THE EFFECT OF SOCIAL CAPITAL ON INVESTMENTS: EVIDENCE FROM EUROPE[1]

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Abstract

The purpose of the current paper is to investigate empirically the effect of social capital on investments as a key production factor. Theoretically, investments are expected to be higher in societies where there is more social capital between economic agents. Based on the data from World Values Survey, ten components of social capital are considered as factors of investments. Although the regression results are rather mixed, it can be generalised that components related to trust and norms dominate as predictors of overall investment activity, while networks have some effect only for foreign investments. Additionally, it appeared that the relationship between social capital and investments is similar in democratic Western European countries and Central and Eastern European countries with communist background.

Keywords: social capital, economic growth, investments, European countries

JEL Classification: A13, O11, O16, O52

Introduction

Investments into physical capital are considered to be one of the most important prerequisites for economic growth and development. However, empirical studies about the differences in the levels of income between the peoples and nations show that these enormous differences cannot be fully explained by the traditional capital-based theory of economic growth (e.g. Solow 1956). During the times, alternative additional explanations for development differences are provided, including differences in human capital endowment (Lucas 1988; Romer 1990), institutional quality (Olson 1982; North 1990) and lately also social capital (Knack and Keefer 1997). The following empirical work has proved that human capital has strong explanatory power in growth regressions. However, individuals and their human capital do not exist in isolation – instead, the value of the abilities and skills of individuals depend on the social and institutional context within which they are embedded (Schuller 2000).

The current paper concentrates specifically on social capital as a possible new development factor. A key question for a convincing operationalisation of social capital in the context of economic development is whether the role of social capital in development processes is most plausibly seen as a separate key production factor

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similarly to physical or human capital (e.g. Knorringa and Staveren 2005), or whether social capital influences the accumulation and effectiveness of other production factors. For now, the dominating view in the literature is that the latter perception is more plausible and useful. As such, social capital is expected also to work indirectly via interactions with other growth factors like human capital, physical investment and institutional regulations, all of which tend to make a greater contribution to economic growth in societies with more social capital (Whiteley 2000).

The purpose of the current paper is to investigate empirically the effect of social capital on investments as a key production factor. Another sub-task of the paper is to find out whether the relations between social capital and investments differ between Western European and Central and Eastern European countries. Such a comparative perspective is taken because much of the development problems – including lack of investments – of Eastern European transition countries can be seen as a deterioration of the rules, norms and trust (including institutional trust), i.e. social capital. So the question is, whether the possible increase in social capital near the levels of Western Europe would help to equally increase investments and welfare levels in post-communist countries, or are these mechanisms different in Central and Eastern European countries.

Rest of the paper is structured as follows. The first section presents shortly theoretical background about the nature of social capital and its relations with economic growth and investments. The second section introduces data and methodology. The third section comprises empirical analysis, followed by discussion of the results. Final conclusions and recommendations for future research are given in section five.

1. Theoretical background

Social capital, in its broadest sense, refers 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. Hence, social capital is a multifaceted phenomenon, which can be studied both at the individual or aggregate (community, regional, national) level. At the individual level, social capital has been seen as a resource embedded in the social structure, which is useful for achieving personal aims like higher reputation, power and material welfare (e.g. Bourdieu 1980; Coleman 1988, 1990; Adler and Kwon 2002). At the aggregate level, social capital is considered mostly as a collective resource and public good, which yields the community or nation as a whole through democratisation, higher effectiveness of the governance and faster economic growth (Putnam *et al.* 1993, 2000; Fukuyama 1995). It can be generalised that both at individual and national 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.

The theoretical literature mostly agrees that social capital consists of different components, which are more or less interrelated. The elements of social interaction can be divided into two parts: structural aspect, which facilitates social interaction, and cognitive aspect, which predisposes people to act in a socially beneficial way (Hjøllund and Svendsen 2000, Stolle 2004). The structural aspect includes civic and social participation, while the cognitive aspect contains different types of trust and civic norms, also referred to as trustworthiness. 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 (Brehm and Rahn 1997). For example, informal communication teaches cooperative behaviour with strangers in order to achieve shared objectives, and the importance of common norms and related sanctions necessary to prevent opportunistic behaviour (Putnam 2000). Another important outcome of being involved in different types of networks is that personal interaction generates relatively inexpensive and reliable information about trustworthiness of other actors, making thus trusting behaviour less risky (*Ibid.*). On the other hand, pre-existing generalised, diffused interpersonal trust indicates the readiness of an actor to enter into communication and cooperation with unknown people (Stolle 1998; Inglehart 1999; Delhey and Newton 2005). Based on these relationships, it could be shortly summarised that social interaction requires communication skills and trust, which, in turn, tend to increase through interpersonal collaboration. Therefore, various dimensions of social capital should be taken as complements, which all are related to the same overall concept of social capital.

When analysing the economic effects of social capital, it is suggested that different components of social capital affect different aspects of development differently, and that these effects could work through different channels. The theoretical literature highlights three channels through which the importance of social capital in economy and society as a whole appears: 1) social capital helps to regulate the allocation, 2) social capital helps to solve collective action problems by facilitating cooperation, and 3) it reduces transaction costs and thus increases the efficiency of market relations. Regarding the effect of social capital on investments, the last impact channel seems to be most important. The mechanism leading to lower transaction costs could be described as follows (Putnam *et al.* 1993): higher trust and cooperative behaviour means lower need for state regulations and legal enforcement of agreements, social networks mediate useful information about the trustworthiness of possible business partners, and civic norms effectively constrain opportunism. Altogether, the costs of monitoring and enforcing contracts are likely to be lower in the presence of social capital, thus leaving more resources (time and money) for real productive activities.

More specifically, investments represent the type of economic activities that require some agents to rely on the future actions of others, which are accomplished at lower cost in higher-trust environments (Putnam *et al.* 1003; Whiteley 2000). For example, savings and investments (both domestic and foreign) decisions rely on assurances given by governments or banks that they will not expropriate these assets (Moe 1984; Knack and Keefer 1997). In this sense, higher level of trust reinforces the

overall investment climate in the economy (Hjerppe 2000), meaning that society will be less risk-averse and thus produces greater incentives to invest in both physical and human capital. Trust and networks are especially important for more risky investments into innovations in high-tech industries, which is often dependent on the informal exchange of technological information and property rights (Putnam *et al.* 1993; Fukuyama 2000). Additionally, interpersonal trust can facilitate investment through informal credit markets, if there is no well-developed formal system of financial intermediation, or where lack of assets limits access to bank credits (Knack and Keefer 1997). As such, interpersonal trust can be seen as an imperfect substitute for government-backed property rights or contract enforcement, which becomes especially important if governments are unable to provide them. Lowering transaction costs becomes also especially important in the globalizing world where economic transactions are increasingly taking place among unknown members with different cultural backgrounds.

It could be suggested that investors' motives are mostly the same in different countries (i.e. WE and CEE country groups) – to hold acceptable balance between risks and benefits. Although the overall investment potential is expected to be higher in transition countries (simply due to lower endowment with physical capital and related higher marginal productivity), it is not justified to believe that this is related to differences in social capital. Based on this, it main proposition behind the following empirical analysis is that social capital has a positive effect on investments similarly in WE and CEE countries.

2. Data and methodology

Following empirical analysis covers 14 countries from Central and Eastern Europe (CEE) and 17 countries from Western Europe (WE).[2] Individual-level data about social capital were obtained from the World Values Survey (WVS) round four and refer mostly to year 1999, altogether 29 initial indicators were extracted on the basis of theoretical considerations and data availability. National-level data of investments and other development factors were taken from the World Development Indicators (WDI) database and Kaufmann et al (2008), covering the period over 2000-2006. Altogether, the initial individual-level sample included 21699 observations for WE and 17220 observations for CEE countries, while the pooled sample at national level had 31 observations.

As the available social capital data did not enable dynamic analysis, statistical methods that are applicable for cross-sectional datasets were used. First, in order to clarify the structure of social capital, an exploratory factor analysis was implemented. This method enables to group a larger number of observed and often

[2] Countries included in empirical analysis are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal Spain, Sweden and Great Britain from Western Europe, and Bulgaria, Belarus, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russian Federation, Slovakia, Slovenia and Ukraine from Central and Eastern Europe.

correlated variables into a smaller number of uncorrelated factors. Obtained factors were next re-estimated with confirmatory factor analysis in order to obtain more clear and distinct components of social capital, which were subsequently used as independent variables (regressors) in regression analysis. Multiple OLS regression models were used for investigating the relations between social capital components and different investment indicators. More specifically (and differently from other similar studies where only investments' share of GDP has been considered), the following alternative indicators were used to measure investments as dependent variables: increase in cross capital formation (CAP), cross capital formation and cross fixed capital formation shares of GDP (CAPGDP and CAPFGDP), gross domestic savings as % of GDP (SAVDOM), and foreign direct investments as % of GDP (FDIGDP). In addition to social capital components as basic independent variables, human capital indicators (SEC, TERT), economic openness (TRADE), institutional quality (GOV) and income level (GDP0) were used as control variables in some model specifications (see Appendix 1 for measurement details).

In order to find out possible mean differences in social capital and investment levels between CEE and WE country groups, t-test was applied. Further, as small number of observations at national level did not enable separate analysis of the effect of social capital on investments in WE and CEE subsamples, the possible differences between country groups were tested with two alternative methods – transition dummy and Chow test. Transition dummy for CEE countries was expected to capture wide-range differences in initial conditions and structural characteristics between the two country groups. Chow test enabled to determine whether the coefficients in a linear regression model are the same in WE and CEE sub-samples.

3. Descriptive statistics

Current section introduces latent variables of social capital and presents comparative statistics of the analysed indicators in CEE and WE subsamples. According to theoretical literature, the concept of social capital could be better characterised by its dimensions rather than individual variables. Therefore, the exploratory factor analysis[3] was conducted in order to capture all the information of the initial 29 individual social capital indicators into smaller number of latent variables. To decide the number of factors, first, the Kaiser criterion was used: only the factors with eigenvalue greater than 1 were retained. This method resulted in nine factors which explain 62.44% of the total variance of initial social capital indicators. The KMO test statistic was 0.777, which shows that the factor solution is stable. However, general trust as a core component of social capital did not load into any factor. In order to form clearer basis for regression analysis, social capital components were

[3] This analysis was done on the basis of pooled sample of individual-level social capital data, using the principal components method with equamax rotation. In order to test the possible differences of the social capital structure in CEE and WE countries, the exploratory factor analysis was repeated separately for CEE and WE subsamples, with basically the same results. However, for the reason of space, the detailed results of exploratory factor analysis are not presented in the paper (these are available on request from the author).

next re-estimated using confirmatory factor analysis. The results are presented in Appendix 2. General trust is included into the following analysis separately with its standardised value. As a summary of factor analysis, Table 1 presents the abbreviations of obtained factors of social capital which are used throughout the paper, together with a short description of their content.

Table 1. Content and abbreviations of social capital factors

Abbreviation	Content of the factors
F1 helping	Preparedness to help others who are different from yourself
F2 concern	Concern about other people in the community
F3 confidence	Confidence in institutions (institutional trust)
F4 polaction	Real participation in political actions
F5 polinterest	Interest in political matters
F6 justified	Importance of following social norms
F7 belong	Participation in voluntary organisations (formal networks)
F8 friends	Socialising with friends and colleagues
F9 family	Importance of family relations
F10 gentrust[4]	Generalised trust towards unknown others

Source: Compiled by the author.

Summary statistics for the comparison of the components of social capital is given in Appendix 4, which presents the means, standard deviations and t-test of the factor scores for CEE and WE countries. The comparison of the mean factor scores (see also Figure 1) indicates remarkable differences in the levels of social capital between the two country groups. The t-test confirms that majority of the differences in the mean values are statistically significant ($p<=0.05$), except in case of F2 concern, F5 polinterest, F6 justified and F9 family. In most cases, the level of social capital components is expectedly higher in WE countries. Generally, it has been suggested that the main reason for the low levels of social capital in CEE countries is related to the legacy of communist past, post-communist transformation processes and backwardness in social development (Uslaner 2003). From Figure 1 it can be seen that the largest differences in the favor of WE countries appear in the factors describing confidence in institutions, readiness to take political action, belonging to voluntary organisations and preparedness to help people from different social groups. These results indicate the overall underdevelopment of civil society in Central and Eastern European countries. Still, interest in politics is on average higher in CEE countries – which is rather logical, as transformation produces (political) instability which affects the welfare, and people want to be informed about the development in these fields. Also, the differences in the means of informal network indicators are also relatively small, showing that informal socialising, especially with close family does not depend so much on (former) social order or development level.

[4] Although F10 gentrust is not a result of factor analysis, it is marked in a similar way with other social capital components for ensuring better comparability.

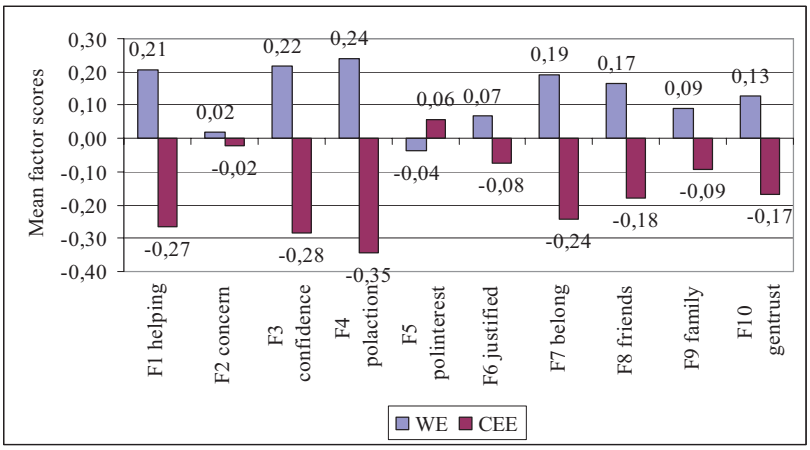

Figure 1. Comparison of the mean factor scores of social capital by country groups.

As regards investment indicators, Appendix 4 indicates that capital growth is faster and average gross capital formation is higher in CEE countries, as compared to WE countries. Also, the t-test shows that the differences in the mean values of these indicators are statistically significant ($p<=0.05$). On the other hand, average relative levels of FDI and domestic savings are slightly higher in WE subsample. However, in case of these indicators the mean differences by country groups were insignificant.

4. Regression results and discussion

The following regression analysis investigates the possible indirect effect of social capital on economic growth through encouraging investments. Five alternative investment indicators are used as dependent variables (see Appendix 1). This approach enables to separate the effect of social capital on total investments, foreign investments and savings. Also, distinction is made between average investment activity over the study period and capital growth during the same period. As there are only few (slightly) similar previous studies – especially in respect of the number of social capital components included –, the empirical analysis in this paper is largely exploratory in the nature. Therefore, in order to more clearly figure out most "investment-friendly" components of social capital, stepwise regression with backward method is implemented. Additionally, alternative model specifications differ from each other in respect of the set of control variables included.

Table 2 presents estimation results with capital growth and investments' share in GDP as dependent variables. In Model 1A, capital growth (CAP) was regressed by social capital factors F1-F10, among which only F3 (confidence) was a significant predictor of investments. In other specifications, where transition dummy and

traditional growth factors were added in different combinations, none of the social capital factors turned significant (these results are not presented in the table).

Table 2. The effect of social capital on capital growth and investments' share in GDP

Dependent:	CAP	CAPGDP		CAPFGDP	
Predictors	Model 1A	Model 1B	Model 1C	Model 1D	Model 1E
F1 helping	ns	ns	0.672**	0.721**	ns
F2 concern	ns	ns	ns	ns	ns
F3 confidence	-0.454***	ns	ns	ns	ns
F4 polaction	ns	ns	-0.746***	-0.663***	ns
F5 polinterest	ns	ns	ns	ns	ns
F6 justified	ns	ns	-0.489**	-0.506**	ns
F7 belong	ns	ns	ns	ns	ns
F8 friends	ns	ns	ns	ns	ns
F9 family	ns	ns	-0.353*	-0.345*	ns
F10 gentrust	ns	-0.396**	ns	ns	-0.352*
GOV	- (ns)	- (ns)	- (ns)	- (ns)	- (ns)
GDP0	-	-	ns	-	ns
F-statistic	7.270**	5.390**	3.555**	2.671*	3.952*
Adjusted R^2	0.178	0.128	0.261	0.182	0.092
Chow test	1.495	1.762	-	1.786	-

Notes: Standardised regression coefficients of the backward reduced models
* Significant at level p<0.10, ** p<0.05, *** p<0.01. Ns – insignificant predictor.
Source: Author's calculations.

In Model 1B, CAPGDP was used as investments indicator. When ten social capital factors were used as independent variables (both with and without traditional growth factors SEC, TERT and TRADE), only F10 (general trust) was significantly but negatively related to investments. When GDP0 was added as independent variable (Model 1C), F1, F4, F6 and F9 turned out to be significant predictors of investments share in GDP. However, income level itself remained insignificant in this model specification. Models 1D and 1E use CAPFGDP as a dependent variable. Although CAPFGDP is highly correlated to CAPGDP (r=0.968***), regression results are not the same in similar specifications. When generalised, however, both investment indicators depend on either F10 (Models 1B and 1E), or F1, F4, F6 and F9 (Models 1C and 1D). Except in case of F1, higher investments are associated with lower level of social capital. Still, this result should not mean that social capital retard investments – instead, this could simply indicate the higher investment potential of CEE economies where the levels of social capital are lower. Appendix 4 and Figure

2 also revealed that respective investment indicators are in average higher in CEE as compared to WE countries.

All models in Table 2 were also tested for control variables (i.e. more traditional growth factors like GOV, SEC, TERT, TRADE and GDP0), but their inclusion did not change the results. When transition dummy was taken into account, it turned the only significant predictor in Models 1A-1C, but remained insignificant in Models 1D-1E. As these results did not change the effect of social capital components (except in case of TRANS which changed their effect insignificant), they are not presented in the table. Finally, concerning the possible differences between WE and CEE countries, Chow test was insignificant in Model 1. The conclusion is that there are no significant differences between the country groups regarding the effect of social capital on overall investment activity.

Next, the effect of social capital on domestic savings (reflecting the domestic investment potential) and foreign direct investments is analysed. The regression results are presented in Tables 3 and 4. In case of FDI, the most stable social predictors of investments are F5 polinterest (with a negative sign) and F7 belong (with a positive sign), followed by F8 friends (negative sign). In some specifications, also F4, F6, F9 and F10 have a positive significant effect on FDI.

Table 3. The effect of social capital on foreign direct investments

Dependent:	FDIGDP			
Predictors	Model 2A	Model 2B	Model 2C	Model 2D
F1 helping	ns	ns	ns	ns
F2 concern	ns	ns	ns	ns
F3 confidence	ns	ns	ns	ns
F4 polaction	ns	ns	0.606***	ns
F5 polinterest	-0.337*	-0.409**	-0.458***	-0.271**
F6 justified	ns	ns	ns	0.211*
F7 belong	0.521*	0.612***	ns	0.402**
F8 friends	-0.426*	ns	-0.347*	ns
F9 family	ns	ns	0.246*	ns
F10 gentrust	ns	ns	0.463**	ns
GOV	-	-0.621***	-0.710***	-0.864***
TRADE	-	-	0.652***	0.666***
GDP0	-	-	- (ns)	-
TRANS	- (ns)	- (ns)	-	-0.427**
F-statistic	1.891	4.100**	7.292***	11.359***
Adjusted R^2	0.084	0.243	0.611	0.689
Chow test	0.527	3.589**	-	-

Notes: standardised regression coefficients of the backward reduced models
* Significant at level p<0.10 ** p<0.05 *** p<0.01.
Source: Author's calculations.

Institutional quality (GOV) has a negative significant effect on FDI in all models where it was introduced, and TRADE appeared the only significant traditional growth factor with a strong positive effect. As regards transition aspect, TRANS dummy was insignificant in most specifications, except in Model 2D where it has negative effect on FDI. Chow test was significant only in Model 2B, where it is obviously related to differences in institutional quality, but not to social capital components. Altogether, it can be concluded that FDI is mostly related to structural aspects of social capital, but various signs of the coefficients and low explanatory power of social capital components (adj. R^2 in Model 2A where only social capital was included was as low as 0.084) do not enable to draw any solid conclusions. Also, the results support the hypothesis that basic components of social capital (except governance) influence foreign investments in WE and CEE countries in a similar way.

Table 4 presents the effect of social capital components on domestic savings. It can be seen from Model 3A that social capital solely has almost no effect on savings – the only significant component is institutional trust (F3) which, however, is insignificant in all other model specifications, and the overall model fit is very poor. The results did not change when GOV or TRANS were added into model 3A.

Table 4. The effect of social capital on domestic savings

Dependent:			SAVDOM		
Predictors	Model 3A	Model 3B	Model 3C	Model 3D	Model 3E
F1 helping	ns	ns	1.461***	1.281***	1.448***
F2 concern	ns	ns	0.275*	0.370**	0.383***
F3 confidence	0.328*	ns	ns	ns	ns
F4 polaction	ns	-0.451**	-0.531**	-0.701***	-0.828***
F5 polinterest	ns	ns	ns	ns	ns
F6 justified	ns	ns	-0.465***	-0.317*	-0.399**
F7 belong	ns	ns	ns	ns	ns
F8 friends	ns	ns	-0.552***	-0.508***	-0.580***
F9 family	ns	-0.330**	-0.701***	-0.696***	-0.750***
F10 gentrust	ns	ns	ns	ns	ns
GOV	- (ns)	- (ns)	0.612***	0.414**	0.434**
SEC	-	-	ns	0.202*	0.460***
TERT	-	-	1.022***	0.995***	1.110***
TRADE	-	-	0.436***	0.297**	0.479***
GDP0	-	0.847***	-	0.478**	-
TRANS	- (ns)	-	-	-	-0.669**
F-statistic	3.369	6.572***	8.485***	9.423***	10.594***
Adjusted R^2	0.076	0.366	0.706	0.768	0.790
Chow test	0.453	-	-	-	-

Notes: standardised regression coefficients of the backward reduced models
* Significant at level p<0.10 ** p<0.05 *** p<0.01.
Source: Author's calculations.

When initial income level is taken into account, factors F4 polaction and F9 family turn significant but negative predictors of savings (Model 3B). Together with GOV

and traditional growth factors (Models 3C-E), positive effect of F1 and F2, and negative effect of F6 and F8 appear. It is notable that in addition to political interest (F5), all the so-called traditional social capital components – participation (F7), general trust (F10) and also institutional trust (F3) – are insignificant in all model specifications (the only exception is F3 in Model 3A, as explained earlier). Among control variables, trade together with human capital are significant and positive predictors of savings, and adding them into models improves significantly overall model fit. As regards the influence of initial conditions, savings are higher in countries with higher GDP per capita and lower in transition countries. However, the latter does not mean that social capital has a different effect on savings in transition and non-transition countries, as the respective Chow test was insignificant.

It can be summarised that the results of the regression analysis are rather mixed. Still, the following conclusions can be drawn on the basis of the above analysis. Firstly, the component helping had a positive effect on several investment indicators, while the effect of other social capital components was mostly insignificant or negative (except in case of FDI). Secondly, an increase in capital formation was influenced significantly but negatively only by institutional trust. Thirdly, the shares of gross and gross fixed investments in GDP were similarly and negatively influenced by political action, social norms, family and general trust. The same holds for domestic savings, except the effect of general trust which was insignificant. Additionally, domestic savings were positively influenced by helping, concern, confidence and governance. Some interesting results appeared in the models using foreign investments as a dependent variable. For instance, social capital components which had a negative effect on investment's share in GDP had a positive effect on foreign investment. In addition, FDI associated positively with formal networks and negatively with interest in politics, friends and governance.

Table 5 summarises the effects of social capital on alternative investment variables from the other angle. Firstly, when looking at the extent of these effects, social capital influences on the broader basis foreign investments and domestic savings, while overall capital growth is influenced only by one social capital component (institutional trust). Secondly, the analysis shows that the appearance of significant effect of social capital depends on the inclusion of alternative control variables into models, so it could be concluded that social capital alone has only minor effect on investments. Thirdly, as regards the "usefulness" of alternative social capital components, F1 helping, F4 polaction, F6 justified, F9 family, and F10 gentrust have significant effect on at least three investment indicators.

When generalised, components related to trust and norms dominate as predictors of investment activity, which is in accordance with the theory. Here it should be noted that while in most cases the effect of social capital components is negative, in case of FDI it is mostly positive. This could be explained by simple level-effects: there is less social capital in poorer countries which have higher overall investment potential. At the same time, foreign investments flow more into richer countries which are also more endowed with social capital.

Table 5. Comparison of the effect of social capital on different investment indicators

	CAP	CAPGDP	CAPFGDP	FDIGDP	SAVDOM
F1 helping	ns	Positive	Positive	ns	Positive
F2 concern	ns	ns	ns	ns	Positive
F3 confidence	Negative	ns	ns	ns	Positive (only without control variables)
F4 polaction	ns	Negative	Negative	Positive	Negative
F5 polinterest	ns	ns	ns	Negative	ns
F6 justified	ns	Negative	Negative	Positive	Negative
F7 belong	ns	ns	ns	Positive	ns
F8 friends	ns	ns	ns	Negative	Negative
F9 family	ns	Negative	Negative	Positive	Negative
F10 gentrust	ns	Negative	Negative	Positive	ns
GOV	ns	ns	ns	Negative	Positive
TRANS	Positive (but makes social capital ns)	Positive (but makes social capital ns)	ns	Negative (with trade)	Negative (with control variables)
Chow	ns	ns	ns	ns	ns
Notes (additional conditions for significant effect)	The effect is significant only without control variables	The appearance of significant effect of social capital depends on the inclusion of GDP0 into models (in different ways)		In most cases, the effect of social capital appears in conjunction with trade	The effect of social capital is significant only when control variables (education and trade) are taken into account

Source: Compiled by the author.

Finally, on the basis of the results of transition dummy and Chow test, it can be concluded that although post-communist status (i.e. significance of TRANS) associates with faster capital growth, higher share of investments in GDP, lower saving and less FDI, there is no reason to suggest that these differences are caused by social capital. This is so because Chow test was insignificant in all model specifications, except in Model 2B. However, in this case the differences between WE and CEE countries are attributable to the indicator of institutional quality, not to ten social capital components.

5. Final conclusions and recommendations for future research

The current paper attempted to give an initial empirical insight into the question, whether and which aspects of social capital could encourage investments as a core factor of economic growth. Broad-based approach to social capital was taken and ten social capital components (more than in any previous study) were formed on the basis of WVS data, relying on the growing consensus that social capital cannot be measured by one single variable, on one hand, and overly-aggregated, heterogeneous indexes or latent constructs, on the other hand.

Theoretically, investments are expected to be higher in societies where there is more trust between economic agents. Higher trust and other aspects of social capital usually associate with better investment climate and lower risk-aversion, encouraging both domestic and foreign investments. However, the regression results of the current study were rather mixed and support only partially the proposed proposition that higher level of social capital encourages physical investments, and that this effect is similar in WE and CEE countries. The proposition was supported in that most social capital components had significant effect on alternative investment indicators, and Chow test did not indicate differences between WE and CEE country groups. On the other hand, the proposition was not supported in that the appeared effect of social capital was mostly negative, not positive as expected. Only foreign investments were positively influenced by several social capital components. Also, capital growth was not influenced by social capital, and some core social capital components like general trust and formal networks were insignificant in most regression models.

There were also several limitations, as lack of the dynamic data of social capital did not enable to perform causality tests. However, this aspect is extremely important when one attempts to give some real policy recommendations for encouraging investments with the help of social capital. In this respect, it is also important to investigate the determinants of social capital components, in order to figure out the causal chains from the roots of social capital to its economic effects. Regarding other possibilities for future research, the effect of social capital in conjunction with institutional factors deserves a much deeper analysis. Additionally, the analysis of social capital can be extended to cover meso-level, which enables deeper investigation of the emergence and outcomes of social capital in business firms and other organisations. At this level, case studies and qualitative data are needed to get reliable results. Meso-level analysis of social capital can also shed some light into the differences between innovation activity among countries, as it is argued in the literature that besides reducing transaction costs and diffusing technological information, social capital creates specific “innovative milieu” which helps to overcome uncertainties related to innovations.

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Appendix 1. Indicators of investments and control variables for the regression analysis

	Abbreviation	Indicator	Source
Investment indicators	CAP	Gross capital formation (constant 2000 billions US$), average increase in 2000-2006, calculated as (CAP2006/CAP2000)/6	WDI
	CAPGDP	Gross capital formation (% of GDP), average 2000-2006	WDI
	CAPFGDP	Gross fixed capital formation (% of GDP), average 2000-2006	WDI
	FDIGDP	Foreign direct investments (% of GDP), average 2000-2006	WDI
	SAVDOM	Domestic savings (% of GDP), average 2000-2006	WDI
Control variables	GDP0	GDP per capita in 2000, PPP (constant 2005 international $)	WDI
	GOV	Governance (sum of six indicators), average 1998/2000	Kaufmann et al 2008
	TRADE	Trade (% of GDP), average 2000-2006	WDI
	SEC	Labor force with secondary education (% of total), average 2000-2005	WDI
	TERT	Labor force with tertiary education (% of total), average 2000-2005	WDI

Source: Compiled by the author.

Appendix 2. Results of the confirmatory factor analysis

Component	Indicator	Factor loadings	Variance explained (%)	Valid N (%)
F1 helping	Prepared to help elderly people	0.89	68.19	37027 (95.1)
	Prepared to help sick and disabled people	0.87		
	Prepared to help people in the neighbourhood	0.80		
	Prepared to help immigrants	0.75		
F2 concern	Concerned with people in own region	0.93	76.10	37987 (97.6)
	Concerned with fellow countrymen	0.85		
	Concerned with people in neighbourhood	0.84		
F3 confidence	Confidence in parliament	0.81	60.20	34932 (89.8)
	Confidence in the civil services	0.79		
	Confidence in the police	0.76		
	Confidence in the justice system	0.75		
F4 polaction	Attending lawful demonstrations	0.80	64.13	34792 (89.4)
	Joining in boycotts	0.80		
	Signing a petition	0.80		
F5 polinterest	Discussing political matters	0.81	60.33	37868 (97.3)
	Politics important in life	0.78		
	Following politics in the news	0.74		
F6 justified	Cheating on taxes	0.80	57.98	37050 (95.2)
	Claiming government benefits	0.76		
	Someone accepting a bribe	0.72		
F7 belong	Belonging to voluntary organisations	0.89	79.23	38919 (100.0)
	Unpaid work for voluntary organisations	0.89		
F8 friends	Spending time with friends	0.81	52.95	31313 (80.5)
	Friends important in life	0.68		
	Spending time with colleagues from work	0.68		
F9 family	Prepared to help immediate family	0.77	48.50	38141 (98.0)
	Concerned with immediate family	0.72		
	Family important in life	0.58		

Source: Author's calculations on the basis of WVS.

Appendix 3. Country mean factor scores of social capital components at the level of individuals (results of the confirmatory factor analysis)

Country	F1 helping	F2 concern	F3 con-fidence	F4 polaction	F5 pol-interest	F6 justified	F7 belonging	F8 friends	F9 family	F10 gentrust
AUT	0.14	-0.09	0.42	-0.02	0.18	0.21	0.20	-0.01	0.09	0.07
BLR	-10.83	0.36	-0.21	-0.67	-0.08	-0.88	-0.29	0.03	-0.45	0.26
BEL	0.23	0.00	-0.04	0.37	-0.18	-0.28	0.34	0.02	0.31	-0.02
BGR	-0.01	0.15	-0.34	-0.49	0.07	0.27	-0.34	0.12	0.36	-0.07
HRV	0.43	0.18	-0.25	0.22	0.13	0.15	-0.14	0.40	-0.07	-0.21
CZE	0.14	-0.27	-0.43	0.14	0.27	0.14	0.04	-0.13	-0.83	-0.12
DNK	0.08	-0.86	0.66	0.39	0.29	0.48	0.41	0.28	-0.90	0.79
EST	-0.44	-0.18	-0.18	-0.55	-0.03	-0.31	-0.27	-0.06	-0.14	-0.14
FIN	0.12	-0.64	0.47	0.26	-0.31	0.10	0.43	0.37	-0.84	0.60
FRA	0.00	-0.25	0.04	0.44	-0.10	-0.36	-0.18	0.06	0.24	-0.19
DEU	0.03	0.51	0.17	0.22	0.33	0.09	-0.22	0.13	0.27	0.16
GRC	0.16	0.10	-0.50	0.19	0.16	-0.50	0.37	0.40	0.37	-0.14
HUN	-0.18	-0.28	-0.08	-0.71	-0.30	0.06	-0.32	-0.42	0.50	-0.17
ISL	0.30	-0.04	0.76	0.47	0.05	0.33	0.69	0.25	0.31	0.24
IRL	0.60	0.50	0.52	0.13	-0.25	0.27	0.16	0.46	0.12	0.13
ITA	0.38	0.03	-0.01	0.31	-0.10	0.22	-0.08	0.04	-0.17	0.05
LVA	-0.33	-0.69	-0.11	-0.39	0.09	0.13	-0.32	-0.42	-0.13	-0.28
LTU	-0.83	0.05	-0.63	-0.19	0.44	-0.35	-0.42	-0.40	-0.16	-0.09
LUX	0.17	-0.03	0.49	0.25	-0.15	-0.26	0.24	0.18	0.20	-0.12
MLT	0.36	0.26	0.23	-0.20	-0.20	0.59	-0.11	-0.54	0.52	-0.20
NLD	0.21	-0.08	0.24	0.43	0.28	0.21	10.05	0.37	0.16	0.65
POL	0.15	0.13	0.04	-0.60	0.08	0.16	-0.37	-0.46	0.26	-0.26
PRT	0.19	0.22	0.18	-0.26	-0.34	0.10	-0.35	0.11	0.30	-0.39
ROM	0.06	0.03	-0.35	-0.62	-0.32	0.14	-0.40	-0.21	0.23	-0.44
RUS	-0.62	-0.17	-0.47	-0.56	0.23	-0.05	-0.43	-0.42	-0.30	-0.13
SVK	0.28	0.43	-0.13	-0.10	0.08	-0.30	0.25	-0.10	0.18	-0.31
SVN	0.26	0.11	-0.14	0.01	-0.32	-0.04	0.04	0.16	0.09	-0.18
ESP	0.15	0.33	0.11	-0.25	-0.53	0.03	-0.28	0.13	0.12	0.18
SWE	0.64	0.13	0.42	0.98	0.47	0.08	10.23	0.58	0.37	0.79
UKR	-0.81	0.05	-0.39	-0.54	0.20	-0.30	-0.37	-0.12	0.00	-0.07
GBR	-0.10	-0.02	0.18	0.34	-0.57	0.12	0.05	0.41	-0.19	-0.03

Source: Author's calculations on the basis of WVS.

Appendix 4. Mean comparison of the national-level social capital components and investment indicators

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
F1 helping	WE	17	0.198	0.192	2.831	0.013
	CEE	14	-0.277	0.603		
F2 concern	WE	17	-0.011	0.340	-0.038	0.970
	CEE	14	-0.006	0.295		
F3 confidence	WE	17	0.244	0.299	5.486	0.000
	CEE	14	-0.258	0.183		
F4 polaction	WE	17	0.210	0.303	5.256	0.000
	CEE	14	-0.365	0.303		
F5 polinterest	WE	17	-0.079	0.299	-1.053	0.301
	CEE	14	0.023	0.223		
F6 justified	WE	17	0.084	0.286	1.622	0.116
	CEE	14	-0.090	0.310		
F7 belong	WE	17	0.254	0.477	3.700	0.001
	CEE	14	-0.242	0.252		
F8 friends	WE	17	0.171	0.249	3.640	0.001
	CEE	14	-0.157	0.250		
F9 family	WE	17	0.067	0.402	0.771	0.447
	CEE	14	-0.038	0.343		
F10 gentrust	WE	17	0.135	0.352	3.189	0.004
	CEE	14	-0.169	0.159		
GDP0	WE	17	30177.91	9234.76	7.405	0.000
	CEE	14	10350.01	4220.89		
CAP	WE	16	0.20	0.04	-4.151	0.001
	CEE	14	0.30	0.08		
CAPGDP	WE	17	21.34	2.93	-3.452	0.002
	CEE	14	25.49	3.76		
CAPFGDP	WE	17	20.95	2.84	-2.368	0.025
	CEE	14	23.57	3.34		
FDIGDP	WE	16	6.14	5.80	0.451	0.655
	CEE	14	5.36	3.05		
SAVDOM	WE	16	24.25	7.90	0.974	0.339
	CEE	14	21.75	5.86		

Source: Author's calculations on the basis of WVS and WDI databases.

SOTSIAALKAPITALI MÕJU INVESTEERINGUTELE EUROOPA RIIKIDE NÄITEL

Eve Parts
Tartu Ülikool

Sissejuhatus

Viimastel aastakümnetel on majanduskasvu alases kirjanduses hakatud üha rohkem tähelepanu pöörama majandusarengu sotsiaalsetele ja institutsionaalsetele aspektidele, mis on (ühe võimalusena) lihtsustatult koondatavad sotsiaalkapitali mõiste alla. Sotsiaalkapital oma laiemas tähenduses hõlmab üldist usaldust, sotsiaalseid norme ja võrgustikke, mis võivad soodustada majanduskasvu nii otseselt kui kaudselt, traditsiooniliste kasvutegurite kaudu. Käesolevas artiklis uuritakse sotsiaalkapitali mõju investeeringutele kui olulisimale kasvutegurile. Eraldi tähelepanu all on pikema demokraatliku traditsiooniga Lääne-Euroopa (LE) riikide ning post-kommunistliku taustaga Kesk- ja Ida-Euroopa (KIE) riikide võimalikud sarnasused ja erinevused.

Teoreetiline raamistik

Teoreetiline kirjandus rõhutab kolme aspekti, kus ilmneb sotsiaalkapitali olulisus majanduse ja ühiskonna kui terviku jaoks: sotsiaalkapital 1) aitab reguleerida ressursside ja hüvede jaotust, 2) soodustab koostööd ja ühistegevust, 3) alandab transaktsioonikulusid ja suurendab seeläbi turusuhete efektiivsust. Investeeringute seisukohalt omab olulisimat rolli just viimasena mainitu. Esiteks, kõrge usalduse ja koostöövalmiduse korral on väiksem vajadus riiklike regulatsioonide ja seadusandluse järele, mis on suhteliselt kallid. Teiseks, usaldus ja ühiskondlikud normid aitavad pärssida võimalikku oportunistlikku käitumist riski ja määramatuse tingimustes. Kolmandaks, võrgustikud kujutavad endast mitmekülgset ja mõjuvõimsat infokanalit, mille kaudu saab hankida teavet nii kasumlike investeerimisvõimaluste kui potentsiaalsete äripartnerite usaldusväärsuse kohta. Eelöeldut teiste sõnadega kokku võttes saab üldistada, et sotsiaalkapitali olemasolu võimaldab vähendada mitmesuguseid majandustehingute sõlmimise, jõustamise ja järelevalvega seotud kulusid, säästes sel viisil ressursse (nii aega kui raha) ja suurendades tehingute kasumlikkust. Sama arutelu riigi kui terviku tasandile laiendades on erinevad autorid jõudnud järeldusele, et sotsiaalkapitali kõrgem tase parandab riigi üldist investeerimiskliimat, kuna usaldusväärsemas ühiskonnas on majandusagendid reeglina vähem riskikartlikud ja seega altimad investeerima.

Empiirilised tulemused

Empiirilises analüüsis on vaatluse all kokku 31 riiki: 17 Lääne-Euroopast ning 14 Kesk- ja Ida-Euroopast.[1] Seoseid sotsiaalkapitali ja investeeringute vahel hinnatakse

[1] KIE riikidest on analüüsi kaasatud Bulgaaria, Valgevene, Horvaatia, Tšehhi Vabariik, Eesti, Ungari, Läti, Leedu, Poola, Rumeenia, Venemaa, Slovakkia, Sloveenia ja Ukraina ning LE

OLS regressioonimudeli abil. Maailma Väärtushinnangute uuringus (WVS – World Values Survey) neljandast voorust (1999) saadud sotsiaalkapitali andmed on koondatud faktoranalüüsi abil kümneks komponendiks – nii osutub võimalikuks sotsiaalkapitali erinevate aspektide mõju eristamine. Ka investeeringuid käsitletakse laiapõhjaliselt – vaatluse all on nii koguinvesteeringud kui nende kasv perioodil 2000-2006, aga samuti otsesed välisinvesteeringud ning riigi sisesäästud kui oluline investeerimisressursi allikas.

Regressioonianalüüsi tulemused on koondatud üldistatud tabelisse 1, mille päises on välja toodud sõltuva muutujana kasutatud alternatiivsed investeeringunäitajad ning esimeses veerus sõltumatute muutujatena kasutatud sotsiaalkapitali komponendid, mis tuletati algindikaatoritest faktoranalüüsi abil.

Kuna sotsiaalkapitali mõju investeeringutele hinnati erinevate investeeringuid kirjeldavate sõltuvate muutujatega mudelite põhjal, siis polnud ka tulemused ühesed. Siiski leidis kõigis mudelites kinnitust sotsiaalkapitali mõjude sarnasus KIE ja LE riikides. Abistamise komponendi puhul ilmnes kõige rohkem statistiliselt olulisi positiivseid seoseid erinevate investeeringunäitajatega, samal ajal kui ülejäänud sotsiaalkapitali komponentide mõju investeeringutele oli valdavalt ebaoluline või negatiivne (v.a. otseste välisinvesteeringute puhul). Investeeringute ning sisesäästude osakaalud SKP-s olid sarnaselt negatiivselt mõjutatud poliitilise aktiivsuse, ühiskondlike normide, üldise usalduse ja pereväärtuste poolt. Lisaks mõjutasid sisesääste kui investeerimisressursi potentsiaalset allikat positiivselt abistamine ja hoolimine ning institutsionaalne usaldus ja keskkond. Huvipakkuvad olid välisinvesteeringute mõjurite analüüsitulemused. Ilmnes OVI positiivne seotus formaalsete võrgustikega ning negatiivne seotus poliithuvi, sõprussuhete ja haldussuutlikkusega. Kui esimese ja viimase seose põhjused on üsna ilmsed, siis ülejäänud tulemustele on raskem selgitusi leida. Samuti nähtus, et mitmed investeeringute osakaalu SKP-s negatiivselt mõjutanud sotsiaalkapitali komponendid omavad välisinvesteeringutele positiivset mõju.

Kokkuvõtvalt võib öelda, et investeeringuid mõjutavad enim usalduse ja normidega seotud sotsiaalkapitali komponendid, samal ajal kui võrgustikega seotud komponentide mõju investeeringutele on ebamäärasem. Siit võib järeldada, et investeeringuid soodustavate poliitikate kujundamisel tuleb tähelepanu pöörata investeerimiskeskkonnale kõige laiemas tähenduses, unustamata ühiskonna üldist usaldusväärsust ja sotsiaalsete normide tugevdamise olulisust.

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riikidest Austria, Belgia, Taani, Soome, Prantsusmaa, Saksamaa, Kreeka, Island, Iirimaa, Itaalia, Luksemburg, Malta, Holland, Portugal, Hispaania, Rootsi ja Suurbritannia.

Tabel 1. Sotsiaalkapitali komponentide mõju investeeringutele

Sõltuvad muutujad / Sõltumatud muutujad	Koguinvesteeringute kasv	Koguinvesteeringute osakaal SKP-s	Fikseeritud investeeringute osakaal SKP-s	Otseste välisinvesteeringute osakaal SKP-s	Sisesäästude osakaal SKP-s
F1 abistamine	ns	Positiivne	Positiivne	ns	Positiivne
F2 hoolimine	ns	ns	ns	ns	Positiivne
F3 institutsionaalne usaldus	Negatiivne	ns	ns	ns	Positiivne (ilma kontrollmuutujateta)
F4 poliitiline aktiivsus	ns	Negatiivne	Negatiivne	Positiivne	Negatiivne
F5 huvi poliitika vastu	ns	ns	ns	Negatiivne	ns
F6 normid	ns	Negatiivne	Negatiivne	Positiivne	Negatiivne
F7 kuulumine organisatsioonidesse	ns	ns	ns	Positiivne	ns
F8 sõbrad	ns	ns	ns	Negatiivne	Negatiivne
F9 perekond	ns	Negatiivne	Negatiivne	Positiivne	Negatiivne
F10 üldine usaldus	ns	Negatiivne	Negatiivne	Positiivne	ns
Haldussuutlikkus	ns	ns	ns	Negatiivne	Positiivne
TRANS (post-kommunistlikku tausta kirjeldav fiktiivne muutuja)	Positiivne (kuid muudab sotsiaal-kapitali ebaoluliseks)	Positiivne (kuid muudab sotsiaal-kapitali ebaoluliseks)	ns	Negatiivne (koos väliskaubandusega)	Negatiivne (koos kontrollmuutujatega)
Chow test	ns	ns	ns	ns	ns
Märkused (lisatingimused statistiliselt olulise efekti ilmnemiseks)	Sotsiaalkapitali mõju on oluline ainult kontrollmuutujate mittearvestamisel	Sotsiaalkapitali mõju olulisus sõltub riigi keskmisest tulutasemest		Mõju on enamasti oluline ainult koos väliskaubandusega	Mõju on oluline ainult kontrollmuutujate (hariduse ja väliskaubanduse)

Märkus: ns – näitab vastava seose või statistilise testi ebaolulisust ($p<0.05$).
Allikas: Autori koostatud.