An empirical assessment of individual-level determinants of social capital in Central European countries*

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This paper carries out an empirical assessment of the influence relationship between personal attitudes and several measures of social capital in some Central European Countries (CEC). Using the World Values Survey dataset, the model measures three main social capital dimensions (institutional trust, social participation and political participation) and four personal attitudes factors (collectiveness, education, gender differences and work). The analysis provides relevant information about personal determinant of social capital, in its political approach and, also, about the key role of institutional trust for civic engagement in social and political participation.

Dieser Artikel führt eine empirische Untersuchung über den Einfluss der Beziehung zwischen persönlichen Eigenschaften und verschiedenen Maßzahlen von Sozialkapital in mehreren zentraleuropäischen Ländern durch. Das Modell zieht den Datensatz des World Values Survey heran und misst drei Hauptdimensionen von Sozialkapital (Vertrauen in Institutionen, gesellschaftliche und politische Teilhabe). Außerdem bestimmt es noch vier Faktoren für persönliche Eigenschaften (Kollektivität, Erziehung, Geschlechterunterschiede und Arbeit) durch synthetische Indikatoren. Die Analyse liefert, in ihrer politischen Herangehensweise, relevante Informationen über die Bestimmungsgröße von Sozialkapital und über die Schlüsselrolle von Vertrauen in Institutionen für bürgerliches Engagement bei gesellschaftlicher und politischer Teilhabe.

Key words: Central European countries, civic engagement, PLS models, social capital, trust

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Introduction

The role of social capital as a relevant factor for the explanation of many socio-economic phenomena has become highlighted in recent decades. Its influence has been analysed in topics such as child well-being (Putnam 2000), the efficiency of the judicial system (La Porta et al. 1997), the death rate crisis in Russia (Kennedy et al. 1998), trust in the government or the democratic system (Pharr/Putnam 2000; Edwards et al. 2001), citizen participation in politics (Di Pasquale/Glaeser 1999), economic development (Iyer et al. 2005; Tabellini 2010), the charitable activities of the people (Leonard et al. 2010), education (Gradstein/Justman 2000; Goldin/Katz 2001), health promotion (Campbell 2000), or innovation and economic growth (Akçomak/Weel 2009).

Social capital, in its political viewpoint, is defined by relating it to cooperation between the individuals of a society, the formation and utilisation of social networks or the trust that individuals place in others or in diverse institution and organisations (Bowles/Gintis 2002; Sobel 2002). In the economic approach, its role in the sustainability of economic development has been highlighted (Hatfield-Dodds/Pearson 2005), being included in some growth models, along with conventional production factors, in order to means impact on the total productivity of the factors.

Although there is no general agreement about the definition of social capital (Sabatini 2006), there is consensus about its importance, especially in developing countries, because unlike natural, physical or human capital, social capital is a resource that the most vulnerable parts of the population which have fewer resources can gain access to. Putnam (1993:7) defines this as “the characteristics of a social organisation, such as trust, the norms and the networks that may make society more efficient by facilitating a coordinated form of action”. Coleman (1988) defines this as the set of elements that facilitate collective action and which form part of the social structure. Also, Pennington and Rydin (2000) defined social capital including “levels of trust, the extent of networks, the density of relationships within networks, knowledge of relationships, obligations and expectations about relationships, leading to reciprocity, forms of local knowledge, operating norms and existence and use of sanctions to punish free riding".

Thus, different facts of the social capital are analysed, in which this is understood as a set of social attitudes and relationships that facilitate interaction between people and the producing of a “social climate” which benefits economic development (van Dejh 2003).

The specialist literature has been focused on measuring and analysing the determinant factors of the social capital, at an aggregated level, and their influence on the economic or institutional development of diverse countries (Fidrmuc/Gërxhani 2005; Bjørnskov 2006; Sabatini 2008). Also, the differences

between the multiple dimensions of social capital have been analysed, most particularly on its distinction into bonding forms and bridging forms. However, it is less usual to have the study of the individual factors that have a bearing on social capital by means of the civic or political participation and on the levels of trust, interpersonal or institutional (Kaasa/Parts 2008). The political approach to social capital should integrate personal socialization attitudes, but most of the current socialization research is education oriented (Stolle/Hooghe 2004). It is necessary to have a much broader approach that involves various personal civic attitudes and behaviours as sources of influence on the institutional trust and civic participation.

In the case of Central European Countries, there is a discussion about the lesser stock of social capital, as compared to western countries, and the possible influence on their social and economic development (Svendsen 2003; Mihaylova 2004; Fidrmuc/Gërxhani 2005; Murray 2005). The difficulties of the transition to a market-orientated economy (Paldam/Svendsen 2000, 2001; Adam et al. 2004; Buttrick/Moran 2005) or problems concerning the correct measurement of social capital (Adam/Roncevic 2002, 2003), have been identified as distinctive factors of those countries, increasing the interest in the impact of social capital, which has been dealt with from many focuses and with different operational definitions (Mateju 2002; Mihaylova 2004).

For these reasons, using a structural equations model, this paper seeks to estimate the influence which diverse individual attitudes have in social capital, specifically on its attitudinal component (Hooghe/Stolle 2003), in institutional trust and civic engagement, both institutional and political. Likewise, the relationship between these three dimensions of social capital is proposed and quantified, highlighting the influence of trust as a driving force of citizen participation.

The paper is organized as follows. The next section introduces our hypotheses, data and methodology used. Section 3 provides empirical insights on the relationship between individual factors and some dimensions of social capital, as the civic engagement (social and political participation) or institutional trust. Finally, section 4 presents the main conclusions and some future research.

Hypotheses, Data and Methodology

Hypotheses and data

Determining the factors that condition social capital is important, but it is also very interesting to analyze how these variables interrelate and what effects can be expected. In this respect, and since these are latent structures, the analysis of the covariance structure should use structural equation models, in which the theoretical knowledge is a priori incorporated into the empirical analysis.

According to Barclay et al. (1995), using these covariance structure models allows the researcher to:

- Deal with the measurement errors. This is fundamental when the variables of interest are latent and must be operationalized through other measurable variables.
- Model relations between multiple variables, both measurable and latent, and estimate direct and indirect effects.
- Combine a priori theoretical knowledge and hypotheses with empirical data. This facilitates the statistical confirmation of theories (so the models are more confirmatory than exploratory).

In this model, the various measures of social capital, in its political approach, are influenced by personal factors (collectiveness, educational, working and gender differences factors), and their own relationships. To test these relations, the following hypotheses were proposed:
H1: The personal factors have a direct influence on the social capital measures:

✓ H1.1: On the institutional trust variable.
✓ H1.2: On the social participation variable.
✓ H1.3: On the political participation variable.

H2: The institutional trust has a direct influence on the participation variables:

✓ H2.1: On the social participation.
✓ H2.2: On the political participation.

For a test of these hypotheses, we use individual data of the World Values Survey WVS2005 v.20090415 (WVS 2009), a representative survey which contains the indicator variables needed to estimate the latent constructs presented above. The wave used contains a total of 10881 individuals from five Central European Countries: Czech Republic (2071 obs.), Hungary (2114 obs.), Poland (3091 obs.), Slovakia (1561 obs.) and Slovenia (2044 obs.). For the measurement sub-model, the personal latent factors are defined by some key attitudinal personal indicators:

- Collectiveness: items e035 to e041 from the WVS (Importance of individual-collectiveness attitudes: “Income equality”, “Private vs. State ownership of business”, “Government responsibility”, “Job taking of the unemployed”, “Competition good or harmful”, “Hard Work brings success”, and “Wealth accumulation”)
- Education: items a027 to a042 from the WVS (Important child qualities: “good manners”, “politeness and neatness”, “independence”, “hard work”, “honesty”, “feeling of responsibility”, “patience”, “imagination”, “tolerance and respect for other people”, “leadership”, “self-control”, “thrift saving money and things”, “determination, perseverance”, “religious faith”, “unselfishness”, “obedience” and “loyalty”).

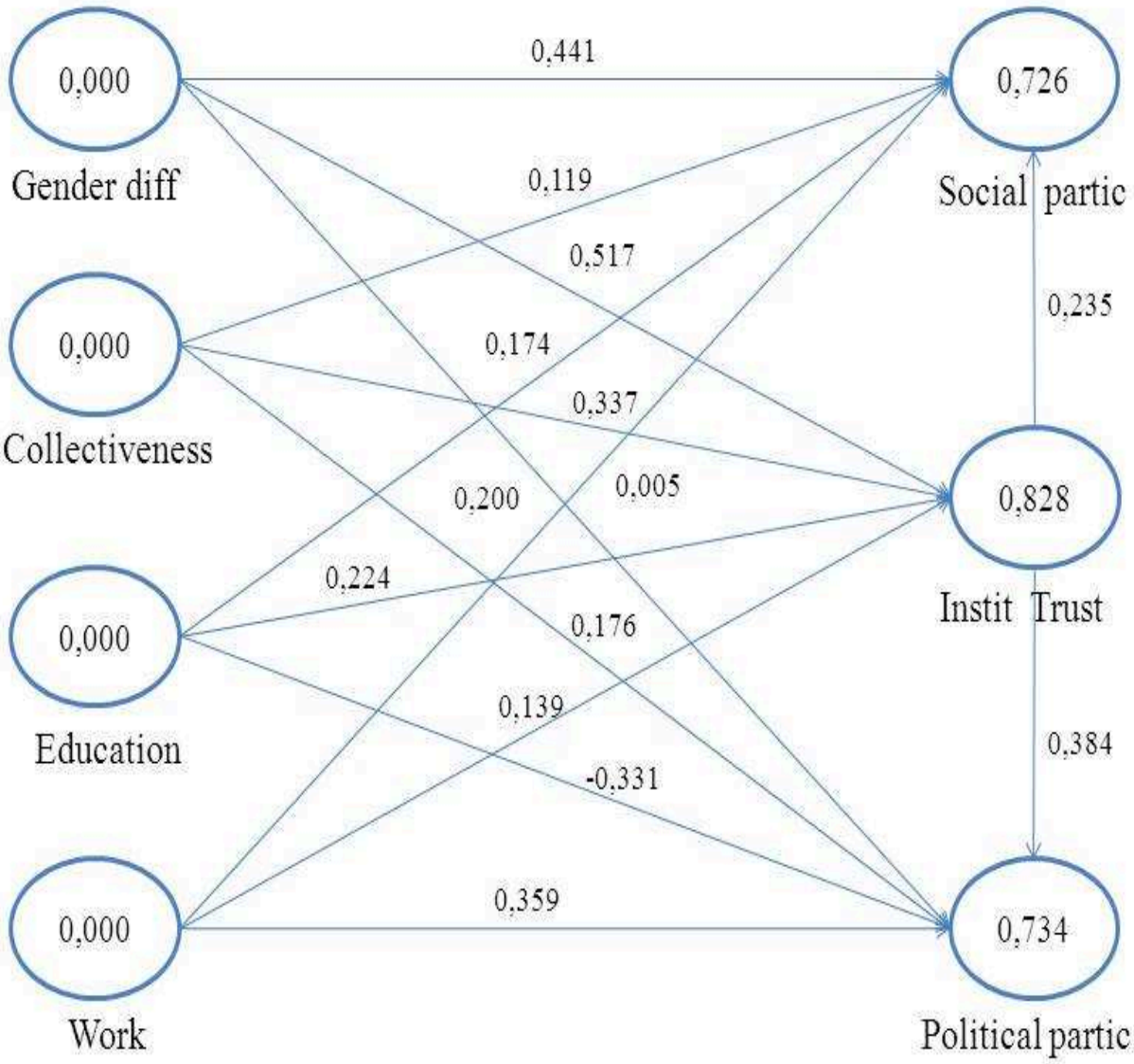
- Gender differences: items d057 to d063 from the WVS (Gender attitudes: "Being a housewife just as fulfilling", "Husband and wife should both contribute to income", "Men make better political leaders than women do", "University is more important for a boy than for a girl", "Pre-school child suffers with working mother", "Women want a home and children", and "Job best way for women to be independent").
- Work: items c036 to c041 from the WVS (Attitudes towards work: "To develop talents you need to have a job", "Humiliating to receive money without having to work for it", "People who don´t work turn lazy", "Work is a duty towards society" and "Work should come first even if it means less spare time").
- Social participation: items a098 to a106 from the WVS (individual active/inactive membership or some social organizations: "church or religious", "sport or recreation", "art, music, educational", "labour unions", "political party", "environmental", "professional", "charitable/humanitarian" and other organizations).
- Political participation: items e023 to e029 from the WVS (individual political actions: "interest in politics", "signing a petition", "joining in boycotts", "attending lawful/peaceful demonstrations", "joining unofficial strikes" and "occupying buildings or factories").
- Institutional trust: items a165, a168 and e069's from the WVS ("Most people can be trusted", "Do you think most people try to take advantage of you?" and confidence in: Churches, Armed Forces, Education System, Press, Labour Unions, Police, Parliament, Civil Services, Social Security System, Television, Government, Political Parties, Major Companies, Environmental Protection Movement, Women's Movement, Justice System, European Union, NATO, United Nations and Charitable or Humanitarian Organizations).

Methodology

To confirm the hypotheses presented above, we estimated a structural model using partial least squares, as no initial assumption of normality in the variables is required, there is no firmly established theory and this is a predictive research model of the effects of some variables on others, as recommended by Barclay et al. (1995) or Chin et al. (2003).

Accordingly, with the aim of carrying out a confirmatory factorial analysis, this study undertook an estimation of a structural equation model showing the conformation of the covariance matrix. For the structural sub-model, following the theoretical framework set out in the previous section, individual factors are regarded as exogenous, liable to affect the institutional trust factor, the social and the political participation factors, as shown in figure 1.

Figure 1. Estimation of structural equation model



The estimate was made using the partial least square (PLS) method with the program SmartPLS 2.0.M3 (www.smartpls.de). The results obtained for the sub-model bear out the choice of indicators.

Results and Discussion

As to the reliability of the instrument of measurement, the Cronbach's alpha value for all the latent variables is near to 0.7, the standard criterion given in Nunnally and Berstein (1994), as shown in table 1.

Table 1. Reliability measurements

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
Collectiveness	0.366	0.748	0.000	0.756	0.366	0.000
Education	0.421	0.885	0.000	0.865	0.421	0.000
Gender diff	0.450	0.038	0.000	0.667	0.450	0.000
Instit. Trust	0.294	0.673	0.828	0.782	0.294	0.102
Political part	0.410	0.561	0.734	0.773	0.410	0.048
Social part	0.748	0.964	0.726	0.958	0.748	0.091
Work	0.920	0.983	0.000	0.978	0.920	0.000

As regards convergent validity (*AVE*), the values of the seven constructs are acceptable. The discriminant validity criterion (Fornell/Larcker 1981) is also met, as for the seven latent variables: the corresponding AVE is greater (or similar) than the square of the estimated correlation between them.

Table 2. Correlation matrix between latent variables

	Collectiveness	Education	Gender diff.	Instit. Trust	Political part.	Social part.	Work
Collectiveness	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Education	0.1914	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Gender diff.	0.5908	0.3179	1.0000	0.0000	0.0000	0.0000	0.0000
Instit. Trust	0.7029	0.4786	0.8416	1.0000	0.0000	0.0000	0.0000
Political part.	-0.3582	0.3020	-0.3866	-0.2575	1.0000	0.0000	0.0000
Social part.	0.5904	0.4803	0.7861	0.8030	-0.1585	1.0000	0.0000
Work	0.2219	0.3200	0.2799	0.3919	0.5598	0.4220	1.0000

These results show that all latent constructs are statistically well defined using the items of the WVS and bear out the choice of indicators. The usual goodness

of fit measure, proposed in Tenenhaus et al. (2005), is the geometric mean of the average communality (measurement model) and the average R^2 (structural model), with a value of 0.6271.

Regarding the structural sub-model, as shown in table 1, the R^2 coefficients associated with latent variable regressions are significant, with very high values obtained in all cases (Falk/Miller 1992).

To evaluate the statistical significance of the latent regression coefficients, we obtain the t-statistics by bootstrapping. Table 3 shows that all the structural relations are significant and it confirms the theoretical hypotheses of this paper.

Table 3. Regression coefficients of structural model

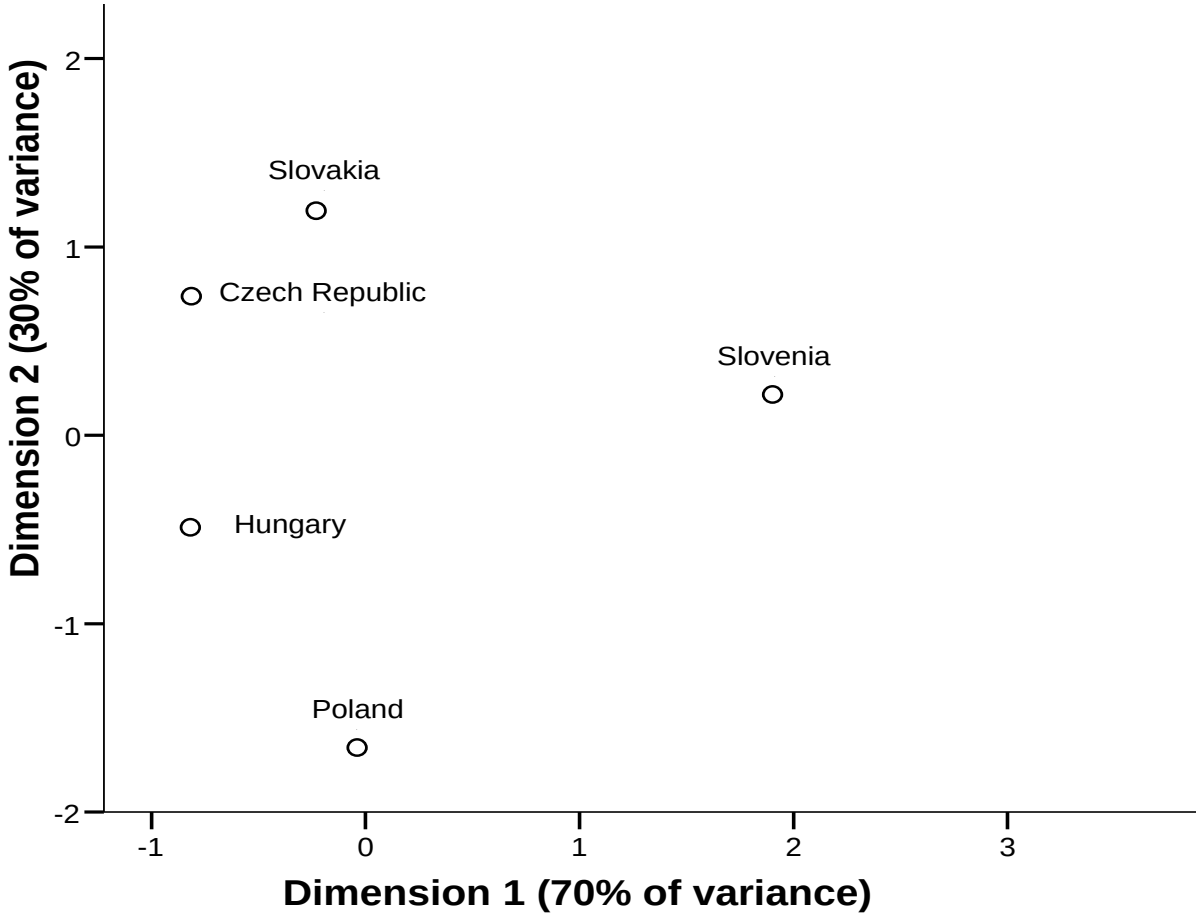
	Hypotheses	Beta	Standard Error (STERR)	T Statistics (|O/STERR|)
H1.1:	Collectiveness -> Inst. Trust	0.3366	0.0833	4.0408
	Education -> Inst. Trust	0.2241	0.0663	3.3801
	Gender diff. -> Inst. Trust	0.5166	0.1662	3.1083
	Work -> Inst. Trust	0.1388	0.0589	2.3565
H1.2:	Collectiveness -> Social Partic.	0.1187	0.0588	2.0187
	Education -> Social Partic.	0.1738	0.0591	2.9408
	Gender diff. -> Social Partic.	0.4409	0.1557	2.8317
	Work -> Social Partic.	0.0954	0.0482	1.9793
H1.3:	Collectiveness -> Political Partic.	0.1758	0.0896	1.9621
	Education -> Political Partic.	-0.3313	0.1091	3.0367
	Gender diff. -> Political Partic.	0.2604	0.1014	2.5680
	Work -> Political Partic.	0.3592	0.1708	2.1030
H2.1:	Inst. Trust -> Social Participation	0.2354	0.1134	2.0758
H2.2:	Inst. Trust -> Political Partic.	0.3836	0.1337	2.8691

Summarizing, the estimated structural model suggests that all individual factors exert a significant influence on the three measures of social capital. Also, the

institutional trust is a mediator variable with a direct influence on participation ones. All the partial regression coefficients are asymptotically significant at a 95% confidence level.

Finally, to test for significant differences in latent variables between the five CEC, we obtained the mean scores of each and the distances in the two main dimensions. We did not use Pearson correlation coefficients because, given the sample size, even small differences are statistically significant.

Figure 2. Distances between countries based on latent variables



Dimension 1, with near to 70% of variance between means, shows that Slovenia is the more different country in latent variables. For analyzing if this heterogeneity affects the obtained structure for latent relations, we have repeated the model estimation deleting the Slovenian information.

Table 4. Regression coefficients for second model

	Hypotheses	Global Coefficients	Coefficients (without Slovenia)	Standard Error (STERR)	T Statistics (|O/STERR|)
H1.1:	Collectiveness -> Inst. Trust	0.3366	0.3576	0.0394	9.0761
	Education -> Inst. Trust	0.2241	0.2084	0.0292	7.1370
	Gender diff -> Inst. Trust	0.5166	0.5595	0.0265	21.1132
	Work -> Inst. Trust	0.1388	0.0930	0.0278	3.3453
H1.2:	Collectiv. -> Social Partic.	0.1187	0.1091	0.0495	2.2040
	Education -> Social Partic.	0.1738	0.1561	0.0265	5.8906
	Gender diff. -> Social Partic.	0.4409	0.5089	0.0626	8.1294
	Work -> Social Partic.	0.0954	0.1486	0.0366	4.0601
H1.3:	Collectiv. -> Political Partic.	0.1758	0.1826	0.0526	3.4715
	Education -> Political Partic.	-0.3313	-0.3967	0.0549	7.2259
	Gender diff. -> Political Partic.	0.2604	0.3391	0.0613	5.5318
	Work -> Political Partic.	0.3592	0.2201	0.0780	2.8218
H2.1:	Inst. Trust -> Social Partic.	0.2354	0.1673	0.0829	2.0181
H2.2:	Inst. Trust -> Political Partic.	0.3836	0.3780	0.1105	3.4208

Data in Table 4 shows that the latent regression coefficients remain statistically significant and show no important differences in the total sample, so the relations obtained are robust to the existence of different countries in the sample.

Conclusion

The importance of social capital for securing responsible institutions may be greater in Central European Countries, because a shift from a planned to a market economy requires additional resources at the community level. This paper estimated a structural equation model that shows the relationship between individual factors, institutional trust and social and political participation in these countries. In summary, data analyses have confirmed hypotheses concerning the association between personal attitudes and different aspects of social capital.

In our analysis, we opt for integrating personal socialization attitudes as partial determinants of social capital. The results confirm these hypotheses, with a significant influence on institutional trust and civic participation. This “society-centred” framework, in the words of Hooghe and Stolle (2003:3), is completed with an “institutional-centred” point of view, with a central role of trust on economic, politic and social institutions in the formation of social capital.

The socialization personal behaviours and attitudes promote higher levels of trust and participation, showing its importance in the social capital formation. These aspects are more related to the educational process and its modification is very slow. So, the educational systems, which have undergone rapid structural changes in CEC and are traditionally related to human capital, also become a key factor to improve and extend the social capital levels, with positive effects for increasing participation, empowerment and social cohesion. In the Central European Countries, especially in the generations that were raised in communist regimes, a minor extension of these values may have led a lower institutional trust and, consequently, a lower stock civic participation and social capital. If there is a decline in the perception of corruption in the political system, the results suggest that a progressive extension of the personal attitudes analyzed can help improve institutional trust, and basic support for social and economic development.

These personal factors have direct and indirect effects on civic engagement. The data show that, with a political approach, one of the basic keys to social capital is institutional trust. This variable has a direct influence on social and political participation, which enhances the effect of personal factors (however, this does not preclude a possible bidirectional relationship between these variables). As Paldam and Svendsen (2001) point out, the lack of social capital can be one cause of the slowness of economic and social transition in these countries. So, the role of institutions is crucial: the promotion of economic and political honesty, the fight against corruption and, in general, any action to improve institutional trust, reverts to higher rates of social and political participation, improving the stock of social capital in CEC.

In summary, this article shows how personal socialization attitudes and behaviours are a significant impact on three important dimensions of social capital in the Central European Countries. But, it should be stressed that any cross-sectional study can draw causal-effect conclusions; at best, the patterns show only statistical associations. However, these results can offer some guide to establish more rigorous causal propositions and better designs to test the theory.

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