results? How much are these characteristics explained by individual and national differences? As we can see from Table 1, there are some remarkable differences in the relationship of social capital variables and their predictors when comparing individual and country-level correlation coefficients. Dependent variables, generalized trust and institutional confidence are significantly associated, as is suggested by the society-centered hypothesis. As previous research has shown (see e.g. Meer, 2003; Kankainen, 2009), compared to country level results especially the relationship of associational participation and other social capital indicators seem to be considerably weaker in individual level analyses. This probably results mostly from the fact that there is less variance in the data analyzed with macro-level analyses, but it is not necessarily the whole explanation. At the macro level, associational participation has the second largest coefficient whereas at the individual level this is not the case. As discussed above, associational participation may, at first, have cohesive effects that concern also other individuals in the so-

Figure 1. Means of indicators of generalized trust and institutional confidence across countries in the year 2004 (scaled to 0-10). Source: ESS 2004.



ciety. Secondly, the strong association at the aggregate level may be caused by third factors prevailing in the society. For example, democratic political culture and uncorrupted public institutions may encourage trust and civic engagement at the same time. Besides the strong associations between dependent variables, correlation coefficients at the country level reveal that every dimension of social capital correlates strongly with education. An interesting finding is also the association between discrimination and trust that seems to appear only at the individual level.

In order to distinguish between the country-specific determinants of the two dimensions of trust and those between countries, multi-level models (see Raudenbush & Bryk, 2002) available through SPSS:s mixed models procedure (see Peugh & Enders, 2005) were applied. With multilevel modeling, it is possible to analyze the nested data structure (different individuals within different regimes) in a more reliable way than is possible with more traditional multivariate methods (i.e. regression and ANOVA). The analysis proceeds in two parts. First, the data is analyzed with multilevel models in which the effect of the regime and the chosen relevant individual determinants of trust are tested with the data including all five types of welfare states. After that, the differences between the regimes are compared in detail with separate within-regime models. The applied procedure allows us to make more sound conclusions regarding the dynamics of social capital generation.

The multilevel analyses done with the data including all regimes are presented in tables 2 and 3. The idea here is to separate the effects as blocks of variables in order to present how different levels of explanations are associated with the dependent variable. The first level of variables includes previously well-known individual level "usual suspects" explaining institutional and generalized trust and the second includes the countries. The analyses are done in the same manner for both generalized trust and institutional confidence.

The first models of the Table 2 containing only intercept reveal that there is a variance of 79–78 percent at the individual (level 1) and 21–22 percent at the country level. However, from the second model (model 1 + regime) we see that adding the regime decreases considerably the amount of residual country-level variance with both dependent variables. Thus we can assume that a considerable share of country-level variance is explained by the regime classification. However, adding individual level variables to the baseline model (model 1 + all individual variables) does not decrease the amount of residual variance at the corresponding level as much as regime does. It should also be noted that the amount of country-level residual variance slightly decreases because of the impact of individual-level variables. In the last model (model 1 + individual variables + regime) we see that most of the unexplained variance lies at the individual level even when both the individual and aggregate-level sources of explanation are taken into account. Though there is a good reason to believe that a great deal of the variance within generalized trust and institutional confidence is explained by the regime, there are also some differences to be explained depending on the type of trust. However, these differences are

Table 1
Individual and country level (means) correlations between dependent and independent variables (Spearman's Rho). Source: ESS 2004.

	INDIVIDUAL LEVEL		COUNTRY LEVEL	
	Generalized trust	***Institutional confidence***	***Generalized trust***	***Institutional confidence***
Institutional confidence	.418***	1	.842***	1
Age	.009	.022***	.200	.304
Education	.125***	.083***	.665***	.462*
Unemployed	-.076***	-.070***	-.603**	-.556**
Participation	.089***	.102***	.714***	.758***
Friends meeting	.112***	.082***	.598**	.560**
Discriminated	-.055***	-.083***	.377	.320
Safety	.148***	.147***	.535**	.682***

**** = p <.001; **= p <.01; * = p <.05 (2-tailed).*

Table 2
Level 1 and level 2 variance of multi-level models. Source: ESS 2004.

	Generalized Trust		***Institutional Confidence***	
Parameter	Estimate	% of variance	Estimate	% of variance
Model 1: Baseline				
Level 1 variance	3.011	79.01	3.273	78.05
Level 2 variance	.800	20.99	.921	21.95
Total variance	3.810	100.00	4.194	100.00
Model 1 + regime				
Level 1 resid. variance	3.011	96.18	3.273	93.88
Level 2 resid. variance	.119	3.82	.213	6.12
Residual variance	3.130	100.00	3.487	100.00
Residual variance % of total variance		82.15		83.14
Model 1 + all individual level variables				
Level 1 resid. variance	2.867	80.41	3.144	79.42
Level 2 resid. variance	.699	19.59	.815	20.58
Residual variance	3.566	100.00	3.959	100.00
Residual variance % of total variance		93.57		94.40
Model 1 + all individual level variables + regime				
Level 1 resid. variance	2.867	96.39	3.144	93.88
Level 2 resid. variance	.107	3.61	.205	6.12
Residual variance	2.974	100.00	3.349	100.00
Residual variance % of total variance		78.06		79.86

rather minor.

Table 3 presents the parameter estimates from the second (regime) and the last multilevel model (model 1 + individual variables + regime). It is not surprising that the reference category 'Nordic Countries and Netherlands' scores highest in both generalized trust and institutional confidence. However, in the case of generalized trust and confidence in institutions the liberal regime does not significantly differ from this reference group. A similar pattern was indicated also in the analysis of Kääriäinen et al. (2006, 51) with ISSP dataset. In the case of institutional confidence, the continental regime seems to be closer to Nordic countries than the others. The lack of safety in the neighborhood and experiences of discrimination seem to undermine both types of trust. From the socio-demographics it is possible to conclude that education and employment are associated positively with both indicators whereas age seems to have a limited explanatory power especially in the case of institutional confidence.

Table 3
Individual-level predictors of generalized trust and institutional confidence in each type of welfare state. Source: ESS 2004.

	Generalized trust						***Institutional Confidence***					
	Model 1			***Model 2***			***Model 1***			***Model 2***		
	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F
Intercept	6.307***	.156	4358.2***	5.594***	.156	3514.6***	5.956***	.207	2160.7***	5.196***	.210	1683.8***
Regime			30.9***			29.8***			18.1***			16.2***
'Post-socialist'	-1.938***	.204		-1.763***	.194		-2.234***	.272		-2.066***	.267	
'Mediterranean'	-2.119***	.254		-2.020***	.241		-1.473***	.339		-1.386***	.332	
'Liberal'	-0.513	.254		-.433	.241		-.734*	.339		-.647	.332	
'Continental'	-1.200***	.233		-1.116***	.221		-1.142***	.311		-1.075**	.305	
'Nordic + NL'	(0)			(0)			(0)			(0)		
Age (centered)				.003***	.000	36.5***				.001	.001	3.0
Education (centered)				.044***	.002	330.7***				.033***	.003	156.7***
Unemployed						129.8***						116.5***
No				.394***	.035					.401***	.037	
Yes				(0)	.000					(0)	.000	
Participation						51.8***						118.7***
No				-.172***	.024					-.276***	.025	
Yes				(0)	.000					(0)	.000	
Friends meeting						146.8***						28.4***
Less than once a week				-.223***	.018					-.105***	.020	
Once a week or more				(0)	.000					(0)	.000	
Discriminated						304.3***						337.2***
No				.633***	.036					.715***	.039	
Yes				(0)	.000					(0)	.000	
Safety						593.2***						417.52***
Unsafe				-.482***	.020					-.436***	.021	
Safe				(0)	.000					(0)	.000	

**** = p <.001; **= p <.01; * = p <.05.*

Table 4
Parameter estimates of multi-level models predicting generalized trust and institutional confidence. Source: ESS 2004.

GENERALIZED TRUST

	Post-socialist			***Mediterranean***			***Liberal***			***Continental***			***Nordic + NL***		
	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F
Intercept	3.942***	.189	622.0***	3.956***	.316	186.9***	5.167***	.177	1528.3***	4.199***	.15	1368.7***	5.533***	.156	1791.9***
Age (centered)	-.003**	.001	10.0**	.002	.001	1.2	.010***	.001	77.1***	.001	.001	1.6.	.008***	.001	69.3***
Education (centered)	.044***	.006	59.2***	.047***	.006	73.9***	.034***	.006	28.8***	.049***	.005	81.8***	.043***	.005	91.9***
Unemployed			29.8***			9.3**			28.2***			61.4***			15.7***
No	.361***	.066		.277**	.091		.542***	.102		.566***	.072		.281***	.071	
Yes	(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Participation			3.9*			4.3*			28.5***			9.0**			12.4***
No	-.139*	.071		-.164*	.079		-.309***	.058		-.136**	.045		-.129***	.037	
Yes	(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Friends meeting			51.6***			0.1			17.4***			35.7***			53.3***
Less than once a week	-.257***	.036		-.016	.055		-.185***	.044		-.239***	.04		-.267***	.037	
Once a week or more	(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Discriminated			43.1***			4.6*			55.1***			92.6***			148.5***
No	.517***	.079		.246*	.115		.609***	.082		.755***	.078		.789***	.065	
Yes	(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Safety			138.5***			63.1***			146.4***			155.0***			106.5***
Unsafe	-.439***	.037		-.423***	.053		-.554***	.046		-.557***	.045		-.464***	.045	
Safe	(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	

INSTITUTIONAL CONFIDENCE

	Post-socialist			***Mediterranean***			***Liberal***			***Continental***			***Nordic + NL***		
	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F	Estimate	SE	F
Intercept	3.335***	.213	338.8***	4.383***	.359	166.6***	4.231***	.255	438.2***	3.855***	.133	2025.2***	5.076***	.27	426.5***
Age (centered)	-.004***	.001	12.9***	.009***	.002	32.5***	.002	.001	2.5	.002	.001	2.5	0	.001	0.1
Education (centered)	.020**	.006	9.9**	.020***	.006	11.1***	.022**	.007	10.1**	.034***	.006	33.1***	.075***	.005	242.5***
Unemployed			10.0**			6.2*			25.9***			71.5***			29.2***
No	.224**	.071		.243*	.097		.579***	.114		.650***	.077		.408***	.075	
Yes	(0)			(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Participation			7.6**			6.0*			23.6***			32.3***			53.4***
No	-.206**	.075		-.206*	.084		-.305***	.063		-.273***	.048		-.283***	.039	
Yes	(0)			(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Friends meeting			10.4***			0.3			0.125			15.4***			5.3*
Less than once a week	-.124***	.038		-.03	.059		-.017	.049		-.167***	.042		-.089*	.039	
Once a week or more	(0)			(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Discriminated			51.3***			2.4			84.9***			90.6***			148.4***
No	.604***	.084		.194	.124		.835***	.091		.801***	.084		.834***	.068	
Yes	(0)			(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	
Safety			107.1***			64.1***			35.5***			133.0***			80.3***
Unsafe	-.416***	.04		-.459***	.057		-.302***	.051		-.552***	.048		-.430***	.048	
Safe	(0)			(0)	(0)		(0)	(0)		(0)	(0)		(0)	(0)	

**** = p <.001; **= p <.01; * = p <.05.*

There also seems to be an association between grassroots sociability and trust, as the society-centered approach suggests. Both formal sociability in associations and more informal sociability tend to be associated with higher levels of generalized and institutional trust. Despite that finding, these are not the strongest predictors in our analyses.

When observing the presented results, it is possible to conclude that both the micro- and macro-level determinants are required to understand the phenomenon. Still, even when a large set of individual level factors is taken into account, regime-based differences alone predict a considerable proportion of the variance. A general observation is thus that the impact of regime explains a great degree of variation between countries when it comes to the dependent variables. Still, despite the inclusion of macro-variables into the analyses we can say only a little about the differences between regimes and especially how different predictors of social capital vary across regimes. To understand these differences, the analysis continues as separate comparisons of regimes.

Table 4 displays the predictors of generalized trust and institutional confidence for the five regimes separately. Overall, as Oorschot and Finsveen (2009) suggest in their recent study on social capital inequalities across countries, there are less differences than one would expect across regimes as well. The safety of the area where the respondent lives has a great impact on the generalized trust across regimes. Age is a significant determinant especially in the Nordic and liberal regimes. As suspected on the basis of previous research, education is also a feature of trusters in all regimes. An important finding is that being a member of a group that is discriminated against in the country has a more detrimental impact on generalized trust in the regimes where trust is at a higher level. For example, in the Mediterranean regime the impact of discrimination is barely a significant predictor of trust in fellow citizens, whereas in Nordic countries and Netherlands this is among the fiercest enemies of generalized trust in our data.

The relation between associational participation and generalized trust is stronger in those countries that belong to the liberal regime, whereas in other clusters this association is relatively stable, though significant. The reasons for that may be speculated upon; for example, in the liberal regime it may be more important to belong to an association in order to build generalized trust than in other groups of countries. Meeting friends has the strongest association with generalized trust in the Nordic Countries and Netherlands, but in the Mediterranean regime it is not even significant.

Unemployment reduces generalized trust more in the liberal and continental regimes than in others. In accordance with the regime theory, the stronger dependence on the markets or on employment in welfare provision is possibly reflected to the division of horizontal trust as well. On the other hand in the Mediterranean regime, where family has a stronger role in the welfare provision, unemployment does not have such a detrimental effect. In the Nordic countries and the Netherlands, where there is a more generous welfare system, the association between employment and generalized trust is, as well, remarkably weaker than in continental or liberal regimes.

In the case of institutional confidence, the pattern is fairly similar: education and safety contribute to higher confidence or vice versa, as well as participation in associations in all regimes. The idea of associations as the "schools of democracy" (cf. Putnam, 1993) promoting trust in public institutions is most visible in the case of liberal regimes, while it has a relatively strong link with institutional confidence also in continental and Nordic regimes.

Again, the association between unemployment and a low level of institutional confidence is remarkable in liberal and continental blocs, but appears to be considerable also in Nordic countries and the Netherlands. Unemployment reduces confidence in public authorities less in post-socialist and Mediterranean regimes. The relationship between country clusters is similar in the case of discrimination. Here, the differences between groups of countries are the most striking. Belonging to a discriminated group in a country reduces institutional trust efficiently in liberal, continental and Nordic regimes, while in the Mediterranean regime there is no significant association at all.

Overall, accordingly with multilevel analyses, the regime-specific models confirmed that there is a remarkable association with the type of the welfare state and horizontal and vertical trust even when the effect of numerous individual level determinants is taken into account. The analyses also showed that many individual level correlates of trust are rather universal across the groups of countries. However, the type of welfare state is also significant in terms of horizontal and vertical trust especially through the differences in the impact of individual level socioeconomic conditions and experiences of discrimination.

Summary and discussion

The article has examined the explanatory power of both individual and aggregate-level factors on generalized and institutional trust among Europeans. The analyses began with descriptive analyses and correlations. Descriptive examination confirmed the well-known fact that generalized trust between people and confidence in institutions is, with some exceptions, at the highest level in the Nordic (+ NL) regime whereas post-socialist countries fall behind other parts of Europe.

Correlative analyses showed that dependent variables, generalized trust, institutional confidence and civic engagement were significantly associated – as is suggested by the society-centered hypothesis. This relationship tends to be stronger when measured at the aggregate level. Another finding was that despite the fact that most of the chosen variables were associated significantly with social capital at the individual level, aggregate level associations between independent and dependent variables were strong mostly in the case of well being and socio-economic factors such as education and unemployment. This observation also supports the idea that it is meaningful to compare countries that differ from each other with regard to their socioeconomic conditions.

Multilevel and regression analyses revealed that even

though the society-centered hypothesis is supported when describing the dynamics of the generation of trust at the individual level analyses, it is plausible that the institutions matter even more. The remarkable association between the type of the welfare state and social capital remains even when the effect of numerous individual-level determinants is taken into account. Moreover, the inclusion of the regime as a macro-level variable into the analyses explained more of the variance of trust at the macro-level than all of the individual-level determinants at the individual level. Thus, it is possible to argue that even though the society-centered mechanism may be plausible in certain settings, the institution-centered approach takes better into account the more relevant reasons for which social capital is accumulated in some parts of Europe and not in others. Moreover, this conclusion is consistent with previous research on the topic made with other datasets (Kääriäinen & Lehtonen, 2006, 52). Though one should not too convincingly argue over the cause and the effect when all the arguments are dependent upon cross-sectional survey data, it is still possible to make a cautious remark that the creation of "virtuous circles" of social capital seems to necessitate institutions that provide a fair and efficient environment where the seeds of social capital do not suffocate (cf. Rothstein & Uslaner, 2005).

Despite this argument, we should not underestimate the impact of individual-level factors on the distribution of trust between citizens. These determinants seem to predict trust in both fellow citizens and public institutions slightly better in Nordic, continental and liberal regimes. Still, a great deal of unexplained variance seems to be located at the individual level. Though it is clear that in this study it was possible to reveal only a limited proportion of this variation, one can modestly argue that the findings have at least enriched the picture of trust among Europeans by applying different types of explanatory sources at the individual level.

Besides applying the theoretical ideas of the generation of trust, the analyses revealed also some important findings that are relevant for policy-making. The trust-undermining effect of discrimination especially in central and northern Europe is one of these. Europe has encountered tightened attitudes towards ethnicity and immigration issues which are a real challenge for the cohesion of modern European societies (cf. Putnam, 2007; Gesthuizen et al., 2009; Lancee & Dronkers, 2011). In the data, these undesirable effects of discrimination seem to be a problem especially in the societies with high levels of trust.

The impact of unemployment on trust is another. The type of the welfare state is a crucial mediator of the effects of unemployment on social cohesion. At first, this is probably related to the "Social Democratic puzzle" approached in several studies (Albrekt Larsen, 2007; Kumlin & Rothstein, 2005). The universal services and especially basic security is significantly more extensive in Nordic countries, and this seems to contribute to high levels of generalized trust. As indicated also in this study, by preventing exclusion in difficult situations, the welfare state also contributes to a greater amount of horizontal trust. On the other hand, in the Mediterranean regime, the same task might be accomplished by family and other personal networks.

In order to be able to achieve some possible positive outcomes of trust, exact knowledge of the mechanisms is needed. To argue in a more convincing manner about the causal relations between social capital generating factors, we may benefit from country-level comparisons made with longitudinal data. Since survey data is available only for a couple of decades, systematic historical studies approaching path-dependent development of trust and social capital in different societies are also needed.

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Appendix Table 1
Measures, questions and the coding of the variables.

Measure	***Question***	***Coding***
Generalized trust	-Generally speaking, would you say that most people can be trusted (10), or that you can't be too careful (0)? -Do you think that most people would try to take advantage of you if they got the chance (0), or would they try to be fair (10)? -Would you say that most of the time people try to be helpful (10) or that they are mostly looking out for themselves (0)?	A summated scale of three variables 0-10
Institutional confidence	Please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. (Institutions listed: country's parliament, the legal system, the police, politicians)	A summated scale of four variables 0-10
Associational participation	There are different ways of trying to improve things in [country] or help prevent things from going wrong. During the last 12 months, have you done any of the following?(Yes = 1, No = 2) a) worked in a political party or action group? b) worked in another organization or association?	If worked either in a) political or b) another association = 1 Others = 0
Friends meeting	. . . how often do you meet socially with friends, relatives or work colleagues?	Less than once a week = 0 Once a week or more = 1
Discriminated	Would you describe yourself as being a member of a group that is discriminated against in this country?	Yes = 1: No = 0
Safety	How safe do you – or would you - feel walking alone in this area after dark?	Very safe or safe =1: unsafe or very unsafe =0
Education	How many years of full-time education have you completed?	Total years, range: 0-26.
Unemployed	Which of these descriptions best describes your situation (in the last seven days)?	If unemployed and actively looking for a job or unemployed, wanting a job but not actively looking for a job = 1. Other = 0.
Age	Year of birth.	Calculated from year of birth. Number of years old from 15 to 96 years.