INDIVIDUAL-LEVEL DETERMINANTS OF SOCIAL CAPITAL IN EUROPE: DIFFERENCES BETWEEN COUNTRY GROUPS

Anneli Kaasa¹ Eve Parts²

Abstract

This paper investigates the effect of various individual-level determinants on social capital in Europe, in order to find out whether there are differences between the transition and non-transition countries. The novelty lies in more comprehensive sets of both determinants and dimensions of social capital covered. Data from World Values Survey for 31 European countries (including 16 transition countries) are analysed. Based on the estimation results of the measurement and structural model for all countries separately, the countries are clustered into three groups to complement the comparison of transition and non-transition countries. Differently from the previous results, the findings of this study provide support for the argument that the sources of social capital are remarkably different in transition and non-transition countries. Moreover, the results indicate that within both of these country groups subgroups have to be distinguished.

Keywords: social capital, European regions

Introduction

Social capital as a multifaceted phenomenon refers, in its broadest sense, to 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. It is a resource which can yield a wide array of benefits both at the individual and aggregate (country) level. Empirical evidence has indicated that at the aggregate level, regions and countries with relatively higher stock of social capital seem to achieve higher levels of growth and welfare (e.g. Knack and Keefer, 1997; Rose, 2000). This is guaranteed by the different functions of social capital: networks constitute a powerful information channel which reduces transaction costs, while trust and norms can help to discourage opportunistic behaviour in the presence of risk and uncertainty. At the individual level, social capital is useful for achieving higher reputation, power and material welfare, resulting in higher life satisfaction and happiness (e.g. Rose, 1999; Arts and Halman, 2004). However, previous research has also shown that social capital may significantly differ both by individuals and by countries. For understanding and explaining these differences, which in turn may cause differences in various development outcomes, it is crucial to understand the composition and sources of social capital.

The purpose of this article is to examine the effect of various individual-level determinants on social capital in Europe in order to find possible differences between transition and non-transition countries. The data used in this study are taken from the fourth wave (1999-2002) of the World Values Survey (WVS) (Inglehart et al, 2004; World..., 2006). 31 European countries with 39 502 observations are analysed, among them 16 transition countries and 15 non-transition countries (with no communist background). It is important to mention that there are only few previous attempts (e.g. Fidrmuc and Gërxhani, 2005; Bartkowski and Jasińska-Kania, 2004) to take into account transition – non-transition differences of social capital determinants. In addition, the current article contributes to the literature in two aspects: it covers both wider range of determinants of social capital and more dimensions of social capital than previous studies. More precisely, the possible influencing factors of social capital analyzed in the current study include age, gender, marital status,

¹ Lecturer in Economics, Ph.D., University of Tartu, Faculty of Economics and Business Administration, corresponding author: Narva Road 4-A210, Tartu 51009, Estonia, Phone: +372 7 375 842, Fax +372 7 376 312, E-mail: Anneli.Kaasa@ut.ee
² Lecturer in Economics, M.A., University of Tartu, Faculty of Economics and Business Administration.
number of children, town size, education, employment status, income and religiosity. Regarding
social capital, its components can be divided into two parts. Structural social capital includes
participation in formal and informal networks, and its main function is to facilitates social
interaction. Cognitive social capital comprises different types of trust and civic norms (also referred
to as trustworthiness) which predispose people to act in a socially beneficial way (Hjøllund and
Svendsen, 2000). Although there has been some inconsistency concerning the relative importance
of the cognitive and structural aspects of social capital, it could be assumed that these two sides of
the concept work interactively and are mutually reinforcing. In the current study, five dimensions of
social capital – formal and informal networks, general and institutional trust, and norms – are
included in the analysis.

The paper is structured as follows. Section 2 presents the theoretical background. Section 3
introduces the data and the measurement. Section 4 presents the results of the structural equation
modelling and cluster analysis, identifying the effects of determinants on social capital by the
different country groups. Section 5 comprises the discussion of the results, while Section 6
concludes.

**Determinants of Social Capital**

So far, there are only few studies about the determinants of social capital, and no comprehensive
and consistent framework has been developed for such analysis. Basically, some authors tend to
emphasise the role of individual factors in determining the incentive of individuals to invest in
social capital, such as personal income and education, family and social status (e.g. Christoforou,
2005; Fidrmuc and Gërxhani, 2005; van Oorschot and Arts, 2005); while others offer greater weight
to the effect of more institutional or systemic factors, such as income inequality, confidence in
government, impartiality of policy-making bodies, and prior patterns of cooperation and association
amongst individuals in a group (e.g. Alesina and Ferrara, 2000; Rothstein and Stolle, 2003; Delhey
and Newton, 2005). The main shortcoming of previous empirical studies lies in the fact that they
include incomplete set of social capital dimensions (mostly, only indicators of general trust and/or
membership in voluntary organisations is included) and limited number of their determinants. Also,
the data sources and list of countries analysed by different authors are not similar, making
comparisons and generalisation of the results complicated.

Based on previous empirical studies (see Appendix A for the details), it could be generalized that
social capital is influenced by a wide range of socio-economic and contextual factors. Among them,
income and education seem to be most influential. Empirical evidence shows that higher levels of
income and education coincide with a strong probability for interpersonal trust and group
membership from the part of the individual (Knack and Keefer, 1997; Denny, 2003; Helliwell and
Putnam, 1999; Paldam, 2000; and others). Concerning institutional trust, the empirical results are
varying. Halman and Luijkx (2006) showed that institutional trust is statistically significantly and
positively influenced by education, while Oorschot et al (2005) found the same effect to be
negative. However, the exact causal mechanisms behind these relationships are not clearly
explained in the literature. For example, trust could be a product of optimism (Uslaner 1995, 2003)
generated by high or growing incomes. Similarly, education may strengthen trust and civic norms,
if learning reduces uncertainty about the behaviour of others, or if students are taught to behave
cooperatively (Mueller, 1989; Offe and Fuchs, 2002; Soroka et al, 2003). These processes can be
self-reinforcing: if individuals know that higher education levels make others more likely to be
trusting (and perhaps also more trustworthy), then they are in turn more likely to trust others
(Helliwell and Putnam 1999). This implies that the returns to trusting behaviour are higher when the
average levels of education increase. At the more general level it has been suggested that both
formal and informal education act as mediators of social values and norms between human
generations (Montgomery, 1990). Yet such value transmission may not always be supportive to
social capital generation – education may foster individualistic and competitive attitudes and hence reduce the motivation for cooperation.

As regards to a positive relationship between education, income and participation in community and voluntary activities, there is no simple answer to the question what causes more educated individuals to participate and volunteer more often. One possibility is to consider volunteering as a consumption good, which increases one’s non-material well-being and is influenced by opportunity cost of consumption of this good (Brown and Lankford, 1992). Since higher education is associated with a higher opportunity cost of time (equal to foregone earnings), negative effect of education on volunteering could be expected. However, volunteering usually takes place out of work time, so there may be little or no trade-off. Alternatively, there is also a possibility that participation activity, education and wages may be determined by common omitted factors. For example, some personal traits like openness, activity, curiosity and responsibility ensure higher education and wage, and are prerequisites for active participation in community life at the same time.

Besides income and education, several other social and demographic determinants like age, gender, marital status, number of children, and others seem to be important in determining social capital. As regards the impact of age, there are varying empirical results. Most linear models show positive impact of age on trust and formal networks. Another basic hypothesis says that the relation between formal networks and age is concave – with ageing the networks first increase and later decrease (Glaeser et al, 2002). However, Christoforou (2005) has found that in Europe (EU-15), younger or elder non-working groups are most likely to be group members. The explanation is that working-age people have less time (although more money) for participating. The impact of age on general and institutional trust and norms has been found to be positive (Halman and Luijkx, 2006; van Oorschot et al, 2005). This result is supported by theoretical argumentation of Whiteley (1999), who suggests that older people are more cooperative and trusting because they are raised and socialised in less secure circumstances, where they had to rely on each other.

Concerning gender, previous research has shown that women tend to have significantly lower levels of overall civic participation in formal networks (e.g. Christoforou, 2005). As regards informal social networks, it has been stated that it is easier for women to find consolation when depressed and financial relief when in need of money – but they are less likely than men to find a job using their social contacts (Fidrmuc and Gërxtani, 2005); women have also more family-based social capital and they are more trustworthy (i.e. with higher norms). Concerning the effect of gender on general trust, the results are varying: Halman and Luijkx (2006) have found that women possess a bit more social trust than men, while the analyses of Soroka et al (2002) and Oorschot et al (2005) show the opposite.

Further, usually it is expected that married couples have less social capital than on average, as family life takes time and decreases the need for outside social relations (Bolin et al 2003). However, Christoforou (2005) has found that marriage increases the likelihood of being a member of a group for both men and women, while in case of men this effect is much stronger, even after women have entered the labour market and are exposed to a series of social and professional organisations. This is probably because a rise in women’s group membership is at the expense of familial obligations within the household, traditionally held by women.

Theoretically, having children could be expected to have a similar effect as marriage, but empirical evidence is not so clear. Fidrmuc and Gërxtani (2005) found that children have a positive and significant effect on overall civic participation. After adding aggregate-level determinants the effect of children turned insignificant and negative. Concerning informal social networks, children influenced significantly and positively networks to borrow (effect on other types of networks was also positive but insignificant). Effect of household size (partly related to the number of children)
turned out to be significantly negative in case of all types of networks (depressed, need of job, borrowing).

Some studies have also tested the impact of town size on the elements of social capital. Fidrmuc and Gërxhani (2005) have shown that living in a small or medium-sized town decreases both formal and informal participation, while Alesina and Ferrara (2000) show to the contrary that people have less informal social contacts in larger settlements. Glaeser et al (2002) have found that house owners have usually more social capital, as operating one’s property requires cooperation. The proportion of private property owners, in turn, could be related to town size – there are usually more house owners in small settlements and less in large cities.

As regards employment status, it has been proved that a person facing unemployment has a strong disincentive to participate in social groups, partly on account of the distrust he/she tends to develop towards society (Christoforou, 2005). Fidrmuc and Gërxhani (2005) have shown empirically that being unemployed translates into more limited access to both informal and formal networks, being employed has the opposite influence. In the work of Oorschot et al (2006) it appeared that the negative effect of unemployment holds for a wide range of social capital components, whereas the effect is stronger in case of indicators of formal participation and weaker on general trust. Analogically, the retired persons and housewives appeared to have less formal and informal networks and general trust. At the same time, unemployed and retired persons tend to be more engaged in network of friends – probably because they have more time for informal socialising.

Social capital has some of its roots also in history and related ideology. In general, an ideology – for example, religiosity – can create social capital by forcing its followers to act in the interests of something or someone other than themselves (Knack and Keefer, 1997; Whiteley, 1999). Religiosity in general has been found to have positive impact on both formal and informal networks, norms and institutional trust (van Oorschot and Arts, 2005; Halman and Luijkx, 2006). However, different religious denominations have often different impact on social capital. It is believed that trust is lower in countries with dominant hierarchical religions like Catholic, Orthodox Christian, or Moslem (Putnam 1993; La Porta et al 1997), while Protestantism is associated with higher trust (Inglehart, 1990; Fukuyama, 1995) and norms (Oorschot et al, 2006).

While summarizing the above information about possible influences of social capital determinants, it could be concluded that only the effects of income, employment and religiosity are robust and positive (although not always significant) concerning all dimensions of social capital. The same holds for education, except for its unclear effect on institutional trust. As regards age, its effect on social capital is mostly positive, but the results depend also on whether different age groups are analysed separately, and whether the possible non-linear effects are taken into account. The effect of gender is mixed in most of the cases. Also, the effects of age and gender on networks are highly sensitive to what types of networks are considered and how they are aggregated. Factors like marital status, having children and town size are less empirically studied and the results show mostly that they have no large significant effect on social capital.

**Data and measurement**

The data used in this study were drawn from the World Values Survey (WVS) (Inglehart et al, 2004; World…, 2006). Unfortunately, not all questions of interest were covered for all European countries. The final sample includes 15 non-transition countries with 19 708 observations and 16 transition countries with 19 794 observations (see Appendix B for more detailed information about the countries included and the numbers of observations by country). For all these countries the data from the fourth wave (1999-2002, mainly 1999) were available.
Regarding social capital, it is assumed that the hypothesised determinants can influence the different dimensions of social capital in dissimilar ways. Therefore, for describing social capital, an overall index, one variable or one latent construct cannot be used. In this study, 12 indicators are used to measure five different dimensions of social capital (for details, see Appendix C). The scales are chosen so that larger values reflect a larger stock of social capital. The exact descriptions of the indicators of social capital determinants are presented in Appendix D. Firstly, socio-economic factors like age, gender, marital status (married or not), number of children, size of town, highest education level attained, employment status (employed or not) and income of household were included in the analysis. Additionally, religiosity is measured by three indicators: belonging to a religious denomination, attending religious services (apart from weddings, funerals and christenings) and whether a person considers oneself as a religious person or not (independently from belonging to church).

As the intention was to analyse the influence of different determinants on social capital by dimensions of social capital (formal networks, informal networks, institutional trust and norms), latent variables had to be constructed to capture all the information of several indicators into one variable. This could be done by using confirmatory factor analysis as a part of the structural equation modelling (SEM) methodology. However, first, in order to test whether the indicators chosen to describe a particular factor would load to the same factor, the exploratory factor analysis was conducted for the whole sample using the principal components method with equamax rotation. For the data analysis here and hereafter SPSS for Windows 11.5 and Amos 4.0 were used.

The factor loadings and percentages of total variance explained by the factors are presented in Table 1. The results show that the indicators of social capital clearly divided into five groups describing pre-defined dimensions of social capital. The extracted five factors explain altogether 63.58% of the total variance of indicators included in the analysis. The factor loadings of indicators in factors which they were chosen for are ranging from 0.65 to 0.97; at the same time the factor loadings into other factors are all smaller than 0.2. Hence, the indicators chosen to describe different dimensions of social capital are valid for using them in confirmatory factor analysis as well. Analogically, principal components analysis of indicators of religiosity was performed, resulting in one factor with factor loadings ranging from 0.82-0.84.

Table 1. Results of factor analysis of social capital indicators (rotated component matrix*)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Norms</td>
</tr>
<tr>
<td>Cheating on taxes, not justified</td>
<td>0.79</td>
</tr>
<tr>
<td>Claiming government benefits, not justified</td>
<td>0.75</td>
</tr>
<tr>
<td>Someone accepting a bribe, not justified</td>
<td>0.73</td>
</tr>
<tr>
<td>Confidence in parliament</td>
<td></td>
</tr>
<tr>
<td>Confidence in the police</td>
<td></td>
</tr>
<tr>
<td>Confidence in the press</td>
<td></td>
</tr>
<tr>
<td>Unpaid work for voluntary organisations</td>
<td></td>
</tr>
<tr>
<td>Belonging to voluntary organisations</td>
<td></td>
</tr>
<tr>
<td>Spending time with friends</td>
<td></td>
</tr>
<tr>
<td>Friends important in life</td>
<td></td>
</tr>
<tr>
<td>Spending time socially with colleagues</td>
<td></td>
</tr>
<tr>
<td>General trust</td>
<td></td>
</tr>
<tr>
<td>Variance explained (%)</td>
<td>14.77</td>
</tr>
<tr>
<td>Cumulative variance explained (%)</td>
<td>14.77</td>
</tr>
</tbody>
</table>

* For reasons of simplicity and clarity, the coefficients with absolute values less than 0.2 are suppressed.
Next, using SEM approach, the measurement model was constructed according to the theoretical assumptions and the results of exploratory factor analysis. The results of this model turned out to be very similar to the results of exploratory factor analysis. All the factor loadings were statistically significant at the 0.01 level (two-tailed). Hence, the confirmatory factor analysis confirms the operationalization of the dimensions of social capital and religiosity used in this study, and is the basis for further analysis.

**Effects of determinants on dimensions of social capital by country groups**

In order to estimate the effects of the determinants on different dimensions of social capital, the SEM approach was used. It was hypothesised that all the determinants have an effect on all five dimensions of social capital. The full information maximum likelihood (FIML) method was used for estimation. All the variables were standardised before the analysis to ensure comparability of the relative fit indices calculated by AMOS. After deleting the outlier values, the data satisfied the normality assumption with absolute values of skewness less than 3 and of kurtosis less than 8 (Kline, 1998, pp. 79-82). The structural model was estimated separately for all 31 countries (however, these results are not presented separately here for reasons of space). According to different fit measures (RMSEA, normed fit index, incremental fit index, comparative fit index, relative fit index and Tucker-Lewis index), all the models can be viewed as acceptable.

The results of the structural model showed that although many of the standardised regression coefficients are statistically significant at the 0.01 level, the absolute values of these coefficients are often lower than 0.1. The reason lies in the large sample sizes used in this study – the larger the sample size, the smaller coefficients turn out to be statistically significant. The standardised regression coefficients with absolute value less than 0.1 are often considered as small effects, while coefficients with absolute values around 0.3 can be interpreted as medium and coefficients with absolute values of 0.5 or more as large effects (Kline, 1998, pp. 149-150). However, it is questionable whether the effects with absolute values less than 0.1 indicate any influence at all. On the other hand, social capital is a quite complex phenomenon and it can be influenced by very many factors (also pointed out by Grootaert, 2004). Hence, it is reasonable to assume that the standardised coefficients describing these influences one by one cannot be very large. Taking into account these considerations, in this study the effect sizes are handled as follows. The standardised regression coefficients with absolute value between 0.07 and 0.1 are also taken into account and considered as very small effects. Regression coefficients with absolute values between 0.1 and 0.2 are considered as small effects, between 0.2 and 0.4 as medium effects, and more than 0.4 as large effects.

Next, in order to test whether the relationships differ in the different country groups, the mean regression coefficients were computed for these country groups. The 45 regression coefficients describing the effects of nine determinants on five dimensions of social capital were saved as variables for 31 countries. Then, cluster analysis was used to group countries according to these 45 variables. The Ward's method from hierarchical clustering approach was used, as it is considered more appropriate for small samples (for technical details, see Garson, 2007; Statsoft, 2007). For choosing the number of clusters the following principle was used: if adding one more cluster resulted in a new cluster significantly different from the previous clusters, it was added, and vice versa. Here, it seemed most reasonable to divide countries into three clusters.
Table 2. Division of countries into clusters

<table>
<thead>
<tr>
<th>Non-transition countries</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>Austria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Belgium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>France</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iceland</td>
<td>Greece</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>Italy</td>
<td>Luxembourg</td>
<td>Malta</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Spain</td>
</tr>
<tr>
<td>Transition countries</td>
<td>Croatia</td>
<td>Albania</td>
<td></td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Belarus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>Bosnia and Herzegovina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>Bulgaria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>Russian Federation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>Serbia and Montenegro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>Ukraine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 2, the first cluster includes most of the countries in Northern Europe, more specifically the northern part of it (Finland, Sweden, Iceland, Denmark) and also some adjacent countries (Germany, Netherlands), which together are forming a geographically connected region (see Figure 1). The third cluster covers the eastern part of Eastern Europe (Russian Federation, Belarus, Ukraine, Bulgaria) and eastern part of Southern Europe (Albania, Bosnia and Herzegovina, Serbia and Montenegro), also forming a geographically compact region, if the countries not included in the analysis are not taken into account. The second cluster comprises the remaining countries of Western Europe (Austria, Belgium, France, Luxembourg) adjacent to the western part of Southern Europe (Spain, Italy, Greece, Malta, Slovenia, Croatia), the western part of Eastern Europe (the Czech Republic, Hungary, Poland, Slovakia) and the southern part of Northern Europe (Estonia, Latvia, Lithuania, Ireland).
Hence, the results show three clearly geographically distinguishable and hence probably also historically and culturally distinguishable clusters. As regards the status of transition, the first cluster includes non-transition countries, the second cluster both countries, and the third cluster contains only transition countries. The first cluster can be also named as northern non-transition countries and the third cluster as eastern transition countries. As a background information, the mean values of factor scores describing the level of social capital by dimensions for all three clusters, and also for transition and non-transition countries are presented in Appendix E.

Table 3 presents the mean standardised regression coefficients describing the effects of determinants of social capital in the different country groups. As the coefficients presented are the mean values of the particular coefficients in countries included into the particular sample, the indicators of statistical significance of these values are not available. Still, it has to be pointed out that the results of structural model estimation showed that all coefficients with absolute value higher than 0.07 were statistically significant at least at the 0.10 level. Moreover, here, the size of effect is of more importance – a coefficient with the absolute value lower than 0.07 cannot be viewed as indicating any effect, even if it turns out to be statistically significant.
Table 3. Mean standardised regression coefficients for different country groups*

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Dimension of social capital</th>
<th>All countries</th>
<th>All non-transition countries</th>
<th>Cluster 1 northern non-transition countries</th>
<th>Cluster 2 (Cluster 2, divided)</th>
<th>Cluster 3 eastern transition countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Formal networks</td>
<td>0.03</td>
<td>0.08</td>
<td>0.04</td>
<td>0.05</td>
<td>(0.11) (-0.01)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>-0.32</td>
<td>-0.32</td>
<td>-0.38</td>
<td>-0.33 (-0.27)</td>
<td>(-0.38) -0.25</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.03</td>
<td>0.05</td>
<td>0.02</td>
<td>-0.01 (-0.06)</td>
<td>(0.09) 0.03</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.08</td>
<td>0.09</td>
<td>0.07</td>
<td>0.04</td>
<td>0.09 (0.12)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>0.22</td>
<td>0.18</td>
<td>0.25</td>
<td>0.18</td>
<td>0.21 (0.18)</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>Formal networks</td>
<td>0.05</td>
<td>0.04</td>
<td>0.07</td>
<td>0.03</td>
<td>0.07 (0.05)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>0.11</td>
<td>0.08</td>
<td>0.14</td>
<td>-0.01 (-0.14)</td>
<td>(0.14) 0.13</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02 (0.02)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.01</td>
<td>0.04</td>
<td>-0.01</td>
<td>0.05</td>
<td>0.00 (0.04)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>-0.09</td>
<td>-0.10</td>
<td>-0.07</td>
<td>-0.13 (-0.08)</td>
<td>(-0.08) -0.06</td>
</tr>
<tr>
<td>Married</td>
<td>Formal networks</td>
<td>-0.02</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.02 (-0.02)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>-0.15</td>
<td>-0.16</td>
<td>-0.13</td>
<td>-0.17 (-0.16)</td>
<td>(-0.16) -0.09</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>-0.02</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.04 (-0.02)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.00</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.03</td>
<td>0.00 (0.01)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>0.06</td>
<td>0.07</td>
<td>0.06</td>
<td>0.08</td>
<td>0.05 (0.06)</td>
</tr>
<tr>
<td>Children</td>
<td>Formal networks</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>-0.08</td>
<td>-0.10</td>
<td>-0.07</td>
<td>-0.05 (-0.10)</td>
<td>(-0.13) -0.07</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.00</td>
<td>-0.02 (-0.02)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>-0.02</td>
<td>-0.05</td>
<td>0.00</td>
<td>-0.07 (-0.02)</td>
<td>(-0.04) 0.00</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.01 (-0.02)</td>
<td>(-0.02) 0.02</td>
</tr>
<tr>
<td>Town size</td>
<td>Formal networks</td>
<td>-0.03</td>
<td>-0.04</td>
<td>-0.03</td>
<td>-0.04 (-0.05)</td>
<td>(-0.03) -0.02</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.02 (-0.01)</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.04 (-0.04)</td>
<td>(-0.00) -0.01</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.07</td>
<td>0.00</td>
<td>-0.02 (-0.03)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.02 (-0.04)</td>
</tr>
<tr>
<td>Education</td>
<td>Formal networks</td>
<td>0.18</td>
<td>0.21</td>
<td>0.16</td>
<td>0.21</td>
<td>0.20 (0.21)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>0.09</td>
<td>0.10</td>
<td>0.08</td>
<td>0.07</td>
<td>0.10 (0.12)</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.11</td>
<td>0.15</td>
<td>0.07</td>
<td>0.19</td>
<td>0.12 (0.13)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.03</td>
<td>0.09</td>
<td>-0.02</td>
<td>0.11</td>
<td>0.02 (0.07)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>0.04</td>
<td>0.03</td>
<td>0.05</td>
<td>0.03</td>
<td>0.04 (0.03)</td>
</tr>
<tr>
<td>Employed</td>
<td>Formal networks</td>
<td>0.07</td>
<td>0.06</td>
<td>0.08</td>
<td>0.08</td>
<td>0.03 (0.05)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>0.05</td>
<td>0.01</td>
<td>0.08</td>
<td>-0.06</td>
<td>0.03 (0.05)</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.03 (0.03)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>-0.07</td>
<td>-0.06</td>
<td>-0.08</td>
<td>-0.08</td>
<td>-0.06 (-0.07)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.00 (-0.01)</td>
</tr>
<tr>
<td>Income</td>
<td>Formal networks</td>
<td>0.08</td>
<td>0.12</td>
<td>0.05</td>
<td>0.12</td>
<td>0.09 (0.11)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>0.06</td>
<td>0.05</td>
<td>0.07</td>
<td>0.06</td>
<td>0.07 (0.07)</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.07</td>
<td>0.09</td>
<td>0.05</td>
<td>0.06</td>
<td>0.08 (0.11)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.05</td>
<td>0.05</td>
<td>0.06</td>
<td>0.05</td>
<td>0.06 (0.04)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.04</td>
<td>0.04</td>
<td>0.01 (0.01)</td>
</tr>
<tr>
<td>Religious</td>
<td>Formal networks</td>
<td>0.15</td>
<td>0.21</td>
<td>0.10</td>
<td>0.35</td>
<td>0.13 (0.12)</td>
</tr>
<tr>
<td></td>
<td>Informal networks</td>
<td>0.06</td>
<td>0.10</td>
<td>0.03</td>
<td>0.16</td>
<td>0.05 (0.06)</td>
</tr>
<tr>
<td></td>
<td>General trust</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04 (0.03)</td>
</tr>
<tr>
<td></td>
<td>Institutional trust</td>
<td>0.15</td>
<td>0.22</td>
<td>0.09</td>
<td>0.20</td>
<td>0.15 (0.23)</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>0.11</td>
<td>0.16</td>
<td>0.06</td>
<td>0.16</td>
<td>0.12 (0.16)</td>
</tr>
</tbody>
</table>

* Coefficients larger than or equal to 0.10 are in bold, coefficients larger or equal to 0.07 are shaded.
As can be seen from Table 3, age has a medium effect on informal networks in both transition and non-transition countries − younger people have more informal networks. The effect of age on norms is medium-sized in the whole sample and in transition countries, while in non-transition countries it was somewhat smaller. This effect is positive − older people have higher norms. The positive effect of age on institutional trust is very small. The effect of age on other dimensions of social capital can be viewed as non-existing or very small.

Gender and marital status appeared to have only small or very small effect on informal networks. Men tend to have more informal networks than women and this influence is somewhat stronger in transition countries. Married persons tend to have less informal networks, and this effect is somewhat stronger in non-transition countries. In addition, gender has also a rather very small effect on norms − women tend to have somewhat higher norms than men. The effects of gender and marital status on other dimensions of social capital can again be viewed as non-existing or very small. Also, it turned out that in northern non-transition countries belonging to the first cluster, unlike in other non-transition countries, there is no effect of gender on informal networks. That means that in northern non-transition countries, men and women have equal amount of informal networks. Analogically, it can be said that in eastern transition countries belonging to the third cluster, the effect of marital status on informal networks is significantly smaller than in other countries. Hence, in eastern transition countries marriage decreases the informal networks to smaller extent.

Number of children proved to have no considerable effect on social capital, except a very small negative effect on informal networks − persons with more children have somewhat less informal networks. Concerning non-transition countries, it turns out that this effect exists only in southern non-transition countries, while in northern non-transition countries the number of children does not influence the amount of informal networks. Town size also appeared to have no influence with one exception − in eastern transition countries (and not in the other clusters) it appears to have an effect on institutional trust − persons living in larger towns have less confidence in institutions.

There are some interesting results concerning the influence of employment status. While considering the groups of transition and non-transition countries, there appeared to be only small or even non-existing effects of employment on both formal and informal networks, then the clustering approach showed that unlike in other countries, in eastern transition countries employed persons have a significant advantage in forming both formal and informal networks.

The education level of a person appeared to increase formal networks, especially in non-transition countries, where the effect is of medium size, while in transition countries the effect is smaller. A positive effect of education on informal networks is even smaller in all samples. In non-transition countries, the education level has also a small positive effect on general trust; in transition countries this effect is very small. In case of the positive effect of education on institutional trust, the distinction line goes rather between the transition and non-transition countries than between the clusters − the effect exists only in non-transition countries. Regarding norms, education turned out to have no effect. Regarding income, there appeared a positive effect of income on formal networks, except in eastern transition countries. At the same time, a positive effect of income on general trust is somewhat higher in southern non-transition countries than in other countries. Also, although there seems to be no effect of income on norms in either transition or non-transition countries, clustering approach shows that there is a small effect in eastern transition countries − persons with higher income have lower level of norms.

Religiosity appears to be one of the strongest determinants of social capital and the effects are larger in non-transition countries. There is a positive effect of religiosity on formal networks and it is
largest in northern non-transition countries and does not exist in eastern transition countries. Unlike in other countries in northern non-transition countries religious persons tend to have a significant advantage in forming informal networks. In case of a positive effect of religiosity on institutional trust and norms, the distinction line goes rather between the transition and non-transition countries than between the clusters and the effect is larger in non-transition countries. General trust appeared not to be influenced by religiosity at all.

Discussion

The results of the above results provide significant support for the argument that the different dimensions of social capital have to be analysed separately – this holds also for analysing the determinants of social capital. All analysed determinants appeared to have different influence on different dimensions. As one of the most striking cases, age turned out to have a negative effect on informal networks, but positive effect on norms, and in some country groups also on formal networks and institutional trust. Also, in most country groups men tend to have more informal networks, but lower norms than women. In eastern transition countries employed persons appeared to have more networks, but less institutional trust than other persons. Hence, the determinants of social capital are not the same for all the dimensions.

Next, it can be concluded that most of the results of this paper are in accordance with the theoretical suppositions and the findings of previous research. In many cases the results confirmed the supposed effect or its non-existence. In cases where previous results have given mixed results (positive or negative effect), there turned out to be no effect in this analysis. In cases where previous results have shown both statistically significant positive and statistically non-significant effect, in the current analysis the effect turned out to be positive, but small or very small.

However, there are also some results differing from previous empirical results. When previous research has shown no effect of marital status on informal networks, here it turned out that married people have significantly less informal networks. Next, previous results allowed to suppose that town size has a negative effect on formal networks, but here the effect of town size on formal networks turned out to be so small that it has to be viewed as non-existent. Analogically, it could be expected that the effect of income on institutional trust is positive, but there was rather no effect in this analysis. Also, the positive effect of religiosity on informal networks appeared only in case of northern non-transition countries, in other country groups there was no such effect. At last, while previous results concerning the effect of gender on informal networks are mixed, according to the current analysis, men tend to have more informal networks than women.

For some influences tested in the current analysis there are no previous results to compare with. Regarding the effects of marital status, number of children and town size on cognitive dimensions of social capital, mostly, there appeared to be no effect at all. There are only following exceptions: married people tend to have higher norms in some country groups; in northern non-transition countries people with more children tend to have less institutional trust; and in eastern transition countries people living in smaller towns have more institutional trust. Hence, the previously unanalysed effects are only marginal in determining social capital.

When looking at the effects by dimensions, it can be pointed out that among the dimensions of social capital, general trust is least affected by the determinants analysed in the current study. This can be explained by the fact that the within-country variance is smaller in case of general trust than in case of other dimensions of social capital. In eastern transition countries the determinants analysed have no influence at all on general trust. On the whole, the cognitive dimensions of social capital (general trust, institutional trust and norms) are influenced by smaller number of determinants than the structural dimensions (formal networks, informal networks). On the other
hand, informal networks and norms are dimensions on which the effects of determinants are most similar in all country groups. At the same time, in case of formal networks there is the greatest variation in the determinants. Further, when comparing the effects by determinants, age, education and religiosity seem to be the most important sources of social capital (followed by income and gender). Town size and the number of children are the determinants with the least influence on social capital.

Regarding possible differences between transition and non-transition countries, the results contradict the conclusions of Fidrmuc and Gërxhani (2005) who argue that there are no differences between old and new members of European Union concerning the effects of various determinants on social capital. Although their analysis covered fewer countries than the current study, the country groups are basically the same – the new members are viewed as transition countries in this study and the old members as non-transition countries. In this study it turned out that there are many considerable differences between these country groups. The positive effects of religiosity on institutional trust and norms are remarkably larger in non-transition countries than in transition countries. The positive effect of age on norms can serve as another example – it is also much larger in non-transition countries. However, there appeared no cases where the coefficients describing the particular effect are with different sign and both of them also statistically significant. Hence, there are differences worth pointing out, but the differences are not very extreme – the differences are rather in the existence and size than in the sign of the effect.

In addition, it seems reasonable to distinguish subgroups of both transition and non-transition countries. The conducted cluster analysis indicated that according to the effects of determinants on social capital, transition countries can be divided into eastern and western transition countries, and analogically non-transition countries into northern and southern non-transition countries. Comparing the coefficients of these subgroups showed many considerable differences inside both the transition and non-transition countries.

Regarding non-transition countries, the positive effect of religiosity on formal networks turned out to be much larger in northern countries. As the northern countries are mainly Protestant countries, this result is in accordance with the previous results, which showed that although religiosity (church attendance) had always positive effect on formal networks, Protestant religion had positive and Catholic religion negative effect (Oorschot et al, 2006) – in northern countries the positive effects cumulate, while in southern countries with more Catholic background, the positive effect of religiosity is decreased by the negative effect of Catholic background. Also, the negative effect of age on informal networks is larger in northern non-transition countries. The reason can lie in the fact that these countries have high welfare and well-developed social security system because of this and the old people live rather alone than with the family, it is also possible that in southern countries older people live rather with the family because of cultural traditions.

Also, there are some effects in southern non-transition countries, like the effects of age on formal networks and institutional trust, of gender and the number of children on informal networks, of income on general trust, which do not appear to exist in northern non-transition countries. It can be supposed that in northern non-transition countries the level of social capital is high for all persons and does not depend on socio-demographic factors to the same extent as in other countries. To the contrary, the effects of education on institutional trust and religiosity on informal networks turned out to exist in northern, but not in southern non-transition countries. The last result confirms the supposition that in northern countries the positive influences of religiosity as a whole and Protestant background cumulate, while in southern countries the more Catholic background eliminates the positive effect of religiosity.
Concerning transition countries, analogically to non-transition countries, the negative effect of age on informal networks is larger in western non-transition countries. The explanations are similar to those discussed by non-transition countries. Again, there are some effects in eastern transition countries, which do not appear to exist in western transition countries. The negative effect of town size on institutional trust in eastern transition countries may indicate that the influences of determinants on social capital may depend on the level of social capital, and may be related to the fact that in these countries institutional trust is extremely low (see Appendix E). The positive effect of employment on formal and informal networks in eastern transition countries can be explained by looking at the membership of voluntary organisations by type of organisations – in most of these countries people belong mainly to the labour unions. Also, it is possible, that in these countries the culture is more family-oriented and the employment is crucial for developing informal networks. At the same time, the effects of education on general trust and of religiosity on formal networks exist in western transition countries (like also in non-transition countries), but not in eastern transition countries. The last can be explained analogically to the case of non-transition countries, with the more Protestant background of western transition countries. Also, in eastern transition countries marriage decreases the informal networks to smaller extent. The explanation of this result can lay in a different life style – young couples stay to live with their parents or to remain in intense communication with them.

Conclusions

In summary, this paper examined the possible sources of different dimensions of social capital at the individual level. Although previous literature is far from comprehensive, theoretical considerations and previous research allowed to assume that education and income are the strongest individual-level determinants of social capital, but also that many other determinants and religiosity have to be considered as possible determinants.

The data of 31 European countries, including 16 transition countries, originating from World Values Survey were analysed. Along with the factor analysis used for the measurement of latent variables, structural model including the effects of all 10 determinants on five dimensions of social capital was estimated for both the whole sample and 31 countries separately. To test whether division of European countries concerning the sources of social capital follows the line between transition and non-transition countries, cluster analysis was conducted. Comparing the mean values of the coefficients describing the effects of various determinants on different dimensions of social capital in the different country groups, the following conclusions can be made.

First, the findings provide strong support for the argument that while analysing the determinants of social capital different dimensions of social capital have to be analysed separately. All analysed determinants appeared to have different influence on different dimensions – while a particular determinant has a positive effect on one dimension of social capital, its effect on another dimension of social capital can be negative or non-existing.

Second, most of the results of this paper are in accordance with the theoretical suppositions and the results of previous studies. Nevertheless, there are also some results differing from previous findings. In case of some effects examined in the current analysis there were no previous results to compare with – however, these effects appeared to be marginal in their size.

Third, when comparing the effects by dimensions, it turned out that among dimensions of social capital, general trust is least affected by the determinants analysed in the current study. Also, the cognitive dimensions of social capital (general trust, institutional trust and norms) are influenced by smaller number of determinants than the structural dimensions (formal networks, informal networks). At the same time, informal networks and norms are the dimensions, on which the effects
of determinants are most similar in all country groups. In case of formal networks there is the greatest variation in determinants. Looking by the determinants, age, education and religiosity are the most important sources of social capital among the determinants analysed in this study, followed by income and gender.

Fourth, regarding the possible differences between transition and non-transition countries, the results contradict the previous research – it turned out that there are many considerable differences between transition and non-transition countries. Yet, the differences are rather in the existence and size than in the sign of the effect. Also, the cluster analysis indicated that it is reasonable to distinguish subgroups of both transition and non-transition countries. The transition countries can be divided into eastern and western transition countries; the non-transition countries into northern and southern non-transition countries. There were many considerable differences inside both the transition and non-transition countries.

This study has also some limitations. Not all European countries were included in the analysis because of data unavailability. Also, the interrelationships between the different determinants of social capital and also between the different dimensions of social capital could be included in the analysis in future. In addition, the possible dependence of the influence on the levels of determinants or social capital, or the time lag in the influences could be tested. At last, the study can be supplemented by adding macro-level and possible additional micro-level determinants. However, despite these limitations, this study indicates that the sources of social capital are remarkably different in transition and non-transition countries, but also that in both of these country groups, subgroups have to be distinguished.

References


Kokkuvõte
Sotsiaalkapitali mõjurid indiviidi tasandil Euroopas: erinevused riigigruppide vahel


mittesiirderiigid, teise lõunapoolsed mittesiirderiigid ja läänepooled siirderiigid, kolmandasse idapooled siirderiigid.


Appendix A. Previous studies about the individual-level determinants of social capital

<table>
<thead>
<tr>
<th>Survey, authors</th>
<th>Data source, sample</th>
<th>Dimensions (indicators) of social capital</th>
<th>Determinants of social capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartkowski and Jasinska-Kania (2004)</td>
<td>EVS 1999, 29 European (both transition and non-transition) countries</td>
<td>Formal membership and activity in voluntary organizations</td>
<td>Education, gender, interest in politics, interpersonal and institutional trust, norms</td>
</tr>
<tr>
<td>Fidrmuc and Gërçhani (2005)</td>
<td>Multiple Eurobarometer surveys in the beginning of 2000s, 27 European countries</td>
<td>Formal networks (average participation, Olson and Putnam groups), informal networks (help when depressed, in need of job or money), altruism (spending money and time for helping others)</td>
<td>Age, gender, married, children, education, income, employment, town size</td>
</tr>
<tr>
<td>Van Oorschot and Arts (2005)</td>
<td>European Values Survey (EVS) 1999-2000, 23 European countries (9 transitional and 14 non-transitional)</td>
<td>Eight-scale model of social capital, including norms, institutional and, interpersonal trust, active and passive participation, friends, family and political engagement</td>
<td>Welfare effort and regime, income inequality, GDP, gender, age, education, income, employment, religion and church attendance</td>
</tr>
<tr>
<td>Van Oorschot, Arts and Gelissen (2006)</td>
<td>European Values Survey (EVS) 1999-2000</td>
<td>Second-order factor analysis of 8 initial dimensions of social capital, resulting in 3 factors: networks, trust and civicism</td>
<td>Gender, age, education, income, religion and church attendance, political stance, status (retired, housewife, student, unemployed)</td>
</tr>
<tr>
<td>Halman and Luijkkx (2006)</td>
<td>European Social Survey (ESS) 2002, 21 European countries</td>
<td>Interpersonal and institutional trust, norms, formal engagement and informal social activity (attitudes)</td>
<td>Education, age, gender, political left-right, individualism, moral sense, religiosity, life experiences and</td>
</tr>
</tbody>
</table>
satisfaction.
Appendix B. Countries and observations analysed

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1999</td>
<td>1522</td>
</tr>
<tr>
<td>Belgium</td>
<td>1999</td>
<td>1912</td>
</tr>
<tr>
<td>Denmark</td>
<td>1999</td>
<td>1023</td>
</tr>
<tr>
<td>Finland</td>
<td>2000</td>
<td>1038</td>
</tr>
<tr>
<td>France</td>
<td>1999</td>
<td>1615</td>
</tr>
<tr>
<td>Germany</td>
<td>1999</td>
<td>2036</td>
</tr>
<tr>
<td>Greece</td>
<td>1999</td>
<td>1142</td>
</tr>
<tr>
<td>Iceland</td>
<td>1999</td>
<td>968</td>
</tr>
<tr>
<td>Ireland</td>
<td>1999</td>
<td>1012</td>
</tr>
<tr>
<td>Italy</td>
<td>1999</td>
<td>2000</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1999</td>
<td>1211</td>
</tr>
<tr>
<td>Malta</td>
<td>1999</td>
<td>1002</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1999</td>
<td>1003</td>
</tr>
<tr>
<td>Spain</td>
<td>2000</td>
<td>1209</td>
</tr>
<tr>
<td>Sweden</td>
<td>1999</td>
<td>1015</td>
</tr>
<tr>
<td><strong>Total of non-transition countries</strong></td>
<td></td>
<td><strong>19 708</strong></td>
</tr>
<tr>
<td>Albania</td>
<td>2002</td>
<td>1000</td>
</tr>
<tr>
<td>Belarus</td>
<td>2000</td>
<td>1000</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>2001</td>
<td>1200</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1999</td>
<td>1000</td>
</tr>
<tr>
<td>Croatia</td>
<td>1999</td>
<td>1003</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1999</td>
<td>1908</td>
</tr>
<tr>
<td>Estonia</td>
<td>1999</td>
<td>1005</td>
</tr>
<tr>
<td>Hungary</td>
<td>1999</td>
<td>1000</td>
</tr>
<tr>
<td>Latvia</td>
<td>1999</td>
<td>1013</td>
</tr>
<tr>
<td>Lithuania</td>
<td>1999</td>
<td>1018</td>
</tr>
<tr>
<td>Poland</td>
<td>1999</td>
<td>1095</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>1999</td>
<td>2500</td>
</tr>
<tr>
<td>Serbia and Montenegro</td>
<td>2001</td>
<td>1520</td>
</tr>
<tr>
<td>Slovakia</td>
<td>1999</td>
<td>1331</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1999</td>
<td>1006</td>
</tr>
<tr>
<td>Ukraine</td>
<td>1999</td>
<td>1195</td>
</tr>
<tr>
<td><strong>Total of transition countries</strong></td>
<td></td>
<td><strong>19 794</strong></td>
</tr>
<tr>
<td><strong>Total of all countries</strong></td>
<td></td>
<td><strong>39 502</strong></td>
</tr>
</tbody>
</table>
### Appendix C. Indicators of social capital

<table>
<thead>
<tr>
<th>Dimension of social capital</th>
<th>Indicator</th>
<th>The exact name of indicator and the scale used</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formal networks</strong></td>
<td>Belonging to voluntary organisations</td>
<td>Belong to all types of organisations (religious or church organisations; education, arts, music or cultural activities; youth work; professional associations; political parties or groups; labour unions; social welfare service; local community action; third world development or human rights; conservation, environment, animal rights groups; sports or recreation; women's groups; peace movement; voluntary organisations concerned with health; other voluntary organisations), number of organisations mentioned</td>
</tr>
<tr>
<td></td>
<td>Unpaid work for voluntary organisations</td>
<td>Unpaid voluntary work for all types of organisations (religious or church organisations; education, arts, music or cultural activities; youth work; professional associations; political parties or groups; labour unions; social welfare service; local community action; third world development or human rights; conservation, environment, animal rights groups; sports or recreation; women's groups; peace movement; voluntary organisations concerned with health), number of organisations mentioned</td>
</tr>
<tr>
<td><strong>Informal networks</strong></td>
<td>Spending time with friends</td>
<td>How often spend time with friends, frequency on scale 1-4</td>
</tr>
<tr>
<td></td>
<td>Spending time socially with colleagues</td>
<td>How often spend time socially with colleagues from work or your profession, frequency on scale 1-4</td>
</tr>
<tr>
<td></td>
<td>Friends important in life</td>
<td>Importance of friends in life, on scale 1-4</td>
</tr>
<tr>
<td><strong>General trust</strong></td>
<td>General trust</td>
<td>Most people can be trusted (1) or you can’t be too careful in dealing with people (0)</td>
</tr>
<tr>
<td><strong>Institutional trust</strong></td>
<td>Confidence in parliament</td>
<td>Confidence in parliament, on scale 1-4</td>
</tr>
<tr>
<td></td>
<td>Confidence in the police</td>
<td>Confidence in the police, on scale 1-4</td>
</tr>
<tr>
<td></td>
<td>Confidence in the press</td>
<td>Confidence in the press, on scale 1-4</td>
</tr>
<tr>
<td><strong>Norms</strong></td>
<td>Cheating on taxes, not justified</td>
<td>Cheating on taxes if you have a chance, not justified (vs. justified), on scale 1-10</td>
</tr>
<tr>
<td></td>
<td>Claiming government benefits, not justified</td>
<td>Claiming government benefits to which you are not entitled, not justified (vs. justified), on scale 1-10</td>
</tr>
<tr>
<td></td>
<td>Someone accepting a bribe, not justified</td>
<td>Someone accepting a bribe in the course of their duties, not justified (vs. justified), on scale 1-10</td>
</tr>
</tbody>
</table>
## Appendix D. Indicators of determinants of social capital

<table>
<thead>
<tr>
<th>Indicator</th>
<th>The exact name of indicator and the scale used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Age of respondent in years (15 and older)</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>Sex of respondent, male (1) or female (0)</td>
</tr>
<tr>
<td>Married</td>
<td>Marital status of respondent, married or living together as married (1), other answers (0)</td>
</tr>
<tr>
<td>Children</td>
<td>Number of children of respondent, 1-8, 8 stands for 8 or more children</td>
</tr>
<tr>
<td>Town size</td>
<td>Size of town, on scale 1-8</td>
</tr>
<tr>
<td>Education</td>
<td>Highest education level attained, on scale 1-8</td>
</tr>
<tr>
<td>Employed</td>
<td>Employment status of respondent, full time, part time or self-employed (1), other answers (0)</td>
</tr>
<tr>
<td>Income</td>
<td>Income of respondent’s household, counting all wages, salaries, pensions and other incomes that come in, on scale 1-10</td>
</tr>
<tr>
<td>Belonging to religious denomination</td>
<td>Do you belong to a religious denomination, yes (1) or no (0)</td>
</tr>
<tr>
<td>Attending religious services</td>
<td>Apart from weddings, funerals and christenings, about how often do you attend religious services these days, frequency on scale 1-8</td>
</tr>
<tr>
<td>Religious person</td>
<td>Independently of whether you go to church or not, would you say you are a religious person, on scale 1-3</td>
</tr>
</tbody>
</table>
Appendix E. Mean factor scores* for dimensions of social capital for different country groups

<table>
<thead>
<tr>
<th>Dimension of social capital</th>
<th>All non-transition countries</th>
<th>All transition countries</th>
<th>Cluster 1 non-transition countries</th>
<th>Cluster 2 (Cluster 2, divided)</th>
<th>(Cluster 2, divided)</th>
<th>Cluster 3 eastern transition countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal networks</td>
<td>0.23</td>
<td>-0.15</td>
<td>0.50</td>
<td>-0.05</td>
<td>(0.04)</td>
<td>-0.15</td>
</tr>
<tr>
<td>Informal networks</td>
<td>0.09</td>
<td>-0.12</td>
<td>0.20</td>
<td>-0.11</td>
<td>(0.01)</td>
<td>-0.23</td>
</tr>
<tr>
<td>General trust</td>
<td>0.24</td>
<td>-0.17</td>
<td>0.58</td>
<td>-0.10</td>
<td>(0.01)</td>
<td>-0.21</td>
</tr>
<tr>
<td>Institutional trust</td>
<td>0.24</td>
<td>-0.12</td>
<td>0.38</td>
<td>0.04</td>
<td>(0.16)</td>
<td>-0.07</td>
</tr>
<tr>
<td>Norms</td>
<td>0.06</td>
<td>-0.10</td>
<td>0.16</td>
<td>-0.06</td>
<td>(-0.01)</td>
<td>-0.12</td>
</tr>
</tbody>
</table>

* According to the technique of computing factor scores, the mean factor scores for the whole sample are equal or close to 0 and the factor scores are measured in standard deviations. In order to enable the comparison of countries the factor scores originate from the exploratory factor analysis of the whole sample.