

Social Capital and Welfare: Micro-and Macro-level Evidence from Central and Eastern Europe

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Abstract

This paper addresses the question about how are different dimensions of social capital related to individual welfare and country's overall development level. Factor analysis was implemented in order to derive the latent constructs describing different dimensions of social capital. Obtained five factors corresponded with theoretical presumption about the composition of the factors of social capital. These factors covered both structural (including formal networks, political engagement and informal socializing with friends) and cognitive (consisting of general and institutional trust and concern of immediate family and other people) dimension of social capital. As regards the relations between welfare and social capital, it appeared that both indicators of individual welfare – feeling of happiness and life satisfaction – were statistically significantly, although weakly, correlated with all social capital factors at micro-level, while at aggregate level these welfare indicators had strong, positive and significant correlations only with formal networks. Similarly, GDP per capita as the macro-level development indicator associated also only with the formal network dimension of social capital. At the same time, individual income was not related to any dimension of social capital, and either to any other welfare indicator, except GDP per capita growth rate. These results confirmed theoretical assumption that different dimensions of social capital have different effect on alternative development objectives.

Keywords: social capital, welfare, life satisfaction, Central and Eastern European countries

1. Introduction

The concept of social capital is attracting increasing interest within theoretical and empirical research on economic growth and welfare. It has shown that traditional factors of development often fail to explain all the differences in GDP per capita and individual welfare between countries and individuals, suggesting that there should be additional factors of development not taken into account in previous analyses.

Social capital as one possible alternative determinant of welfare refers, in its broadest sense, to the internal social and cultural coherence of society, the trust, norms and values that govern interactions among people and the networks and institutions in which they are embedded. At the individual level, social capital has seen as a resource embedded in the social structure, which is useful for achieving higher reputation, power and material welfare. At the aggregate (country) level, social capital in the form of networks constitutes a powerful information channel, while trust and norms can help to discourage opportunistic behaviour in the presence of risk and uncertainty. Hence, social capital improves the functioning of markets by reducing transaction costs, and it also reduces collective action and principal-agent problems, resulting in higher productivity and growth rates.

The aim of the current study is to analyse the structure of social capital and the relationship of its dimensions with the alternative development outcomes in the Central and Eastern European (CEE) transition countries. This particular group of countries is selected because several previous studies (e.g. Paldam and Svendsen 2000; Raiser et al 1999, 2001, 2003) have shown that generally expected positive association between social capital and various development outcomes does not always

hold for CEE countries. The problem of these post-communist countries is that transition process has caused deterioration of the rules, norms and trust – i.e. social capital. As a result, despite of high growth rates in many countries, people's life satisfaction has not increased so much because of growing income disparities, corruption and social distress.

Novelty of this study stands in two aspects. Firstly, social capital is treated not as a single construct, but rather as a set of interrelated dimensions which could have different impact on alternative development outcomes. Unlike in many previous studies, these dimensions of social capital are constructed by using preliminary exploratory factor analysis, instead of using single survey items or aggregating subjectively selected indicators of social capital. Secondly, in the current study social capital is analysed simultaneously at individual and aggregate levels, shedding more light on the possible micro-macro linkages.

The paper is structured as follows. Section 2 introduces conceptual background and theoretical framework about possible linkages between different aspects of social capital and alternative development outcomes. Following sections comprise empirical analysis, which is based on the social capital and individual welfare data from World Values Surveys and GDP per capita data from Human Development Reports. Section 3 introduces data and measurement. For describing different dimensions of social capital, latent variables are constructed from initial indicators, using principal component analysis. In Section 4, relations between different dimensions of social capital are analyzed at both individual and aggregate level. Section 5 investigates the linkages between social capital and welfare indicators, while Section 6 concludes.

2. Theoretical background

Social capital is an interdisciplinary concept, which is used differently by sociologists, political scientists, and economists. Many authors, who deal in a variety of contexts with the key components of trust, norms and networks, have discussed the essential features of social capital from different viewpoints. The original systematic development of the concept is attributable to P. Bourdieu (1985) and J. Coleman (1988), who centred on individuals or small groups as the units of analysis and focused on the benefits accruing to individuals or families by virtue of their ties with others. At this level, the sources of social capital were associated with a person's networks (including those that were explicitly constructed for that purpose), while effects were linked to an array of material and informational benefits.

When the concept of social capital was exported from sociology to other disciplines (political sciences and economics), it became an attribute of the community itself. In this interpretation, the benefits of social capital accrued not so much to individuals as to the community in the form of reduced crime rates, lower official corruption, and better governance. Most well-known work in this field belongs to R. Putnam (1993) who defined social capital as the features of social organization, such as trust, social norms and networks that can improve the efficiency of society by facilitating coordinated action.

The elements of social capital can be separated into two parts: structural dimension, which facilitates social interaction, and cognitive dimension, which predisposes people to act in a socially beneficial way. These two parts work interactively and are mutually reinforcing. Based on this distinction, the components of social capital can be further divided between micro-, meso- and macro-levels (for

details, see Grootaert and Bastelar 2002). Most widely referred elements of social capital include civiness (consisting of political participation and morality), participation in informal networks and voluntary organisations, generalized trust and norms of reciprocity. However, there is a fundamental conflict between views whether civic participation leads to higher trust (whereby networks can create trust both among its members and with non-members), or vice versa. For example, Uslaner (2002) has analysed ‘reciprocity’ and ‘generalised trust’ as sources of social capital, the latter defined through networks. Putnam (1993, 2000) and his proponents share the opposite view, arguing that participation in voluntary organizations open up channels for the flow of philanthropy and altruism, which, in turn, foster norms of individual and general reciprocity. Additionally, Rothstein (2001) and Stolle (2001) have found that voluntary group membership often suffers from self-selection problem – people who join voluntary organisations are a priori more trusting.

At the level of individuals, sociologists see social capital as an ability to obtain resources through networks or other social structures. According to this approach, social capital can take three forms: obligations and expectations which depend on the trustworthiness of the social environment, the capacity of information to flow through the social structure in order to provide a basis for action, and the presence of norms accompanied by effective sanctions (Harper 2001, p. 8). Being part of a certain social structure involves both benefits and costs for the focal actor, as well as for the broader aggregate. For example, Portes and Landolt (2000) consider social control, family support and network-mediated economic benefits as possible gains from social capital, while possible losses include, among others, restrictions on individual freedom and closure of economic opportunities to third parties (Portes and Landolt 2000, p. 534). Lin (2001) distinguishes between returns on instrumental and expressive action, which often reinforce each other. Instrumental action is taken to obtain resources not possessed by the actor (e.g. wealth, power, reputation), whereas expressive action is taken to maintain resources already possessed by the actor (e.g. physical and mental health and life satisfaction). Obviously, physical health offers the capacity to endure a heavy workload and responsibility to attain economic, political, and social statuses – which, in turn, offer resources to maintain physical health. Mental health and life satisfaction are likewise expected to have reciprocal effects with economic, political, and social gains. (Lin 2001: 245)

Aforementioned enables to suggest that social capital determines also individual welfare¹ in its broadest sense. It has argued that although social interaction may provide an externality in the form of trust, the primary reason for such interaction is that these activities directly yield utility. Helliwell’s (2005) summary of recent empirical work suggests that measures of trust have substantial effects on well-being beyond those flowing through economic channels. Further, Helliwell (2004) has shown that more social interaction and higher levels of trust are associated with lower national suicide rates, which in turn associates with higher levels of life satisfaction. Anheier et al (2004) have studied the relationship between social capital and life satisfaction in a variety of country-specific cultural and political contexts, testing separately the effect of social capital by Putnam’s social cohesion model and Bourdieu’s status competition model. Their results showed, surprisingly, that neither the sense of community (Putnam’s model) nor economic and cultural capital (which create advantages for some people in the society according to Bourdieu’s model) account for higher life satisfaction. Instead, the results demonstrated the direct

¹ See the beginning of the Section 5 for more detailed explanation and measurement of the concept.

positive effect of sociability and participation, rendering other forms of capital and community aspects virtually irrelevant (*ibid*). This could be explained by the fact that people are fundamentally social in nature, and most other aspects of life satisfaction (like job security and unemployment, marital status and kinship, etc) are directly or indirectly related to everyday socializing.

As an attribute of a society, social capital can be understood as a specific characteristic of social environment that facilitates people's cooperation. A key idea of this argument is that communities can provide more effective and less costly solutions to various principal agent and collective action problems than can markets or government interventions. As such, it has said that social capital gives non-economic (or soft) solutions to economic problems. More specifically, at microeconomic level, social capital helps to reduce transaction costs related to uncertainty and lack of information. In the presence of higher trust, less resources – both time and money – should be devoted to monitoring malfeasance by partners, employees, and suppliers, and to protect themselves from being exploited in economic transactions. Civic norms act as constraints on narrow self-interest, leading individuals to contribute to the provision of various kinds of public goods. Social capital also facilitates investments into human capital and innovations, helping thus a society to catch up with its competitors more effectively.

Concerning the different forms of social networks, it has been argued that bridging interactions with distant friends, associates and colleagues are more likely having positive externalities to the society as a whole, compared to the bonding kinship ties which are dominantly seen as obstacles to development (Granovetter 1973, Narayan and Cassidy 2001). Following this classification of micro-level networks, Putnam (2000) suggests that bonding ties are important for 'getting by' while bridging ties are crucial for 'getting ahead'. With other words, bonding ties supply social support and help to overcome everyday problems, while bridging relations help to move on in one's life-path with providing diverse information, for example, about new job opportunities. Third component of this classification, linking social capital, is more a macro-level concept which refers to relations between individuals and groups in different social strata or in a hierarchy of power and social status (Putnam 2000, Harper 2001). Woolcock (2001) extends this to include the capacity to leverage resources, ideas and information from formal institutions beyond the community. Hence, the nature of linking social capital is more vertical – it links people at different authority levels.

At the macroeconomic level, social capital is found to support democratic processes through higher interest in political issues, improve the quality of governance and reduce corruption. Government officials in societies with higher generalized trust may be perceived as more trustworthy and their policy announcements are thus more credible. Furthermore, social capital is also related to achieving social development objectives, such as poverty alleviation, more equal income distribution, increase in subjective welfare and social cohesion.

Empirically it has shown that regions and countries with relatively higher stocks of social capital, in terms of generalized trust and widespread civic engagement, seem to achieve higher levels of growth, compared to societies with low trust and low civicness (e.g. Helliwell and Putnam 1995, Fukuyama 1995, Knack and Keefer 1997, Zak and Knack 1998, Rose 1999, and others). However, the effects of associational activity are more ambiguous. Positive effects of group membership appear mainly at regional level (Putnam 1993, Beugelsdijk and Schaik 2005), while

cross-country analyses usually do not show correlation between participation and economic performance (Helliwell 1996, Knack and Keefer 1997).

Unfortunately, there are only few empirical studies about social capital and welfare in transition countries². As opposed to previous literature, Raiser et al (2001) have found that unlike in market economies, in transition countries generalised trust is not positively related to growth, while participation in civic organisations shows a positive correlation. Most other studies of social capital in transition countries are focused on the measurement issues (Hjollund and Svendsen 2000), try to explain relatively low levels of social capital in these states (Flap and Völker 2003, Uslaner and Badescu 2003, Howard 2003) or deal with the effect of social capital on democracy and politics in general (Iglic 2003, Hayoz and Sergeyev 2003, Gibson 2003, Rose and Weller 2003).

3. Data and measurement

Empirical section of the current paper includes an analysis of social capital and welfare in post-communist transition countries from Central and Eastern Europe. Due to the data availability, the final analysis includes 14 countries with 21491 observations (see Appendix B for complete list of countries). The data for the empirical analysis is obtained from two databases. Social capital and individual welfare indicators come from the World Values Surveys (WVS) and refer in most cases to the year 1999, except Belarus which has data from year 2000 (Inglehart et al. 2004; World..., 2006). Macro-level development indicators – GDP per capita PPP in US dollars for years 1999 and 2004 – are derived from Human Development Reports 2001 and 2006, respectively (UNDP 2001, 2006). Based on these GDP values, short-term growth rate of the period 1999-2004 is calculated. For the all data analysis, statistical package SPSS 15.0 for Windows is used.

As the concept of social capital has many dimensions that are expected to have different influence on welfare and development, it is not reasonable to measure social capital by one overall index or variable, because in that case its substance and explanatory power may be lost in an analysis (Franke 2005). On the other hand, the same problem may arise when one tries to incorporate too many indicators of social capital into analysis. In the current study, social capital is described by following dimensions: formal and informal networks, trust, civic norms, interest in politics, concern about family and other people. These dimensions and respective indicators were selected after preliminary exploratory factor analysis³ of 56 variables from WVS. After controlling for theory, final analysis includes 22 variables. The exact descriptions of these initial indicators of social capital are presented in Appendix A. If needed, the initial indicators are rescaled so that larger values reflect a larger stock of social capital.

Informal networks are measured by two indicators: the frequency of spending time with friends and importance of friends. Formal networks are described by belonging to the Putnam-type and Olson-type organisations and unpaid voluntary work for organisations. Distinguishing between two types of organisations is based on the argument of Knack and Keefer (1997), who argue that Putnam-type organisations involve more social interactions of people with varying background and help thus to

² See Mihaylova (2004) for comprehensive literature review concerning social capital in Central and Eastern Europe.

³ For the reason of space, the results of this analysis are not presented in the study, but are available on request from author.

build trust and cooperative norms, while the Olson-type organizations tend to be more rent-seeking and are thus less relevant or even harmful for economic development and welfare. However, there is no unique distinction between these two types of organisations. In the current study, Putnam-type organizations are measured by belonging into cultural, sports and youth organisations.⁴ Olson-type organisations are measured, as traditionally, by belonging into political parties, unions and professional organizations.

Civic norms⁵ are described by three indicators: justifiability of cheating on taxes, claiming government benefits to which one is not entitled, and someone accepting a bribe. Interest in politics is measured by three indicators: the opinion of the importance of politics and the frequency of discussing political matters and following politics in the news. Institutional trust is measured by confidence in the four institutions⁶: civil services, justice system, police and parliament.

Table 1. Results of confirmatory factor analysis of the variables of social capital

Latent factors of social capital	Indicator	Factor loadings	Variance explained (%)
Informal networks	Spending time with friends	0.82	67.27
	Friends important in life	-0.82	
Interest in politics	Discussing political matters	0.79	58.93
	Politics important	-0.78	
	Following politics in the news	0.73	
Institutional trust	Confidence in parliament	0.80	60.93
	Confidence in the civil services	0.80	
	Confidence in the justice system	0.77	
	Confidence in the police	0.76	
Civic norms	Cheating on taxes, not justified	0.82	54.73
	Claiming government benefits, not justified	0.76	
	Someone accepting a bribe, not justified	0.71	
Family	Prepared to help immediate family	0.74	45.43
	Concerned with immediate family	0.65	
	Family important	0.62	
Concern about other people	Concerned with people in own region	0.92	75.08
	Concerned with fellow countrymen	0.84	
	Concerned with people in neighbourhood	0.83	

⁴ Knack and Keefer (1997) and many others following them consider also church organisations as Putnam-type. However, preliminary exploratory factor analysis in the current study showed that indicators related to church and religion tend to group into separate factor and are not related to other aspects of social capital. For that reason, church organisations are hereby excluded from further analysis.

⁵ Concerning norms, it should be noted that the claimed norms can often differ from actual behaviour, as the survey respondents are likely to be reluctant to admit bad behaviour (Knack and Keefer, 1997).

⁶ First three institutions are so-called welfare-state institutions, which are considered to be most crucial for economic development and people's life satisfaction.

Concerning different types of interpersonal trust, only one indicator was available for selected countries – the measure of general trust, which is the answer to the question about whether most people can be trusted. Closely related to the interpersonal trust is one's concern about family and other people. In the current study, dimension of family is measured by three indicators: how important is family in one's life, and how much is respondent prepared to help and concerned with immediate family. Concern about other people includes also three categories: people in neighbourhood, people in own region and fellow countrymen.

In order to capture the information of indicators of a particular dimension of social capital into one latent variable, confirmatory factor analysis was employed. The results are presented in Table 1. For further analysis, here and hereafter, the factor scores of latent variables were saved as variables. Based on theory and previous exploratory factor analysis, the indicators of formal networks and general trust were included separately into further analysis.

Next, the intention was to test whether these basic dimensions of social capital would converge into more narrowly defined categories. For that purpose, the obtained latent factors of social capital and initial indicators of formal networks and general trust were used as input variables in the exploratory factor analysis. This method resulted in five factors (out of 11 initial variables), which explain altogether 60.10% of the total variance of indicators included into analysis. The factor loadings and percentages of variance explained by the factors are presented in Table 2 and respective factor scores for separate countries in Appendix B.

Table 2. Rotated component matrix of the factors of social capital⁷

Initial factors and indicators	Component				
	(1)	(2)	(3)	(4)	(5)
Voluntary work	.819				
Other organizations	.747				
Putnam-type organizations	.711				
Family		.774			
Concern about other people		.662			
Political engagement			.775		
Olson-type organizations			.570		
General trust				.723	
Institutional trust				.668	
Civic norms					-.747
Informal networks					.666
Variance explained (%)	17.40	12.14	10.58	10.07	9.91
Total variance explained (%)	17.40	29.54	40.11	50.18	60.10

Obtained factors correspond with theory and clearly refer to different categories of social capital. According to the indicators included, the first component covers most of the indicators of participation in different organizations (except Olson-type) and could be named as “participation” or “formal networks” or also “bridging social capital”. The second component includes indicators of concerning about own family

⁷ Here and hereafter, exploratory factor analysis is conducted using the principal components method with equamax rotation. According to Kaiser criterion, only the factors with eigenvalue greater than 1 are retained. Cases with missing data are excluded pairwise, not listwise, in order to utilise all the information available. Factor loadings with absolute value less than 0.4 are suppressed in output tables.

and other people and could be referred as “bonding social capital”. The third component is related to interest in politics and participation in Olson-type organizations and could be labelled as “political engagement” or also “linking social capital”. The fourth component covers both micro- and macro-level trust and can thus be labelled also as “trust”. The last component is more difficult to interpret, as it includes informal networks and civic norms with an opposite signs. Yet, it could be assumed that people with more dense informal networks (measured here through the frequency of socializing with friends) are guided by informal norms and are thus less dependent on formal ones. Also, one should keep in mind that accepting norms doesn’t mean that person actually follows them, so the negative sign of civic norms may reflect this contradiction. In further analysis, the fifth component is referred to as “informal networks”.

Further, obtained five factors of social capital were used, once again, as inputs in exploratory factor analysis. This analysis gave two component (see Table 3 for details), which distinguish clearly between structural (component 1) and cognitive (component 2) aspects of social capital. Negative sign of informal networks suggests that formal and informal socializing may substitute each other – people with fewer contacts with friends tend to join more often with voluntary organisations, and vice versa.

Table 3. Rotated component matrix of the 2 basic dimensions of social capital

Initial factors	Components	
	(1) Structural social capital	(2) Cognitive social capital
Formal networks	.740	
Political engagement	.593	
Informal networks	-.576	
Family and concerning		.725
Trust		.547
Variance explained (%)	24.74	22.87
Total variance explained (%)	24.74	47.62

Table 4. Deriving overall latent construct of social capital

Indicator	Factor loadings	Variance explained (%)
Structural social capital	.713	
Cognitive social capital	-.713	50.79

Next, although according to theory social capital cannot be measured by single variable or one latent construct, an attempt was also made to get out of these two components overall latent variable of social capital by using confirmatory factor analysis (see Table 4). It would be interesting to test whether and to which indicators of social capital is this construct related. Country factor scores for these two analyses are presented in Appendix B and are further analysed in the next section.

4. Relations between the factors of social capital

This section attempts to find out the relations between separate social capital indicators, using aggregated country-level data presented in Appendix B and also correlations of individual-level data presented in Appendix D. First, the relations between five social capital factors which were obtained in previous section (see Table 2) are analyzed. It appears that at individual level, almost all five factors are statistically significantly correlated (primarily because of large sample size), except family and informal networks. This exception is in accordance with theory and stems already from the preliminary data, showing that people with tight family relationships have less (need and/or time for) informal contacts with friends and other people. However, all individual-level correlations are relatively small, where highest correlation appears between formal networks and political engagement. Concerning aggregated data, only factors of informal networks and trust are statistically significantly but negatively correlated. This result could be related to the fact that factor “informal networks” includes also civic norms, which are negatively related to the overall factor. As such, the last finding logically suggests that trust goes hand in hand with following civic norms. Among other correlations, the one between informal networks and political engagement shows relatively high but negative value.

Country-level comparisons give mixed results and it is not possible to draw any clear pattern of co-variation or distribution of social capital factors in different countries. However, this is not surprising, as the correlations between second-order constructs of social capital were mostly very low and statistically insignificant. The latter result could be attributed to the small sample size (N=14) at the aggregate level.

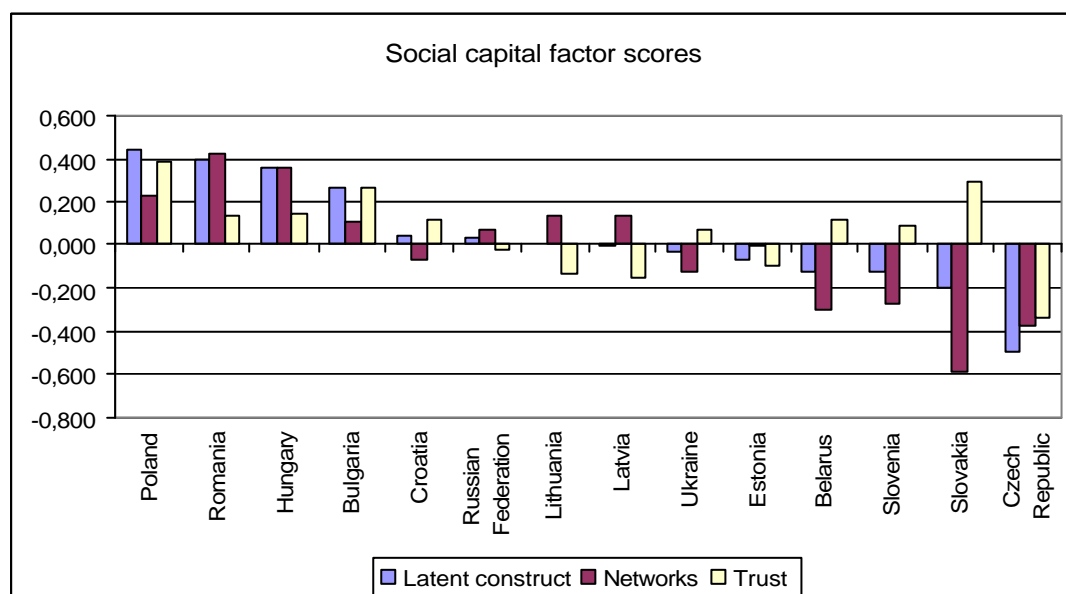


Figure 1. Country means of overall social capital and its two basic dimensions⁸

Next, the relations between first-order constructs of social capital are analyzed. Correlation (see Appendix D) between structural and cognitive social capital is very low, negative and statistically insignificant at both individual and aggregate level,

⁸ As networks or structural social capital was negatively related to the latent construct, for the clarity in the Figure 1 the values of this variable are reversed.

while their correlations with single latent construct of social capital are high (in case of networks negative) and statistically significant. However, from Figure 1 we can also see that there is not very clear pattern of the relationships between overall social capital and its two basic dimensions. Only at both ends of the scale it holds that higher values of networks and trust (or structural and cognitive social capital) lead to higher overall social capital. In most cases, structural aspects seem to have stronger influence on single latent construct than trust. Also, it could be suggested that networks and trust rather substitute each other, which contradicts theoretical assumption of mutually reinforcing character of these two dimensions.

If we look at country-level differences, it first appears that only Czech Republic has negative factor scores of both networks and trust. As an interesting fact, most of the other countries with negative network indicator – Slovakia, Slovenia, Belarus, Ukraine and also Croatia – locate geographically close to Czech Republic. This could refer to common cultural determinants of the structural social capital. Secondly, countries with negative values of trust indicator are also clustered into the same geographical location, including all three Baltic countries (which locate in the centre of the scale regarding overall social capital) and Russia, but also Czech Republic.

Finally, correlations between first-order and second-order constructs of social capital are analyzed. At the individual level, all correlations are statistically significant and also relatively high, except the correlation of structural social capital with family and trust. At the aggregate level, cognitive dimension of social capital is strongly and significantly correlated only with the factor “family and concerning”, while structural dimension of social capital has strong significant correlations with formal networks, political engagement and informal networks (the last one is negative). Among second-order factors, only trust is not statistically significantly related to any first-order construct of social capital, and it is also not correlated with the single latent construct of social capital. On the one hand, this result is surprising, as trust clearly loaded into factor denoting cognitive dimension of social capital. On the other hand, this finding is in line with many previous studies, where trust didn’t load into any social capital factor, or had very low correlations with other indicators of social capital.

5. Relations between social capital and welfare

Before analysing the relationship between social capital and welfare, the meaning of the term “welfare” should be explained in more detail. First, distinction should be made between individual and state-level welfare. The latter is usually measured by GDP per capita, adjusted for purchasing power parity for international comparisons. In the current study, GDP per capita data are taken from Human Development Reports and refer to years 1999 and 2004. Individual welfare is often understood in material terms as per capita income of individual or household member. However, in the broader context individual welfare refers to one’s life quality and should thus include other aspects, too. Rose (1999, p. 2) defines welfare in terms of “positively valued basic conditions of individuals, such as having a sufficiency of food, health, income, housing, safety from crime, and similar needs common to countries at all levels of income”. Interestingly, empirical evidence shows that average subjective wellbeing at aggregate levels is quite stable in time and doesn’t depend much on current objective conditions (Fahey and Smyth 2004, p. 58). Most often used survey measure of individual welfare or well-being is question about one’s life satisfaction, which overlaps with similar notion of quality of life. Subjective welfare is also

comparable with the notion “happiness”⁹. In order to capture as many aspects of individual welfare as possible, in the current study individual welfare is measured by three indicators available from WVS: life satisfaction, feeling of happiness and scale of income (see Appendix A for detailed description of these indicators).



Figure 2. Indicators of individual welfare: country means of standardized variables

Figure 2 presents standardized country means of individual welfare indicators. Countries are ranked according to their mean values of life satisfaction. It appears that while life satisfaction and feeling of happiness are closely related (yet, not so much in the middle of the scale), reported income level shows obscure pattern. Checking for correlations (see Table 5) reveal the same: life satisfaction and happiness are strongly and statistically significantly correlated, while the correlations of income with satisfaction and happiness are weak and insignificant (the latter one is also negative). Further, in most countries the level of life satisfaction is remarkably higher than the level of happiness. The only exceptions in this respect are Hungary, Lithuania, Belarus and Moldova. This result confirms theoretical suggestion that happiness is more fluctuating and depends on occasional episodes in ones life, while life satisfaction is based on more general and long-term considerations, including the overall situation and development perspectives in the country.

Concerning macro-level welfare indicators, from Table 5 it appears that GDP per capita for selected years is significantly and positively correlated with both life satisfaction and feeling of happiness, but is not related to reported income scales. GDP growth rate, on the other hand, is significantly but negatively related only with income, but not with other indicators of individual welfare. As such, the current analysis proves that economic growth, which is considered as most important development objective in transition countries, is not sufficient for achieving higher

⁹ Respective literature and databases can be found at <http://www.eur.nl/fsw/research/happiness> (Fahey et al 2004).

life satisfaction at individual level, although the levels of attained material welfare at micro- and macro-level are correlated.

Table 5. Pearson correlations of individual and country-level welfare indicators

	GDPPP99	GDPPP04	Growth99_04	Income	Satisfied	Happy
GDPPP99	1	,928**	-,397	,365	,816**	,712**
GDPPP04	,928**	1	-,044	,171	,844**	,775**
Growth99_04	-,397	-,044	1	-,580*	-,135	-,063
Income	,365	,171	-,580*	1	,184	-,144
Satisfied	,816**	,844**	-,135	,184	1	,789**
Happy	,712**	,775**	-,063	-,144	,789**	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Further analysis deals with the relationship between welfare indicators and social capital factors (see Appendix D for correlations). As regards to first-order constructs of social capital, at individual level all welfare indicators are statistically significantly and positively related to both structural and cognitive social capital, while the relation with the overall latent construct of social capital is negative. However, these correlation coefficients are very small and thus don't enable to draw any profound conclusions. At the aggregate-level, there is no any statistically significant correlation between welfare indicators and two basic dimensions of social capital, although the correlation coefficients with GDP levels have medium-size absolute values.

Concerning the relations between individual welfare and five second-order constructs of social capital, it appears that only formal networks are significantly and positively related to both life satisfaction and feeling of happiness at aggregate level (the same correlations were highest also at micro-level). The same holds for aggregate-level welfare – both GDP per capita variables are strongly and significantly correlated with formal networks, but not with other factors of social capital. At the same time, income scales and GDP growth rate are not significantly correlated with any indicator of social capital.

However, the results change a bit after excluding the possible outliers from the aggregate-level analysis. Graphical screening of scatter diagrams shows that Czech Republic and Belarus have extreme combinations of trust and life satisfaction, and also of family and happiness. In case of Czech Republic, extremely high values of happiness and life satisfaction are combined with the lower values of family and trust indicators, while the opposite holds for Belarus. Examples of Bulgaria and Romania show also highly opposite values of happiness and concern of family. Taking this into account, one can suggest that there may still be positive relationship between satisfaction and trust, and also between happiness and family, while happiness and trust are negatively related.

6. Conclusions

This paper aimed to shed some light on the relationship between different welfare indicators and factors of social capital. When deriving the first-order and second-order factors of social capital, the obtained latent constructs followed pretty well theoretical presumptions of their composition. First look at the relative levels of social capital in Central and Eastern Europe confirms earlier findings, showing that dominating type of social capital seems to be related to the informal networks – family and friends, and

exchanges allowing people to develop coping strategies facilitating their personal success, while the potential of social capital drawing from general trust, norms and civic engagement leading to higher social cohesion and growth seems to be rather weak.

Concerning the relations between individual welfare and social capital, it appeared that feeling of happiness and life satisfaction are statistically significantly but weakly correlated with all social capital factors at micro-level, while at aggregate level these welfare indicators have strong, positive and significant correlations only with formal networks. Similarly, GDP per capita as the macro-level development indicator associated also only with the formal network dimension of social capital. At the same time, income scales were not related to any dimension of social capital, and also not to any other welfare indicator, except GDP per capita growth rate. Omitting outliers could change the results to the some extent – positive relationship appears between satisfaction and trust, and between happiness and family, while happiness and trust appeared to be negatively related.

However, since the current study was designed as a pilot analysis prior a larger project involving more countries, the results of this study should be considered as preliminary. Based on previous studies, it could be assumed that different nations can have qualitatively and quantitatively different forms of social capital. More specifically, the further intension is to compare the levels and effects of social capital simultaneously in transition countries and advanced market economies, in order to find out and explain the similarities and differences between these two country groups.

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Formal networks	Belonging to Putnam-type organisations	Belong to cultural, sports and youth organizations, sum of “belong” answers
	Belonging to Olson-type organisations	Belong to professional associations: for political parties, labour unions and professional organizations, sum of “belong” answers
	Belonging in other organizations	Belong to 8 other voluntary organizations, sum of “belong” answers
	Unpaid work for voluntary organisations	Unpaid voluntary work for 15 different organizations, sum of “belong” answers
Family	Concerned with immediate family	Answers on scale 1 (not at all concerned) ... 5 (very much concerned)
	Prepared to help immediate family	Answers on scale 1 (absolutely no) ... 5 (absolutely yes)
	Family important	Importance of family in life, answers on scale 1 (not at all important) ... 4 (very important)
Friends	Friends important in life	Importance of friends in life, answers on scale 1 (not at all important) ... 4 (very important)
	Spending time with friends	How often spend time with friends, 1 (not at all) ... 4 (weekly)
Trust	General trust	Most people can be trusted rather than you need to be very careful in dealing with people, 1 (yes) or 0 (no)
Institutional trust	Confidence in civil service	Answers on scale 1 (not at all, denoting low confidence) ... 4 (a great deal, denoting high confidence) for each institution
	Confidence in parliament	
	Confidence in police	
	Confidence in the justice system	
Politics	Politics important	Importance of politics, answers on scale 1 (not at all important) ... 4 (very important)
	Discussing political matters	Frequency of discussing political matters, 1 (never) ... 3 (frequently)
	Following politics in the news	Answers on scale 1 (never) ... 5 (every day)
Civic norms	Cheating on taxes	Cheating on taxes if you have a chance, not justified, answers on scale 1 (always justified) ... 10 (not justified at all)
	Claiming government benefits.	Claiming government benefits to which you are not entitled, not justified, answers on scale 1 (always justified) ... 10 (never justified)
	Someone accepting a bribe	Someone accepting a bribe in the course of their duties, not justified, answers on scale 1 (always justified) ... 10 (not justified at all)
Concern	Concerned with people in neighbourhood	Answers on scale 1 (not at all concerned) ... 5 (very much concerned) for each group of people
	Concerned with people in own region	
	Concerned with fellow countrymen	
	Life satisfaction	Answers on scale 1 (dissatisfied) ... 10 (satisfied)

	Sample size	Latent construct	Structu- ral	Cogni- tive	Formal networks	Family and concerning	Political engagement	Trust	Informal networks
Bulgaria	1000	0.271	-0.107	0.271	-0.186	0.349	-0.158	0.057	0.109
Belarus	1000	-0.122	0.302	0.121	-0.241	0.057	0.204	0.397	-0.463
Croatia	1003	0.041	0.063	0.116	0.022	0.199	-0.008	0.076	-0.074
Czech Republic	1908	-0.500	0.372	-0.343	0.396	-0.609	0.130	- 0.064	0.140
Estonia	1005	-0.066	0.001	-0.096	-0.043	-0.127	-0.196	0.106	-0.055
Hungary	1000	0.358	-0.360	0.144	-0.175	0.159	-0.395	0.162	0.240
Latvia	1013	-0.002	-0.141	-0.146	-0.136	-0.440	-0.044	0.049	0.349
Lithuania	1018	0.001	-0.131	-0.133	-0.263	-0.011	-0.034	- 0.173	0.010
Poland	1095	0.442	-0.231	0.389	-0.207	0.320	-0.039	0.147	0.290
Romania	1146	0.403	-0.428	0.142	-0.241	0.228	-0.344	- 0.240	0.426
Russian Federation	2500	0.039	-0.070	-0.018	-0.315	-0.201	0.200	- 0.092	0.171
Slovakia	1331	-0.196	0.589	0.300	0.508	0.458	0.119	0.015	-0.143
Slovenia	1006	-0.130	0.274	0.083	0.333	0.198	-0.152	0.104	-0.119
Ukraine	1195	-0.030	0.123	0.075	-0.254	0.105	0.182	0.016	-0.142
Total	15420	0.000	0.044	0.039	-0.050	0.005	0.003	0.020	0.030

	PPP, thousands US \$		%	Country means from WVS		
Bulgaria	6,876	6,970	1.37	-0.03	-0.41	0.19
Belarus	5,071	8,078	59.30	-0.23	-0.02	-0.04
Croatia	7,387	12,191	65.03	0.41	0.26	-0.06
Czech Republic	13,018	19,408	49.09	0.65	0.35	0.06
Estonia	8,355	14,555	74.21	0.19	-0.01	0.06
Hungary	11,430	16,814	47.10	0.11	0.15	-0.16
Latvia	6,264	11,653	86.03	-0.06	-0.14	-0.52
Lithuania	6,656	13,107	96.92	-0.13	0.11	-0.08
Poland	8,450	12,974	53.54	0.38	0.31	-0.13
Romania	6,041	8,480	40.37	-0.07	-0.44	0.49
Russian Federation	7,473	9,902	32.50	-0.27	-0.34	0.67
Slovakia	10,591	14,632	38.16	0.24	0.04	0.44
Slovenia	15,977	20,939	31.00	0.71	0.29	0.49
Ukraine	3,458	6,394	84.90	-0.33	-0.37	-0.42

Appendix D. Pearson Correlations between welfare indicators and social capital factors at individual level (lower left triangle) and aggregate level (upper right triangle)

	Welfare			First-order constructs			Second-order constructs				
	Income	Happiness	Life satisfaction	Latent construct of social capital	Structural social capital	Cognitive social capital	Formal networks	Family and concern	Political engagement	Trust	Informal networks and norms
GDP 1999	Correlations of growth and aggregate welfare indicators are presented in Table 5			-.37	.38	-.13	.74**	-.09	-.17	.14	-.06
GDP 2004				-.37	.27	-.29	.71**	-.21	-.26	-.01	.09
Growth 99-04				.06	-.31	-.33	-.20	-.22	-.13	-.41	.29
Income	1	-.14	.18	-.04	.17	.18	.30	.26	-.05	-.32	-.00
Happiness	.17**	1	.79**	-.32	.32	-.12	.54*	-.09	.01	.31	-.17
Life satisfaction	.23**	.51**	1	-.29	.33	-.05	.77**	-.01	-.19	.09	.04
Latent construct of social capital	-.09**	-.07**	-.09**	1	-.84**	.63*	-.64*	.54*	-.61*	-.04	.53*
Structural social capital	.17**	.14**	.17**	-.71**	1	-0.11	.74**	-.05	.66*	.27	-.72**
Cognitive social capital	.04**	.04**	.05**	.71**	-.02	1	-.11	.92**	-.18	.32	-.06
Formal networks	.11**	.12**	.17**	-.46**	.75**	.10**	1	-.02	.12	.01	-.23
Family and concern	.05**	.06**	.03**	.49**	.02*	.72**	.05**	1	-.27	.17	-.19
Political engagement	.14**	.05**	.03**	-.14**	.57**	.38**	.23**	.13**	1	.13	-.52
Trust	.01	.12**	.14**	.34**	.07**	.55**	.06**	.09**	.06**	1	-.55*
Informal networks and norms	-.10**	-.12**	-.09**	.68**	-.57**	.41**	-.08**	.01	-.03**	-.02**	1

* - correlation is significant at the 0.05 level (2-tailed)

** - correlation is significant at the 0.01 level (2-tailed)

