EVE PARTS

Social capital, its determinants
and relations with economic growth:
comparison of the Western European and
Central and Eastern European countries

The Faculty of Economics and Business Administration, the University of Tartu, Estonia

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Euroopa Liit
Euroopa Sotsiaalfond

Eesti tuleviku heaks

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INTRODUCTION

Motivation for the research

Classical and neoclassical economic theory are largely based on the fiction that society consists of a set of independent and rationally behaving individuals, each of whom acts to achieve goals that are independently arrived at, implying that the best institution for governing economic exchanges is free market. This argumentation does not take into account social preferences and social exchange, which are based on relational rationality and motivated by other forces than pure profit-seeking. Also, market mechanism based on individually rational behaviour will often not guarantee collectively optimal outcomes. This is so because all human societies confront collective action problems, solving of which requires cooperative behaviour and attitudes. The acknowledgement of such duality in economic theory has forced economists to look for new, more broad-based and interdisciplinary explanations to economic processes. One solution to collective action problems advocated by institutional economists (e.g. Williamson 1995, North 1990) is government coercion through setting proper institutional conditions, which could moderate profit-seeking behaviour of individuals. However, such third-party enforcement is often expensive and not impartial. Social capital theory offers another, cheaper alternative for finding solutions to the problems of allocation, cooperation and economic efficiency which take into account the social context of economic behaviour. More precisely, social capital, in its broadest sense, refers to the internal social and cultural coherence of society, the trust, norms and values that govern interactions among people and the networks and institutions in which they are embedded.

Another, more practical reason why the concept of social capital is attracting increasing interest among scholars is related to the theoretical and empirical research on economic growth and development. When studying differences in the levels of income and development between the peoples and nations, it appears that these enormous differences (which are growing all the time) cannot be fully explained by the traditional neoclassical theory of economic growth (e.g. Solow 1956) which considers physical capital as the main factor of development. Earlier, the concept of human capital, consisting of good education and health which should yield higher productivity, was added into endogenous growth models (Lucas 1988, Romer 1990), and 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 importance of social and institutional resources for ensuring economic growth and development has been highlighted in the context of conditional convergence theory which acknowledges that there are various

structural impediments to growth and development, like cultural differences, transaction costs, ineffective government policies, weak legal and business institutions, capital market imperfections, and others (Yeager 1999, Hjerppe 2000). Many of these development obstacles could be, at least partly, overcome with the help of social capital. A key question for a convincing operationalisation of social capital in development economics is whether the role of social capital in development processes is most plausibly seen as a separate key production factor, or whether social capital influences the accumulation and effectiveness of other production factors like investments and human capital. For now, the dominating view in the literature is that the latter perception is more plausible and useful – even though it makes empirical studies on the economic effects of social capital much more difficult.

The active research of the concept of social capital started in the late 1990s when there was a resurge of interest in the social and institutional dimensions of economic development. Earlier work in this field was pioneered by Hirschman (1956) and Adelman and Morris (1967), but in general the issues they had raised were crowded out until the late 1980s. The turnaround in the 1990s was influenced mainly by the fall of communism, the ostensible difficulties of creating market institutions in transition economies, the financial crises in Latin America and East Asia, and the enduring scourge of poverty in the developing world – orthodox theories had neither anticipated these difficulties nor offered safe passage through them (Woolcock 2000). Much of the subsequent discussion on the role of social capital in economic development has been led by the researchers of the World Bank, who relate social capital to social cohesion which is critical for societies to prosper economically and for development to be sustainable (The World Bank 1998).

The novelty and usefulness of social capital theory is related to its interdisciplinary nature – it explains some of the alternative nonmaterial-oriented behaviours by integrating behavioural concepts and assumptions from the fields of economics (capital in particular), psychology (e.g. Maslow's hierarchy of needs), and sociology (institutions and power) (Robison and Flora 2003). At the level of individuals, the social capital paradigm helps to move analysis of individual behaviour beyond the constraints of the narrow notion of *homo economicus*, whose behaviour is solely motivated by selfish preferences for increases in physical goods and services. As an attribute of a society, social capital can be understood as a specific characteristic of social environment that facilitates people's cooperation. The key idea of this argument is that communities can provide more effective and less costly solutions to various principal agent and collective goods problems than can markets or government interventions (Durlauf 2002a). Also, social capital helps to reduce transaction costs related to uncertainty and lack of information. As such, it can be said that social capital gives soft, non-economic solutions to economic problems. Empirically, it has been shown that regions and countries with relatively high stocks of social capital, in terms of generalised trust and widespread civic

engagement, seem to achieve higher levels of growth, as compared to societies of low trust and civicness (e.g. Knack and Keefer 1997, Ostrom 2000, Rose 1999).

The discussion on the role of social capital in economic development is of particular importance in case of post-communist transition countries, since much of the problems of transition can be seen as a deterioration of the rules, norms and trust (including institutional trust), i.e. social capital. Not in all transition countries have orthodox adjustment policies led to sustained growth. The dominating type of social capital in post-communist countries seems to stem from informal networks and exchanges that allow people to develop the coping strategies facilitating their personal success, while the potential of social capital drawing from general trust leading to higher social cohesion and growth seems to be rather weak. Such contradiction between public and private social capital may hinder effective functioning of market mechanisms and, consequently, economic growth. Therefore, it is important to understand the reasons of low levels of community social capital in transition countries in order to find opportunities for supporting social capital generation, and make better use of social capital as a determinant of economic growth and development.

Although there is growing empirical literature about the relationship between social capital and economic development, these studies are still far from covering all (or most) factors discussed in the pertaining theoretical literature. While it is generally agreed that social capital is relevant to development, there is no agreement on the particular ways in which social capital aids the development process, how it can be generated and used, or how it can be operationalised and empirically studied. The contribution of this dissertation comprises the following aspects. Firstly, this dissertation aims to develop more comprehensive theoretical framework for studying social capital as a factor of economic growth and development, giving high importance to explaining causal mechanisms behind this relationship. Secondly, in the earlier literature on the relations between social capital and economic development, the question of the determinant of social capital was often neglected. The novelty of this dissertation lies in the joint analysis of the determinants and outcomes of social capital. Also, the research on the determinants of social capital is intended to be multi-level, including both individual-level and national-level factors.

Thirdly, a broader variety of alternative social capital dimensions, as compared to most previous empirical studies, is covered. In addition to general trust and participation in various voluntary organisations, also political engagement, institutional trust, norms and trustworthiness, and altruism are included in the analysis. At the same time, for comparability across previous micro-level studies of sociologists and for conceptual clarity, the empirical part of the dissertation neglects vertical or macro-level aspects of social capital (like formal institutions), treating them rather as the sources or outcomes of social capital. As such, a more narrow individual-level approach is followed when measuring social capital. Fourthly, with regard to the measurement issue,

although social capital is considered to be a multifaceted phenomenon that needs multiple indicators, most authors do not analyse the relationship between different dimensions of social capital in their empirical studies. Current dissertation attempts to shed some light on this question, too. In addition, possible structural differences in social capital among different country groups and aggregation possibilities from individual to national level are investigated.

Finally, there are only few studies analysing social capital in post-communist regimes like Central and Eastern European countries (Paldam and Svendsen 2002; Raiser *et al.* 1999, 2001, 2003; Howard 2002, 2003). This dissertation addresses the specificity of social capital in Central and Eastern European transition countries and attempts to generalise the reasons of the low levels of social capital in this region, as compared to Western European democratic societies. Comparative perspective is also taken on the questions whether these low levels of social capital are caused by differences in its sources, and whether they hinder growth perspectives in CEE countries.

The aim and research tasks

The aim of the present dissertation is to identify the similarities and differences between Western European (WE) and Central and Eastern European (CEE) countries concerning the composition and determinants of social capital, and its relations with economic growth. To achieve the aim, the following research tasks are set up:

1) to review the theoretical literature on the concept of social capital with special emphasis on its components and their determinants;
2) to give an overview of the previous theoretical and empirical findings about the relationship between social capital and economic growth, giving high importance to explaining alternative causal mechanisms behind these relationships;
3) to identify the peculiarities of social capital in CEE countries as compared to WE countries, in order to find possible explanations why the levels, determinants and economic effects of social capital might be different in these two country groups;
4) to develop an integrated framework for comparative research of the determinants and economic effects of social capital;
5) to set up research propositions about the structure and determinants of social capital, and the relationship between different social capital components and economic growth;
6) to test the validity of the research propositions, focusing on the similarities and differences between the two country groups;
7) to provide a synthesis of the research results and draw conclusions about the similarities and differences in social capital in CEE and WE countries, regarding its structure, determinants and relations with economic growth.

The structure of the dissertation

The present dissertation consists of two major parts. The first part comprises literature overview, which forms a theoretical basis for the following comparative analysis of the structure, determinants and economic effects of social capital in WE and CEE countries. First, the alternative theoretical approaches to social capital concept are introduced and synthesised, followed by a deeper analysis of the nature of specific components of social capital and literature review on the determinants of social capital. Then, the position of social capital concept in economics in general, and its specific role in economic development are discussed. The theoretical overview of the concept of social capital is followed by the introduction of specific characteristics of social capital in CEE post-communist countries. Based on the above, an integrated framework for studying simultaneously the determinants and economic effects of social capital is proposed. Finally, the research propositions are set up together with the introduction of the data and research methodology. The second part of the dissertation consists of a comparative empirical analysis of the structure and determinants of social capital in WE and CEE subsamples. This is followed by the analysis of the relationship between social capital and economic growth as a main research interest of economists. The general logic of the structure of the above-mentioned parts of this dissertation is presented in Figure 1.

The theoretical part of the dissertation starts with a brief introduction of the historical roots of the concept of social capital. This is followed by a more detailed discussion of alternative theoretical approaches from the perspective of different disciplines (subchapter 1.1.1). The first approach stems from sociology and sees social capital as an attribute of individuals, focusing on the different types of resources and benefits that the persons receive through their social ties. Most well-known representatives of this approach are Bourdieu (1979, 1980) and Coleman (1988, 1990). The second perspective, which dominates in political sciences and economics, considers social capital as a property of communities or nations. In this interpretation, the benefits of social capital accrue not so much to individuals but to the community as a whole in the form of better governance and higher level of welfare. Most famous advocates of this approach are Putnam (1993, 2000) and Fukuyama (1995, 2001). The third view of social capital has roots in institutional economics (North 1990, Olson 1982), and it focuses on institutions and their trustworthiness as core forces behind evolving and changing social structures. All these views of social capital should be taken as complementary rather than contradictory, each describing specific aspects of the concept.

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Figure 1. The structure of the dissertation.

Next, the structure of social capital will be explored in subchapter 1.1.2. Based on alternative theoretical approaches, the components of social capital will be described alongside structural and cognitive dimensions. It is important to distinguish between different sub-types of social capital because different components of it might have different sources and different effects on economic development. However, as all proposed components of social capital characterise the same umbrella concept, they are expected to be tightly interrelated. Therefore, the relationships between social capital components will

be analysed thoroughly, with special attention to the question whether alternative components can reinforce each other, on the one hand, or whether they are rather substitutes. Finally, at the end of this subchapter, measurement issues will be addressed in order to form a basis for selecting the variables for the following empirical analysis.

Then, on the basis of the distinguished components, the determinants of social capital will be discussed in subchapter 1.1.3. Many critics of the social capital concept and its implementation in economics are related to the notion that such complicated concept should be studied in a wider context where social capital accumulates, appears and operates. Thus, although the determinants and sources of social capital are studied mainly by sociologists, this work has applications also in economics – the corresponding literature constitutes an important step towards developing a consistent and integrated framework concerning the nature of social capital and its relationship to socioeconomic performance (Christoforou 2005). Understanding the determinants of social capital is especially important in case of CEE countries, as low levels of social capital are arguably one reason for relatively slow economic growth rates in these countries during the transition from communism to market economy (Paldam and Svendsen 2002). As such, this subchapter will form a basis for better understanding of the reasons and possible solutions of this development obstacle. Distinction will be made between individual-level and aggregate-level determinants of social capital. Also, the possibilities to generate social capital by purposeful actions or policies will be discussed at the end of this subchapter.

In economics, the usefulness of social capital is mostly seen as a factor that supports economic growth and development. The current dissertation will concentrate on the effect of social capital on economic growth (chapter 1.2). Although growth cannot be considered as an ultimate or most important goal of a society, it is still important for ensuring material resources for achieving other development objectives. In order to form a better basis for understanding the position and potential of social capital in economic theory, subchapter 1.2.1 would reply to criticism related to the integration of social capital concept into economics, including its contradictions with some of the assumptions of neoclassical economics, its specific role as a public good in solving collective action and allocation problems, and the question whether social capital is consistent with the traditional term of "capital". When explaining the mechanisms through which social capital influences economic growth, distinction will be made between two different approaches (Knorringa and Staveren 2005). Firstly, in subchapter 1.2.2 social capital will be considered as a separate production factor having direct effect on economic growth through reducing transaction costs. According to the second approach, social capital works also indirectly via interactions with other growth factors like human capital, physical investment and institutional regulations. Thus, in subchapter 1.2.3 the indirect effects of social capital through human capital accumulation

will be discussed, as this channel is arguably most influential among indirect mechanisms.

Summing up the logic of the above-proposed literature overview, subchapters 1.1.1 and 1.1.2 define the concept of social capital, subchapter 1.1.3 explains where social capital comes from, subchapter 1.2.1 clarifies the issues related to the integration of social capital concept into economics, while subchapters 1.2.2 and 1.2.3 focus on the question what social capital does. Literature overview will be completed with the introduction of specific characteristics of social capital in Central and Eastern European countries (subchapter 1.3.1), which mostly relate to their communist past and difficulties in the subsequent transition processes. In this way, the basis will be formed for investigating possible differences and similarities in social capital between CEE and WE countries.

Further, an integrated framework for studying simultaneously the relations between social capital, its determinants and economic growth in different country groups will be developed in subchapter 1.3.2. This is followed by a description of the research propositions and research methodology in subchapter 1.3.3. Altogether, three sets of propositions will be set up:

1) the propositions about the structure and relative levels of social capital in WE and CEE countries;
2) the propositions concerning the possible similarities and differences in the determinants of social capital between CEE and WE countries;
3) the propositions for investigating the relationships between social capital and economic growth.

Based on the above, the second part of the dissertation deals with testing the research propositions on the sample of 17 Western-European countries and 14 Central and Eastern European countries.[1] Individual-level data about social capital and its determinants are obtained from World Values Survey (WVS) round four (1999–2004), while national-level data of economic development and its factors stem mostly from the World Development Indicators (WDI) database. Exact descriptions of the dependent and independent variables used at different stages of research are specified at the beginning of respective subchapters 2.1–2.3.

Empirical research starts with the investigation of the composition of social capital (chapter 2.1). In order to measure social capital, latent components will be constructed from the initial WVS indicators by means of principal component analysis. Based on the components obtained, the structure of social capital in CEE and WE sub-samples will be compared, followed by the comparison of the levels of social capital between the two country groups and also between individual countries. In addition, the relationships between social capital components will be investigated using correlation analysis and second-order factor analysis. Next, the determinants and economic effects of social

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[1]   See Appendix 7 for the list of countries included in empirical analysis.

capital will be assessed through regression analysis. In the analysis of the determinants of social capital (chapter 2.2), multi-level approach will be implemented, as both individual-level characteristics and national-level or contextual characteristics will be added into regression models as independent variables. Individual-level data enable to carry out this analysis separately in WE and CEE sub-samples and thereafter compare the results.

In the regression analysis of the relationship between social capital and economic growth, a small number of observations at national level would enable only the pooled analysis, which covers the period 2000–2006. First, the direct effect of various components of social capital on economic growth will be assessed with OLS regressions (subchapter 2.3.1). Then, social capital indicators will be added into regression models with alternative investment indicators (subchapter 2.3.2) and human capital indicators (subchapter 2.3.3) as dependent variables, with the purpose to investigate the indirect effect of social capital on growth through these traditional growth factors. However, it should be noted that due to varying results of the previous studies, almost lack of the comparative evidence for WE and CEE countries and because of poor data availability, the analysis of the relationship between social capital and economic growth will be largely exploratory in its nature, and thus the results should be taken rather indicative.

Theoretical limitations

Below, theoretical limitations of the thesis are shortly discussed. The thesis aims to investigate both determinants and effects of social capital, and compare them in transition and non-transition countries. This is done along a wide range of alternative social capital dimensions. At the same time, no explicit definition of social capital is given – in the author's opinion, it is impossible because of the diversity of the applications of the concept, as will be explained in subsection 1.1.1. So it is inevitable that researchers in different disciplines use somewhat different approaches, although basic understanding of social capital as trust, norms and networks is agreed upon.

The thesis is limited primarily to cross-country analysis of social capital and economic performance. It does not attempt to cover regional-level, organisational-level or smaller group-level analyses. Network-related literature in economics deals with social networks in firms and the relationship between these networks and the efficiency of the firm (see, for example, Gulati 1995, Cohen and Prusak 2001). However, the current research is limited to the analyses of community-level social capital and therefore it does not deal with purposely created business networks, although the latter may also foster national economic growth.

Another important aspect of social capital not covered in the current dissertation is its effect on innovations. The influence of social capital on

innovation can be described as forming the innovative milieu (Daklhi and de Clercq 2004), which helps to reduce risks and uncertainties related to innovations due to unforeseeable contingencies of technological development. A good overview on the development of theories concerning social capital as a factor of innovation can be found in Landry *et al.* (2002) and Fountain (1998).

Further, there is a bulk of literature relating social capital to other development objectives than economic growth. For example, social capital has been found to be important for poverty alleviation through information about the job opportunities available in diverse networks (Raiser 2001, Franklin 2003). Poverty alleviation is closely related to the problems of income inequality and low social cohesion, which can also result from low (individual) social capital and influence, in turn, growth prospects (e.g. Alesina and Perotti 1996). In addition, it has been shown that more social interaction and higher levels of trust are associated with higher levels of life satisfaction (Anheier *et al*. 2004, Helliwell 2005). However, in this dissertation, these social development aspects are considered rather as possible determinants, not the outcomes of social capital.

There are also more general limits to what can be learned about social capital from conventional data sources. Data from WVS, which are used in the current dissertation, do not enable to analyse the effect of the changes in social capital levels over the time. Also, most surveys including information about social capital are composed for other purposes than measuring social capital, so only far proxies of the concept can be derived. As an alternative, some authors (e.g. Durlauf 2002a) advocate the greater use of experiments and survey data as a better route to furthering our understanding of social capital, but these techniques are not suitable for national-level comparisons.

Acknowledgements

1. THEORETICAL BACKGROUND FOR THE ANALYSIS OF THE STRUCTURE, DETERMINANTS AND ECONOMIC EFFECTS OF SOCIAL CAPITAL

1.1. The social capital paradigm: literature overview

1.1.1. Alternative theoretical approaches to social capital

The historical perspective

The concept of social capital is not uniform. Instead, it is used differently by sociologists, political scientists, and economists, who all focus on the specific aspects of social capital (see Table 1 and Appendix 1 for the selection of alternative definitions). Therefore, much of the historical controversy surrounding the concept has to do with its application to different problems at different levels of abstraction, and its use in theories involving different units of analysis (individuals, groups, communities or nations). The purpose of this subchapter is to investigate the alternative definitions of and approaches to social capital, in order to form a basis for better understanding of the essence of this concept. Firstly, the historical emergence of the concept of social capital in different disciplines is shortly introduced. This is followed by a more detailed discussion of alternative theoretical approaches, starting with narrow interpretations of social capital as an individual asset and moving on to the extensions of the concept, which consider social capital at the community and national level.

As regards the term itself, the notion of social capital first appeared in Hanifan's discussions of rural school community centres (Hanifan 1916, 1920). Hanifan used the term to describe "those tangible substances that count for most in the daily lives of people" (*ibid*). However, there is no doubt that many of the essential features of social capital have been discussed also earlier by authors who never used the term as such, but who deal in a variety of contexts with its key components of trust, norms and networks (Schuller 2000).

Next notable contributions to the concept came several decades later and were written mainly by sociologists, including the works of Jacobs (1961) in relation to urban life and neighbourliness, Bourdieu (1985) with regard to social theory, and Coleman (1988) in his discussion of the social context of education. Most well-known work in the field belongs to political scientist Putnam, who conducted a comparative study of Italian regions and attributed the divergence in institutional and economic performance between the North and the South to differences in their relative endowment of social capital (Putnam *et al*. 1993).

Table 1. Interpretations of social capital in different disciplines

Disci-pline	School of thought, basic author(s)	Basic definitions and ideas
Sociology	Social theory, Pierre Bourdieu	Social capital as the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition.
	Rational choice sociology, James Coleman	Social capital is defined by its function. Unlike other forms of capital, social capital inheres in the structure of relations between and among actors. It is a public good and a collective resource.
	New economic sociology, Mark Granovetter	Social capital as social networks. It can be a public good and a collective resource, but it can also be a means for pursuing special interests of small groups.
Political science	Robert D. Putnam	Social capital as a set composed of trust, social values and social networks. It is a public good and a collective resource, but the state cannot significantly influence its production.
	The role of public policies and the welfare state, Bo Rothstein	Social capital as trust. It is a public good and a collective resource. The government and the institutions of the welfare state can both create and destroy social capital, according to their characteristics.
Economics	Neoclassical economics, Gary Becker	Social capital as an individual resource. It is not a public good, and it can be produced by individuals by rational investment choices.
	Institutional economics, Douglass North	Social capital as institutions. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights).
	New economic approaches	Social capital as a tool for the analysis of the qualitative aspects of the process of growth. Considered studies form a part of a larger non-neoclassical field of research addressing the role of altruism, reciprocity, happiness, social interactions and social capital in subjective well-being.

Source: adopted from Sabatini (2004); complemented by the author.

While Putnam and other political scientists focused on the performance of government, economists are more interested in the effects of social capital on economic performance. Earlier work in this sub-field was pioneered by Hirschman (1956) and Adelman and Morris (1967). Becker (1974) incorporated a general treatment of intra-family interactions into the theory of consumer demand. The central concept of his analysis was "social income", the sum of a person's own income and the monetary value of his social environment.

Economist Loury (1977, 1981) came upon the term in the context of his critique of neoclassical theories of racial income inequality, arguing that "… the social context within which individual maturation occurs strongly conditions what otherwise equally competent individuals can achieve" (Loury 1977: 176). This implies that racial income inequalities are largely determined by the poorer connections of young black workers to the labour market and their lack of information about opportunities.

More active research of the concept of social capital in economics started in 1990s when there has been a resurge of interest in the social and institutional dimensions of economic development. Much of the subsequent discussion on the role of social capital in economic development has been led by the researchers of the social capital initiative group of the World Bank, founded in 1996. The World Bank relates social capital to poverty reduction and social cohesion, which "… is critical for societies to prosper economically and for development to be sustainable" (The World Bank 2008). The way-breaking studies on the relationships between social capital and economic development are those of Fukuyama (1995), Knack and Keefer (1997) and Knack (1999).

Next, the concept of social capital is discussed in more detail along the different levels of analysis, starting with individual level and moving on to the community and national levels.

Social capital as an attribute of individuals
The original systematic development of the concept of social capital by the French sociologist Bourdieu (1979, 1980) and American sociologist Coleman (1988, 1990) centered on individuals or small groups as the units of analysis. Both scholars focused on the benefits (resources) accruing to individuals or families by virtue of their ties with others. The core intuition behind this approach is that actors' resources are a function of their location in the social structure (Adler and Kwon 2002). This kind of social capital has been referred to as "informal" in literature. Most of the subsequent literature was also focusing on the types of resources that persons receive through their social ties. Particularly in sociology, social capital became defined as a source of social control, family-mediated benefits, and resources mediated by non-family networks like access to jobs and loans, etc.

For Bourdieu, social capital depends on the size of one's connections and on the volume or amount of capital in these connections' possession. Social capital is a collective asset shared by members of a defined group, with clear boundaries, obligations of exchange, and mutual recognition (Bourdieu 1983/1986, Lin 2001: 23). Bourdieu's treatment of the concept is instrumental, focusing on the benefits accruing to individuals by virtue of participation in groups and on the deliberate construction of sociability for the purpose of creating this resource. His emphasis is on the fungibility of different forms of capital and on the ultimate reduction of all forms to economic capital, defined as accumulated human labour. (Portes 1998)

In a broader context, Bourdieu (1985) considered social capital as one of the three basic forms of capital, alongside the economic and cultural capital (the latter is partly comparable with human capital). He initially describes social capital as 'made up of social obligations ('connections')' (Bourdieu 1985: 242), and expands on this definition later, as follows: "The volume of social capital possessed by a given agent thus depends on the size of the network of connections he can effectively mobilise and on the volume of the capital (economic, cultural or symbolic) possessed in his own right by each of those to whom he is connected" (Bourdieu 1985: 252; cf. Schuller 2000: 28). Bourdieu thus treats social capital both as an aggregate of human behaviour and an individual possession. However, he has not developed these thoughts much further, nor has he gone on to deploy the concept in any empirical field.

For Coleman (1988: 98; 1990: 302), social capital consists of two elements: it is an aspect of a social structure, and it facilitates certain actions of individuals within the structure. As such, social capital is the resource, real or potential, gained from relationships (Lin 2001: 23). According to this approach, social capital can take on three forms: (1) obligations and expectations which depend on the trustworthiness of the social environment, (2) the capacity of information to flow through the social structure in order to provide a basis for action, and (3) the presence of norms accompanied by effective sanctions (Harper 2001: 8). In Coleman's interpretation, social capital is a public good and a collective resource, which cannot be created by independent individuals.

However, the above definitions given by sociologists – which see social capital basically as an ability to obtain resources through networks or other social structures – suffer from at least three weaknesses (Portes and Landolt (2000: 532). Firstly, there is a common tendency to confuse the ability to secure resources through networks with the resources themselves. Secondly, the literature tends to emphasise the positive consequences of social ties and exclude the negative ones. Thirdly, this definition of social capital leaves untheorised the motivations of donors in these transactions, i.e. sources of social capital. Later development of the concept has attempted to overcome these weaknesses. Several authors (e.g. Portes 1998, Lin 2001, Adler and Kwon 2002) have proposed frameworks for studying social capital together with its sources and effects, including negative ones. Their original social capital models can be found in Appendices 2–4, while Figure 2 presents the generalised picture. According to Adler and Kwon's (2002) opportunity-motivation-ability framework, the sources of social capital could be divided into three groups: opportunities are created by a network of social ties; motivation for cooperation mainly comes from common norms, values and trust; and the ability refers to the shared beliefs and knowledge (see Figure 2).

SOURCES of social capital	CONSEQUENCES of social capital

- Social networks and individual's position in the social structure
- Common norms, values and trust
- Shared beliefs and knowledge

BENEFITS:
- Economic (material wealth, information access)
- Political (power and influence, reputation)
- Social (solidarity, life satisfaction, health)

COSTS:
- Direct and alternative costs of networking
- Restrictions on individual freedoms
- Downward leveling norms
- Closure of opportunities to third parties

Opportunity
Motivation
Ability

SOCIAL CAPITAL
as an ability to obtain resources through social structures

Figure 2. Sources and consequences of social capital at the level of individuals (Source: author's figure on the basis of Portes 1998: 8, Lin 2001: 246, Adler and Kwon 2002: 32).

Benefits of social capital include a wide range of welfare-related outcomes, like material resources, information access, power and reputation, better health, and others. Lin (2001: 243) distinguishes more narrowly between two types of outcomes: returns on instrumental action taken to obtain resources not possessed by the actor (e.g. wealth, power, reputation), and returns on expressive action taken to maintain resources already possessed by the actor (e.g. physical and mental health or life satisfaction). Returns to instrumental actions and expressive actions often reinforce each other. For example, physical health enables to endure a heavy workload and responsibility to attain economic, political, and social statuses – which, in turn, offer resources to maintain physical health. Also, mental health and life satisfaction are likewise expected to have reciprocal effects with economic, political, and social gains. (Lin 2001: 245)

Besides benefits, acquiring social capital might pose possible losses. For example, creating and maintaining social relationships may be costly in terms of time and foregone income[2]. Also, some networks may restrict individual

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[2] These aspects are further discussed in subsection 1.1.3, when discussing the deliberate investments into social capital by individuals.

freedoms and/or diminish economic opportunities to third parties. The latter result highlights the public good nature of social capital – costs (and also benefits) of social capital appear not only for the focal actor, but also for the broader aggregate, of which the focal actor is a part (Adler and Kwon 2002: 31).

Summing up, for sociologists, social ties were important for the array of material, social and informational benefits that they yielded to individuals in the form of reliable expectations. At this level, the sources of social capital were mostly associated with a person's networks, including those that were explicitly constructed for that purpose. In addition, Lin's (2001) argument implies that the usefulness of network depends on the importance of the persons with whom the link is formed. This is especially true in hierarchical societies and/or under a dictatorship, being thus important when analysing the sources and effects of social capital in post-communist countries.

Social capital as an attribute of the community
When the concept of social capital was exported from sociology to other disciplines (political sciences, economics), it became an attribute of the community itself. In this interpretation, the benefits of social capital accrued not so much to individuals as to the community in the form of reduced crime rates, lower official corruption, and better governance (Portes and Landolt 2000: 535). This kind of social capital has usually been referred to as "formal". Social capital as a property of communities or nations is qualitatively distinct from its individual version, and this distinction explains why the respective literature has become divergent. Most famous advocate for this approach is American political scientist Putnam (1993, 2000). According to him, social capital includes "the features of social organisation, such as trust, social norms and networks that can improve the efficiency of society by facilitating coordinated action" (Putnam *et al.* 1993: 167). Similarly, Fukuyama (1995: 10) defines social capital as "the ability of people to work together for common purposes in groups and organisations". In this interpretation, social capital is defined as a cultural phenomenon, denoting the extent of civic mindedness of members of society, the existence of social norms promoting collective action and the degree of trust in public institutions. Welzel *et al.* (2005: 140–141) provide a more comprehensive framework for studying various aspects of community-level social capital (see Appendix 5). They define social capital through the factors that help to translate community ties into collective action, dividing these "translators" into three major types: resource-based capabilities, institution-based incentives and value-based norms (*ibid*).

When explaining the mechanisms behind voluntary cooperation for common purposes, Putnam focuses on the connection between social capital and the development of "those political institutions that establish and uphold the rule of law and which thus greatly facilitate economic exchange" (Raiser *et al.* 2001: 2). He states that "… game theory underestimates the ability of cooperative human behaviour, and actually underpredicts voluntary cooperation" (Putnam *et*

al. 1993: 166). Game theorists speak of cooperation attained in conditions of perfect information, third party enforcement, indefinitely repeated games, and face-to-face interaction amongst a limited number of players (Christoforou 2005: 4). But Putnam contends that "success in overcoming social dilemmas of collective action depends on the broader social context in which the game is played. … Voluntary cooperation is easier in a community that has inherited a substantial stock of social capital, in the form of norms of reciprocity and networks of civic engagement" (Putnam *et al.* 1993: 166).

The shift in the definition of social capital from individuals to community has at least three critical consequences (Portes and Landolt 2000: 535–537). Firstly, the transition of the concept from an individual asset to a community or national characteristic was never explicitly theorised. The heuristic value of the concept suffers accordingly, as it risks becoming synonymous with each and all things that are positive or desirable in social life.

Secondly, causes and effects of social capital as a feature of communities were not disentangled, giving rise to much circular reasoning. Collective social capital or 'civicness' is said to lead to better governance[3] and its existence is simultaneously inferred from the same outcomes. Here we should admit that such circularity is unavoidable and Putnam was also conscious of it. His empirical work on Italy revealed that civic involvement in one period depends both on previous civicness and previous socioeconomic development of the region, and the same factors influence also institutional performance (Putnam *et al.* 1993: 154–157).

Thirdly, the new definition left little space for the consideration of other possible determinants – there could be extraneous causes (education, geographical concentration, history, etc) accounting for both the 'civicness' and the effective government. However, recent empirical literature usually controls for these additional factors and still finds that social capital is an important determinant of better governance and other development outcomes. The alternative determinants of social capital – both internal and external – will be discussed in more detail in the Subchapter 1.1.3.

The community-level analysis of social capital can be generalised to several meso-level units of analysis, like organisations and other groups. In this case, however, the public good aspect of social capital and possibility of negative externalities should be considered very seriously, as not all groups are beneficial for the community as a whole. Instead, society may consist of many sub-groups with high in-group social capital and no social capital between groups (Paldam (2000). Besides criminal organisations as a classical example of negative social

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[3] Governance is defined as the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing: (a) the process of selecting, monitoring, and replacing governments; (b) the capacity to formulate and implement sound policies and deliver public services; and (c) the respect of citizens and the state for the institutions that govern economic and social interaction among them (Kaufmann 2003: 5).

capital, several authors (e.g. Olson 1982, Rupasingha *et al.* 2002) have referred to 'distributional coalitions' which may hamper economic growth by capturing a disproportionate fraction of nation's resources for their narrow group interests – for example, by lobbying for legislation to raise some price, or taxing some types of income at lower rates – instead of using these resources for producing additional output.

Institutional approach to social capital
A third and most encompassing view of social capital includes the social and political environment that enables norms to develop and shapes social structure. In addition to the largely informal relationships of the first two approaches, this view includes also the more formalised institutional relationships and structures, which influence people's ability to cooperate for mutual benefit (Collier 1998; Knack 1999). The focus on institutions draws on North (1990) and Olson (1982), who have argued that formal institutions have an important effect on the rate and pattern of economic development. The World Bank (2008) has introduced the broader definition of social capital as "the institutions, the relationships, the attitudes and values that govern interactions among people and contribute to economic and social development". This type of social capital is often referred to as "government social capital" as opposed to individual-level "private social capital" or community-level "civil social capital".

Institutions as a core of this approach can be defined as a set of humanly devised behavioural rules that govern and shape the interactions of human beings, by (1) helping them to form expectations about what other people will do, and (2) constraining possible opportunistic and erratic individual behaviour (North 1990: 3, Kasper and Streit 1999: 30, Lin and Nugent 1995: 2306). According to Robison and Flora (2003), institutions are the products of the collective response of persons in networks to the actions of others, and they often grow out of norms that establish responsibilities. In economic terms, institutions are the rules that make ordered and meaningful exchanges possible: they establish property rights, membership requirements, rules for resolving disputes, and also procedures for establishing new institutions (*ibid*).

However, it should be noted at once that by most researchers, formal institutions are not considered as a social capital itself, but rather as determinants of social capital or as a possible impact channel from social capital to economic and democratic development. Instead, macro-level social capital is seen basically to consist of trustworthiness of formal institutions, which in turn depends on their impartiality and effectiveness. These aspects are further discussed in subsection 1.1.3 as determinants of social capital.

Macro-level approach to social capital theory draws also attention to the differences and similarities between formal and informal institutions. More specifically, Kasozi (2004) makes difference between "true" or "external" institutions (rules, laws or rule systems which are embedded within the society and/or social setting) and socio–cultural expressions or "internal" institutions

(beliefs and values, dispositions and activities). It is common to both types of institutions that in order to be effective, institutions always imply some kind of sanction for rule violations – this aspect was also noted in Coleman's interpretation of social capital at individual level. Among different types of institutions, as presented in Table 2, usually informal rules and values (marked with shaded background in the table) are considered as a part of social capital.

Further, Kasozi (2004) refers to a special type of institutions – rule systems, which fulfil the criteria of an institution and may also encompass and simultaneously be socio-cultural expressions, like organisations, markets and governments. These structures represent an environment where social capital might evolve and reside. However, economic effects of such institutions may be also negative. For example, Olson (1982) has highlighted how strong lobbying organisations can benefit their own members, having at the same time adverse impacts on economic development through the influence of special interest group on policymaking.

Table 2. Taxonomy of institutions

Socio-cultural expressions and paradigms		Basic types of institutions		
Beliefs, ideas and values	Dispositions and activities	Informal rules		Formal rules
Symbols, meanings, individual and social values	Rituals, habits, routines, customs, ceremonies	Social rules and norms	Conventional societal regulations	Agreements, constitutions, laws, decrees
Organisations States (governments) Markets				

Source: adapted from Kasozi (2004: 12). Note: shaded areas denote those informal institutions that could be considered as part of social capital.

Kasozi (2004) notes that socio-cultural expressions and institutions can evolve, devolve, appear and disappear – the direction of change being neither inevitable nor necessarily predictable. It follows that micro-level or informal social capital and formal institutions are closely related and can both complement and substitute each other. These relations depend partly on the development level of the society and type of transactions. Substitution effect is believed to be more common in countries with low development level, where generalised trust may replace weak formal institutions and purely settled property rights, improving thus functioning of markets (Fukuyama 1995a). As regards the types of transactions, it could be suggested that informal institutions are best suited for organising exchanges of socio-emotional goods and the exchange of high attachment value goods (Robison and Flora 2003). Formal institutions, on the other hand, are required in modern economies in order to guarantee predictable conditions for exchanging material goods and services with strangers. Taken

together, as long as every society faces transaction which could not be mediated by markets and realised without trust, it is not correct to argue that in developed societies informal social capital is not as important as in underdeveloped societies. Even when development level improves, societies with more social capital can manage with less formal regulations, saving thus transaction costs and easing complex transactions (Evans 1996, Beugelsdijk and Schaik 2005). On the other hand, it is also true that the efficiency of markets themselves may undermine the existence of informal social networks in the long run – if the path of development is supported by a solid court system and contract enforcement, the large anonymous markets can be more efficient than informal networks (Grootaert 1998).

Summing up, the institutional approach to social capital draws distinction between informal and formal institutions, and highlights the importance of trustworthiness of the latter for achieving several socio-economic objectives of the society, such as higher productivity, social cohesion, and others.

Synthesis of alternative approaches

The three views of social capital, as introduced in previous sections, broaden the concept from mostly informal and local horizontal associations to include more hierarchical associations and formalised national structures, which all are related to or based on common norms, rules and values. Alternative approaches differ in respect to focus of definitions and outcomes (see Table 3).

Table 3. Comparison of alternative approaches to social capital

Level of analysis	Definition of social capital	General outcomes	
Individual	Ability to chain resources through social structures	Economic, social and political benefits to individual	
Community, organisation	Ability to cooperate for common purposes	Solutions to collective action problems	Better governance
Nation, region	Trustworthiness of the institutional environment	Social cohesion Economic growth	Institutional efficiency

Source: compiled by the author.

At the level of individuals, the focus is on the individual benefits which can be acquired through social networks. Community-level analysis of social capital focuses on the networks, trust and solidarity as a means of pursuing shared objectives. At the level of regions and nations, the main concern is related to the (formal) institutions – their trustworthiness, quality and ability to assure social cohesion. However, these alternative perspectives of social capital can be taken to be complementary rather than opposite, each offering a different view of the concept, related to specific research fields and problems which could be solved with the help of social capital.

Alternative approaches share also several common features (Grootaert 1998). Firstly, all approaches focus on relationships among economic agents (individuals, firms, states) and how the formal or informal organisation of those can improve the efficiency of economic activities. The common basis here is a belief that social networks have a value which leads to certain individual and/or collective benefits. Secondly, all approaches link the economic, social, and political spheres, sharing the belief that the relationship between social connections and economic outcomes is reciprocal, and that "desirable" social relationships and institutions have positive externalities. The existence of externalities implies that social capital can be both a private and a public good. Thirdly, all approaches to social capital also recognise the risk of negative effects, besides better-recognised positive ones. The prevailing outcome depends on the nature of the relationship (horizontal versus hierarchical) and the wider legal and political context.

Besides similarities, there are still differences in alternative approaches. One basic question is concerned with the possibility of intentional investments in social capital. Several authors (e.g. Coleman 1988) explain the social capital as an unintentional side (or spillover) effect of networks, while others (e.g. Robison and Flora 2003) believe that social capital is more than a side effect – individuals and groups can consciously work to strengthen it. Another question relates to definitions and precise specification of the components of social capital. Individual-level approaches defined social capital as an ability of networks to channel resources, while trust and norms were considered as sources of social capital. Contrary, community- and national-level analysis sees trust, norms and networks as components of social capital itself, while sources of social capital include several psychological, socio-economic, institutional and historical factors. Further, there are controversies inside the latter approach in the question whether trust or networks are the basic elements of social capital. Some authors (e.g. Inglehart 1999, Paldam 2000) argue that the deepest definition of social capital deals with trust, while most of the other definitions may be derived as the consequences of it. Contrary to that, others (e.g. Dasgupta 1988, Woolcock 2001) argue that networks are a basic component of social capital, and trust is its source. The cause-effect relations between social capital elements are discussed more thoroughly in the next subsection.

However, in recent literature there seems to be prevailing consensus[4] that social norms, trust, and networks are all equal components of social capital, which support collective action and help to achieve common goals in the society (or smaller group) more effectively. This viewpoint is supported, for example, by Durlauf and Fafchamp (2004), who notice that the definition of social capital should include all three parts together with their positive externalities – if even

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[4] This consensus is, of course, the subject of (endless) discussion. However, the author of this dissertation has based her opinion on the current wide-range theoretical and especially empirical work where this consensus on the definition of social capital is expressed, first of all, in the form of social capital indicators used in empirical studies.

one of them is missing, it is no longer social capital. As such, the value of the concept of social capital has been seen in its nature as an "umbrella" which covers all alternative approaches.

Taken together, the theories discussed in this subchapter provide necessary understanding about the diversity of approaches to social capital. Still, these approaches should not be viewed as contradictory – instead, the explanations of social capital at individual, community and national level complement each other. Next subchapter concentrates more thoroughly on the explanations of broader dimensions and elements of social capital, which, implicitly or explicitly, are derived from the alternative social capital approaches as described above.

1.1.2. The structure of social capital

The previous discussion showed that due to the interdisciplinarity of the concept, alternative approaches to social capital use both different definitions and also a different list of components of social capital – the latter, however, being related more or less to social norms, trust and networks. The purpose of this subchapter is to analyse the structure of social capital in more detail – its components and their nature and sub-types, and also interrelationships between different components. At the end of the subchapter, measurement issues are addressed. There are several reasons for such disentangled analysis. Firstly, the broader dimensions of social capital have several sub-types of different importance, concerning the achievement of alternative objectives. Secondly, empirical evidence shows that different components of social capital might have different sources and different effects on economic development. Thirdly, many components of social capital are tightly interrelated and understanding these relations requires a clear distinction between the elements.

Based on alternative theoretical approaches, the elements of social capital can be separated into two broader dimensions – structural and cognitive. Structural social capital includes formal and informal social structures in the society, such as families, clubs, and different types of organisations, which facilitate social interaction. Cognitive aspects of social capital comprise a wide set of norms and values as regulators of human behaviour, which predisposes people to act in a socially beneficial way.

Figure 3 shows how structural and cognitive dimensions of social capital can be disentangled into smaller units of analysis. It can be seen that among the more concrete components of social capital, civic engagement, consisting of political participation and interest, stands in between two categories, as it has common characteristics with both structural (e.g. belonging into political party) and cognitive (e.g. interest in politics) dimensions. Next, the nature and sub-types of different components of social capital will be discussed in more detail.

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┌─────────────────────────────────────────────────────────────────────┐
: Dimensions of social capital                                          :
:                                                                       :
: ┌───────────────────────────┐   ┌───────────────────────────────┐    :
: │   STRUCTURAL DIMENSION     │   │    COGNITIVE DIMENSION        │    :
: │ What facilitates social    │   │ What predisposes people to    │    :
: │       interaction?         │   │    act in a socially          │    :
: │                            │   │    beneficial way?            │    :
: └───────────────────────────┘   └───────────────────────────────┘    :
└─────────────────────────────────────────────────────────────────────┘
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┌─────────────────┐ ┌────────────┐ ┌────────────┐ ┌──────────┐ ┌──────────┐
│ Informal networks│ │ Voluntary │ │ Civic   │ │ Social   │ │ Trust in │
│ and social ties │ │associations│ │ engagement │ │ norms   │ │ others   │
└─────────────────┘ └────────────┘ └────────────┘ └──────────┘ └──────────┘
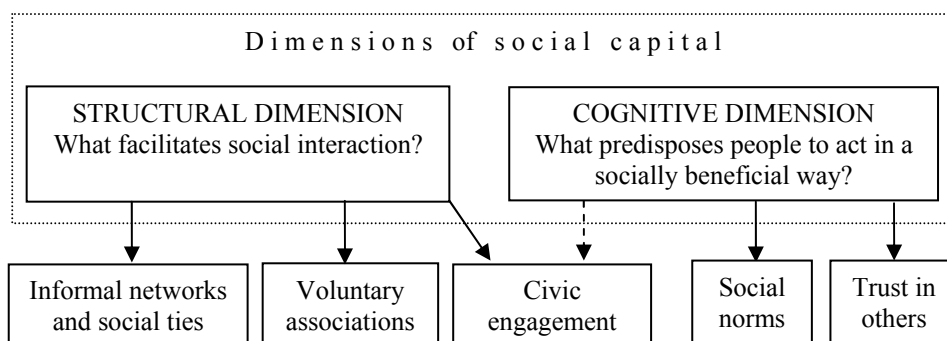
Figure 3. Dimensions and components of social capital (Source: adapted from Hjøllund and Svendsen 2000 and Stolle 2004; complemented by the author).

Cognitive aspects of social capital

Among cognitive aspects, trust in people is used typically as the prime social psychological indicator of social capital. Trust[5] is generally considered as a public good, which is an important welfare determinant both for individuals, for communities, for regions and for nations (Stolle 2002). Misztal (1996) argues that trust serves at least three functions at community level, promoting social stability, social cohesion, and collaborations.

However, the earlier researchers of social capital (Bourdieu, Coleman, Putnam) did not explain in their work how they exactly understand and define trust. Instead, they mostly used a general term "interpersonal trust", which refers to the trust between two or more persons and is not directly related to the notions of generalised trust, which become later the basis of social capital. In subsequent literature, numerous definitions and typologies of trust have been developed. The wider explanatory basis for trust is the need in a complex society for individuals to rely on rules that are accepted by many people and that guide both interpersonal and impersonal exchanges – the institutions (Lin 2001: 148). Based on this, trust may be defined as confidence or expectation that *an alter* will take *ego's* interests into account in exchanges (*ibid*: 147). In more detail, sociologists have explained trust as the fund of conventions, expectations and shared values that enable societies to renew themselves across the generation (Streeten 2002: 10). Yamagishi and Yamagishi (1994) refer to trust as 'assurance', an expectation of benign behaviour derived from knowledge of the incentive structure facing one's trading partner. Trust as the mutual expectation arises within a community of regular, cooperative behaviour, based on commonly shared norms (Paldam and Svendsen 2000). It follows that trust is closely related to common norms and values, allowing treating the cognitive dimension of social capital as an ensemble. Summing up,

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[5] For more detailed overview of the trust literature, see Nooteboom (2002).

the concept of trust may be framed as an expectation of a partner's reliability with regard to his obligations, predictability of behaviour, and fairness in actions and negotiations while faced with the possibility to behave opportunistically (Zaheer *et al.* 1998). It has to do with signalling that the actor will not play one-shot games and behave opportunistically (cf. Gambetta 1988).

In economic terms, trust can be defined through the opportunity cost of the time. For example, Zak and Knack (2001: 303) define trust as the aggregate time that agents spend on production instead of verifying others' actions. Levi's behavioural approach is similar: "A trusting individual is the one who makes a low personal investment in monitoring and enforcing the compliance of the individual(s) with whom she has made a compact from which she believes she will benefit" (Levi 1996: 47). As such, trust is an action taken in a risky situation but in which there is reason to believe in the reliability of the person being trusted (*ibid*).

As we can see from different definitions, it is not clear at all that people mean the same thing when talking about trust. Literature distinguishes between at least five types of trust which differ in relation to what trust is, how it can be generated, and to which extent it expands to include various circles of people. The adjectives used in this literature often refer to the source of trust.

Personalised trust or *strategic trust* varies according to person, situation, conditions and arena. It is important to know personally the person who is trusted (for example, asking a neighbour to water flowers or claim the mail while being on holidays). This approach relies on a rational perspective – trust is a calculation of future cooperation (Williamson 1993). It does not remove the element of uncertainty from cooperation, implying the importance of contract and assurance. This kind of trust is studied in more detail, for example, by Rotter (1980) and Hardin (1993).

Particularised trust is based mainly on identification and categorisation (Tajfel 1974, Tajfel and Turner 1979). People trust those to whom they feel close, e.g. for behavioural similarity, socio-economic status, geographical proximity, frequency of interaction, or common fate (Brewer 1981, Kramer *et al.* 1996, Messick and Kramer 2001). Similar to prior is the concept of *knowledge-based trust* which refers to the fact that the behaviour of the other is predictable because one knows the other either from own experience or through reputation effects arising in networks (Beugelsdijk and Schaik 2005).

Moral trust is based on underlying values that people share and its development depends heavily on parental upbringing. As such, trust is a stable trait and not easily influenced. It exists generally regardless of the context, of the other person, and even regardless of prior experiences. Uslaner (2002) Similar with moral trust is g*eneralised trust* or *social trust* which also assumes abstract trust to unknown members of society. It is all-inclusive like moral trust, but contrasts the former in two aspects: it is context dependent and influenced by personal and collective experiences (Levi 1996). Generalised trust indicates the potential readiness of citizens to cooperate with each other and the abstract

preparedness to engage in civic endeavours with each other (Rothstein and Stolle 2002). At the society level, generalised trust is based on society's ethical habits and moral norm of reciprocity (Fukuyama 2001).

Generalised trust is often opposed to *special trust* or *institutional trust*. These types of trust are also called *horizontal* and *vertical* trust, respectively. Institutional trust includes trust in social system (Luhmann 1988, Hayoz and Sergeyev 2003) and towards public institutions, positions and officers (Hardin 1998). Although many neglect the difference between institutions and the holders of public functions, this difference is faced by individuals when they have to trust anonymous mechanisms of modern institutions rather than personally well-known public actors (Offe 1999). It has shown that trust in social and institutional system is similar to moral and social trust, while trust in positions and officials depends more on prior personal experience (Rothstein and Stolle 2003).
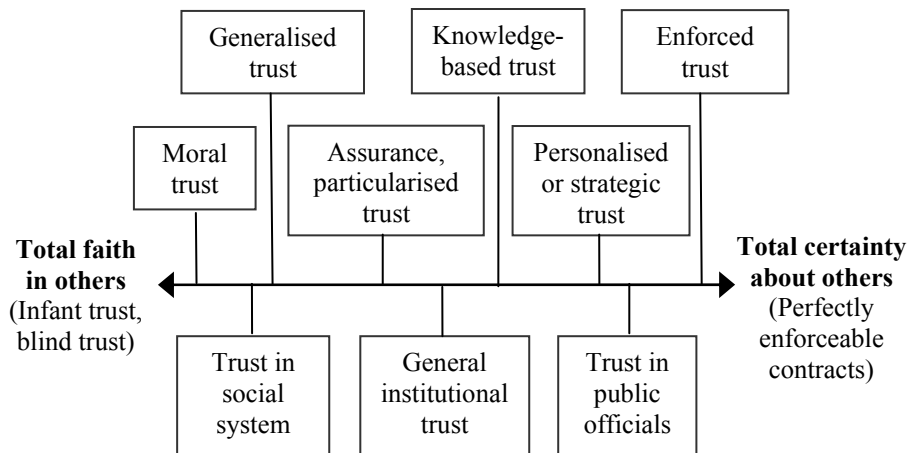
Figure 4. The trust continuum (Source: based on Misztal 1996 and Stolle 2004).

Figure 4 summarises different types of trust along trust continuum, starting from narrow personal trust (on the right-hand) up to abstract moral trust (on the left-hand). Vertical dimension of the figure distinguishes between trust in persons and informal groups (upper part) and trust in informal institution and their representatives (lower part of the figure). In general, the answer to the question whether different forms of trust substitute, replace or stem from each other, depends basically on the size and development level of the society. For example, in small communities trust rests on intimate familiarity with this individual. In larger, more complex settings, more impersonal or indirect form of trust is required.

Among different types of trust, generalised trust is considered to be most important in social capital theory (Fukuyama 1995, Putnam 1993, 2000), although lately some authors stress also the importance of institutional trust (Rothstein and Stolle 2003). The importance of generalised trust may be explained as follows: if a person is generally (but consciously, not blindly) trusting, then he is more prone (exposed) to trust also particular persons, groups and organisations. As such, generalised trust is believed to be a basis of other forms of trust. On the other hand, it is expected that other forms of trust often (under certain conditions) transform into generalised trust. For example, Whiteley (2000: 449–450) hypothesises that generalised trust is an externality arising from particularised trust. The latter has its origins within the family, but is also influenced by the community and the norms and values of society. Although acknowledging the existence of societies having high particularised trust within particular communities (usually divided from each other by ethnic or racial divisions) which does not generalise to the society as a whole, Whiteley argues that such cases are exceptional and do not influence the empirical results of positive correlation between particularised and generalised trust in large samples. Alesina and Ferrara (2000) have studied the related question of how much the level of somebody's trust is influenced by the average level of trust in the community.

For explaining the relations between different types of trust, Fukuyama's notion of "radius of trust" can be used. By this term, Fukuyama (2001) means a circle of people among whom co-operative norms operate, including both in-group and between-groups trust. For example, when the activity of a social group induces positive spillovers for the society as a whole, then the radius of trust can be larger than in-group relations. And vice versa – the radius of trust may be smaller than in-group contacts, for example in large (hierarchical) organisations where trusting norms and relations are developed only among group leaders and/or long-time members. The same notion could be extended to the society's level. Fukuyama suggests that in many Latin American societies, a narrow radius of trust produces a two-tier moral system, with good behaviour reserved for family and personal friends, and a lower standard of behaviour in the public sphere, which serves as a cultural foundation for corruption (Fukuyama 2001). The situation is similar in post-communist societies, where low levels of generalised trust are combined with relatively high special trust in some fields (Paldam 2000: 640). Summing up, in all societies the total amount of trust is determined by the extent of overlapping networks and the amount of trust in such networks.

Social norms form another part of cognitive social capital. However, Fukuyama (1997) argues that only certain shared norms and values should be regarded as social capital. According to him, "social capital can be defined simply as the existence of a certain set of informal rules or norms shared among members of a group that permits cooperation among them" (*ibid*: 378). Still, not all values and norms constitute a social capital, but only the 'right ones' which

"…must substantively include virtues like truth-telling, the meeting of obligations, and reciprocity" (Fukuyama 1997: 379). Such approach concentrates uniformly on the positive aspect of social capital, leaving possible negative externalities out of the definition.

Structural aspects of social capital
The ability of people to form groups cooperating for joint projects is another element of social capital, which has a special importance in the context of communitarian approach. It holds that any society is characterised by networks of interpersonal communication and exchange, both formal and informal, and almost all networks are the mixes of the horizontal and the vertical. Next, different types of networks, their similarities, differences and relative importance in the context of social capital's economic effects will be explained.

Families · Networks of neighbours, friends, etc · Clubs and societies · Communities and organisations · Unions · Market place · Church · Education · Local government · Parliament · Courts

Informal groups   Formal institutions
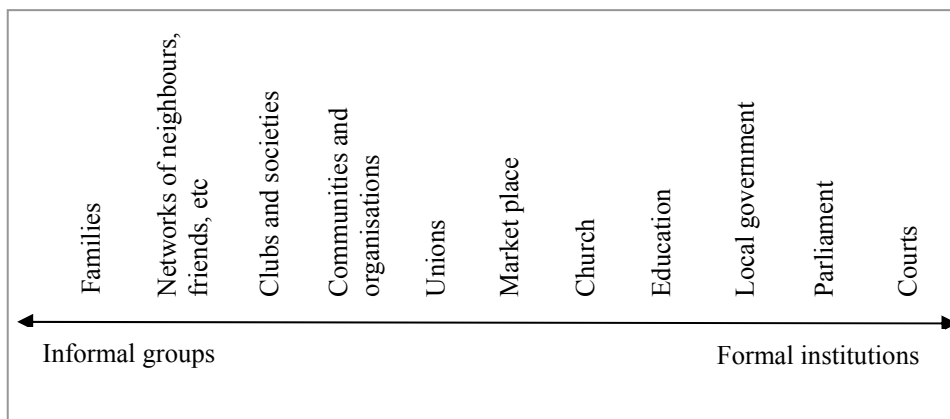
Figure 5. Categories of social networks (Source: Harper 2001: 18).

In Figure 5, social networks are divided along formal-informal dimensions. Informal networks are based on repeated direct contacts between limited number of persons, who are related by kinship or friendship ties (Rose 1999). Formal networks are characterised by common rules, bureaucracy, legal status, registered membership and membership fee (*ibid*). Of course, the line between these two types of networks is not clear-cut. For example, voluntary organisations which include persons with similar interests (sport clubs, bird-watching societies, etc) have characteristics of both formal and informal networks. Similar to formal-informal dimension is horizontal-vertical dimension. Generally, in formal networks hierarchical relations between group members dominate, while informal networks rely more on horizontal connections.
   Further, Narayan and Cassidy (2001) have introduced the concepts of bridging, bonding and linking social ties (see Figure 6), helping thus also to distinguish between negative and positive social capital. At the micro level,

b*onding* (exclusive) *social capital* refers to relations amongst relatively homogenous groups, such as family members and close friends, who most likely hold common core values. *Bridging social capital* refers to relations with distant friends, associates and colleagues – i.e. those with diverse experiences, values, and backgrounds. This approach is similar to the notion of strong and weak ties used by Granovetter (1973) and comprises basically horizontal voluntary social ties. However, the role and functions of bridging and bonding social capital are different. Putnam (2000) suggests that bonding ties are important for 'getting by' while bridging ties are crucial for 'getting ahead'. In other words, bonding ties supply social support and help to overcome everyday problems, while bridging relations help to move on in one's life-path by providing diverse information, for example, about new job opportunities.
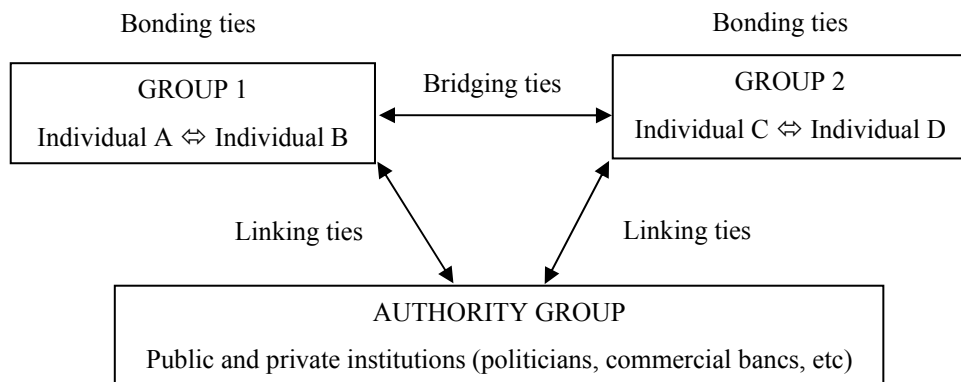
Figure 6. Bridging, bonding and linking social capital (Source: adapted from Grootaert and Bastelaer 2002).

The third component of this classification, *linking social capital* is more a macro-level concept which refers to relations between individuals and groups in different social strata in a hierarchy where power, social status and wealth are accessed by different groups (Woolcock 1998, Putnam 2000, Harper 2001). Woolcock (2000) extends this to include the capacity to leverage resources, ideas and information from formal institutions beyond the community. Hence, the nature of linking social capital is more vertical – it links people at different authority levels. Bridging and bonding ties (or horizontal networks) are also called *networks of trust*, while linking (or vertical) ties form *networks of power*. However, there is a functional similarity of trust and power with regard to the problem of organizing collective cooperation: if cooperation cannot be based on trust, it may be enforced by state power (Hayoz and Sergeyev 2003).

Table 4. Dimensions of social interactions

	Weak ties (no closure)	Strong ties (closure)
Bridging interactions (various backgrounds)	• Voluntary associations • Diverse neighborhoods	• Interracial marriages • Interracial friendships
Bonding interactions (same backgrounds)	• Homogeneous associations • Trade unions • Professional groups	• Same group marriages • Same group friendships • Small-knit communities
Linking interactions (vertical power relations)	• Communication with and between authorities • Principal-agent relations	• Lobbying organisations • Criminal groups

Source: adapted from Stolle (2002).

In Table 4, the structures of social interactions are divided along two dimensions. One reflects the question with whom one interacts, what is captured by the distinction of bridging, bonding and linking interactions (Putnam 2000). The other dimension depicts the strength or depth of interaction, and is captured by a distinction between strong and weak ties that results from network analysis (Granovetter 1973), and openness or closure of social networks (Coleman 1990).

Given the wide spectre of types of social interaction and networks, the question arises about which of them are more important and could thus be considered as a part of social capital? The answer depends first of all on whether we look at the individual-level well-being or the development of the society as a whole. At the level of individual, the usefulness of social ties depends on the particular context, or, in other words – as Coleman's (1990: 302) instrumental approach to social capital emphasises – social capital networks are situation-specific. For example, the network most appropriate for getting a job may not be the most appropriate for childcare or protection against crime. In general, horizontal voluntary networks are considered more useful than other forms of social interaction, as one shouldn't build them personally, but upon joining a voluntary organisation, one automatically obtains many weak ties (Paldam 2000). Such context-specificity appears also when considering the type and development level of the society. In modern democratic societies, people usually rely on formal market relations for obtaining consumer goods and informal ties are reserved for assuring emotional welfare (Rose 1999). The situation, however, was different in former communist societies where it was difficult to obtain goods and services without connections or time-consuming queuing, so people formed private networks to help each other. At the same time, the activities of voluntary associations were state-controlled – and thus practically absent. (Paldam 2000: 642) This evidence suggests that different

types of networks are not always correlated, so there may be some tradeoffs between the voluntary organisations and other networks.

At the society level, it has been also argued that horizontal (especially bridging and weak) social interactions are more likely having positive externalities to the society as a whole (Woolcock 2000, Franklin 2003). Such networks are presented in the left-upper box in Table 4. Shortly, the denser the horizontal networks in the community, the more likely that its citizens will be able to cooperate for mutual benefit. Putnam points out four explanations why networks of civic engagement have this powerfully beneficial side-effect (Putnam *et al.* 1993: 173–174):

1) such networks increase the potential costs to a defector in any individual transaction;
2) they foster robust norms of reciprocity;
3) they facilitate communication and improve the flow of information about the trustworthiness of individuals;
4) networks embody past success at collaboration, which can serve as a culturally-defined template for future collaboration.

According to Putnam, the advantage of horizontal informal networks may be one reason why capitalism turned out to be more efficient than feudalism in the 18th century, and why democracy has proven more effective than autocracy in the 20th century (Putnam *et al.* 1993: 175). However, formal organisations also form an important part of modern market economies, where bureaucratic market and government institutions are needed for effective production and allocation of both private and public goods (Weber 1968, Woolcock 1998). Further, formal and informal networks are often interrelated and can perform similar functions. Their relative importance depends on the type and development level of the society. For example, in totalitarian regimes the low levels of generalised trust and civic engagement were substituted by state power (Paldam 2000). In poor developing countries, on the other hand, strong bonding ties are most widespread whilst formal organisations are almost absent. Traditional societies have fewer opportunities for weak ties among the self-contained segments (tribes, separated villages, etc) that make it up, and therefore pass on information, innovation, and human resources less easily (Fukuyama 2001). However, Isham *et al.* (2002) have demonstrated that an understanding of social capital can help to build upon these strong bonding ties when supporting the development of external linkages to enhance more useful bridging and linking opportunities. This argument is similar to Granovetter's (1973) reasoning that the strong ties generated within the family and in the immediate community are the basis of the weak ties, which make society possible.

Contrary to that, vertical networks (like patron-client relationships) are believed to be less helpful in solving dilemmas of collective action. The same holds for bonding ties, which are dominantly also seen as obstacles to development, as they could most likely take the form of closed networks

(criminal, etc) which benefit its members, but are harmful for the rest of the society. In Table 4, these types of networks are gathered in the right-lower box.

Another possibility to distinguish between positive and negative aspects of associational activity is to use the notions of the so-called "Putnam-type" and "Olson-type" groups. This classification is based on the argument that groups with social goals are better than those with political goals at building trust and cooperative habits (Knack and Keefer 1997). *Putnam-type groups* include organisations that relate more to the private spheres, personal beliefs and morality, and the realm of leisure (church, sport clubs, environmental associations, charities etc). As such, they relate directly to the idea of a vibrant civil society and facilitate social interactions that may encourage trust and cooperation. *Olson-type organisations* pertain more closely to the political and economic realm, including political parties, trade unions, and professional groupings. Such groups are usually viewed as rent-seeking organisations, which could negatively affect economic growth. (Raiser *et al.* 2001) On the other hand, Olson-type groups are an essential element of a pluralistic society – parliamentary democracy, for example, could not function without political parties. Empirical evidence also suggests that, at least in mature market economies, the benefits of functioning political institutions that can resolve social conflicts overweigh the disadvantages of organised vested interests seeking rents and blocking decision making (Raiser *et al.* 2001:12).

Another sub-type of structural social capital – related to participation in political organisations and having also some characteristics common to cognitive dimension – is civic engagement, which consists of one's political activity (e.g. voting participation), charity, unpaid work for voluntary organisations, and general interest in political issues. These activities illustrate person's civic commitment, which is a basis for the development of a broad-based civil society, promoting thus efficient functioning of democratic processes and improving performance of formal institutions. Welzel *et al.* (2005) point to the special importance of the so-called elite-challenging actions like petitions, boycotts and demonstrations – the forms of community involvement mostly neglected from social capital studies.

Relations between social capital components
Previous analysis treated cognitive and structural aspects of social capital as equal but independent parts of the same general syndrome. In the reality, the two groups of components of social capital are influenced by each other, forming a causal chain where one leads to the other. This integrated approach could be illustrated by the definition of social capital as "the reciprocal relationship between civic participation and interpersonal trust" (Brehm and Rahn 1997: 1000). However, there is actually no common agreement about the direction of causality in this interrelationship. Whether trust should be conceived as a consequence or a cause of participation in social networks? What are the real mechanisms behind these relations?

In earlier discussion on social capital, the dominating view was that civic participation leads to higher trust, whereby networks can create trust both among its members and non-members. The proponents of this network approach to social capital (e.g. Narayan and Cassidy 2001, Dasgupta 1988) even question the inclusion of trust in the definition of social capital. According to them, considering trust as an integrated part of social capital can be misleading, in that it generates confusion between social capital (defined as participation in voluntary networks) and its outcomes. Other authors (e.g. Fukuyama 1995, Uslaner 1995, Delhey and Newton 2005) advocate the superiority of the cognitive dimension of social capital, arguing that trust is the basis, which encourages social participation.

The view that trust is a result of participatory behaviour originates from Putnam's work who claims that "social trust in modern social settings can arise from two related sources – norms of reciprocity and networks of civic engagement" (Putnam 2000: 171), and the first is likely to be a function of the second. According to his argument, personal interaction generates information about trustworthiness of other actors, and such kind of information acquisition is relatively inexpensive and reliable. Informal communication also teaches cooperative behaviour and the importance of following common norms. Social norms typically arise when an action has similar externalities for a set of others, and are further inculcated and sustained by socialisation and sanctions. Sometimes the externalities can be captured through a market exchange, but often they cannot. In the presence of externalities, social norms transfer the right to control an action from the actor to others (*ibid*). Fukuyama (2001) and Narayan and Cassidy (2001) elaborate Putnam's approach further by adding the notion of "cross-cutting ties" which are created in overlapping networks and can thus support the development of shared norms of generalised reciprocity and trust across various social groups (see also Fukuyama's notion of 'radius of trust' in earlier discussion).

The mechanism, which connects interpersonal trust, repeated interaction with others, and sustained cooperation has roots in research on the prisoner's dilemma (see, for example, Putnam *et al.* 1993, Levi 1996, James 2002). In single-shot prisoner's dilemma games, experimental research suggests that trusting individuals tend to cooperate more readily (Axelrod 1984, 1997, Orbell and Dawes 1991). In iterated prisoner's dilemma games, successful strategies simply echo the behaviour of another behaviour, reciprocating (after the first play) cooperation for cooperation or defection for defection, setting thus in motion a "virtuos circle" in which trust promotes cooperation and cooperation promotes trust (Putnam *et al.* 1993). However, this means that successful strategies require some initial level of trust, but the emergence of this in the first place is not well explained. It also implies that when there is little or no initial social trust in the society, it is very difficult to create it, as the cooperative attitudes of individuals will simply be exploited (Brehm and Rahn 1997, Whiteley 2000).

On the other hand, Putnam himself also admitted that the causal arrow linking trust and civic engagement does not go one way: "Social trust, norms of reciprocity, networks of civic engagement, and successful cooperation are mutually reinforcing. Effective collaborative institutions require interpersonal skills and trust, but those skills and that trust are also inculcated and reinforced by organised collaboration". (Putnam *et al.* 1993: 180) Drawing on findings from non-cooperative game theory, Putnam argues that a tit-for-tat strategy is a self-sustaining equilibrium, meaning that if people act trustfully, they tend to cooperate and invite cooperation in return. However, Putnam's approach is criticised to be too descriptive, giving no exact explanation of the mechanisms of production, maintenance, and growth of social trust through civic engagement (Levi 1996). Also, participation in formal groups may constitute only a small percentage of the social interactions that can build trust and cooperative norms (Knack and Keefer 1997), whilst these informal forms of social interactions are difficult to measure.

An alternative view to Putnam could be found in classic literature on political culture, which implies that interpersonal trust is a resource for collective action, which helps citizens to identify common goals and promotes efficient functioning of democratic processes (Inglehart 1999). The idea that trust promotes reciprocity and cooperation is going back to Tocqueville (1969, 1990) and Simmel (1950) and is exemplified in its modern form by communitarian theorists like Etzioni (1993), Bellah (1985) and others. How exactly may social trust turn into beneficial cooperative behaviour? Badescu (2003) points to at least two related mechanisms: firstly, it is expected that more trustful citizens become embedded in denser and more extended social networks; and secondly, a higher level of social trust seems to ease empathy towards other interests. Formal models and experiments (e.g. Yamagishi and Yamagishi 1994) have also shown that more trustful citizens tend to be better at overcoming collective action dilemmas.

Finally, the relationship between trust and membership might depend on common third factors, like social polarisation or the level of democratisation (Badescu 2003). Firstly, society's polarisation by ethnic, political, religious, or income differences could lead to the formation of relatively homogeneous associations (based on strong or bonding ties) which may strengthen trust and cooperative norms within a group, but weaken trust and cooperation between those groups. As such, the positive intra-group effects on trust may be offset by the negative effects of inter-group relations (Streeten 2002). Secondly, the structure of civil society is likely to be associated with the degree of democratisation: the more democratic a country, the higher proportion of members in associations that require a higher than average level of trust. Democratisation also tends to bring a decrease in ethnic tensions, and that lower salience of ethnic issues is expected to keep down the proportion of associations based on ethnic exclusion (Dowley and Silver 2003). As a result, ethnicity should play a more important role in explaining the strength of the link between

trust and membership across less democratic countries than across the more democratic ones.

Empirical findings about the causal relationship between trust and participation are varied. On the one hand, several individual-level analyses have shown that membership increases trust and commitment to common norms (Ostrom 1990, Ellickson 1991, Stolle and Rochon 1996, Helliwell 1996b, Brehm and Rahn 1997). On the other hand, if participation increases trust, there should be positive correlation between trust and the length of the membership – but this is not empirically proved. Instead, a lot of evidence asserts that there may be no link at all between trust and most forms of civic engagement (Claibourn and Martin 2000, Uslaner 2003). However, it has shown that group members are more trusting than the mass public. While explaining this controversy, Stolle and Rochon (1998) suggest that there is a self-selection effect for voluntary organisations – civic groups do not make people more trusting, but more trusting people join voluntary associations (in which many transactions, at least initially, will involve interacting with strangers). The nature of this relationship seems to depend on the characteristics of a concrete society. In West, for example, joining a lot of groups does not produce more trust (Stolle 1998, Uslaner 2002), while in the transitional states civic engagement seems to lead to less trust (Uslaner 2003).

Further, Brehm and Rahn (1997) demonstrate that confidence in institutions may also be an output of tight reciprocal relationship and interactions between interpersonal trust and civic engagement (suggesting that participation induces trust, rather than reverse). However, the net effect of social capital upon confidence is not clear. According to the studies by Brehm and Rahn (1997), Knack (2002) and Howard (2003), aspects of social capital that are conceptually identified with generalised reciprocity (social trust, volunteering, and census responses) are associated with better governmental performance and higher confidence, while civic engagement is unrelated to institutional performance and its effect on confidence may be even negative. The latter result can be linked with Tocqueville's (1969) hypothesis that people who learn the virtues of "self interest rightly understood" through associating with others are less likely to look to the state for their needs, and they also resist centralizing tendencies of equality (cf. Brehm and Rahn 1997: 1004).

Concerning the expected positive relationship between trust and confidence in institutions, the causality can run from both directions. For example, confidence in government could be a generalisation of interpersonal trust or an extension of trust in authority figures personally closer to oneself (Moore *et al.* 1985). Alternatively, trust in government officials may be a "specific instance of trust in mankind" (Lane 1959: 164). Empirical evidence also shows that social participation strengthens democratic governance (Almond and Verba 1989) and increases the honesty and effectiveness of public institutions (Putnam *et al.* 1993, Knack 2002). For example, as documented by World Bank researches, schools are more effective when local citizens are actively involved.

Similar example comes from medical sphere, where monitoring by citizen groups improves the performance of doctors and nurses (World Bank 2008).

However, the reverse connection from confidence in institutions to interpersonal trust and civic engagement is possible as well. Levi (1996) proposes that confidence in governmental institutions has the potential to restore (but also to undermine) levels of trust. Further, institutional trust could increase general political activity and voting participation (Knack and Keefer 1997), which in turn puts higher pressure and responsibility on politicians, as higher awareness of voters reduces the possibilities of manipulating them. However, empirical research leaves this question opened. Although several studies have found a positive relationship between political participation and beliefs about the responsiveness of political authorities (Rosenstone and Hansen 1993, Brady *et al.* 1995), it is not clear that participation is enhanced by feelings of trust in government, as the direction of causality is not correctly tested. From above, it can be concluded that civil social capital may be as much a consequence of confidence in institutions as the reverse.

The above discussion about the relationship between social capital components can be broadened, when distinguishing between different levels of analysis. More precisely, in subchapter 1.1.1 alternative approaches to social capital were introduced along three levels – individual (or micro-), community (meso-) and national (macro-) level, while the analysis of the components of social capital in current subchapter followed so far structural and cognitive dimensions. When combining these two classifications, we can reach different aspects of social capital which all have a specific role in a society (see Table 5).

Table 5. Combinations of the levels and dimensions of social capital

Levels \ Di- mensions	Individual (micro-level)	Community, organisation (meso-level)	Region, nation (macro-level)
Structural	Informal social networks and voluntary organisations	Interest groups (trade unions, political parties), local institutions, firms	Formal state institutions, rules and laws
Cognitive	Informal norms and values, generalised trust	Group solidarity, trust in business partners, political convictions	Confidence in institutions, governance

Source: adapted from Grootaert and Bastelaer (2002), Kaldaru and Tamm (2003).

Different sub-types of social capital in Table 5 are closely related and can influence each other, being both complements and substitutes. Previous discussion on the relationships between trust and networks illustrated how cognitive and structural parts of social capital work interactively, and are mutually reinforcing. Along cognitive dimension, it can be shown how

individual informal norms and values influence the behaviour of social groups, as groups are formed from individuals. Moving further to the macro-level, we should simply extend the group to cover the whole society. At the macro level, commonly accepted norms usually transform into formal laws, which in turn influence individual values. Opportunities and constraints created by formal institutions and rules also influence the arousal and activities of informal organisations and lobbying-groups, while the latter can induce changes in formal institutions.

Further, different combinations of these dimensions might yield different outcomes. For example, while poor may possess some forms of social capital (usually "bonding" social capital), they may well be lacking in others, particularly those providing access to information in diverse (bridging) networks. Also, formal institutions can be substitutes for and causes of trust and civic cooperation. Interpersonal trust seems to be more important in facilitating economic activity where formal substitutes are unavailable. And vice versa: the less the civil (horizontal) social capital in the society, the greater the need for governmental (vertical) social capital. Taken together, the relationship between informal and formal social capital is likely to be complex, with each influencing the other.

It is also quite usual to think that economic development and increasing government social capital "crowds out" civil social capital. Some authors, however, argue for synergy. The idea of synergy implies that civic engagement strengthens state institutions and effective state institutions create an environment in which civic engagement is more likely to thrive (Putnam *et al.* 1993, Evans 1996). On this basis, it could be concluded that different components of social capital might be significant in different societies in different ways. The inter-relationship between civil (or micro-level) and government (or macro-level) social capital vary as the development process evolves over time. Therefore, it could be suggested that at different phases of development, there might be different optimum combinations of civil and government social capital. In post-communist societies of Central end Eastern Europe, where interpersonal trust is low and unlikely to improve rapidly, institutional reforms providing better formal mechanisms for the reliable enforcement of contracts and access to credit are especially important (Knack and Keefer 1997). This question of actual combination of civil and government social capital is further investigated in the empirical part of the thesis, when comparing the structure of social capital in Western European and Central and Eastern European countries.

Measurement issues
Empirical research on social capital inevitably confronts the measurement problems related to the selection of the indicators, data sources, and aggregation. All these problems make it difficult to compare the results of

different studies, especially in case of cross-national analysis. Next, the measurement problems will be discussed in more detail.

Due to the heterogeneity of the definition of social capital, so far most empirical studies have used their own *ad hoc* methodology and proxy variables for measuring social capital. Many authors have followed Putnam's (1993) original approach which distinguishes between three types of entities that comprise social capital: trust, norms and networks (Narayan and Cassidy 2001, OECD 2001, Rothstein 2001, van Oorschot and Arts 2005, and others), providing thus some comparability of empirical results. However, the exact list of indicators used is not the same in different studies, because social capital data are usually derived from social surveys designed for other purposes than measuring social capital. Also, many recent applications of the concept depart from Putnam's original assumption that various types of social capital are closely interrelated – instead, the existence of a strong relationship between social networks, norms and trust should be a subject to empirical investigation.

As was shown above, there are different kinds of trust, as well as different types of social norms and networks that can be considered from both an individual and aggregate (national) level perspective. More specifically, while disaggregating social capital, several authors have emphasised (1) a basic distinction between associational life and its potential effects on generalised trust and reciprocity (and vice versa), and (2) heterogeneity among voluntary organisations and other groups (Knack and Keefer 1997, Stolle and Rochon 1998, Paxton 1999, Knack 2002). Acknowledging that different components of social capital might have different sources and different effects on development outcomes, there is a growing consensus that social capital cannot be measured by one single variable, on the one hand and overly-aggregated, heterogeneous indexes or latent constructs, on the other hand.

Further, concerning cross-national comparative studies, there are measurement limitations related to the assumption of equivalence among translations, which may not be accurate enough in the questions used to assess the level of trust and norms (Uslaner 2002, 2003). When measuring cognitive aspects of social capital, responses to the survey questions may also depend on the sequence of questions, which is not the same in different surveys.

Another problem is related to aggregation: although social capital is usually measured by asking questions from individuals, it is generally, and also in the current thesis, perceived as a community characteristic, which yields positive returns to a society as a whole. In principle, social capital may be aggregated to the national level by increasing the smaller group/community to cover the nation as whole. Here one can draw parallels with micro- and macroeconomics where the macro-level explanations of economic behaviour are also derived from micro-level rules and regularities. In practice, usually the country means of individual responses or percentages of certain answers are calculated to obtain macro-level social capital indicators. However, these seemingly simple aggregation processes do not consider the fact that society may consist of many

sub-groups with high in-group social capital and no social capital between the groups. Therefore, as noted by many authors (e.g. Paldam 2000, Harper 2001, Glaeser *et al.* 2002), collective social capital cannot simply be the sum of individual social capital because of the extraordinary importance of social capital externalities.

Next, more common approaches to measure trust, norms and networks are introduced. As regards trust, respective empirical literature relies almost exclusively on a following single survey question: "Generally speaking, do you think that most people can be trusted, or that you cannot be too careful in dealing with people?" Some surveys cover also other dimensions of trust, like particularised trust towards one's own family, fellow nationals and people in general (Whiteley 2000). Institutional trust is usually assessed through questions about confidence in different formal institutions – however, as was shown above, not all institutions are equally important for a functioning civil society.

Another measurement approach to interpersonal trust includes the set of questions about a specific trust situation, like one's behaviour (or expectation about other's behaviour) when finding a lost wallet in different places, or questions of blood giving and helping others. Efforts at modeling response to these questions are becoming increasingly sophisticated. Soroka *et al.* (2003) give a comprehensive comparison of the basic trust question and its alternatives. They conclude that response to the traditional and highly general indicator of general trust is powerfully shaped by cultural norms, while response to the specific, wallet question is sensitive to context and life experience (*ibid*). Further, it is also important to distinguish between trusting attitudes and trusting behaviours. As behaviours are difficult to measure directly, survey questions usually measure the attitudes towards trust. But do attitudes really predict behaviours? The link between response to the question and actual behaviour can be studied in laboratory trust games (Berg *et al.* 1995, Glaeser *et al.* 2000, Zak and Knack 2001), but the results of such experiments are mixed and not easy to generalise.

When attempting to measure norms (also considered as a proxy for one's trustworthiness or morality), one has to bear in mind that the claimed norms can noticeably differ from actual behaviour. And even the indicators of actual behaviour, if drawn from surveys, are subjective, because the respondents are likely to be reluctant to admit bad behaviour (Knack and Keefer 1997).

Civic engagement was first measured by reference to such items as membership of political parties or trade unions, voting patterns, and newspaper readership (Schuller 2000b: 29). Later empirical work has focused more on the measuring participation in voluntary associations and informal social networks. The most well-known indicator of networks is Putnam's proxy, which measures the density of voluntary organisations (Paldam 2000: 8). In addition, a distinction is made between active and passive participation, and heterogeneous and homogeneous networks (Grootaert 1998). Networks of social support form

another category and include contacts with family members, friends and neighbours (Harper and Kelly 2003).

Summing up, this subsection showed that there is a wide variety of components of social capital, which can be gathered under cognitive and structural dimensions. Many of these components are strongly interrelated, leading to the suggestion that alternative components can reinforce each other. On the other had, components of social capital can also be substitutes, which is especially important in situations where the evolvement of some types of social capital is restricted or limited due to the social order or development level of the society. As regards measuring social capital, the common agreement is that social capital as a multifaceted concept should be measured by multiple indicators in order to cover all aspects of it. Selection of the concrete indicators and measurement methods depends on the purpose of the research. In the current dissertation (and in economics generally), where the aim is to study the relations of social capital with economic development, indicators used should be also related to economic development.

1.1.3. The determinants of social capital

The determinants and sources of social capital are studied mainly by sociologists, but the importance and applications of this work are wider. Corresponding literature constitutes the important step towards developing a consistent and integrated framework concerning the nature of social capital and its relationship to socioeconomic performance (Christoforou 2005: 3). Many critics of the social capital concept have also pointed out that such complicated concept should be studied in a wider context, where social capital accumulates, appears and operates. Understanding the determinants of social capital is especially important in case of CEE countries, as low levels of social capital are arguably one reason for relatively slow economic growth rates in these countries during the transition from communism to market economy (Paldam and Svendsen 2002). As such, this subchapter forms a basis for better understanding of the reasons and possible solutions of this development obstacle. The following discussion draws mostly on previous empirical research, distinguishing between the impacts of individual-level and aggregate-level factors on the components of social capital. Also, the possibilities to generate social capital by purposeful actions or policies are discussed at the end of this subchapter.

Individual-level determinants of social capital
An individual-based model of social capital concentrates on the ability of persons to obtain resources through networks or other social structures. In order to possess social capital, a person must be related to others, who are the actual source of person's advantage. However, the motivation of those others to make

resources available, as well as the motivation of a person to be engaged in social networks in order to gain resources, is not uniform. Instead, these motivations depend on a wide range of psychological and socio-economic characteristics of individuals.

Portes (1998: 7–9; see also Appendix 2) distinguishes between four socio-psychological factors that motivate people to behave in a trustworthy manner. *Value introjection* refers to the internalised norms (like paying debts in time, obeying traffic rules, etc), which are followed by most people because they feel an obligation to behave in this manner. While value introjection is usually developed during childhood, *bounded solidarity* is an emergent product of a common fate. The theoretical roots of this approach are in Marx's (1894, 1967; cf. Portes 1998: 7–8) analysis of emergent class consciousness in the industrial proletariat – by being thrown together in a common situation, workers learn to identify with each other and support each other's initiatives. *Simple reciprocity* means that donors provide privileged access to resources in the expectation that they will be fully repaid in the future. However, unlike in purely economic exchanges, the timing of the repayment and the currency with which obligations are repaid are unspecified. This source of social capital is extensively discussed by sociologists in the analysis of social exchange (Simmel 1902, Homans 1961) and by authors of the rational action school (Schiff 1992, Coleman 1994). Finally, *enforceable trust* has roots in Durkheim's (1964/1893) theory of social integration and the sanctioning capacity of group rituals. When the expectation of repayment is based on the insertion of both actors in a common social structure, it means that (a) the donor's returns may come not directly from the recipient but from the collectivity as a whole, and (b) the collectivity itself acts as guarantor that whatever debts are incurred will be repaid.

The psychological sources of the structural aspects of social capital, like participation in voluntary organisations, are mostly explained by the *principle of homophily* (also known as the *like-me hypothesis*), which states that social interactions tend to take place among individuals with similar lifestyles and socioeconomic characteristics (Homans 1950, Lazarsfeld and Merton 1954, Lin 2001). According to this approach, the basis of social interactions consists of sentiment, shared emotion and similarity in resources, all three being interrelated. The homophily principle was integrated to the discussion on social capital by Stolle and Rochon (1998) and others, who have found that voluntary group membership often suffers from self-selection problem – people who join voluntary organisations are *a priori* more trusting. Also, this principle can be used to explain the emergence of closed societies based on strong bonding ties.

While the above psychology-based sources of social capital have deserved mostly theoretical interest, empirical studies focus more on the socio-economic determinants of social capital. However, 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. Table 6 gives an overview about the variety of indicators, samples and data-sources used in previous

studies. Shortly, the main shortcoming of these studies lies in the fact that they include an incomplete set of social capital dimensions (mostly, only indicators of generalised trust and/or membership in voluntary organisations are 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 (often varying) results complicated.

Table 6. Overview of the empirical studies on the determinants of social capital

Study (year)	Data source, sample	Indicators of social capital	Determinants of social capital
Alesina and Ferrara (2000)	GSS, 1974–1994	General and institutional trust	Age, gender, education, income, religion, ethnic origin, married, children
Glaeser, Laibson and Sacerdote (2002)	GSS, 1972–1998	Average group membership	Age, mobility, gender, income, education, occupation, house-ownership, ethnicity, size of the place
Soroka, Helliwell, Johnston (2003)	Canadian Equality, Security and Community Survey (ESC)	Formal networks, generalised trust and wallet questions	Age, gender, education, income, economic outlook, religion, health, immigrant
Bolin, Lindgren, Lindström and Nystedt (2003)	Swedish Survey of Living Condition, 1980–1997	Having close friends outside the immediate family	Age, gender, marriage, wage, wealth, employment, children, education
Bartkowski and Jasinska-Kania (2004)	EVS 1999, 29 European countries (both WE and CEE)	Formal membership and activity in voluntary organisations	Education, gender, interest in politics, interpersonal and institutional trust, norms
Delhey and Newton (2005)	WVS 1990–1996, 60 nations	Generalised trust	Ethnic homogeneity, religious traditions, governance, wealth, inequality
Christoforou (2005)	European Community Household Panel 1999, EU15 states	Group membership	Income, education, employment, age, gender, marital status, GDP, income distribution
Fidrmuc and Gёrxhani (2005)	Multiple Eurobarometer of 2000s, 27 European countries	Formal and informal networks, altruism (spending money and time on helping others)	Age, gender, married, children, education, income, employment, town size

Table 6. Continued

Study (year)	Data source, sample	Indicators of social capital	Determinants of social capital
Van Oorschot and Arts (2005)	EVS 1999–2000, 23 European countries (9 CEE and 14 WE countries)	Norms, institutional and interpersonal trust, active and passive participation, friends, family and political engagement	Welfare effort and regime, income inequality, GDP, gender, age, education, income, employment, religion and church attendance
Van Oorschot, Arts and Gelissen (2006)	EVS 1999–2000	Second-order factor analysis of 8 initial dimensions of social capital, resulting in 3 factors: networks, trust and civism	Gender, age, education, income, religion and church attendance, political stance, social status (retired, housewife, student, unemployed)
Halman and Luijkx (2006)	ESS 2002, 21 European countries	Interpersonal and institutional trust, norms, formal engagement and informal social activity	Education, age, gender, political left-right, individualism, moral sense, religiosity, life experiences and satisfaction.
Kaasa and Parts (2008)	EVS 1999–2002, 31 European countries (16 from CEE)	Formal and informal networks, general trust, institutional trust, norms	Age, gender, marital status, number of children, town size, education, employment status, income, religiosity and post-materialist index

Notes: EVS – European Values Survey, WVS – World Values Survey, ESS – European Social Survey, GSS – U.S. General Social Survey.

Source: composed by the author.

Although the results of empirical studies are not always uniform in respect of different social capital components, next some generalisations will be made and theoretical explanations will be offered. Firstly, *income* and *education* seem to be most influential socio-economic factors of social capital. Empirical evidence shows that higher levels of income and education coincide with a strong probability for group membership and interpersonal trust from the part of individual (Knack and Keefer 1997, Denny 2003, Helliwell and Putnam 1999, Paldam 2000, and others). However, the exact causal mechanism behind this relationship is not clearly explained in the literature. For example, trust could be

a product of optimism[6] (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 2000). It appears that such value transmission should 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 makes 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 the 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. Further, part of the voluntary work takes place in the clubs of "the bold and the beautiful" (like Rotary, Lions Club, etc), implying positive relation with education and income. On the other hand, causality can also run from another direction: for example, volunteering could be seen as informal job-search, suggesting positive effects between income, education and participation. Still, this assertion is not supported by empirical evidence, which shows that horizontal networks help to find mainly low-paid jobs with low education requirements (*ibid*). Banks and Tanner (1998) support the joint determination of wages and volunteering, showing that then higher wages are associated with more volunteer hours. Finally, there is also a possibility that participation activity, education and wages may be determined by common omitted factors. For example, some personal traits, such as openness, activity, curiosity and responsibility, ensure higher education and wage, and are prerequisites for active participation in community life at the same time.

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[6] Optimism is a multifaceted phenomenon having four main components: (1) a view that the future will be better than the past, (2) the belief that we can control our environment to make it better, (3) a sense of personal well-being and (4) a supportive community (Uslaner 2003: 84).

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). At the same time, in case of informal participation, older individuals tend to have more limited access to social networks (Fidrmuc and Gėrxhani 2005). To the contrary, 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. Broader argumentation of van Oorschot and Arts (2005) states that such age effects could be the result of differences in either generation, cohort or life stage. However, it is hard to test empirically which of these is/are actually dominating.

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 Gėrxhani 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.* (2003) and van Oorschot *et al.* (2005) show the opposite. Institutional trust has not been found to be influenced by gender.

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. Concerning informal networks, Fidrmuc and Gėrxhani (2005) have shown no statistically significant effect of marital status on informal networks.

Theoretically, having *children* could be expected to have a similar effect as marriage, but empirical evidence is not so clear. Fidrmuc and Gėrxhani (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). The 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 Gėrxhani (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. These results show the effect of physical distance and possible anonymity on the pattern of socializing. 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 fewer in large cities. Partly related to the living place, the *stability of social structure* might influence social capital. Migration has been considered as a main process which destroys social structures and thus also social capital.

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 Gėrxhani (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 socializing.

Table 7 summarises the above information about the possible influence of social capital determinants, based on empirical studies which were presented in Table 6. It could be concluded that only the effects of income and employment 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 cognitive aspect of social capital is positive, whereas its effect on structural aspect is unclear. 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 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.

Table 7. Socio-economic determinants of an individual-level social capital

Determinant	Expected effect on social capital
Education	Higher education associates usually with more trust and higher social activity
Age	The relation between social capital and age is concave (first increases and later decreases)
Gender	Women usually posses a bit more social capital than men, except in case of formal networks
Income	Higher income enables to invest more money (but less time) into social relations
Status in labour market	People away from labour market – unemployed or retired persons, housewives – have less social capital than other social groups
Private property	Home owners have usually more social capital, as operating one's property requires cooperation
Marriage	Married couples have less social capital than an average
Children	Having children associates with less social capital
Size of living place	Living in small place associates with more informal social capital and less formal social capital
Mobility	Expected mobility and physical distance reduce social capital

Source: composed by the author on the basis of the studies listed in Table 6.

Summing up the previous discussion, we can conclude that the very basis of individual-level social capital (apart from socio-demographic factors) is family and immediate community, which determine the environment in which other social capital factors are developed and embedded. Family is the basic source of the material and social welfare of its members and influences most the development of behavioural norms and values since early childhood. At the community level, cognitive social capital emerges through social relations between neighbours, friends, colleagues, and other groups, while intensity and depth of these relations is influenced by physical distance and the extent of common problems requiring cooperative behaviour.

Aggregate-level determinants of social capital
At the aggregate (national or regional) level, social capital consists of prevailing social norms and values in the community or society, and people's active

participation and interest in solving common problems. Most widely discussed social capital determinants at this level include history (path-dependency), development level of the economy, quality of formal institutions, distribution of resources and society's polarisation.

The idea that the level of social capital is determined by society's past history belongs to Putnam, who advocates the notion of *path-dependency*: "Where you can get depends on where you are coming from and some destinations you simply cannot get to from here" (Putnam *et al.* 1993: 179). Putnam's reasoning starts with the statement that at the community level, norms and networks have a nature of public goods which "increase with use and diminish with disuse" (Putnam *et al.* 1993: 170). As such, stocks of social capital tend to be self-reinforcing and cumulative: "The greater the level of trust within a community the greater the likelihood of cooperation. And cooperation itself breeds trust" (*ibid*: 171). Virtuous circles result in social equilibria with high levels of cooperation, trust, reciprocity, civic engagement, and collective well-being. Conversely, the absence of these traits in the uncivic community is also self-reinforcing. Putnam (*et al.* 1993: 178) argues that "both equilibria are contingent conventions – reciprocity/trust and dependence/exploitation can each hold society together, though at quite different levels of efficiency and institutional performance". However, such metaphorical interpretation of path-dependency is criticised by Levi (1996: 46), who agrees that historically given social structures and experiences affect present choices, but do not accede that past events are the only determinants or predictors of the future decisions.

Among other historical factors, *ideology* has also been considered as an important determinant of social capital. In general, an ideology (for example, religious doctrines or communist rule) can create social capital by forcing its followers to act in the interests of something or someone other than himself (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 doctrines 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 Muslim (Putnam *et al.* 1993, La Porta *et al.* 1997), while Protestantism associates with higher trust (Inglehart 1990, Fukuyama 1995) and norms (van Oorschot *et al.* 2006).

Ideology and history as the determinants of social capital are closely related to the society's economic development, which influences generalised trust through higher level of education and diffusion of post-materialist values (Inglehart 1999). In more wealthy societies, social capital could stem from positive externalities of education investments while in poorer countries it may be the result of increasing interest in society's development (Bjørnskov 2003). On the other hand, economic development may also destroy social capital, if there is an increase in individualistic values (partly related to better social security) and shift to more passive types of entertainment (such as TV and

Internet) which leave less time and need for immediate socialising (Putnam 2000). This leads to the conclusion that presumably one central process by which social capital develops is the industrialisation and urbanisation of society, which induces the change in society's operating rules (Hjerppe 2000).

Putnam's view of social capital determinants is widely criticised – it does not explain completely the emergence and destruction of norms and networks, as it ignores the role of factors other than path dependency process that affect social capital accumulation. As an alternative, the *role of institutions and government* as sources of social capital is stressed by several authors (Levi 1996, Rothstein and Stolle 2002, Paldam 2002, and others).

The impact of formal institutions on social capital goes basically through institutional trust (i.e. trust in government) which in turn transforms into generalised trust. In general, trust in government (as a key to generating social trust and minimizing the adverse effects of narrow-interested organisations) is achieved through rules and institutions that ensure transparency, fairness and credibility for government actors. Hardin (1992: 161) states that "In a Hobbesian view … trust is underwritten by a strong government to enforce contracts and punish theft. Without such a government, cooperation would be nearly impossible and trust would be irrational". If formal institutions enforce private agreements and laws more effectively, trust and adherence to civic norms among private citizens may be strengthened. A strong legal system will reduce transaction costs, making trust less risky (Uslaner 2003). For example, in a community where criminal behaviour is effectively persecuted, individuals will trust more because they will feel more protected against extreme non-cooperative behaviour.

The institutional determinants of trust are intensively studied by political scientists, whose basic argument is that democratic state can generate trust in people (Almond and Verba 1963, Inglehart 1999, Levi 1998, Offe 1999). Among others, Rothstein and Stolle (2003) provide a more detailed framework for studying the institutional determinants of social capital. They have developed an *institutional theory of generalised trust*, which states that contemporary political institutions are important determinants of social capital, and citizens draw distinctions between various institutions along at least two dimensions: they expect representatives of political, legal, and social institutions to function as their agents, and they expect impartiality and an unbiased approach from order institutions (see Figure 7). Based on these assumptions, Rothstein and Stolle (2003: 142–143) distinguish between the confidence in the institutions on the representational (parties, parliament, cabinets) side and implementation side of the political system – the latter being especially important in generating institutional trust. Further the authors specify four causal mechanisms from impartial, unbiased and un-corrupt institutions to generalised trust. More specifically, trust in institutions determines how citizens experience feelings of safety and protection, how citizens make inferences from the system and public officials to other citizens, how citizens observe the

behaviour of fellow-citizens, and how they experience discrimination against themselves or close others (Rothstein and Stolle 2002: 27).

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                    ┌─────────────────────────────────┐
                    │ Structure of everyday bureaucracies │
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Structure of everyday bureaucracies

Effectiveness

Fairness and bias

Determines the effectiveness of state institutions to punish those who violate rules and cooperation

Determines whether institutions function in an impartial way or not

Trust in institutions

Trust in institutional effectiveness

Trust in institutional fairness

Experiences of safety or insecurity with others

Attitudinal extensions to everyone else (generalisation)

Actual behavioural influence on fellow-citizens (and themselves)

Actual experience of discrimination or fair treatment

Generalised trust in other people

Figure 7. Causal mechanisms between institutions, institutional trust and generalised trust (adapted from Rothstein and Stolle 2002: 29)

An influential institutional factor related to social capital is *corruption*. However, although several studies have examined the significant and strong correlation between corruption and social capital, at the theoretical level the direction of causality is less clear than the immediate association. Corruption may be lower as a cause of higher levels of honesty and trust that others will conform to a given set of norms in society, but increasing corruption could also lead to less honesty and trust in fellow citizens by way of signalling that honesty often does not pay (Paldam and Svendsen 2002). Uslaner (2001) and Bjørnskov (2003) suggest that the level of corruption is decreasing in measures of generalised trust, monitoring effort and income, while the evidence of the reverse causal direction (from less corruption to higher levels of social capital)

is weak. Bjørnskov (2003) and Paldam (2002) substantiate these findings by showing that changes in social capital are a cause of corruption trends. Contrary to that, Svendsen (2003) hypothesise that corruption would lead to a lower level of trust and hence slow down economic growth, while the main cause of higher level of corruption is power centralisation in a political system, which increases monopoly power status of bureaucrats. Thus, political systems with heavy power centralisation, such as those identified in Eastern Europe before 1989, are more likely to destroy the presence of trust in society and hinder economic growth (*ibid*).

As opposed to individual-based model of social capital generation, Uslaner argues that generalised trust is not based primarily on personal experiences – either in one's financial status or in life more generally, but it does have a basis in collective experience (Uslaner 2002). It is not wealth but *economic and social inequalities* that play a key role in creating and destroying social trust[7]. Firstly, optimism for the future makes less sense when there is more economic inequality. Secondly, distribution of resources plays a key role in establishing the belief that people share a common destiny and have similar fundamental values (*ibid*). In highly unequal societies, there is lower generalised trust, people will stick with their own kind and social networks are thus predominantly closed – altogether this increases the social distance between the rich and the poor. Further, perceptions of injustice will reinforce the negative stereotypes of other groups, making trust and cooperation more difficult (Boix and Posner 1998).

Social inequalities are closely related to *social polarisation*. Polarisation by definition implies greater distances between preferences of individuals in a society. Through various channels, polarisation can erode trust and weaken cooperative norms. For example, individuals and groups in polarised society have a greater incentive to renege on policy agreements (Knack and Keefer 1995). When policy coalitions are unstable, trust relations among individuals often break down, making thus self-enforcing agreement more difficult to make. Polarisation can also increase rent-seeking activities that undermine trust. Knack (2002: 778) points out that larger states tend to have more numerous and diverse interests – economic and otherwise – potentially making it more difficult to arrive at a consensus regarding taxation, expenditure, public investment, and human resource policies. The main sources of these polarised preferences are racial heterogeneity and income inequality. Polarised interests may also be greater where states' populations are split roughly evenly between supporting either of the two major parties.

The view that economic and social inequalities influence the level of social capital is also widely supported by the empirical evidence. For example, Alesina and Ferrera (2004) find on the basis of individual level data from US

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[7] For more extensive literature on this topic, see, for example, Easterly ja Levine (1997), Boix and Posner (1998), Knack (1999), Easterly (2001), Whiteley (2000), Uslaner (2002), Bjørnskov (2003), Alesina and Ferrara (2004).

localities that one of the strongest factors associated with low trust is living in a racially mixed community and/or in one with a high degree of income disparity. Knack (1999) has noted that relatively high income inequality and high poverty rates appear to weaken individual incentives to cooperate and act collectively. Zak and Knack (2001) have shown that trust falls when there is wage discrimination based on non-economic factors. Platteau (1994) discusses the examples of the importance of religious and linguistic homogeneity in facilitating trade in West Africa. Delhey and Newton (2005) have shown that high-trust countries are characterised by income equality, ethnic homogeneity and good government.

The distribution of economic well-being depends on the characteristics of *welfare regimes*[8]. It has been shown that selective and needs testing welfare states may destroy social capital, while universal welfare states (like the ones in Scandinavian countries) are able to foster the diffusion of social trust, and therefore the accumulation of social capital (Stolle 2002, Torpe 2003, Rothstein and Kumlin 2005). The cross-national study by van Oorschot *et al.* (2005) confirmed that at the individual level, it does matter for people's social capital in which type and size of welfare state they live. According to Sabatini (2004), these results are consistent with the assumptions of the social psychology field of research called *procedural justice*. Studies in this field have shown that people are concerned not only with the final results of personal contacts with public institutions, but they are also interested in whether the process that eventually led to the final result was fair. In general, if people do not suspect to have been threatened unfairly by public institutions, they have a reason to trust public institutions. If public institutions can be trusted, people dealing with them can be trusted too. As such, we can extend trust from vertical interactions (with the public sector) to horizontal ones (strangers). (Sabatini 2004: 5–6)

The impact of inequality on generalised trust further depends on people's tolerance of inequality, implying that it is not the real policy against inequality that matters, but people's subjective perception about how this policy relates to their interests. Bjørnskov (2004: 7) states that "… poor people believing that income inequality is a choice variable of some group that defines the income distribution in people's mental representation of society may come to perceive their own relative poverty as a signal of non-cooperative behaviour of those richer than themselves, which undermines trust across income groups". On the other hand, if mass public believes that distributive policies take account of their interests, there would be no negative effect of inequality on social trust. From the standpoint of politicians (who earn usually more than a median voter), however, there is usually no direct need to pursue higher trust among different income groups. This opinion is also expressed in median voter theorem, which indicates that politicians will introduce various schemes to redistribute income

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[8] Welfare regimes are typically classified according to the level of transfers and social expenditure, political regimes and family policy systems. For more detailed analysis of the types of welfare states, see, for example, Esping-Andersen (1990), Rothstein (2001).

to the extent that the median voter has preferences for higher equity and thus has low tolerance of inequality (*ibid*). Uslaner (2002: 86) explains this phenomenon as follows: "… if you believe that economic stratification is justifiable, then you have no need to trust those below you on the economic ladder". The last argument relies, of course, on the assumption that a person would most likely never come to belong to this lower population segment.

Table 8 summarises the individual-level and aggregate-level determinants of social capital, which can be partly gathered under common categories like the development level of the economy and society, institutional factors, exogeneous historical factors and past experiences, heterogeneity, and others.

Table 8. Summary of the determinants of social capital

Individual-level factors	Aggregate-level factors
Level of development	
• Personal income • Personal level of education	• GDP per capita • Aggregate level of education • Democratisation
Institutional factors	
• Individual culture and traditions • Religious beliefs	• Legal institutions of the community, including how much trust there is in the community • Religious doctrine
History and past experience	
• Recent personal history of misfortune – if an individual has been hurt in past interactions with others he may trust less	• History (path-dependence) • Past collective experience of discrimination associates with less trust
Homogeneity and equality	
• People tend to trust more the people who are more similar to them (in terms of racial or ethnic characteristics) • Similarity of lifestyles and socioeconomic characteristics increases some types of social capital (homophily)	• Social capital is lower in communities, which are less homogeneous in terms of racial, ethnic or religious composition and in communities with higher income inequality
Stability and other characteristics of social structure	
• Mobility, migration • People who have lived longer in a community may be more likely to trust • Physical distance (town size)	• Stability of social structure – the more stable and less 'transient' a community is, the higher is trust • Closure of social networks
Other	
• Sense of optimism • Socio-demographic characteristics (age, gender, nationality, etc)	• Interest in society's developments • The spread of post-materialist and individualistic values in the society

Source: compiled by the author.

Concerning the possible differences between the determinants of social capital in WE countries and CEE countries, most previous analyses have paid no attention to these possible differences, with a few exceptions. The analysis of Fidrmuc and Gėrxhani (2005) reveals that the stock of social capital at the individual level (assessed through formal and informal networks on the basis of Eurobarometer survey data from the beginning of 2000s) is affected by very similar factors in both of these groups of countries. Their empirical analysis has shown that there are no differences between the old and the new members of the European Union concerning the effects of various determinants on social capital. The results of Bartkowski and Jasińska-Kania (2004) are roughly the same, but their sample and number of indicators included is smaller.

Differently from these two studies, the findings of Kaasa and Parts (2008) provide support for the argument that the individual-level sources of social capital (the latter was measured by five distinct dimensions) are different in CEE and WE countries. However, no solid conclusions can be made on the basis of so few studies. The possible differences between these different country groups concerning the sources of social capital are re-examined in the empirical part of the dissertation.

Generating social capital: possibilities and policies
After analysing the possible sources of social capital, the question arises whether it is possible (or desirable) to encourage social capital investments from the part of individuals, or influence social capital formation by any policies. The views in this question could be divided into three categories:

- *Individual-level approach* to social capital assumes that individuals deliberately invest their time and money in social capital with expected future returns in the form of material welfare, social status and power (Coleman 1990, Lin 2001, Glaeser *et al.* 2002, Bourdieu 2003).
- *Society-centered approaches* of social capital assume that the capacity of a society to generate social capital among its citizens is determined by its long-term experience of social organisation anchored in historical and cultural experiences that can be traced back over centuries (Banfield 1958, Putnam *et al.* 1993, Fukuyama 1999).
- *Institution-centered approach* responds that for social capital to flourish, it needs to be embedded in and linked to formal political and legal institutions (Tarrow 1996, Berman 1997, Levi 1998, Hall 1999, Rothstein and Stolle 2002).

Leaving aside past history as a factor which is not possible to influence, next discussion concentrates on individual investment decisions and the role of the state in social capital generation.

At individual level, social capital can be seen as the direct result of investment by actors who have the aim of receiving a return on their investment. This approach is similar to traditional physical and human capital investments with decreasing discount rate. Durkin (2000) has developed a simple model of

social capital accumulation in which households acquire social capital by devoting resources to forming relationships with other households. Through these relationships, the households acquire access to social resources, which raises utility for any level of consumption. However, investment in social capital reduces consumption because the time devoted to social interaction reduces the time spent on working. The optimal share of resources devoted to social capital investment equates the utility loss from foregone consumption to the utility gain from higher social capital in the future (Durkin 2000: 3). The stock of social capital in which individuals invest in depends, most of all, on several socio-economic factors. Glaeser *et al.* (2002) have shown empirically that working-age people invest more in social capital than younger and older people. However, this result contradicts the assumption that basic resources for social capital generation are time and one's free will, as younger and older people have usually more time for everyday socialisation. Lack of time, together with inevitably increasing competition between employees and also employers (as a result of deregulation and decreasing social security), is considered to be one of the most important factors behind the decreasing social capital in market economies. Among other factors that could affect the creation and destruction of social capital at the individual level, the most important are the factors which make persons less dependent on one another, like affluence or official sources of support (i.e. government aid of various sorts) in times of need. (Coleman 1990: 321; Putnam 1995, 2000) As such, the transition to market economy, on the one hand, increases the economic efficiency and material welfare, but on the other hand, these positive effects could not compensate the subjective welfare loss related to the increasing time deficit (Carroll and Stanfield 2003: 401).

Other examples of direct investments into social capital comprise meso (group, organisation) level, including business organisations created by the owners of financial capital for the purpose of earning income for them (like rotating credit associations or district-based industrial firms) and voluntary associations (like PTA-s, church groups and others), which produce public goods (Coleman 1990, Putnam *et al.* 1993). Although these examples contradict with a traditional approach to social capital, which considers it as a by-product of activities undertaken for other reasons, it could be argued that cooperation for private benefits (including business and politics) also teaches social communication, reciprocal trust and the importance of following common norms, being thus a source of social capital. Probably, the most widely studied field of social capital generation at meso level observe arise and performance of self-organised resource governance systems, which create their own rules in local settings to cope with a variety of private and public problems. For example, many case studies have analysed how a group of farmers creates rules to allocate the benefits and costs of building and operating their own irrigation system (Ostrom 1999: 172–178).

Despite the above examples of generating social capital by voluntary investments of individual and corporate actors at the aggregate level, such private investments in social capital are usually insufficient, referring to the public goods aspects of social capital and thus to the need of the state (government) policies for generating social capital. Yet, the dominant view is that states do not have many obvious levers for creating social capital, as it is frequently a by-product of religion, tradition, shared historical experience and other factors that lie outside the control of any government (Fukuyama 2001: 10–11). Still, policymakers need to be aware of already existing forms of social capital, and that some of these can produce negative externalities and be detrimental to the larger society. The area where governments probably have the greatest direct ability to generate social capital is education. Although the precise mechanism is not clear, this idea partly relies on the notion that schools impart good standard of behaviour, help to socialise young people and enable them to engage in society by virtue of being better informed (Fukuyama 2001: 18; Denny 2003). Empirical evidence also proves that investments into education have positive impact on the stock of social capital. Hereby, the importance of labour market structure should be stressed – investments into social capital are higher in positions where the returns to social skills are higher (Glaeser *et al.* 2002).

Further, states can indirectly foster the creation of social capital by efficiently providing necessary public goods, particularly property rights and public safety (Paldam 2000). In a stable and safe environment for public interaction and property rights, it is more likely that trust and cooperation will arise spontaneously as a result of iterated interactions of rational individuals. Developing such environment could be based on democratisation, which guarantees higher institutional trust. Finally, moderate redistributive policies could favour the generation of social capital through decreasing corruption and increasing social cohesion. However, the last statement has been heavily criticised – although income redistribution increases the welfare of the poor, it may be perceived to be unfair from the side of wealthy people, whose contra-actions in favour of their vested interests could increase the corruption and negative social capital. This opinion is consistent with Fukuyama's (2001) more general notion that states can have serious negative impact on social capital when they start to undertake activities that are better left to the private sector or to civil society.

Another example of the possible harmful effect of direct interference with the generation of social capital (together with human capital) concerns government training programs to bring more lone parents into the workforce or create more dual-earner households. On the one hand, such policies may reduce unemployment, increase output and raise gross household earnings in the short term (Schuller 2000). On the other hand, Coleman (1988) and Putnam (2000) identify the growth in dual earner households as one factor behind the decline of social capital – families with high human capital and high net earnings may

nevertheless be low in social capital because there is little time for social interaction within the family and between the family and other social institutions. As socializing is positively related to person's subjective well-being and life satisfaction (Arts and Halman 2004), a decrease in voluntary activities and informal social participation (which could, however, be partly replaced by social relations at workplace) may increase emotional stress and diminish one's working capacity. As a result, such negative impact on social and family ties and especially on children's social upbringing may outweigh immediate material gains, both for the families concerned and for the wider society.

Taken together, it appears that theoretical possibilities for increasing the stock of positive social capital and decreasing the negative forms of it are often not applicable in practice. While many determinants of social capital (like history, past experience, and some socio-demographic factors like age) could not be manipulated, affecting others would mean struggling against the logic of economic development. For example, it is probably not possible to stop the prevalence of market economy and related increase in individualistic competition and migration, which makes social structures fragile and unstable. The remaining best applicable possibilities for social capital generation, which are based on the above discussion, include democratisation and increasing general interest in society, higher quality of governance, investments in human capital and probably some levels of income redistribution.

1.2. Relations between social capital and economic growth

1.2.1. Incorporating the concept of social capital into economics: general issues

Although the attempts to implement social capital concept into economics started at the same time as in other social disciplines (e.g. sociology, psychology and politology), its rooting has been somewhat troublesome, as the concept contrasts with several conventional assumptions and ideas of neoclassical economics. As such, the concept has raised a lot of criticism (see, for example, Fine 2001 and Harriss 2002), which can be generalised as follows. First of all, social capital theory contradicts the idea of rationality, which assumes that individuals calculate cost and benefits of each transaction, but do not take into account relational aspects of economic exchange (Wilson 1997). Also, serious critics hits combining the terms "social" and "capital", which is argued to lead to meaningless term meaning "nothing or everything" at the same time. More concretely, it is said that social capital is not consistent with the traditional meaning of the term "capital". Finally, it has been argued that social

capital theory does not provide any new solutions to economic problems, as compared to known market and government regulations. The purpose of this subchapter is to reply to this criticism. Firstly, general problems related to the inclusion of social capital into economic theory are discussed. Secondly, the issue of rational behaviour in the context of economic and social exchange is discussed. Thirdly, the specific role of social capital in solving economic problems is highlighted. Fourthly, the question about whether social capital is consistent with the traditional term of capital is addressed. Taken together, this subchapter forms the basis for understanding the relations of social capital with other economic concepts and highlights the value of social capital in solving different economic problems.

Social capital in economics – instrumental and functionalistic view
Most fundamental critiques of the social capital concept are levelled against its integration into economic theory, which can be either instrumental or functionalistic. The instrumental view treats social capital as an individual preference and analyses its accumulation by comparing costs and benefits, assuming that individuals will accumulate more social capital as long as the marginal returns on their investment are positive (van Staveren 2003). This view disregards the feature of social capital that it is not an individual asset but locates in social relations, therefore the investment into SC by one depends also on others. Social network cannot be created by one individual, and an existing network may not function as a mediator of useful resources if network members are passive (Coleman 1990, Baron *et al.* 2000). Also, the instrumental view of social capital disregards the intrinsic motivation of social relationships (Streeten 2002; Schmid 2002). For example, friendship or church membership may offer simply pleasure and enjoyment, similarly as education can be pursued not in order to get higher wage but for better understanding of the surrounding world. However, these direct positive effects of social relations do not preclude indirect effects on economic development. On the contrary, socially active and contended persons are usually healthy, have higher productivity and do not need social support from the state, thus leaving more public resources for achieving economic objective. The functionalistic view of social capital reflects the idea of social capital as a resource or a mechanism to address market failures, thus focusing only on the effects of social capital (van Staveren 2003). However, this view tends to disregard both the sources of social capital and the causal mechanisms leading to economic benefits, and it also ignores the possible negative effects of social capital at aggregate level. As a response to this critic, an integrated framework is developed and applied in this dissertation (see subchapter 1.3.2) which comprises simultaneously the analysis of the sources and economic effects of social capital.

Economic rationality and social rationality

Concerning basic assumptions made in neoclassical economics, there is a traditional view that human beings behave rationally in any given circumstance and that human behaviour can be predicted and quantitatively analysed. This self-interest hypothesis assumes that all people are exclusively motivated by their material self-interest. However, sociology has a history of critical engagement with this position, suggesting that people act in the context of the structural forces that constrain them (Franklin 2003: 351). Also, many influential economists (including Smith 1759, Becker 1974, Arrow 1981, North 1990, Sen 1995) have pointed out that people often do care for the well-being of others – in other words, that they have social preferences. Most important types of social preferences include the preference for reciprocal fairness, inequality aversion, and pure altruism. Taking into account the heterogeneity of motives (including purely selfish ones) at the individual level, the question arises how these different individual motivations interact and what is the dominating effect at aggregate level. Fehr and Fischbacher (2002) claim that it is the preferences for reciprocal fairness that shape the functioning of competition, govern the laws of cooperation and collective action, and have a decisive impact on how material incentives are constituted and how they function.

The issue of rationality and different types of preferences is closely related to economic activities based on various exchanges[9], containing both economic and social elements. According to Weber (1947: 111–115), exchange is social in that the relationship can be seen as interactions in which the action of one actor during the process takes into account the action of the other actor(s). Coleman (1990: 134–135) defines social exchange as a means by which actors with differential interests and controls over resources or events negotiate with each other to maximise their control over interested resources. The basis of such negotiations may be, for example, the relative value of the resources they control, or power. Table 9 clarifies the characteristics, which make a difference between economic and social exchanges.

The analysis of economic exchange typically proceeds from transactional rationality, where the purpose is to gain economic capital (resources) through transactions. The utility of such exchange is to optimise transactional profit, and the rational choice is based on an analysis of alternative relationships producing varying transactional gains and costs (Lin 2001: 154). Social exchange, on the other hand, is based on relational rationality where the motivation is to gain reputation through recognition in networks and groups, and the utility of an exchange is to optimise relational gain (maintenance of social relationship) – also an analysis of gain and cost (*ibid*: 155–156). Both transactional and relational rationalities are socially based: without the legitimation and support of a social and political system, the economic system, based on its symbolic and generalised medium, money, simply cannot exist (Coleman 1990: 134–135).

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[9] Exchanges can be defined as "a series of interactions between two (or more) actors in which a transaction of resources takes place" (Lin 2001: 143).

Table 9. Rationality of economic and social exchange

Element	Economic exchange	Social exchange
Exchange focus	Transactions	Relationships
Utility (optimisation)	Relative gains to cost in transaction	Relative gain to costs in relations
Rational choices	Alternative relations Transactional cost and reduction	Alternative transactions Relational cost and reduction
Episodic payoff	Money (economic credit or debt)	Recognition (social credit or debt)
Generalised payoff	Wealth (economic standing)	Reputation (social standing)
Explanatory logic	Law of nature − Survival of the actor − Optimisation of gains	Law of humans − Survival of the group − Minimisation of loss

Source: adapted from Lin (2001: 155).

How much of this relational rationality is taken into account in traditional economic theory? Rational choice theory assumes that an actor will choose a transaction to maximise his or her profit, but certain assumptions of this profit-seeking theory (a perfect market, full information, and open competition) are not likely to be met in reality. Therefore neo-classical economists have proceeded to specify institutions or conditions (bounded rationality, transaction costs) under which profit-seeking behaviour may be moderated (Williamson 1975, North 1990). Still, relational aspect of exchange has not been taken into account very seriously. Most neo-classical economists treat relations only as the necessary "transaction cost" or "calculative trust" in an imperfect market and under the condition of incomplete information (Lin 2001: 147). In reality, there are rational principles other than the individual profit-seeking motive, as human beings need also social approval, esteem, liking, attraction, and trust. All these social welfare aspects are connected to outcomes of social capital at individual level.

From previous discussion, it can be concluded that the social capital paradigm does not alter or contradict the basic economic theories of exchange. While accepting that selfish preferences motivate many actions, it adds that sympathy and the desire to consume socio-emotional goods[10] are also powerful motivators in transactions, as such immaterial goods satisfy essential human needs similar to material ones. Socio-emotional goods will be exchanged for physical goods and services mainly in non-market transactions, e.g. volunteering. Empirical evidence shows that the price in such exchanges is not solely determined by market conditions, but depends also on the nature of

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[10] Socio-emotional goods – or what Becker (1974) called 'social income' – are expressed emotions between persons that validate, express caring, or provide information that increase self-awareness and self-regard (Robison and Flora 2003: 1188).

relationship between partners (Robison and Flora 2003). Further, socio-emotional goods are objects of choice that influence the allocation of resources. People exchange socio-emotional goods in nearly all interpersonal transactions – thus, the study of social capital has application in all the sciences where interpersonal transactions are important.

Importance of social capital in economy and society
According to the theoretical literature, the main importance of social capital in economy and society as a whole lies in following:
1) social capital helps to regulate the allocation,
2) it helps to solve collective action problems by facilitating cooperation,
3) social capital reduces transaction costs and thus increases the efficiency of market relations.

Possible alternatives to regulate allocation of resources and goods in the society could be divided into individualistic and collective dimensions and can be based either on freedom or enforcement (see Table 10). It should be noted that most of these alternatives are related to the different aspects of social capital, with an exception of the free market. However, market allocation based solely on free choice usually does not guarantee the best solution for allocating public goods, as individually rational behaviour will not lead to collectively optimal outcomes. Probably, the oldest and most well-known solution to collective action problems is the Hobbes' Levithan or more generally, third-party enforcement, which mostly appears in the form of government coercion (Brehm and Rahn 1997).

Table 10. Alternative regulators of allocation

	Freedom	Enforcement
Individualistic dimension	Free choice (market)	Formal norms and rules
Collective dimension	Caring, reciprocity	Informal norms, rules, traditions

Source: Kaldaru 2006: 37.

However, coercive enforcement is expensive, and impartial enforcement by trustworthy third party is itself a public good, subject to the same basic dilemma that it aims to solve (Putnam *et al.* 1993: 165). Thus, as the need to monitor government is a second-order collective action problem, to which government coercion cannot be the solution, there must be social mechanisms that generate voluntary action by a sufficient number of citizens to prevent or deter public officials or narrow interests from exploiting governmental resources and power for their own purposes (Knack 2002: 773). Also, if government officials are broadly representative of the populations from which they are drawn, they may

require less monitoring in the first place in higher-trust states with a widespread sense of civic responsibility.

Based on the above, it can be said that societies are better off (i.e. better able to solve collective action problems) when their members cooperate with one another in order to achieve common goals. Individuals, however, face incentives to behave selfishly, seeking the benefits of cooperation without paying the costs. When humans face social dilemma or collective action situations with a wide diversity of potential equilibria, they may easily follow short-term maximizing strategies that leave them all worse off than other options available to them (Ostrom 1999: 176). Well-known examples include prisoners' dilemma situations where every party would be better off if they could cooperate, but in the absence of a credible mutual commitment and sanctions against defection, each individual has an incentive to defect and become a "free rider" (Putnam *et al.* 1993: 163, Paldam 2000: 637–639). In more complex contexts, like modern government and modern markets, the complication of monitoring will be added. As such, both accurate information and reliable enforcement are essential to successful cooperation. Basic alternative to Hobbesian solution is voluntary cooperation, which is usually cheaper than third-party enforcement. For better outcome, participants must find ways of creating mutually reinforcing expectations and trust to overcome the short-run temptations they face. It is necessary not only to trust others before acting cooperatively, but also to believe that one is trusted by others (Gambetta 1988: 216). Game theorists generally agree that cooperation should be easier when players engage in indefinitely repeated games, so that a defector faces punishment in successive rounds. In case of single-shot games, there is a view that voluntary cooperation is easier in the community that has inherited a substantial stock of social capital in the form of norms of reciprocity and civic engagement (Putnam *et al.* 1993).

Critics argue that there are multiple mechanisms other than generalised trust that might help to facilitate cooperation and collective action (see Figure 8). However, even with these alternative mechanisms, there are several reasons why generalised trust remains an important ingredient of social capital. Firstly, modern societies are particularly transaction-rich and bargaining-rich, and many of these transactions increasingly involve people whom we do not know. Secondly, increasing spatial and social mobility, growing role segmentation (as a result of increasing division of labour) and growing communication make social interactions more fluctuating, more situation-specific and much more diversified. As such, it is impossible to regulate all aspects of social and economic transactions by formal rules. (Fukuyama 2000, Stolle 2002) Thirdly, results of laboratory experiments often show that people cooperate more than they should (even with strangers), according to standard assumptions of individual rationality. In other words, social capital can be seen as the excess propensity to play cooperative solutions in prisoners' dilemma games (Paldam 2000: 629). This all suggests that coordination and cooperation based on

generalised trust and informal norms remains an important part of modern economies, and arguably becomes more important as the nature of economic activities becomes more complex and technologically sophisticated (Fukuyama 1999, 2000). Also, it should be noted that social capital can both complement and substitute other determinants of cooperation, implying that trust and formal rules should not be in conflict with each other.
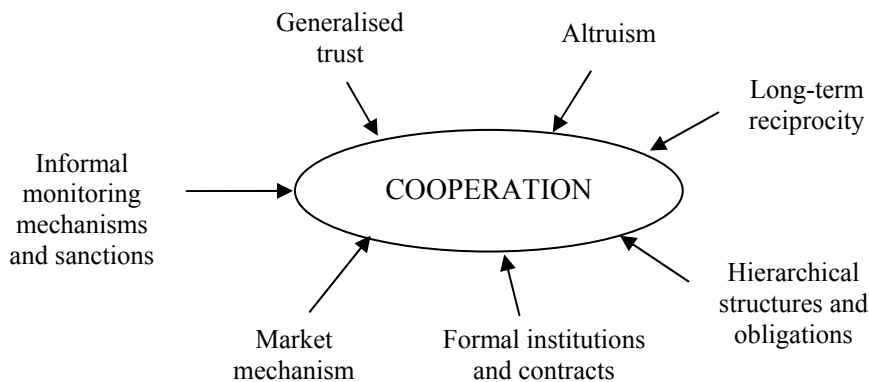
Figure 8. Multiple mechanisms that facilitate cooperation (Source: compiled by the author on the basis of Stolle 2002).

Besides better capacity for collective action, social capital produces its economic benefits also in private sector by reducing transaction costs[11] in economic exchanges. While neoclassical economic theory largely ignored transaction costs, in globalizing world it is not possible any more, as growing specialisation increases both the amount of transactions and related costs. Because it is often impossible to decrease the amount of transactions, one should look for other alternatives of how to control transaction costs. New institutional economics (Williamson 1975, North 1990) states that transaction costs can be reduced with the help of formal institutions. However, as it was shown above, formal regulations are usually expensive and their trustworthiness can not be automatically guaranteed. As an alternative, Putnam *et al.* (1993: 166–167) suggest cheaper and more "soft" solutions in the form of different types of social capital. More specifically, social capital improves information flows that lower ex ante transaction costs and enhance innovation, while more

[11] Transaction costs include (a) direct costs of obtaining the information, negotiating among the parties and communicating, and (b) indirect costs arising from the possible opportunistic behaviour and including those of monitoring and enforcing the terms of the contracts (Lin and Nugent 1995). About the role of transaction costs in the context of economic problem-solving, see Rao (2003).

effective and cheaper contract enforcement lowers ex post transaction costs and better informal mutual insurance that lowers risk premiums (Narayan and Pritchett 1997). Social capital can also lead to a better synergy with outside actors, including government, civil society organisations and enterprises.

Social capital as "capital"
A remarkable part of the criticism of social capital concept, especially concerning its implementation into economic growth models, is related to the question whether social capital fulfils the traditional characteristics of capital. In prevailing literature, the notion of capital is usually traced back[12] to Marx (1867/1995), who saw capital as a part of the surplus value, but also as an investment process in which the surplus value is produced and captured. Following this explanation, social capital could be defined as an "investment in social relations with expected returns in the marketplace" (Lin 2001: 19). In contemporary economic analysis, capital is generally defined as a produced means of production or stock of different capital goods (Hennings 1991). It is thus consistent with this usage to define social capital instrumentally as a social resource, which produces socio-emotional goods, job opportunities, democracy and better governance.

During the time, the concept of capital has broadened from material (natural and physical capital) to immaterial neo-capital theories, from something belonging to individuals to common social resource. Neo-capital theories include human capital theory (Smith 1937/1776, Johnson 1970, Becker 1964), cultural capital (Bourdieu 1972/77, 1985, 2003) and also social capital theory, which all withdraw from material aspects of capital and instead emphasise the interplay of individual actions and structural positions in the capitalisation process (Lin 2001). Social capital has most in common with human capital theory, which focuses on the way how individuals' accumulation of knowledge and skills enables them to increase their productivity and earnings. However, although individual-level benefits of social capital are similar to those of human capital and both capitals seem to be embodied in people, there is the critical difference between these two forms of capital – while human capital refers to individuals, social capital refers to connections among individuals and the social networks and the norms of reciprocity that arise from them (Putnam 2000: 19).

According to the conventional definition of capital, if social capital is capital, it should be able to accumulate through investments and it must depreciate when used. In addition, the value of capital can usually be expressed in money terms and it can be used both as a substitute and complement to other resources. The following discussion explains how social capital resembles or differs from other types of capital in these aspects.

As regards the accumulation of social capital, Coleman (1990: 304) states that social capital is created when the relations among persons change in ways

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[12] For more thorough historical overview of the term "capital", see, for example, Hennings (1991).

that facilitate productive action. For example, a group whose members manifest trustworthiness and place extensive trust in one another will be able to accomplish much more than a comparable group lacking that trust. Similarly, mutual aid practices (like rotating credit associations) represent investments in social capital. As with conventional capital, those who have social capital tend to accumulate more (Putnam 1993: 169). Investments into social capital depend, most of all, on the opportunity cost of time and the expected return from the social capital (Grootaert 1998, Durkin 2000), as was discussed in the subsection 1.2.3 about the determinants of social capital. Compared to other forms of capital, investing in social capital is more risky as the time, form and amount of the returns are not clearly determined. For that reason, social capital must often be produced (unconsciously) as a by-product of other social activities (Coleman 1990; Putnam *et al.* 1993).

Concerning the depreciation, social capital is likely to be very persistent – even during the fast restructuring of the society (like transformation from planned to market economy), old norms and values are likely to stay unchanged. Like physical and human capital, social capital needs maintenance. In this respect, social capital belongs to what A. Hirschman has called "moral resources" – its supply increases rather than decreases through use and it becomes depleted if not used (Putnam *et al.* 1993: 169). For that reason, Putnam *et al.* (1993) expect that the creation and destruction of social capital is marked by virtuous and vicious circles. However, this property is also shared by other types of capital. For example, unemployment destroys human capital, unused agricultural land depreciates, and even idle production line olden (at least morally) (Kaldaru and Tamm 2003: 229). Still, like human capital but unlike physical capital, social capital does not have a predictable rate of depreciation. For example, although social capital can be destroyed by social changes (e.g. during transition from communism to democracy and market economy), the speed of these chances is unpredictable.

Further, like physical and human capital, social capital can both complement and substitute other forms of capital. As a substitute, actors can sometimes compensate for a lack of financial or human capital by superior connections. More commonly, social capital is complementary to other forms of capital, mainly because it improves the efficiency of other capitals by reducing transaction costs. When physical capital cannot operate over time without human capital, social capital is needed if physical capital is to be used productively by more than one individual (Ostrom 1999: 175). This partly explains why private entrepreneurs deliberately invest into social capital by creating networks and increasing employees' cooperative abilities.

The aspect in which social capital differs most from other types of capital is related to the possibility to express its value in money terms. By definition, all capital goods can be valued (even when they are not traded on markets), while "money value" of capital denotes the sum of money necessary to buy a specific stock of capital goods. In this respect, Fine (2001) argues that quantified

measurement of social capital is difficult or even impossible because of its intangibility. Still, opportunity cost of time needed to create and maintain social relations can be considered as a possible money measure of social capital. Also, like other forms of capital, social capital is productive, and many benefits that flow from social capital (e.g. higher income) can be measured.

Another special feature of social capital is that it is ordinarily a public good, unlike conventional capital, which is ordinarily a private good. This implies particularly to bonding social capital, while bridging social capital is closer to a private good. As the use of public goods is non-rivalrous, one person's use of social capital does not diminish its availability to others. But unlike pure public goods, the use of social capital is excludable, as others can be excluded from a given network of relations. (Adler and Kwon 2000: 25) Public good aspects of social capital are also related to more likely appearance of negative externalities (criminal organisations, self-interested lobby-groups, etc), compared to other forms of capital. But this does not disqualify it as a form of capital. Fukuyama (2001: 8), for example, draws parallels that "physical capital can take the form of assault rifles or tasteless entertainment, while human capital can be used to devise new ways of torturing people". The public good aspect of social capital also means that many of its benefits are experienced by other than by an investor. As a result, social capital (like all public goods) tends to be undervalued and undersupplied by private agents. However, even in this respect social capital is not entirely unique – for example, the utility of "network" goods like railways, telephones, fax, and email is also a function of the number and identity of other users (Adler and Kwon 2000).

However, despite the above approval, that the term "social capital" is consistent with basic characteristics of capital, there is a criticism from another angle, saying that it is not correct to add prefix "social" to capital. According to Fine (2001), doing this can be misunderstood as an assumption that some forms of capital are not social, or as it is possible to distinguish between economic and social side of production. Partly, this criticism is justified. First of all, capital is 'social' in historical sense, as its presence is related to the specific socio-economic system – capitalism – and becomes evident in class relations as a conflict between capital owners (capitalists) and employees (Sabatini 2004). In more general framework, it could be argued that all forms of capital are 'social', as their value (relative price) depends on the context of concrete society.

Summing up the above discussion, social capital seems to be an essential complement to the concepts of natural, physical and human capital. Most authors agree that although social capital's robustness as a conventional tool of analysis may be in question, its utility as a heuristic device is potentially great. As such, although the term 'capital' is in some aspects metaphoric, such metaphorical uses are very widespread (see Adler and Kwon 2000), giving no reason to exclude social capital from the models of economic growth.

1.2.2. The main impact mechanisms of social capital on economic growth

In economics, the usefulness of social capital is mostly seen as a factor that supports economic growth and development in several ways. The current dissertation focuses on the effect of social capital on economic growth. Although growth cannot be considered as an ultimate or most important goal of a society, it is still important for ensuring material resources for achieving other development objectives. When assessing the effect of social capital on economic growth, a distinction should be made between two different approaches. Firstly, social capital can be seen as a separate key production factor having direct effect on growth mainly through reducing transaction costs (Knorringa and van Staveren 2005). Secondly, social capital can also 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 this subchapter is to explain the logic behind these mechanisms which translate social capital directly into faster growth rates, while in the next subchapter 1.2.3 the indirect effects of social capital through human capital accumulation are discussed.

The expected positive relationship between social capital and economic growth is based on several causal mechanisms, main of which are outlined at Figure 9. The subsequent theoretical discussion of these mechanisms is divided along cognitive and structural dimensions of social capital, followed by common overview about the empirical results of previous studies.

The effect of cognitive aspects of social capital on economic growth
Most straightforward positive effect of social capital on economic growth is related to its ability to lower transaction costs and thus increase efficiency, as was explained in previous subchapter 1.2.1. In this respect, cognitive aspects of social capital – like general trust, reciprocity and common norms and values – are believed to be most influential. Firstly, economic activities that require some agents to rely on the future actions of others are accomplished at lower cost in higher-trust environments. According to Arrow (1972: 357, cf. Putnam *et al.* 1993: 171), "… virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence."
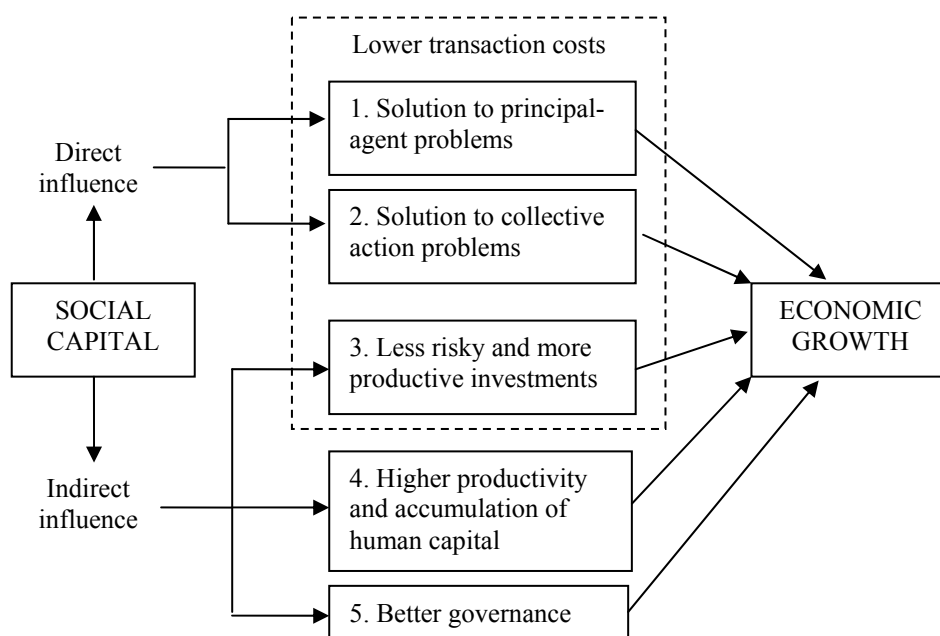
Figure 9. Influence channels from social capital to economic growth (Source: based on Knack and Keefer 1997 and Whiteley 2000, complemented by the author).

Trust-sensitive exchanges include, for example, those in which goods and services are provided in exchange for future payment, employment contracts in which managers rely on employees to accomplish tasks that are difficult to monitor, and investments and savings decisions that rely on assurances given by governments or banks that they will not expropriate these assets (Moe 1984, Knack and Keefer 1997). As such, trust helps to save resources (money and time) otherwise devoted to monitoring possible malfeasance by partners in order to protect themselves from being exploited in economic transactions, or to protect themselves (for example, through tax payments, bribes, or private security services and equipment) from violations of their property rights. Interpersonal trust as an imperfect substitute for government-backed property rights or contract enforcement is especially important if governments are unable to provide them. Lowering transaction costs becomes especially important also in large organisations and, in more general, in the globalizing world where economic transactions are increasingly taking place among unknown members with different cultural backgrounds.

Secondly, trust is an important prerequisite for cooperative behaviour and the successful solution for collective action problems. It suppresses free riding behaviour and allows for the voluntary provision of collective or public goods. For example, problems of allocating common pool resources (public water/ irrigation systems, etc) or dealing with malign externalities (such as smoke and

noise pollution) are likely to be easier in high trust societies (Ostrom 1990, Ostrom *et al.* 1994). This result is consistent with the Coase theorem (Coase 1990), which asserts that when transaction costs are low actors will be able to negotiate solution to collective action problems more efficiently than could be achieved by outside regulation. Rotating credit associations are another example illustrating how dilemmas of collective action can be overcome by drawing on external sources of social capital, for they "use pre-existing social connections between individuals to help circumvent problems of imperfect information and enforceability" (Putnam 1993: 169). Norms of civic cooperation together with internal (guilt) and external (shame, ostracism) sanctions act similarly to trust – they constrain narrow self-interest, leading individuals to contribute to the provision of public goods and thus improving allocative efficiency from a societal standpoint (Coleman 1990).

Thirdly, the level of trust appears to be important in conjunction with high level of investment (both domestic and foreign), as it reinforces the investment climate in the economy (Hjerppe 2000). High levels of social trust mean that society will be less risk-averse and this produces greater incentives to invest in both physical and human capital. Interpersonal trust can also 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). Further, social trust reduces the costs of fraud and crime, which in turn means that society does not have to invest so much in security and policing (Whiteley 2000: 451) – instead, the resources could be directed into productive investments. Empirically, it has been shown that convergence is more likely to work in societies of high levels of social capital. If country lags behind others in terms of technological progress, the diffusion of innovation of new techniques will be greatly facilitated by high levels of social capital (Whiteley 2000: 452). Low trust, on the other hand, can discourage innovation – if entrepreneurs must devote more time to monitoring possible malfeasance by partners, employees, and suppliers, they have less time to devote for innovation in new products or processes. Also, the efficiency of flatter management systems which have replaced the hierarchical chains of command of the classical taylorism is highly dependent on the social capital of the workforce, especially on trust between workers and managers. More specific examples of the importance of trust are innovations in high-tech industries, which are often dependent on the informal exchange of intellectual property rights, simply because formal exchange would entail excessive transaction costs and slow down the speed of interchange (Fukuyama 2000).

Besides direct positive effects on investments and innovation, trust also helps to foster cooperation in and between firms. Ring and Van de Ven (1992) have shown that informal, personal connections between and across organisations play an important role in determining the governance structures used to organise their transactions. Gulati (1998) has pointed to the fact that both transaction cost elements as well as social factors are relevant and

important in studying interfirm relationships and co-operation. Repeated ties between firms induce trust that helps to reach contracts for organizing subsequent alliances. Uzzi (1996) shows in a study on the apparel industry in New York that trust facilitates the exchange of resources and information that are crucial for high performance but are difficult to value and transfer via market ties (Beugelsdijk and Schaik 2005).

The effect of structural aspects of social capital on economic growth
As regards the function of structural aspects of social capital in reducing transaction costs and fostering economic growth, theory is less clear than with respect to trust and norms (Beugelsdijk and Schaik 2005). While trust and participation are closely related (see discussion in subchapter 1.1.2), one can assume that the economic effects of associational activity go partly through higher generalised trust – and thus through the same mechanisms as described above. This reasoning is attributable to Putnam, who argues that social networks generated through participation in local associations, voluntary organisations and groups open up channels for the flow of philanthropy and altruism, which, in turn, foster norms of individual and general reciprocity. Putnam *et al.* (1993, 2000) have also empirically shown that regions in which the regional government is more successful and the economy more efficient, are characterised by horizontal relations that both favored and fostered greater networks of civic engagement and levels of organisation in society.

Additionally, several independent mechanisms leading from informal socialising and participation in different types of networks to faster economic growth can be specified. In Coleman's interpretation, structural social capital facilitates economic exchange and coordinated action because social networks provide cheap and valuable information for economic decisions (Coleman 1990). One of the means of obtaining information is to use social relations that are maintained for other purposes. According to this reasoning, associations and networks complement the market in its allocation and distribution functions, thus helping to reduce transaction costs similarly to generalised trust. On the other hand, however, the efficiency of markets may undermine the existence of networks in the long-term. Grootaert (1998) notes that if the development path is supported by a solid court system and contract enforcement, large anonymous markets can be more efficient than networks, with gains for all participating economic agents.

Differently from cognitive social capital, structural social capital may also lead to negative economic effects when applied for narrow self-interests. In Bourdieu's and Coleman's view, social capital may facilitate economic transactions between individuals at the expense of excluding others. As such, it is not clear whether a high degree of social participation at the local level translates into a benefit for the wider society (Raiser *et al.* 2001). For that reason, many authors distinguish between different types of organisations, arguing that "bridging" networks are more likely having positive externalities to

the society as a whole, compared to the "bonding" ones. It is also believed that economic effects of participation depend on the frequency of social interactions, as more active fraternisation increases the probability of honest behaviour through reputation effect (Putnam 2000, Beugelsdijk and Schaik 2005).

In similar vein, Olson (1982) maintains that some social groups detract from growth by capturing a disproportionate fraction of nation's resources, or by restricting the economic progress of individuals. These types of organisations are "oriented to struggle over the distribution of income and wealth rather than to produce of additional output" (Olson 1982: 44). Such distributional coalitions hamper economic growth, for example, by lobbying for legislation to raise some wage or price, or taxing some types of income at lower rates than other income, or through cartelisation. As a result, resources would be diverted from productive activity to rent-seeking (see Olson 1982, Abramson and Inglehart 1994, Helliwell 1996, Rupasingha *et al.* 2002, Lyon 2005). According to Knack and Keefer (1997), the appearance of such negative effects is more likely in the case of so-called Olson-type organisations, which are related to political and professional spheres of life. On the other hand, such organisations play an important role in a pluralistic society – for example, parliamentary democracy couldn't exist without political parties. Also, empirical evidence has shown that positive effects of political and economic groups in solving social conflicts more than offset the negative effects of possible mercenary behaviour (Raiser *et al.* 2001).

Besides general effects on cooperation and efficiency, the spread of networks and associations influences innovative activities. As Putnam notes, "networks facilitate flows of information about technological developments, about the creditworthiness of would-be entrepreneurs, about the reliability of individual workers, and so on. Innovation depends on continual informal interaction in cafes and bars and in the street." (Putnam *et al.* 1993: 161) Based on this, it has been argued that norms of reciprocity and networks of civic engagement are essential for the success of 'industrial districts' – tight geographical clusters of highly specialised firms working in the same industry, which represent small-scale, but technologically advanced and highly flexible and productive economic structure. Decentralised, but integrated industrial districts constitute a contradictory combination of competition and cooperation – firms compete vigorously for innovation in style and efficiency, while cooperating in administrative services, raw material purchases, financing, and research (*ibid*: 160). Such regional clustering is advantageous, most of all, in the presence of positive spillovers (Krugman and Venables 1990). Recent empirical work in industrial organisation documents that spillovers are typically stronger for agents in geographical proximity to one another, and that important spillovers exist across industries as well as within them (Lyon 2005). The new growth theory shows formally how such spillovers can lead to sustained economic growth over time (see, e.g., Romer 1986, 1990; Grossman and Helpman 1991).

Empirical evidence about the impact of social capital on economic growth
Numerous studies have tried to reveal the impact of social capital on economic growth empirically. Table 11 gathers the details of most known and /or recent studies on this topic. However, when analysing the varying results of these studies, it should be recognised that they are heavily concentrated on the effects of general trust and formal participation[13], while other components of social capital have got much less attention.

There is little empirical evidence connecting trust and civic cooperation directly to economic performance. In earlier times, economic historians have documented cases where trust resulting from repeated interaction between parties was associated with expanded trade and economic activity (Knack and Keefer 1997: 1259). For example, Greif (1989) shows that the development of formal institutions that promote trust had a dramatic impact on the spread of long distance trade in the Middle Ages. Granato *et al.* (1996) finds a negative relationship between social capital and growth for high-income countries, but a positive relationship for low-income countries. Ostrom (1990) proves that cooperative and trusting individuals can build informal institutional arrangements for resolving common pool resources dilemmas in small-scale settings.

One of the most exhaustive studies is of Knack and Keefer (1997), who have found on the basis of 29 market economies over the period 1980–1992 that both trust and civic cooperation are associated with higher per capita income growth and investment levels. However, when investment's share of GDP was included as an independent variable, the social capital variables were no longer significant. Also, the relationship between trust and growth was somewhat weaker in the long run, which the authors explained by three low-trust countries that grew slowly in the longer period. In addition, trust and norms of civic cooperation were found to be stronger in countries with formal institutions that effectively protect property and contracts rights, and in countries that are less polarised along lines of class or ethnicity.

In more recent studies, Hjerppe (2000) relied on data of 27 countries and found trust as a component of social capital to be correlated positively with GDP per capita and its growth rate. Whiteley's (2000) study on 34 countries between 1970–1992 also proves that the impact of generalised trust on economic growth is at least as strong as that of human capital. Zak and Knack (2001) show that even controlling for various institutional aspects that facilitate investment and growth, generalised trust is still an important additional predictor of economic growth.

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[13] Also, the effect of formal institutions on economic growth is widely studied, but in the context of current dissertation formal institutions are not considered as a part of social capital.

Table 11. Overview of the empirical studies about the relationship between social capital and economic growth

Study (year)	Sample	Social capital variable(s) and sources	Dependent variable	Main findings
Helliwell and Putnam (1995)	20 regions in Italy	Composite of four indicators on community and political behaviour	Change in log GDP per capita 1950–1990	Civic index has strong and significant relationship to growth
Granato, Inglehart and Leblang (1996)	24 countries	Interpersonal trust (WVS)	Per capita growth 1980–89	Trust is positively and significantly related to growth
Helliwell (1996)	17 OECD members	Trust and an index of group membership	Total factor productivity growth	Trust and group membership are negatively and significantly related to productivity growth
La Porta *et al.* (1997)	40 nations	Generalised trust (WVS 1995)	Average annual growth in per capita GDP, 1970–1993	Trust has significant, but not strong relationship to growth
Knack and Keefer (1997)	29 market economies	Generalised trust, civic norms, average group membership (WVS 1980, 1995)	Average annual growth in per capita GDP, 1980–1992	Trust and norms have strong and significant relationship to growth, membership is not related to growth
Narayan and Pritchett (2000)	84 villages in Tanzania	Average group membership, character of groups, trust in groups	Income per person	Village social capital has highly significant relationship with average income
Whiteley (2000)	34 nations	Index derived from the factor analysis of three trust questions (general, family, fellow nationals)	Log of average annual growth in per capita GDP, 1970–1992	Trust index has a highly significant positive effect on growth

Table 11. Continued

Study (year)	Sample	Social capital variable(s) and sources	Dependent variable	Main findings
Hjerppe (2000)	27 countries	Generalised trust	GDP per capita and its growth rate	Trust has positive impact on GDP growth, while the impact of participation is insignificant
Zak and Knack (2001)	41 nations	Generalised trust (WVS 1980–1990, earliest available)	Average annual growth in per capita GDP, 1970–1992	Trust (and related institutional factors) have a significant positive effect on growth
Rupasingha *et al.* (2002)	3040 US counties	Average membership in Putnam-type and Olson-type organisations, ethnic fractionalisation, income inequality	Per capita growth of personal income, 1990–1997	Membership in both types of organisations has positive effect on growth; ethnic diversity has positive and income inequality negative effect on growth
Beugelsdijk and Schaik (2005)	54 European regions	Generalised trust, average membership in voluntary organisations (WVS 1990)	GDP per capita growth, 1955–1988	Positive relationship between economic growth and associational activity, while generalised trust was not related to growth

Source: Tomer 2008: 41–42, complemented by the author.

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Generalised trust can influence economic performance also through macro-political channels (Knack 1999). Empirical evidence shows that micro-level social capital can strengthen democratic governance (Almond and Verba 1963, Inglehart 1999), increase the efficiency and honesty of public administration (Putnam *et al.* 1993, Knack 2002), and improve the quality of economic policies (Easterly and Levine 1997). All these outcomes are related to better governance, which in turn fosters economic development.

Direct effect of participation on growth is widely studied on the example of rural setting, where stronger civic organisations open possibilities for local economic development that markets and political institutions otherwise cannot (are not able to) offer (Castle 1998). For example, the success (efficiency) of infrastructure projects (water- and irrigation systems, etc) financed by international donor agencies depends heavily on the level of local participation (Isham *et al.* 1997, Ostrom 1999, Stiglitz 2002). Also, Narayan and Pritchett (1996) found for a sample of Tanzanian villages that higher levels of associational memberships are related to higher incomes and better standard in schools. Temple and Johnson (1998), extending the earlier work of Adelman and Morris (1967), found that a composite index of "social capability" which was combined from several proxies for the density of social networks, performs well in predicting economic growth across several sub-Saharan African countries.

At the community level, several studies have linked social capital to migration. Portes (1995) and Light and Karageorgis (1994) have examined the economic well-being of different immigrant communities in the United States, showing that certain groups do better than others because of the supportive social structure of the community into which new immigrants arrive. For example, successive communities are able to offer new arrivals help with securing informal sources of credit, insurance, language training and job referrals. Massey and Espinosa (1997) have shown on the example of Mexican immigration to the U.S. that social capital is a better predictor of migration flows than are neo-classical and human capital theories. However, the analysis of Routledge and Amsberg (2003) show that higher labour mobility, although increasing efficiency, may decrease overall welfare because of cutting the pre-existing social ties and thus hindering cooperative behaviour.

The empirical analysis of the economic effects of group membership in more developed countries has roots in Putnam's work about Italian regions. Later works also focus on regional income differences, assuming that stronger civic organisations open possibilities for local economic development that markets otherwise are not able to offer. Putnam (1993) argues that the higher density of horizontal associations among people in Northern Italy explains the region's economic success relative to Southern Italy, where such associations are less frequent. Helliwell (1996b) found significant evidence that per capita GDP convergence was faster – and equilibrium levels of income are higher – in the U.S. and Italian regions with higher level of social capital. Helliwell and

Putnam (1995) show that regions of Italy with a more developed civic community had higher growth rates over the period of 1950–1990. Contrary to that, Helliwell (1996a) finds that trust and group memberships are negatively and significantly associated with total factor productivity growth in a sample of 17 OECD countries. Knack and Keefer (1997) also studied the effects of group membership on economic performance, finding that groups have no significant effect on economic growth, but some types of groups appear to retard investment (*ibid*). These results contradict Putnam's (1993) findings across Italian regions.

In more recent studies, Rupasingha *et al.* (2002) used the conditional convergence growth model in order to assess the contribution of differences in social and institutional variables on growth rates of per capita income for counties in the United States over the period 1960–90. Their empirical results indicate that, *ceteris paribus*, higher levels of social capital, as measured by organisational membership together with higher ethnic diversity and lower income inequality have a positive effect on economic growth rates. The same authors also give a broader overview of previous studies about the relationship between social capital and development both on cross-country studies and regional development literature. Beugelsdijk and Schaik (2005) present evidence that growth differentials in 54 European regions over the period 1950–1998 are positively related to social capital measured as associational activity. They also suggest that it is not the mere existence of network relationships that stimulates regional economic growth, but active involvement in these relationships.

However, while interpreting the above empirical results, the following aspects should be taken into account which makes it difficult to agree on a unified pattern of the economic effects of social capital. Firstly, when attempting to apply the concept of social capital to problems of economic development, the basic distinction should be made between correlation and causation. In many studies only simple scatterplots, correlations, or their multidimensional version in OLS regressions have been presented. This leaves the direction of causality unclear. Also, there might be a problem of omitted variable bias – it could be something else (like geography, institutions, education, etc.) that explains both low levels of social capital and under-development of an economy. Secondly, as different authors use different time periods, data sets and indicators of social capital, the comparisons of the empirical results are rather difficult. Thirdly, one must be cautious in gene-ralizing from successful examples, as the effects of social capital seem to be context-specific. As Portes and Landolt (2000: 537) point out, "instances of successful developmental outcomes driven by social capital have been preceded by protracted and unique historical processes requiring an evolution of years or decades." The same opinion is supported by Putnam's extensive study on institutional development in Italian regions (Putnam *et al.* 1993). Fourthly, social capital consists only of the ability to channel resources through social

networks, but not the resources themselves. As such, social capital is not a substitute for the provision of credit, material infrastructure, and education – although it can increase the yield of such resources (Portes and Landolt 2000: 547).

Summing up this subchapter, there are several causal mechanisms through which social capital helps to foster economic growth, both directly and indirectly. Most of these mechanisms work through reducing transaction costs – in societies with higher trust (which often arises from repeated interactions in voluntary organisations) and civic cooperation less resources should be devoted for acquiring information and monitoring contract partners, increasing thus efficiency by saving resources for productive purposes. However, empirical evidence shows that the different dimensions of social capital are not equally beneficial for economic growth. While most of the research has proved that cognitive aspects of social capital are associated with stronger economic performance, the effects of associational activity are more ambiguous. Positive effects of group membership appear mainly at regional level, while cross-country analyses usually do not show correlation between participation and economic performance. As an exception, in transition countries generalised trust seems to be not related to growth, while participation in civic organisations shows a positive correlation.

1.2.3. Relations between social capital and human capital

Previous subchapter 1.2.2 presented general explanations how social capital in its various forms and through various mechanisms helps to reduce transaction costs and thus increases economic efficiency and growth rates. This subchapter focuses on one specific and probably most influential indirect channel from social capital to economic growth, which works through human capital. The subsequent discussion first explains similarities and differences of the concepts of human and social capital, as they are often mixed up in the literature. This is followed by the description of the channels through which social capital influences human capital accumulation. Finally, some aspects of the process how human and social capital jointly determine development outcomes are clarified.

Similarities and differences between human capital and social capital
The concepts of social capital and human capital[14] are closely related. While analysing the similarities and differences between human and social capital, these two development factors can be viewed both as opposites and

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[14] The concept of human capital is related to good education and strong health, but most of the research in this field tends to focus only on the first aspect. As such, human capital is defined as the knowledge, skills, and experience of people that make them economically productive.

complements (Saraceno 2002). According to the first argument, human capital (based on individual achievement and competition) is a key for social success whereas social capital has only limited importance for narrow target groups (handicapped, minorities, etc). The second, dominant approach assumes that social and human capital reinforce each other's effect on economic growth, social control and support, health, and better governance. Shortly, an individual's achievements would be higher, if he or she both competed and cooperated with others through different networks and common value systems.

Both human and social capital can be seen as private and public goods, which yields appear both to individuals and to the broader society. Human capital and social capital also share the attribute that they are simultaneously consumption goods and an investment – both can be seen as an input into the development process, and also as an output of this process (Grootaert 1998). Education is worth pursuing for its own sake, and a well-educated population is an important outcome of successful development. Likewise, a rich network of civic associations and a well-functioning set of government institutions are worth having, independent of their effect on economic growth. However, despite these similarities blurring the distinction between social and human capital – as both to be embodied in people – is not correct. The critical difference between human and social capital is that education and health can be embodied in one individual and acquired by one individual regardless of what other people do. Social capital, on the other hand, can by definition only be acquired by a group of people and requires a form of cooperation among them (Grootaert 1998).

Coleman (1990: 304–305) explains the distinction between human capital and social capital by a simple scheme (see Figure 10), which represents the relations of three persons (A, B and C) – the human capital resides in the nodes, and the social capital resides in the lines connecting the nodes. The relative quantities of social capital depend on the reciprocity of the relations between actors, or on the closure of social network. According to Coleman (1990: 314–315), closed networks with reciprocal relations contain more social capital than open networks.

The same scheme enables to analyse the formation and role of social capital in family context, showing that social capital and human capital are often complementary. For example, if B is a child and A is his parent, then for A to further the cognitive development of B, there must be capital in both the node (human capital) and the link (social capital). In Figure 10, children B and C are in relations with their parent A but have no relations with one another. In this situation, A has more social capital (and related power) available than does either of the other actors (i.e. children). Further, while child C has a reciprocal (and thus more trustful) relationship with his parent, child B fights off his parent, making the transfer of parent's resources complicated.

(a) closure   *(b) no closure*
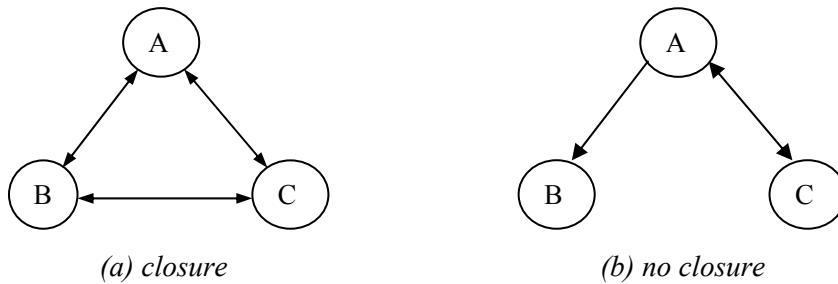
Figure 10. Three-person structure: human capital in nodes and social capital in relations (Source: Coleman 1990: 305; modified by the author).

Relations between social capital and human capital are further confused by Bourdieu's notion of cultural capital, which has by definition three broad forms – embodied, objectified, and institutionalised – all marked by socially recognised and constructed qualifications, including those formally given by education but also other forms of social attainment (Bourdieu 1983, Fine 2001). Following this idea, cultural capital has been considered as an aspect of human capital, something that an individual can accumulate over time through talent, skills, training and exposure to cultural activity (Matarasso 1999). On the other hand, cultural capital could be considered as a form of social capital, meaning that when a community gathers to share culturally (through celebrations, rites and intercultural dialogue), it enhances its relationships, partnerships and networks, i.e. social capital Gould (2001). Bourdieu himself notes that "… yield from educational action depends on the cultural capital previously invested by the family. Moreover, the economic and social yield of the education qualification depends on the social capital, which can be used to back it up." (Bourdieu 1983: 3) Summing up this discussion, in Bourdieu's view, social capital is important for realising the potential of human capital in the form of higher economic capital, status, power and related life satisfaction.

Schuller (2000: 14–16) presents broader framework for analysing the differences between social and human capitals, which includes – besides distinguishing between individual and collective focus – additional aspects related to the measurement, outcomes and modeling of both factors (see Table 12). Firstly, difference in focus means that, as noted already above, the acquisition, deployment and effectiveness of skills depend crucially on the values and behaviour patterns of the contexts within which these skills are expected to operate.

Secondly, while human capital is measured primarily by achieved qualification levels, there is no single measure for social capital. Different components of social capital, like generalised trust and participation in

voluntary organisations, can be understood and measured differently, and empirical evidence shows that their impact on economic development varies also. Thirdly, the outcomes of human capital are much clearer than those of social capital. The last could appear both at the level of nation states, regions, or between and within communities or organisations, including, among others, the maintenance of social cohesion and the generation of further social capital. Finally, human capital suggests a direct linear model: investment is made (in time or money) and economic returns follow. The model of social capital, on the other hand, includes certain circularity – it is harder to specify what kinds of return might be expected, by whom and when.

Table 12. Differences between human capital and social capital

	Human capital	Social capital
Focus	Individual agent	Relationships
Measures	Duration of schooling Qualifications	Attitudes/values Membership/participation Trust levels
Outcomes	Direct: income, productivity Indirect: health, civic activity	Social cohesion Economic achievement More social capital
Model	Linear	Interactive/circular

Source: Schuller (2000: 14).

The framework in Table 12 generates a wide range of questions about the interaction between human and social capital. Whether high levels of social capital encourage high levels of human capital, or rather substitute for them? Do low levels of social capital inhibit the accumulation of human capital? What is the joint role of social and human capital in determining the development outcomes? Next sections investigate these questions in more detail.

Social capital in the creation of human capital
Traditional models of human capital (e.g. Becker 1962, Ben-Porath 1967, Mincer 1974) focus narrowly on the link between education and income (i.e. economic capital), paying no attention to the possible effects of the other forms of capital. Since educational attainment is seen as a major indicator of investment in skills and knowledge, this becomes individual's major asset in the labour market, resulting in their entering better firms and receiving higher wages (Lin 2001: 13–14). Adding social capital to a traditional human capital model enables to study in more detail the questions of how the social networks provide the access to information and thus also help to find better and high-paying jobs (e.g. Loury 1977, Bourdieu 1980, Coleman 1988, Burt 1992). As such, social capital extends an individual' access to human capital and helps to get higher returns from individual's investment to social capital.

Empirical studies on the relationship between human and social capital mainly emphasise the effect of social capital on the accumulation of human capital. Human capital (related to good education and strong health) is influenced mainly by civil (horizontal) social capital. Most of the research done in this field could be divided into the following groups:

- social capital and child's educational achievement,
- income inequality and educational attainment,
- educational credentials and labour market success,
- social capital and individual's physical and mental health.

Social capital is an important determinant of educational achievement in children. The hypothesis is that social capital is a filter through which human and financial capital flow from the parents and the community to the child. There is considerable evidence to confirm that family, community and state involvement in education improves outcomes by decreasing the probability that the child may drop out of school (Coleman 1988, Israel and Beaulieu 1995, Teachman *et al.* 1996, 1997).

Concerning income inequality, trust may improve access to (informal) credit for the poor, increasing thus enrolment in secondary education (Knack and Keefer 1997). Mayer (2001) has estimated the effect of changes in income inequality on mean educational attainment in the U.S. since 1970 and on the disparity in educational attainment between rich and poor children. She found that income inequality can affect educational attainment through the incentives provided by higher returns to schooling, and the declining utility of family income.

Further, hiring decisions in high-trust societies will be less influenced by trustworthy personal attributes of an applicant (like blood ties or personal knowledge) and more by educational credentials, increasing thus the returns to acquisition of educational credentials. However, this belief is highly sensitive to the specific society and its development level. For example, Lee and Brinton (1996) have found that the prestige of the attended university is an important factor for gaining employment in large, prestigious firms, whereas private social capital plays a minor role. (The latter, however, does play an important role in gaining admittance to prestigious universities.) On the other hand, social capital can provide better job opportunities for those with lower education level, although such hiring decisions usually relate to low-paid jobs (Montgomery 1992). Also, several empirical studies have found that the relationship between social capital and wages is related to the status attainment and thus depends on the career position of employee (Flap and Boxman 1998; Meyerson 1994; Boxman, De Graaf and Flap 1991). These results support the opinion of Lin (2001) who suggests that human capital complements social capital in status attainment – when social capital is high, attained status will be high, regardless of the level of human capital; and when social capital is low, human capital exerts a strong effect on status attainment.

Besides education, health constitutes another important aspect of human capital. Several empirical studies have found a connection between social relationships and health, showing that high levels of social capital are associated, for example, with lower mortality and suicide rates (Bolin *et al.* 2003, Lindström 2004). Theoretically, rich social networks (especially bonding ties) may provide the individual with emotional, instrumental and informational support in case of physical illness or emotional stress. Further, social network may influence health-related behaviours of its members, e.g. attitudes towards tobacco and drugs, but also towards sporting activities. It can be generalised that social capital influences more mental health and subjective estimates of one's health situation, and that the impact of participation in social networks is stronger than the effects of generalised trust.

The relations between human capital and social capital can also be explained in the context of migration theories. Portes (1995) and Light and Karageorgis (1994) have examined the economic well-being of different immigrant communities in the United States. They have shown that certain groups do better than others because of the supportive social structure of the community into which new immigrants arrive. For example, successive communities are able to offer new arrivals help with securing informal sources of credit, insurance, language training and job referrals. In the similar vein, Massey and Espinosa (1997) have shown on the example of Mexican immigration to the U.S. that social capital is a better predictor of migration flows than are neo-classical and human capital theories. However, while at individual level such migration helps to achieve higher material welfare, its aggregate level effects on social capital are more diverse: inward migration could stimulate social capital generation, but outward migration usually destroys social capital.

Joint effect of social and human capital on economic growth
Studying human capital and social capital as the interacting factors of economic development is rather complicated, as the complexity of relationships is very sophisticated and inconsistent. Economic development in its broadest sense means an increase in society's total wealth. Good (respective to individual abilities and society's needs) education and strong health, that are important characteristics of human capital, are unquestionably presumptions for future economic growth. In order to raise the level of human capital, resources for investments are required both from individuals and society – investment in tomorrow is always related to reduced consumption today. Whether the society agrees to these investments depends on social cohesion[15], which is one of the most important characteristics of social capital at the level of society (Kaldaru and Tamm 2003). In general, social cohesion is essential for generating the trust needed to implement reforms. People have to trust that the short-term losses that inevitably arise from reforms will be more than offset by long-term gains.

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[15] Social cohesion is defined as the inclusiveness of a country's communities (Ritzen *et al*. 2000)

Social cohesion, in turn, is affected by the income distribution. When the distribution of resources is unfairly unequal, there exist parts of society whose opportunities to invest in their human capital are restricted. Thus, the inconsistent interconnection between social capital and potential economic development becomes evident even more clearly at the level of individuals. Individuals' abilities to use social relations for fulfiling the (economic) goals could have either a positive or negative effect on the economic development at the level of society. It follows that merely increasing the stock of human capital in any given society will not ensure social or economic progress. It may even impede it by further isolating some groups, who do not have access to it, and whose position is relatively further weakened by the fact that most others are gaining skills and qualifications. (Schuller 2000) Such isolation in turn may have a long-term negative impact even to the skilled and qualified, for example, through increasing crimes and social tensions. To soften these negative effects, a part of the resources must be used to ensure the effective performance of formal institutions and their trustworthiness – the latter constitute macro-level social capital.

However, it should be mentioned that the historically and cross-sectionally strong correlation between human capital acquisition and the levels of development has not yet been demonstrated empirically for social capital. No country has achieved sustained economic growth without high levels of education, but some highly developed economies have low and arguably declining levels of social capital – measured, for example, through rising crime rates, declining family and kinship cohesion, and falling trust in institutions (Grootaert 1998). Also, Putnam (2000) observes that the enormous growth of human capital in the U.S. during last decades has not prevented the loss of social capital (decline in associational activities in favor of private ones), although those with higher human capital generally show higher levels of civic engagement.

Finally, one has to bear in mind that causal sequence can run in several directions – from social capital to human capital to economic development; from social capital directly to economic development; from human capital to social capital; and also from economic development to human capital and social capital. These alternative directions of influence are usually studied at national level, but empirical evidence in this question is very poor. Thus, the results of the empirical exercise of this dissertation regarding the effect of social capital on national human capital should be considered at most indicative of possible relationships rather than proof of causal mechanism.

1.3. Conceptual framework for the comparative research on social capital, its determinants and relations with economic growth in CEE and WE countries

1.3.1. Special characteristics of social capital in CEE countries

This subchapter attempts to explain, on the basis of theoretical literature, why the composition (i.e. the relative importance of different components of social capital), levels, sources and effects of social capital might be different in the European post-communist countries, as compared to other European societies with longer tradition of market economy and democracy. Most of the following discussion focuses on the investigation of the peculiarities of social capital in Central and Eastern European countries, which are related to their communist past and subsequent transition processes[16]. In summary, this subchapter forms the basis for propositions about the similarities and differences between these country groups in respect of social capital composition, levels, determinants and economic effects, which will be empirically tested in the second part of the dissertation.

Why is transition aspect important in discussions about social capital? As was shown in the previous subchapters, social capital is believed to be an important factor of social and economic development and individual wellbeing. On the other hand, the level of social capital is low in transition countries, and much of the problems of transition can be seen as a deterioration of the rules, norms and trust – i.e. social capital. CEE economies are characterised by higher growth rates but lower welfare levels, as compared to more developed WE economies. So the question is, whether the increase in social capital near the levels of Western Europe would help to equally increase welfare levels (through faster economic growth) in post-communist countries, or are these mechanisms different in Central and Eastern European countries.

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[16] Of course, grouping the countries on the basis of their communist past and/or transition aspect is not the only possibility, because these groups are not completely homogeneous. For example, it can also be an overall level of wealth, or the level of institutional development, or something else what makes the levels of social capital different in different societies. In this respect, the analysis of national-level determinants of social capital gives some insight into question in which aspect the analysed country groups actually differ. Still, path dependence seems to explain much of the differences in social capital levels (and also differences in alternative grouping variables). Also, the study of Kaasa and Parts (2008) about the determinants of social capital, where cluster analysis was used for grouping largely the same set of countries, has proved differences between Western and Eastern European countries, specifying additionally two (partly overlapping) sub-groups in both regions. However, the purpose in this dissertation is not classification of countries, but investigating the possible effect of communist past on issues related to social capital.

In order to develop policies suitable for realising the potential of social capital as a development factor, it is important first to analyse the reasons for the low level of social capital in CEE countries. Data from the different rounds of the World Values Survey (see Appendix 6) show that the degree of trust and civic participation as basic indicators of social capital are relatively low in transition countries. Also, there are differences among post-communist countries themselves. While in most cases there has been a decrease in trust measures at the beginning of 1990s, and the second half of the decade has shown increasing trust, the developments have been in opposite direction in some countries (Czech Republic, Latvia and Slovakia), and there are also several countries (Hungary, Romania, Russia) with continuously decreasing trust levels.

Table 13 summarises a selection of previous theoretical and empirical studies on social capital in Central and Eastern European countries, which form a basis for subsequent discussion about the possible reasons of the low level of social capital in this region. 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. Firstly, transition produces uncertainty which tends to decrease a sense of optimism about the future, as people do not feel that they have control over their own destinies – this, in turn, leads to lower generalised trust (Uslaner 2003).

Secondly, post-communist transition, especially in its early phase, resulted in a rapid destruction of dominant values (like ideological monism, egalitarianism, and collective property) and habits. In such a situation, a fast development of the culture of cynism and opportunism is possible, which stimulates the criminal entrepreneurship and creates negative social capital (Štulhofer 2000). Another result of the value changes is that transformation societies are becoming more individualised: traditional family life is breaking down and individuals become more isolated in society. However, the latter factors coincide with the ones prevailing also in the developed world, as was shown by Putnam (2000) in his research about declining social capital in the U.S.

Thirdly, transition economies are usually characterised (especially at the beginning of transition processes) by high levels of poverty and unemployment, competition at the workplace, and strong primary concern for the family, which do not create a good environment for mutual trust among people, for rebuilding social ties and networks of cooperation (Bartkowski 2003). In addition, social capital and cohesion are negatively affected by unequal income distribution, which resulted from the destruction of the old state-sector middle class, before a new middle class could be established. Uslaner (2003: 86) suggests that the links between the increase in economic inequality and the low levels of generalised trust may be different in the transitional countries compared to the West, because in the past equality was not the result of normal social interactions and market forces, but was rather enforced by the state.

Table 13. Selection of the studies on social capital in CEE countries

Author (year)	Countries involved	Data source(s), study period	Content
Havrylyshyn and van Rooden (2000)	19 transition economies	1991–1998	The development of a market-enhancing institutional framework has a significant positive impact on growth
Uslaner (2003)	CEE post-communist countries	WVS 1990–95	The relationship between trust and civic engagement in comparison with Western states
Dowley and Silver (2003)	20 post-communist countries of CEE	WVS 1990–97	Explaining weak relation between the indicators of social capital and democratisation in ethnically plural societies
Badescu (2003)	13 post-communist countries of CEE	WVS 1990–99	Generalised trust as a resource for democratisation process. Macro-level relationship between social trust and membership.
Howard (2003)	Russia, East Germany	PCOMS 1999	Causal explanations for the low levels of organisational membership in post-communist Europe.
Rose and Weller (2003)	Russia	New Russia Barometer 1998	Empirical examination of the extent to which social capital influences the formation of political attitudes.
Uslaner and Badescu (2003)	Romania, Moldova	CID 2001	Generational differences in different forms of trust
Gibson (2003)	Russia	WVS 1990–95; Panel study of the Russian mass public 1996–98	Attitudes towards democratic institutions and processes in different types of networks, concerning the network size, politicisation, and the strength of the ties among network members.
Hayoz and Sergeyev (2003)	Russia	Theoretical analysis	The relations between the networks of trust and the networks of power in Russian politics.
Mondak and Gearing (2003)	Romania	National survey 1994	Community-level civic engagement and its impediments in Cluj-Napoca, compared to the U.S. city of South Blend, Indiana.

Table 13. Continued

Author (year)	Countries involved	Data source(s), study period	Content
Iglič (2003)	Yugoslavia	National survey 1987	Analysing the relationship between social networks and political mobilisation on the basis of the information about discussion networks in Serbia and Slovenia.
Flap and Völker (2003)	East Germany	Three rounds of interviews in Leipzig and Dresden, 1991–94	Testing the hypothesis that people invest in social relationships according to the social institutional environment in which they live.
Bartkowski (2003)	Poland	PGSS 1992–98, CBOS 1995–2001	Description of the level of social capital in Poland
Kalmus *et al.* (2004)	Estonia	National Survey 2004	Description of the levels of social capital in Estonia by different social groups
Štulhofer and Landripet (2004)	Croatia	WVS 1995, South East European Social Survey 2003	Analysing the dynamics of social capital (measured as general trust, institutional trust and civic participation) in Croatia during 1995–2003
Cvejić (2004)	Serbia	National surveys around 2000	Investigating the persistence of positive social capital which was accumulated in the civic protests.

Notes: WVS – World Values Survey, PCOMS – Post-Communist Organisational Membership Study Survey, PGSS – Polish General Social Survey, CBOS – Centre of Public Opinion Research of Poland.

Source: based on Badescu and Uslaner (2003), complemented by the author.

Another set of explanations of the low trust and participation levels is directly related to the communist past of these countries. Horizontal trust between the individuals weakened as a result of a centralizing state in CEE-s. For example, in the former Soviet Union, Communist Party consciously sought to undermine all forms of horizontal association in favour of vertical ties between Party-state and individual, leaving post-Soviet society "bereft of both trust and durable civil society" (Fukuyama 2000: 11). Such policies led to widespread negative social capital, measured by corruption and capture indexes and crime rates. The communist system needed a set of grey/black networks to give it the necessary flexibility. These networks were tolerated, but controlled. When the communist regime ceased the official organisations collapsed and so did most of the control

systems. This allowed flourishing of the grey/black networks, which can be harmful to the operations of a market economy (Paldam 2000).

Rose *et al.* (1997) explain the low trust levels as a result of an "hour-glass society" in which the population was divided into two groups – ordinary people and privileged "nomenclature" – both having strong internal ties at the level of family and close friends within the group but little interaction with the other group. Therefore the social circles in transition economies would seem to be smaller and more closed than in market economies, where the positive association between social networks and generalised trust is higher (Raiser *et al.* 2001). Similar explanations hold for low levels of organisational membership, which can be summarised as follows (Howard 2003, Gibson 2003: 77–78):

1) people's prior experiences with organisations, and particularly the legacy of mistrust of formal organisations that results from the forced participation in communist organisations;

2) while people are distrustful of organisations imposed upon them from the top, alternative organisations that evolve from the grass roots take time to grow;

3) the persistence of informal private networks, which enabled people to accomplish many of their goals without resorting to formal organisations, functioning thus as a substitute for the latter;

4) economic necessity has limited the amount of time and energy left for recreational or social activities of any sort;

5) the disappointment with the new democratic and capitalist system today, which has led many people to avoid the public sphere.

When analysing networks in communist societies, a distinction should be made between networks of trust and networks of power; and also between pre-existing forms of social capital (maintained from communist past) and present forms of networks (Hayoz and Sergeyev 2003). Flap and Völker (2003) argue that according to social capital theory, people will invest in relationships according to the expected value of future support. This logic suggests that social institutions will influence the returns of and thereby investments in social capital. Marxist society had two main organising principles: the political control of most spheres of life by a communist party, and the organised dependency on the party for all goods and opportunities (Walder 1994: 299). Perhaps most fundamental is that communism taught people not to trust strangers – the encompassing political control over daily life presented people with the acute problem of whom to trust and how to decide whether intensions of others were honest. In this situation, people created niches in their personal networks consisting of strong ties to trustworthy others, which allowed an uncensored exchange of political opinions and provided social approval (Flap and Völker 2003: 29).

A – focal actor

B, C, D, E – other actors to whom A is related

Thick lines – strong bonding ties between A, B and C

Thin lines - weak provision ties of A with D and E
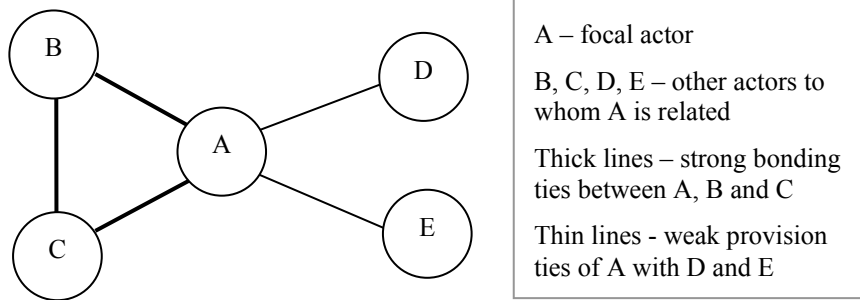
Figure 11. A typical pattern of personal networks in a communist society (Source: Flap and Völker 2003: 32).

The structural features that were typical of personal networks in a communist society are presented in Figure 11, where A denotes the focal actor having strong, trustworthy ties with actors B and C (bonding social capital, marked with thick lines), and disconnected weak provision ties with actors D and E (connected via thin lines). The latter could be seen as a form of bridging or linking ties, as these were established with people of different backgrounds and were often hierarchical in their nature. However, such open ties did not evolve a basis for mutual trust, as could be assumed according to conventional social capital theory. The existence of provision networks was based solely on economic shortage in command economy, while trusting relationships were saved for small niches which were more or less protected against party and state control (see Table 14).

Table 14. Institutional embeddedness of relational investment and resulting consequences for personal networks in a communist society

Institutional framework	Communism (totalitarianism)	Command economy
Collective outcomes	Party and state control, collectivism	Economy of shortage
Individual problems	Trust and individual identity	Obtaining scarce goods
Individual investment	In niches, being aware of weak ties	Provision networks
Network consequences	Niches are: small, strong ties, multiplex, homogeneous, dense, separated from weak ties	Provision networks are: small, weak ties, heterogeneous, open, separated from niches

Source: Flap and Völker (2003: 33)

After the fall of communism, personal networks started to become disconnected from institutional conditions. During the transition the niches became vague and people included more weak ties in their networks. However, the study of Flap and Völker (2003: 43) showed that the network size should not necessarily grow. Despite of this, other important changes usually took place: people got rid of untrustworthy others and established new, diverse contacts; strengths and multiplexity of niche relationships decreased; and average homogeneity of the whole network increased.

As regards possible differences in the relationship between trust and participation in post-communist transition countries and Western democracies, Uslaner (2003: 90–91) presents several interesting empirical notions. Firstly, although authoritarian regimes depressed trust, democratisation does not seem to build trust (Mueller 1989, Uslaner 2002). Secondly, while in the West, joining a lot of groups does not produce more trust (Stolle 1998, Uslaner 2002), civic engagement seems to lead to less trust in the transition countries (Uslaner 2003). Thirdly, in non-transition countries, people who were raised as religious are less trusting, while in the post-communist countries they are more trusting (but being religious now makes people less trusting in transition countries). Finally, in both groups of countries there is a self-selection effect: trusters are more likely to join voluntary organisations.

An alternative, more complex explanation of the changes in the social capital of transition countries is based on the preferred way of how individuals cope with changes in social structure. It has been argued that pre-communism, communism, and post-communism are three different stratification regimes defined by the dominance of different types of capital (see Table 15). During a transition, people try to convert devalued forms of capital into new, more valued forms. The transition to post-communism is quite a complicated shift from the socialist rank order system, in which social capital institutionalised as political capital (represented by a person's position in the Communist party hierarchy) was dominant, to a capitalist class stratification, where economic and cultural capital (represented by higher education providing a person with greater flexibility) play strategic roles in life-success (Eyal *et al.* 1998: 7). Accordingly, the real winners of the transformation have been those who have been able to combine the political capital of the past with cultural and human capital. While political capital has made it possible to build social networks and maintain useful ties, cultural capital has led to higher flexibility and capacity to put all these assets at work under the new conditions (Mateju 2002: 5).

Table 15. Determinants of social structure in different types of societies

Type of Societies	Type of capital		
	Economic capital (economic and financial assets)	Cultural capital (education and skills)	Social capital (participation in various kinds of networks)
Baseline model: 'ideal type' of modern capitalism	+++	++	+ Rational social network
Pre-communist Eastern Europe (before 1949)	++	++	+++ Traditional status honour
Classical (Stalinist) model of socialism (mid 1949s – mid 1960s)	–	+	+ Institutionalised as political capital
Reform model of socialism (mid 1960s – 1989)	+	++	+ Institutionalised as political capital
Post-communism (1989 – …)	++	+++	+ De-institutionalised and rationalised as social networks

Note: Number of crosses marks the relative importance of the respective type of capital.
Source: Eyal, Szelényi and Townsley (1998: 23).

Further, it is believed that the development of transition societies in a broader sense is influenced by social capital mainly through democratisation process. In general, the transition to democracy among the formerly communist nations of Central and Eastern Europe has been both slow and uneven. All of these states now have democratic constitutions and institutions but some have made "democracy work" (if to paraphrase Putnam 1993) better than others. However, the Western model of democracy, which posits a trusting and active citizenry, is not well established in most European post-communist counties. (Badescu and Uslaner 2003)

There are several empirical studies focusing on the relationship between certain types of social networks and democratic transition. For example, Dowley and Silver (2003) found only weak overall correlation at individual level, but not at the aggregate level. Also, their work showed that for members of the titular majority, greater political involvement and social engagement were associated with greater support for democracy, the government and regime institutions, while among ethnic minorities, the more mobilised members were less supportive of democracy than the more passive members. The clearest cross-national tendency was that the Russian minority populations in the post-communist states are consistently less confident in the new institutions, less

satisfied with the new national government, and less supportive of democracy as a system of governing ideals than their new majority populations (*Ibid*: 105). As another example, Gibson (2003) concluded based on his empirical work about Russia that weak social networks seem to be an important source of learning about the art of democratic governance, especially during the early days of major political and economic transformation. At the same time, interpersonal trust is not necessarily important in this process of social learning, as people do not make their decisions to become active in organisational life on the basis of whether they believe strangers can be trusted.

Further, it is important to distinguish between trust in people and trust in institutions. In the theoretical part of the thesis, it was shown that social capital can both substitute and supplement formal institutions, depending on the development level and efficiency of the latter. In modern societies, people do not need to trust one another, since they can rely upon formal institutions to rectify problems that arise. On the other hand, it has proved that the social capital based on trust and cooperation in achieving common goals fosters economic performance and growth of a relatively stable society with well-established institutional and political frameworks. In transition economies, where these frameworks are only being constructed and changes in the political situation affect quite strongly the trust in institutions, the trust may vary significantly without showing a clear pattern of relationships to the quality of institutional settings and economic performance. (Mateju 2002: 3) The weakness of institutional (macro-level) social capital in the transition countries can be best illustrated by the weakness of governance and public administration, and by the widespread corruption which breeds distrust of public institutions. For example, although a high percentage of people vote in national elections in the transition countries, most voters distrust the politicians and parties for whom they have voted. This suggests that the culture of the new political elite is often not supportive of building bridges between society and its political institutions.

Summing up, the above discussion implies that post-communist transition challenges some of the main claims of social capital theory. For example, it has not been verified that democratic regimes stimulate participation, or that democratisation breeds trust in transition economies. Also, civic engagement would not inevitably increase the generalised trust. As an explanation, Uslaner and Badescu (2003) argue that the legacy of communism, with regard to widespread distrust and civic disengagement, is still present in transition countries, and slow to overcome. This opinion is supported by the idea of path-dependence, which states that there could be durable differences in performance between two societies, even when the formal institutions, resources, relative prices, and individual preferences in the two are similar (North 1990). Given the persistence of historical determinants of social capital and uncertainty about future, it can be concluded that the process of transition does not help greatly in the creation of social capital (Bartkowski 2003).

On the other hand, Uslaner (2003) points out that separate transition and non-transition societies are largely the people's interpretations of their prior experiences under communism, not psychology. The regimes are very different and this clearly affects both trust and civic engagement, but the differences in regimes work through the same underlying motivations for trusting others and taking part in civic groups. Although the trend of nonparticipation throughout post-communist Europe is unlikely to change rapidly, Howard (2002: 166–167) points out three possible mechanisms for improvement:

1) Generational change – young post-communist citizens are less influenced by the experience of life in a communist system. However, this result is not certain, as socialisation comes not only from the current institutional setting, but also from one's parents, teachers, and peers who still have strong personal experience of the communist past.

2) More active and supportive role on the part of the state, with the notion that this support should be selective, as not all kind of organisations are beneficial for democracy and overall wellbeing.

3) Improving economic conditions – raising the actual standards of living of most ordinary people, so that they might have the economic means to be able to devote some time and energy to voluntary organisations, and possibly to contribute a donation or membership fee.

Based on the above, it can be suggested that policies aiming to shape individual experiences so as to increase trust and civic engagement are possible in post-communist societies. Even if the preciousness of social capital in respect of achieving alternative development objectives is the subject of further investigation, completion of transformation processes and improvements in social development are expected to favour also an increase in the levels of social capital in CEE countries.

1.3.2. Integrated framework for analysing the determinants and effects of social capital

Theoretically, it was shown in chapter 1.2 that social capital is an important factor of economic development. However, not all societies are equally able to realise the potential of social capital as a development factor – some of them have historically low levels of social capital, while in others negative types of social capital dominate. In order to implement policies which encourage the accumulation of positive social capital and hinder the negative forms of it, it is first important to know the basic determinants of social capital in different societies. The purpose of this subchapter is to develop an integrated framework which enables to study the determinants and economic effects of social capital simultaneously, and which would be applicable alike in WE and CEE country groups. The need for such framework stems from the fact that the sources and outcomes of social capital are often interrelated, as was shown in theoretical

discussion in chapter 1.1. As such, empirical analysis based on this framework enables to outline causal sequences from certain social capital determinants to different aspects of social capital, and further to specific outcomes of social capital.

In the following, first the broader framework about the relationships between social capital and economic development will be introduced. Second, the partial overlapping between social capital determinants and different aspects of economic development will be shown. Then, the concrete research model including social capital's determinants and its effect on economic growth will be set up for the empirical part of the dissertation. Finally, practices to include social capital into models of economic growth will be overviewed.

A broader framework for studying social capital as a factor of economic development
The current dissertation focuses on the effects of social capital on the economic growth of nations. However, economic growth itself is usually not considered as the most important development goal, but rather as a means for financing the achievement of alternative development objectives – including, for example, human development, sustainability, subjective welfare and others. The latter – as was mentioned earlier as a limitation of this study – can be also achieved better with the direct help of social capital. In addition, society as a whole is affected by social capital through democratisation process, increasing stability and social cohesion. The above considerations are taken into account when deriving the general analytical framework for studying the relationship between social capital and different aspects of economic development (see Figure 12).

When analysing the economic effects of social capital, one should take into account that firstly, different components of social capital affect different aspects of development differently, and secondly, these effects could work through different channels. However, the precise effects by different components of social capital are not presented in Figure 12 because they are not theoretically well disentangled, and because of avoiding overdetailing the figure. Direct influence from social capital to economic growth goes mainly through lower transaction costs, which result from trust, cooperation and more intensive and cheaper information flows, and leads thus to higher productivity (see explanations in subchapter 1.2.2). Besides direct effects, social capital influences development outcomes through several indirect impact channels – through improving the quality of governance and encouraging the accumulation and quality of human and physical capital. The empirical part of the current dissertation focuses on the two last-mentioned indirect influence channels.[17]

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[17] Indirect effect of social capital on economic growth through better governance and other institutional factors is not included in the analysis for the reason of space limits, as this research field needs thorough empirical investigation and also presentation of the rich earlier theoretical and empirical literature. Instead, composite governance indicator is used in parallel with social capital components as a direct factor of economic growth.

Partly, the direct and indirect effects are interrelated, as an increase in physical capital goes also through lower transaction costs, which are the part of direct influence channel.
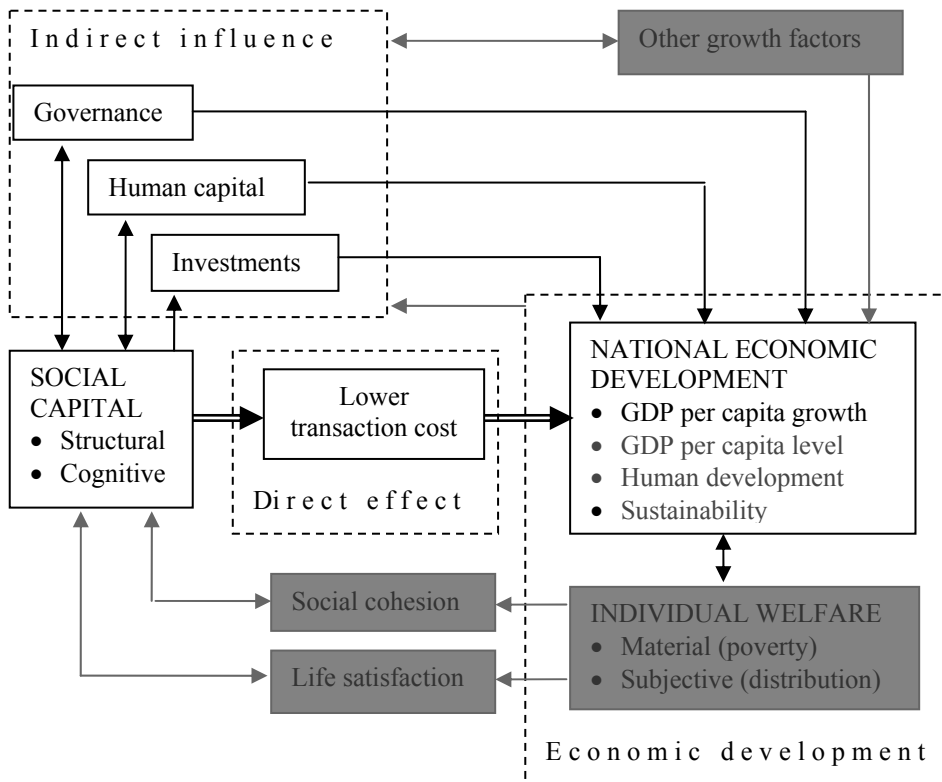
Figure 12. Interrelationship between social capital and economic development. Notes: direct effect from social capital on economic growth is marked with double arrows. Blocks and relationships which are marked grey will be not studied in the empirical part of the dissertation. (Source: compiled by the author on the basis of previous theoretical and empirical findings).

Relations between the determinants and economic outcomes of social capital

When studying the determinants and economic outcomes of social capital, it appears that many elements in this system are simultaneously both – the problem pointed out by several authors (e.g. Portes 1998, Fine 2001). The fact that the causes and effects of social capital are often not well disentangled gives rise to much circular reasoning. For example, at national level social capital leads to higher level of economic wealth (i.e. GDP per capita), and its existence is inferred from the same outcome. Also, collective social capital or "civicness"

is said to lead to better governance and its existence is simultaneously inferred from the same outcomes. However, Schuller (2000: 32) argues that this circularity is a fault, going beyond the question of the direction of causality. Rather, it is a question of whether the achievement of high levels of social capital is a goal in itself, or whether it promotes the achievement of other goals, such as higher levels of human capital, economic wellbeing or the quality of life more generally. So, it can be concluded that the described circularity should not be considered as a disadvantage of social capital theory – rather it simply reflects the complexity of the real world, which should be taken into account when studying the sources and effects of social capital.

Figure 13 clarifies more precisely the relationships between social capital level, GDP per capita level and growth rate, which are inferred by the ongoing convergence process in Europe. Low development level (e.g. in terms of GDP per capita) together with still existing communist legacy is considered to be one explanation behind the low levels of social capital in Central and Eastern Europe. On the other hand, according to convergence theory, lower initial income level leads to faster economic growth, which in turn increases national income and thus suppresses growth rates in the future. Theoretically, although social capital is not the sole (or even most important) factor of development, its importance seems to be growing in two cases: 1) when traditional growth factors are absent, or 2) when they are exploited near to maximum level. The first situation often illustrates poor countries lacking investment resources and human capital, while the second situation is more common in highly developed societies.

Convergence effect (−)

GDP per capita level   (+)   SOCIAL CAPITAL   (+)   GDP per capita growth

(+)
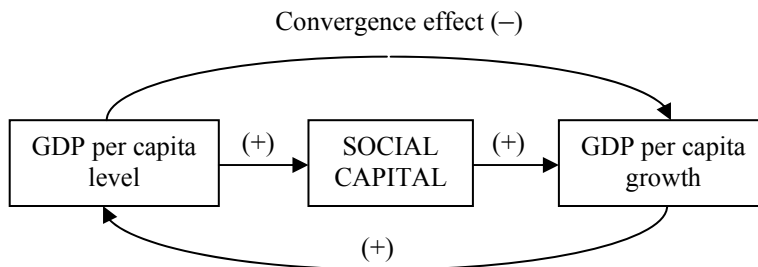
Figure 13. Interrelationships between social capital, economic growth, GDP per capita and convergence (Source: compiled by the author).

Based on the above logic, it could be expected that social capital fosters economic growth more likely in WE countries where other development resources are exhausted, while in CEE countries ongoing convergence process dominates over other growth factors, including social capital. These relationships should also be borne in mind when interpreting the results of growth regressions.
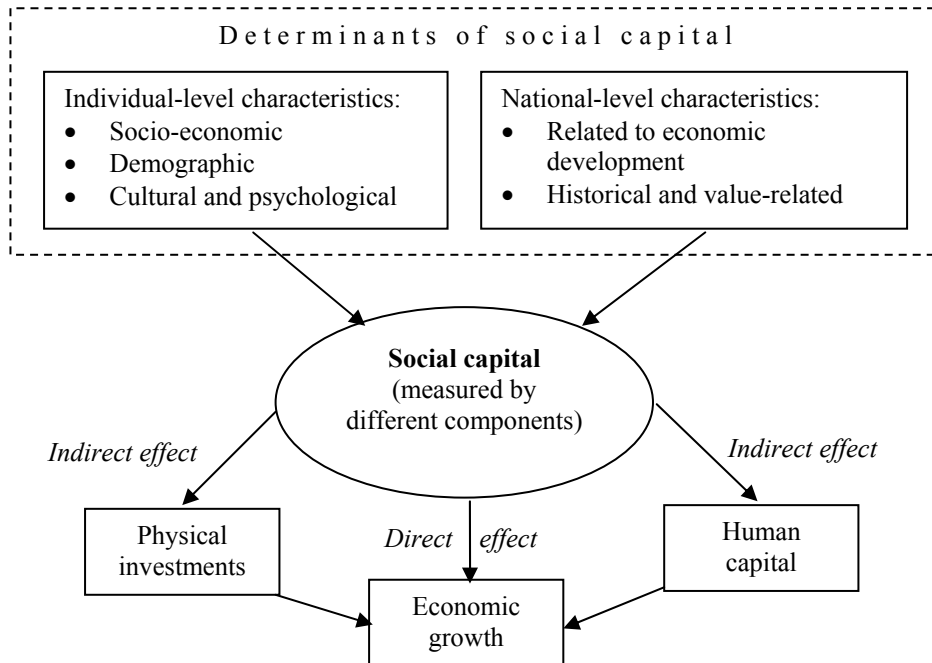
Figure 14. An integrated framework for studying the determinants and economic effects of social capital (Source: compiled by the author)

Figure 14 presents a framework for studying the determinants and economic effects of social capital, which will be adopted in the empirical part of the dissertation. In this framework, the determinants of social capital are divided into individual-level attributes which characterise person's socio-economic, demographic and psychological features, and national-level characteristics which describe the broader historical, economic and cultural context of a country where person lives. The economic effects of social capital are also divided along two lines: direct effect of social capital on economic growth (by reducing transaction costs), and indirect effect from social capital on growth through physical investments and human capital. While the practices to estimate the effect of social capital determinants is established pretty well in the literature, the following paragraph focuses on the alternative empirical approaches used to estimate the effect of social capital to economic growth.

Social capital in the models of economic growth
In the simple neoclassical model of economic development (Solow 1956), welfare levels and their growth rates are expected to depend on society's total

capital, consisting of physical capital and labour force. Empirical tests[18] on this model have shown that higher savings stimulate investments in physical capital and thus increase per capita income levels, while faster population growth decreases average income because some resources should be directed into job creation instead of increasing capital per worker. Another important regularity in this model is the expected negative relationship between initial income level and subsequent growth rate, meaning that poorer countries will catch up with richer ones. Incorporating human capital into the endogenous growth model (e.g. Romer 1990) enables to endogenise technological progress and divert from the assumptions of decreasing returns. As investments into human capital and technology are characterised with widespread spill-over effects, returns to such investments are expected to be constant or even increasing. More recent empirical work on the determinants of growth often relies on the conditional convergence model (e.g. Mankiw *et al.* 1992, Barro 1998), which enables to incorporate a wide range of social and institutional factors into growth regressions, being thus especially useful in studying the effect of social capital on economic development. However, as regards earlier research of the effect of social capital on economic growth, there is no common agreement about which methodological approach is most suitable. Instead, different authors have used their own "ad hoc" methodology without clear explanation of their model selection.

Concerning the peculiarity of economic growth in transition economies, there is a widespread opinion that traditional growth factors have only minor explanatory power (but this aspect is earlier not studied in conjunction with social capital). Instead, reorganisation of the planned economy inherently leads to efficiency shifts and hence affects growth even without changes in factor use (Staehr 2003: 9). As such, variables accounting for accumulation of physical and human capital are typically omitted from the growth regressions for transition economies.[19] However, in the current dissertation studying the effect of traditional growth factors is useful/justified for several reasons: (1) they are used as control variables, (2) they enable to assess the indirect effect of social capital variables, as social capital is expected to increase the amount and productivity of these traditional growth factors, (3) the current sample also includes non-transition countries, (4) the period of the analysis could be called as "post-transition" in most countries where the structural reforms and adjustments were more or less completed by year 2000.

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[18] Extensive surveys of respective empirical literature can be found, for example, in Levine and Renelt (1992) and Barro and Sala-I-Martin (1995).

[19] For literature overview of such limited specification(s) of growth model see, for example, Havrylyshyn *et al.* (1998, 2000), Wacziarg (2002), Staehr (2003).

1.3.3. Construction of the research propositions and introduction of research methodology

Propositions for empirical analysis

The following propositions are based on the discussion presented in previous subchapters, taking into account both theoretical and empirical knowledge about the specificity of social capital and its development in transition countries. However, before presenting the propositions for empirical analysis, the following considerations should be highlighted. Firstly, although the main focus of the empirical analysis is to clarify the differences between WE and CEE countries in respect of the composition, sources and economic effects of social capital, not all propositions are directly targeted to this aim. Instead, some propositions are preparatory in their nature – the general logic is that first of all, significant determinants and effects of social capital are identified, and afterwards the possible differences between the two country groups are assessed. Secondly, as previous empirical literature has covered only limited aspects of social capital (especially concerning the research of economic effects of social capital) and transition aspect is involved only in a few studies, it is not possible to set up explicit propositions for all research tasks. In this regard, the empirical analysis in the current dissertation is largely exploratory and uses also data-mining techniques.

The first group of propositions will be set up to identify the components and structure of social capital, and to compare the levels of social capital in WE and CEE countries. The theoretical basis for these propositions is presented in subchapters 1.1.1 and 1.1.2.

Given the differences in the levels of social capital in different country groups, there is a discussion whether the composition of social capital is everywhere/always the same. The basic assumption in this dissertation is that social capital is an empirically stable concept in all countries, although the relative importance of alternative social capital components may differ by countries with different overall development level. However, no previous evidence is available in this question, as authors have usually focused on studying the differences in social capital levels, not its composition. As such, the following proposition is exploratory in its nature, suggesting that:

P1a: The components of social capital are robust and the same in WE and CEE countries.

Based on empirical evidence from different data-sources, several authors have pointed out that the levels of social capital in transition countries are lower than in non-transition countries (Paldam and Svendsen 2002, Raiser *et al.* 2001). In the present research this statement will be checked on the broader basis of the components of social capital. The theoretical literature distinguishes between two groups of explanations of these differences (Uslaner 2003). Firstly, it is

argued that the communist past has destroyed many forms of social capital in transition countries (Fukuyama 2000, Paldam and Svendsen 2002). Secondly, lower level of overall development (in term of per capita income, corruption, values, etc) can associate with lower social capital (Bartkowski 2003). Therefore, it could be expected that the data from the World Values Survey also confirm the following proposition:

P1b: The levels of social capital are lower in CEE countries compared to WE countries.

The theoretical discussion in subchapter 1.1.2 suggested that the importance of social capital components can differ according to the country's general development level (e.g. Rose 1999, Paldam 2000, Fukuyama 2000). In poorer societies and/or households, bonding relationships and interpersonal trust are likely to dominate over more formal types of social capital. In more wealthy societies, on the other hand, formal networks and institutions could substitute for trust and informal civic cooperation. However, there is also an argument for synergy, suggesting that informal and formal sides of social capital complement and reinforce each other (Evans 1996). Taken together, the theoretical arguments in this question are mixed and empirical evidence is poor. Still, given that CEE countries are less developed than WE countries in terms of GDP per capita, formal institutions and (usually) also communication infrastructure, it could be expected that the substitution effect dominates in the European sample. Therefore, the following proposition will be set up:

P1c: The relative importance of different social capital components is different in WE and CEE country groups.

In social capital theory, Putnam (1993, 2000) has suggested that the basic components of social capital – associational activity and general trust – are tightly interrelated and mutually reinforcing, leading to virtuous or vicious cycles. The same could be expected to hold in the broader context with more social capital components. However, recent empirical evidence suggests that the existence of a strong relationship between different components of social capital cannot be taken for granted. Firstly, theoretical distinguishing between basic social capital dimensions – networks, trust, civicness and altruism – is not always reproduced in empirical investigations. Secondly, even existence of strong correlations between trust and participation does not tell enough about the causality of this relationship. In this respect, Stolle and Rochon (1998) refer to self-selection effect, which explains that more trusting people are simply more eager to join voluntary organisations.

In addition, because of the differences in the relative importance of alternative social capital components in societies which are at a different level of development, the correlation structure between these components is expected

to be dissimilar in WE and CEE countries. For example, Stolle (1998) and Uslaner (2002) have found that in the Western Europe group membership does not produce more trust, while the work of Uslaner (2003) indicated that in transition countries civic engagement might lead to less trust. This would be important knowledge when the attempt is made to encourage the emergence of some type of social capital through others (e.g. general trust through organisational activity, etc). Therefore, the following proposition will be set up for further investigation:

P1d: The relations between social capital components are expected to be different in WE and CEE country groups.

Although social capital is usually measured by asking questions of individuals, it is generally, and also in the current dissertation, perceived as a community characteristic which yields market and non-market returns to a society as a whole. In practice, usually country means of individual responses or percentages of certain answers are calculated to obtain macro-level social capital indicators. However, it is argued that collective social capital cannot simply be the sum of individual social capital because such simplified approach is not taking into account social capital externalities (Harper 2001, Glaeser *et al.* 2002). As pointed out by Paldam (2000: 632), the society may consist of many sub-groups with high in-group social capital and no social capital between groups. Still, as long as we want to study the country-level effects of social capital – like the effect of social capital on economic growth –, aggregation is unavoidable. The question is whether social capital indicators obtained from individual survey responses can be generalised to macro-level, or should they be replaced by macro-level proxies for cross-country analysis. In order to confirm the idea that social capital at national level might be different from social capital at individual level because of externalities, the following proposition will be set up:

P1e: The relations between social capital components at national level might be different from the respective relationships at individual level in both country groups.

The second group of propositions is concerned with the possible similarities and differences in the determinants of social capital between CEE and WE countries. The general theoretical basis about the effect of alternative determinants can be found in subchapter 1.1.3, where distinction was made between the micro- and macro-level determinants of social capital.

Given that social capital consists of separate components which are expected to be only partly related (see Proposition P1d), it can be suggested that also the sources of social capital differ by these components. Recent empirical evidence (for example, Fidrmuc and Gěrxhani 2005, Halman and Luijkx 2006, Kaasa and

Parts 2008) supports this idea. However, several components of social capital which are under study in the current dissertation (like political engagement and altruistic norms) were not analysed in previous empirical studies about social capital determinants. Thus, the current analysis of the determinants of social capital components will be largely exploratory, and no precise proposition can be put forward separately for all components. Therefore, first the general proposition will be set up, stating that:

P2a: Different components of social capital might have different determinants.

As social capital was first considered as an attribute of individuals, many previous studies have focused on a limited number of individual attributes as the determinants of people's degree of social capital. The strongest micro-level determinants are assumed to be education and income, and they are mostly related to network aspects of social capital. Also, labour market and marital status have been seen as influencing persons' social capital, as these factors determine both one's incentives (need for additional support and socializing) and possibilities (money and time) to invest in social capital.

Regarding the possible differences between transition and non-transition countries, most of the previous analyses have paid no attention to this question. A few examples (Fidrmuc and Gėrxhani 2005, Bartkowski and Jasińska-Kania 2004) suggest that the stock of social capital at the individual level is affected similarly by socio-economic and demographic factors in both groups of countries. The same could be expected intuitively, as it would be hard to explain why age, sex, education, and other socio-economic factors should yield different results in these country groups. Still, more recent empirical work of Kaasa and Parts (2008) found considerable differences between transition and non-transition countries, but these differences were rather in the existence and size than in the sign of the effect. However, Uslaner (2003) has noted that although the psychology determining the motivation for trusting and participating is similar in transition and non-transition countries, there might be differences in social capital which are related to prior life experience and its interpretations. In this respect, the evidence shows that people in CEE countries tend to see their past more likely in negative interpretation, as compared to people in WE countries. Based on these arguments, the following propositions will be set up:

P2b: Among individual-level determinants, socio-economic and demographic factors are expected to have similar effect on social capital in WE and CEE countries.
P2c: Among individual-level determinants, cultural and psychological factors which are related to historical experience are expected to have different effect on social capital in WE and CEE countries.

Besides individual-level attributes, social capital is also influenced by macro-level or contextual factors. Broadening the range of possible determinants is important because individuals are not living in isolation, but are part of a certain culture – so it is very likely that these national cultures have an impact on individual levels of social capital. The theoretical discussion in subchapter 1.1.3 showed that the effects of individual-level factors (especially of resource-related ones, like education and income) might depend on their country-level aggregates. Macro-level determinants are expected to be more important for cognitive dimensions of social capital, as the latter are influenced by smaller number of individual-level determinants according to previous studies. Also, the work of Fidrmuc and Gėrxhani (2005) has shown that aggregate measures of economic development and quality of institutions determine the extent of formal networks, but not informal networks of social and material support.

Taken together, the above arguments have formed the basis for a multi-level analysis of the determinants of social capital, which was recently adopted, for example, by Rose *et al.* (1997), van Oorschot *et al.* (2005), and Halman and Luijkx (2006). However, again, there is no comprehensive evidence regarding the differences between WE and CEE countries. Fidrmuc and Gėrxhani (2005) have made an attempt to compare old EU members with (previous) the candidate countries and found that the gap between the two country groups disappears completely when the macro-level determinants of social capital are taken into account. These factors were mostly related to overall development level, which differs in WE and CEE country groups. As the current research considers a broader list of possible macro-level determinants, including also value-related aggregates from WVS survey, it would be expected that:

P2d: Macro-level determinants might have a different effect on social capital in WE and CEE countries.

Given that both micro-level and macro-level factors play a role in determining the levels of social capital, the question arises whether it is possible to list these determinants according to their relative importance. Although previous research in this topic is almost missing, it could be expected that contextual factors are those that lead to differences in the levels of social capital in WE and CEE countries, because of past experiences under communism. Thus, when combining also the argumentations behind the propositions P1c and P2b–P2d, the following general proposition can be set up:

P2e: The relative importance of micro- and macro-level factors might be different in different country groups, and in case of different social capital components.

The third group of propositions will be set up to investigate the relationships between social capital and economic growth. The propositions P3a-P3e are dealing with the direct effect of social capital components on economic growth. The propositions P3f and P3g investigate possible indirect influence channels through physical investments and human capital, respectively. The theoretical basis for these propositions is presented in subchapters 1.2.2 and 1.2.3. It should be noted that this set of propositions can be considered experimental (especially regarding the indirect effects of social capital), as previous research about the relationship between social capital and economic growth – and especially differences between country groups in regard to this relationship – has been rather poor. Thus, it is not possible to set up strong propositions based on theoretical arguments or previous empirical work.

Generalised trust is one of the most studied factors of economic growth among social capital components. Together with social norms and related sanctions, trust can favour economic performance in several ways. First of all, trust towards unknown strangers helps to solve principal-agent problems by reducing transaction costs. As a result, more resources could be directed into real production, instead of devoting them to monitoring untrustworthy partners and securing oneself against possible violations of the contracts (Putnam *et al*. 1993, 2000). Secondly, trust helps to foster cooperation between firms, facilitating the exchange of resources and information and thus leading to greater efficiency (Coleman 1990). Thirdly, trust together with social norms suppresses free-riding and supports voluntary cooperation for the provision of public goods (Ostrom 1990), reducing thus collective action problems. This means lower need for state regulation, being especially important in case of low capability of the government. Although the latter statement involves the possibility that general trust might have higher importance in transition countries, where the quality of governance is lower, broad-based empirical evidence (e.g. Knack and Keefer 1997, Whiteley 2000) enables to set up the following proposition:

P3a: General trust and social norms are expected to have a direct positive effect on economic growth both in transition and non-transition countries.

Further, it is widely believed that higher institutional trust which stems from better governance (e.g. Rothstein and Stolle 2002) fosters economic development. The quality of governance is related to overall institutional development. Higher institutional performance means lower risks to (especially foreign) investors and thus leads to higher competitiveness of a country. Also, it is associated with higher confidence in institutions, which represents a specific type of trust at macro level. However, Knack and Keefer (1997) suggest that the positive interplay between governance and economic development appears more likely in high-trust societies, as compared to corrupted and low-trust societies. Based on these arguments, the following proposition will be set up:

P3b: *Institutional trust and the quality of governance are positively related to economic growth in highly developed countries, but the relationship is expected to be weaker in poorer transition countries.*

According to Putnam (1993, 2000), participation in voluntary organisations fosters norms of altruism and general reciprocity, leading thus to higher general trust and respective benefits, which were explained in the Proposition P3a. In addition, social networks serve as cheap information channels (Coleman 1990), and it is remarkable that valuable information can be often acquired through networks that are created for other purposes. However, it is not clear whether social participation at the individual/local level is always beneficial for the wider society, as some groups can be rent-seeking and create negative externalities (Olson 1982, Raiser 2001). In this respect, bridging and open networks are expected to be more beneficial than the closed bonding ones both at individual and societal level. Also, it is believed that active participation is more beneficial to economic growth than passive participation (e.g. Putnam 2000, Beugelsdijk and Schaik 2005), but this proposition cannot be tested in the current study due to lack of the data. Based on this background knowledge, the following proposition will be set up:

P3c: *Participation in voluntary organisations is expected to have a positive effect on economic growth, while the opposite might hold for informal socialising with friends and family. The differences between WE and CEE countries are more likely to occur than in case of trust and norms.*

The positive effects of social capital are also associated with general political activity, which could be related to the effectiveness and trustworthiness of public institutions (see the Proposition P3b). On the one hand, higher political activity and voting participation in high-trust societies puts higher pressure and responsibility on politicians (Knack 1992). On the other hand, higher interest in political affairs in transition countries may have a similar effect despite low levels of trust (Bjørnskov 2003). In both cases, political engagement can be seen as an expression of civil society. Therefore, the following proposition could be set up:

P3d: *Political engagement may be considered as a component of social capital which fosters economic growth similarly in both groups of countries.*

Altruism or sense of community constitutes the type of social capital which is not widely studied, especially empirically. Theoretically, preparedness to help others who are different from oneself can be considered as a special expression of trusting attitudes towards strangers. An individual-based model of social capital which was introduced in subchapter 1.1.1 related altruistic behaviour to the expected "repayment" in the future. An important characteristic of such

mutual expectation is that the time and form of such repayment is not known (Homans 1961). However, altruism can be seen as directly related to civil society and readiness to contribute for achieving common tasks. As this is largely a psychological concept, no differences between country groups can be expected (see Uslaner 2003 and argumentation behind the proposition P2c). Based on the above, the following proposition will be set up:

P3e: The direct effect of altruism or sense of community is expected to be positive and similar in WE and CEE country groups.

Besides the direct effect on economic growth, social capital is believed to work through traditional growth factors like physical and human capital by increasing their accumulation rate and productivity. Social capital – especially social and institutional trust and better governance – associate with better investment climate in the economy, encouraging both domestic and foreign investments (Hjerppe 2000). Trusting societies are also expected to be less risk-averse, facilitating more risky investments in physical capital. Generalised trust and networks are especially important for 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). In general, all these explanations are related to lower transaction costs and saving resources to production instead of formal contracting and controlling activities.

It could be suggested that investors' motives are mostly the same in both 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 discussion, the following proposition will be set up:

P3f: Social capital has a positive effect on investments similarly in WE and CEE countries.

Similarly to physical investment, trusting societies have stronger incentives to invest in human capital due to higher and more direct returns to these investments (Mayer 2001). More precisely, hiring decisions in high-trust societies are less influenced by blood ties or personal knowledge and more by educational credentials. On the other hand, social networks (like those developed during studies in prestigious universities) could help to ensure labour-market success, as they are useful information channels for job-seekers (e.g. Lee and Brinton 1996). Still, empirical evidence has shown that hiring decisions based on private social capital are mostly related to low-paid jobs for those with lower level of education (Montgomery 1992).

Although the relationship between social capital and human capital is usually assessed at individual level, empirical analysis in the current dissertation tests this relationship also at the aggregate level, using alternative human capital indicators as dependent variables in alternative regression models. However, the earlier analysis of the determinants of social capital in chapter 2.2 covers also an opposite effect (from education to social capital) at individual level. Regarding the possible differences between the country groups, the levels of human capital are similar in WE and CEE countries despite the differences in the social capital. In both groups of countries, it could be suggested that Lin's (2001) argument holds, saying that human capital complements social capital in status attainment (still, other mechanisms leading to higher status were probably somewhat different in East and West). Thus, although there are no respective empirical studies to rely on, the theoretical arguments enable to set up the following proposition:

P3g: Higher social capital is associated with higher investments in human capital similarly in WE and CEE countries.

The propositions developed above will be empirically addressed in the subsequent parts of the thesis. Figure 15 presents the general logic of the research propositions and shows how they are related to the structure of the following empirical analysis. Chapter 2.1 investigates the first group of propositions (P1a–P1e) about the composition and structure of social capital in CEE and WE countries. Next, chapter 2.2 explores the second group of propositions (P2a–P2e) about how individual-level and country-specific factors determine the levels of social capital in respective country groups. Finally, chapter 2.3 is addressed to the third group of propositions (P3a–P3g) about the direct and indirect relationships between social capital and economic growth. When deciding on the validity of the proposed research propositions, the following principles will be followed. The proposition is "fully supported" when all its aspects find support by the analysis. The proposition is marked as "mostly supported" if it finds almost full validation, except in some small/minor aspects. The proposition is "partially supported" if about half (say, 40–60%) of it finds support and another half is not verified by empirical analysis. Finally, the proposition is "not supported" when none of its aspects find validation.
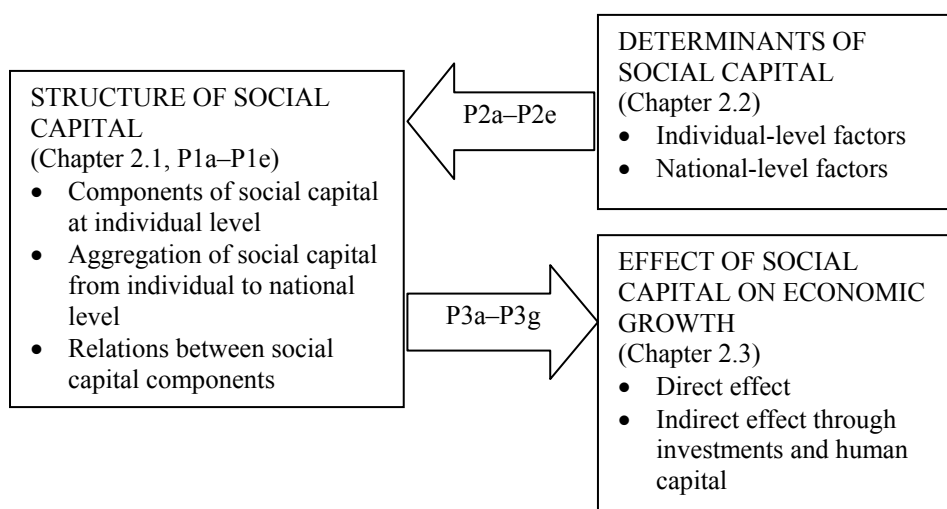
Figure 15. The general logic of research propositions (compiled by the author).

Data and sample

The following empirical analysis compares the composition, determinants and economic effects of social capital in 14 Central and Eastern European (CEE) countries and in 17 Western European (WE) countries. The selection of the countries was limited by data availability, as especially in case of Eastern European countries not all indicators of interest were available for the whole region. The countries analysed include Bulgaria, Belarus, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Russian Federation, Slovakia, Slovenia and the Ukraine in Central and Eastern European sub-sample; and Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Spain, Sweden and Great Britain in Western European sub-sample. The abbreviations of country names subsequently used in graphs and figures can be found in Appendix 7.

The data used in the empirical analysis come from multiple sources. Individual-level data about social capital and its determinants are obtained from the World Values Survey (WVS)[20] database, which is available online

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[20] WVS was designed at the beginning of 1980s to enable a cross-national comparison of values and norms on a wide variety of topics and to monitor changes in values and attitudes. In the beginning, the scope of the study was limited to the European nations and was named as the European Values Survey (EVS). Since the second round in 1989, the Survey was extended across the globe by Ronald Inglehart from the University of Michigan (US) and includes now data for more than 80 countries. The European coordination centre is located in Tilburg University (the Netherlands).

(www.worldvaluessurvey.org). Although there are several other surveys[21] including information about social capital, WVS was preferred because it contains a wide-range of comparative social capital data for almost all European countries, including Central and Eastern European countries. WVS surveys are carried out approximately over five years in the form of face-to-face interviews and include about 1000–1500 respondents from every country. Earlier rounds cover years 1981–1984 (round 1), 1989–1993 (round 2), 1994–1997 (round 3), 1999–2004 (round 4) and 2005–2008 (round 5). However, not all waves include all possible social capital data, which means that, unfortunately, no social capital dynamics can be analysed. As earlier waves of WVS tap only a few dimensions of social capital (mainly general trust and group membership) and the last wave does not include European countries (with a few exceptions), the analysis in this dissertation focuses on the social capital data from WVS round 4, referring to years 1999–2002 in the countries of interest. For the following analysis, an individual-level sample was extracted from WVS round 4 which includes 21699 observations for WE and 17220 observations for CEE countries (see Appendix 7 for exact survey year and sample size of individual countries), making total sample size equal to 38919 observations. In order to ensure correctness of cross-country comparison, combined weights were used which correct for deviations from national population parameters in age and education, and also give greater weight to the more populous countries, so that the pooled analysis more closely approximate global reality.

For national-level analysis, a new database (hereafter called as national-level social capital database) was compiled by the author including country means of WVS indicators of social capital and its determinants. This database was complemented with national-level data of economic development and its factors, which stem from the World Development Indicators database (WDI 2008), Human Development Report (HDR 2001, 2002, 2008) and governance database of Kaufmann *et al.* (2008). Exact description and sources of indicators used in national level analysis as determinants of social capital and economic growth are presented in Appendices 17 and 25.

Research methodology
The data available for this research condition the use of the statistical methods that are applicable for cross-sectional datasets. At different stages of the research, a factor analysis, t-test for mean comparison, correlation analysis and OLS regression analysis are used. Figure 16 presents the stages of the empirical research followed in this dissertation, together with the statistical methods based

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[21] The European Social Survey (ESS; see www.europeansocialsurvey.org) as a possible alternative was rejected because it does not contain enough information about CEE countries that are not members of the European Union. Also, although ESS enables dynamic analysis over years, the time period covered is yet very short (three rounds during 2002–2007 on the biannual basis) and thus unsuitable for analysing the relationship between social capital and long-run development outcomes.

on which the developed propositions will be tested. The statistical analysis in this dissertation is carried out using the statistical software package SPSS versions 15.0–17.0.

FACTOR ANALYSIS with principal components on pooled data in order to obtain latent factors of social capital. The same analysis is repeated separately for CEE and WE subsamples in order to control the similarity of factor structure in these country groups (P1a in subchapter 2.1)

↓

DESCRIPTIVE ANALYSIS for comparing the levels of social capital in CEE and WE subsamples (P1b in subchapter 2.1)

↓

T-TEST for finding out the possible mean differences in social capital components between CEE and WE country groups (P1b in subchapter 2.1)

↓

CORRELATION ANALYSIS for finding out whether there are relationships between social capital components in CEE and WE sub-samples (P1c–P1e in subchapter 2.1)

↓

OLS regression analysis on the determinants of social capital in CEE and WE country groups (P2a–P2e in subchapter 2.2)

↓

OLS regression analysis on the relationship between social capital and economic growth in joint sample of CEE and WE countries (P3a–P3g in subchapter 2.3)

↓

CHOW TEST on the possible differences in the relationship between social capital and economic growth in CEE and WE subsamples (P3a–P3g in subchapter 2.3)

Figure 16. Statistical methods used for testing the validity of research propositions

According to the theoretical literature on social capital, this concept could be better characterised by its dimensions rather than individual variables. In order to obtain latent factors of social capital, an *exploratory factor analysis* will be implemented, as recommended and used by several authors (Brehm and Rahn 1997, Whiteley 2000, Hjollund and Svendsen 2000, van Oorschot and Arts

2005). This method enables to group a larger number of observed variables which are highly correlated into a smaller number of uncorrelated factors. The number of components extracted is based on eigenvalues which should be greater than 1 (SPSS 2005). The stability of the obtained factor solution is analysed using Kaiser-Meyer-Olkin measure of sampling adequacy (KMO). KMO is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. Its values vary between 0 and 1, while larger values indicate that patterns of correlations are relatively compact and thus factor analysis would yield distinct and reliable factors. Generally, KMO values greater than 0.5 are considered acceptable (SPSS 2005). Other goodness-of-fit measures of factor analysis include percent of variance explained by separate factors and by all factors cumulatively, and communalities which show the proportion of the variability in each variable accounted for by the obtained factors. Additionally, factor pattern is assessed through clarity of interpretation.

The Exploratory factor analysis is followed by a *confirmatory factor analysis* in order to obtain more clear and distinct components of social capital. While in case of exploratory factor analysis any indicator may be associated with any factor, in case of confirmatory factor analysis the indicators describing a particular latent factor are predetermined on the basis of theoretical considerations. As confirmatory analysis gives the factors that can be correlated to each other, these factors are next used as input in the second-order exploratory factor analysis. This enables to further clarify the structure and aggregation possibilities of social capital indicators. The confirmatory factors of social capital are subsequently used also as dependent variables in the analysis of the determinants of social capital, and as independent variables in the analysis of economic effects of social capital.

On the basis of the obtained social capital factors, *independent-samples T-test* is used for finding out the mean differences in social capital components between CEE and WE country groups. In cases where Levene's test for equality of variance suggests to reject the hypothesis of equal variances ($p<0.05$), a separate-variance t-test is used instead of the pooled-variance t-test.

Next, *correlation analysis* is used for investigating the relationships between social capital components. Pearson correlation coefficients are calculated for pooled data and also separately for CEE and WE sub-samples. The comparison of the coefficients in different sub-samples enables to draw conclusions about the similarity or differences in the social capital structure in different country groups. In addition to individual-level correlations, the correlations between national-level social capital aggregates are calculated and compared.

Finally, *OLS regression models* are used for investigating the relations between social capital and its determinants, and between social capital and economic development indicators. In both cases, the main purposes are to find

out which independent variables are significant, whether their influence[22] on a dependent variable is positive or negative, and how strong the influence is relative to other independent variables. Only standardised regression coefficients (betas) are reported, as these enable to better compare the strength of the influence of independent variables measured on different scales. Identifying the strongest predictors of the dependent variables is based on t statistics: absolute values over 2 are considered as indicating usefulness of respective predictors. To find out how well OLS models fit the data, adjusted R^2 is used. This measure is preferred in multiple regressions to simple R^2, being the function of the latter adjusted by the number of variables in the model and the sample size (SPSS 1999). The possible multicollinearity problem, which often arises in exploratory analysis with many independent variables that might be strongly correlated, is addressed by VIF (variance inflation factor) statistic: VIF values higher than 10 are considered to indicate the problem of collinearity among the independent variables (*ibid*).

In the regression analysis of the determinants of social capital, a multi-level approach is implemented – meaning that independent variables include both individual-level characteristics and national-level or contextual characteristics. Individual-level data enable to carry out this analysis separately in WE and CEE subsamples, and then compare the results. As the data for this analysis come mostly from the same WVS database, both social capital and its determinants are measured as in year 1999 (or nearest available in case of the national-level determinants of social capital).

In the regression analysis of the relationship between social capital and economic growth, a small number of observations at national level enables only the pooled analysis. The analysis covers the period 2000–2006. The selection of the time period was limited for several reasons. Firstly, this period presents quite a stable growth experience without large global shocks (Asian financial crisis and Russian crisis of the years 1997–1998 are excluded), thus allowing more accurate estimations despite the short time span.[23] Secondly, national social capital data were available only for year 1999. As the factors of growth should be estimated prior the growth in order to minimise simultaneity and endogeneity problems, including earlier years would not be meaningful.

As the analysis of the relationship between social capital and economic growth is exploratory in nature and includes more social capital indicators than previous studies, it could be expected that many of them remain insignificant in full models. In order to avoid over-specification and improve model fit,

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[22] By the term "influence" we mark here and hereafter rather a relationship or association, recognising that simple OLS regression does not enable to specify real influence or the direction of causality.

[23] However, Solow (2001: 288) has argued that models of growth (like the one used in the current dissertation) should be implemented only over longer periods of 30–50 years, so that the real long-run effects could not be dominated by demand-driving business cycles.

stepwise regression with backward method is implemented. Backward selection method begins with all proposed independent variables in the model. At each step, the least useful predictor is removed according to the established criterion: probability of F-to-remove ≥ 0.10 (SPSS 1999: 216). The possible differences in the growth factors in WE and CEE countries are tested with two alternative methods. Firstly, dummy variable for transition countries is added into regressions, which is expected to capture wide-range differences in initial conditions and structural characteristics between two country groups. Secondly, Chow test is used to determine whether the coefficients in a linear regression model are the same in WE and CEE sub-samples. The Chow test statistic is calculated as follows:

$$((RSSR - SSR_1 - SSR_2)/k)/((SSR_1 + SSR_2)/(n - 2k)),$$

where $RSSR$ is the sum of squared residuals from the combined data, SSR_1 and SSR_2 are the sums of squared residuals from the group 1 and group 2, n is the total number of observations and k is the total number of parameters (Chow 1960). Statistical significance ($p<0.05$) of this test suggests that the regression coefficients are different in two subsamples.

2. COMPARATIVE RESEARCH ON THE STRUCTURE, DETERMINANTS AND ECONOMIC EFFECTS OF SOCIAL CAPITAL IN WE AND CEE COUNTRIES

2.1. Comparison of the structure and levels of social capital in WE and CEE countries

2.1.1. Components of social capital in WE and CEE subsamples

Measuring social capital

The purpose of chapter 2.1 is to identify the structure of social capital according to WVS data, and to compare the composition and levels of social capital in WE and CEE subsamples. In subchapter 2.1.1, firstly initial indicators of social capital used in subsequent analysis are introduced. Secondly, latent factors (components) of social capital are derived with help of factor analysis. This analysis is performed on pooled data and also separately on WE and CEE subsamples.

Based on the arguments presented in the theoretical part of the thesis (see Subchapter 1.1.2), in the current dissertation it is assumed that social capital is a multifaceted phenomenon containing various dimensions, which can be influenced in dissimilar ways by the hypothesised determinants, and which can have different effects on alternative development outcomes. Following more recent literature on social capital (e.g. Rothstein 2001, Oorschot and Arts 2005, Halman and Luijkx 2006), the author attempts to cover four basic dimensions of social capital – networks, trust, civic commitment, and sense of community – which all comprise two or three sub-dimensions (see Table 16).

The data of social capital used in the following empirical analysis stem from WVS round 4 and refer mostly to year 1999. Altogether, the pre-defined dimensions of social capital are described by 29 initial indicators (see Appendix 8 for measurement details). The selection of the indicators is based on theoretical framework as presented in Table 16, and on the availability of data for the countries of interest. Next, a more detailed overview of the selected indicators is given.

The network dimension of social capital can be divided (both theoretically and empirically) into two parts – formal engagement and informal socialising. WVS includes three types of questions for measuring engagement in formal networks: active or passive participation in voluntary organisations, overall belonging into voluntary organisations, and unpaid work for different types of organisations. Altogether, 16 different organisations are indicated. However, although distinguishing between active and passive participation is considered important in the literature, only overall participation and voluntary work are

analysed in the current study, as the data for active participation were not available in WVS wave 4. Following Putnam's (1995) suggestion that it does not matter so much in what kind of organisations people are engaged, *formal networks* are measured by two indicators: belonging to all types of organisations and unpaid voluntary works for these organisations. In both cases the total number of organisations mentioned was calculated.[24] Also, in order to test the argument of Knack and Keefer (1997) about the different influence of Olson-type and Putnam-type organisations, separate membership indicators for both types of organisations were calculated. The Olson-type organisations include professional associations, political parties and labour unions, while the Putnam-type organisations comprise sport, youth, education and cultural organisations.

Table 16. Dimensions and components of social capital covered in empirical analysis

Dimension of social capital	Components
Networks	Membership and voluntary work for different organisations
	Relations with friends and colleagues (bridging)
	Family relations (bonding)
Trust	Interpersonal (general) trust
	Institutional trust
Civic commitment	Following social norms (trustworthiness)
	Interest in politics
	Political action
Sense of community	Concerned with others
	Prepared to help others

Source: compiled by the author on the basis of (a) the discussion in subchapters 1.1.2 and 1.1.3, and (b) the availability of social capital data in WVS.

Social activism in informal networks can be divided into bridging and bonding relations. *Bonding networks* are related to close relatives and measured here by three questions: importance of one's family, readiness to help immediate family and concern of immediate family. *Bridging networks* are described by the frequency of spending time with friends, importance of friends, and spending time socially with colleagues. Here and hereafter the scales are chosen so that larger values reflect a larger stock of social capital.

The second core dimension of social capital is *trust*, which includes two basic sub-dimensions: interpersonal trust and institutional trust. Unfortunately,

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[24] However, there is an opinion that membership in religious organisations should be eliminated from the overall membership index, because of their hierarchical character (Putnam *et al.* 1993). Some authors exclude also trade unions, as in many countries both trade-union and church membership reflect not so much people's voluntary choice, but rather traditions or administrative practice.

although WVS includes several alternative trust questions (trusting people in general, fellow nationals, one's own family, etc), only one of these – the question of whether most people can be trusted – is available for all countries of interest. Therefore, the current study relies solely on the traditional question of *general trust*, leaving multidimensionality of trust empirically uncovered. Indicator of *institutional trust* is based on questions about the level of confidence in different institutions in ten-point scale. Altogether, 18 different institutions are mentioned in the WVS questionnaire. However, all countries have no data for all these institutions. Also, several authors have suggested that not all institutions are of the same importance in generating the social capital benefits – these are the so-called welfare-state institutions that count most (Rothstein and Stolle 2002, 2003). Based on these considerations, the current study comprises the questions about confidence in civil services, parliament, police, and justice system. Because of missing data, other welfare-state institutions like social security and health care system were not included in the analysis.

The third component of social capital – *civic commitment* (named also as civism or civicism) – refers neither to people's relations with others nor to their trust in others, but to particular attitudinal and behavioural characteristics of people themselves (van Oorschot *et al.* 2006). In this dissertation, civic commitment is assessed through two sub-dimensions: civic norms and political engagement. *Norms* are described by three indicators: justifiability of cheating on taxes, of claiming government benefits to which one is not entitled, and of accepting a bribe. Regarding political engagement (closely related to linking social capital), a distinction is made between general interest in politics and active participation in political events. *Interest in politics* is measured by three questions: how often the person follows politics in the news and discusses political matters with friends, and how important is politics in one's life. *Political action* comprises person's readiness to sign a petition, join in boycotts and attend lawful demonstrations.

Finally, social capital in Coleman's and Putnam's approach is closely related to social cohesion and a sense of community. In the current study, *sense of community* is approximated by two indicators (principally the same approach was used in Anheier *et al.* 2004, p.89). Firstly, the indicator *concerning* is based on the answers to three questions of whether the respondent is concerned with people in neighbourhood, with people in one's own region and with fellow countrymen in general. The second indicator can be labelled as *helping* and it measures the degree to which the respondent is prepared to help immigrants, people in the neighbourhood, elderly people, and sick or disabled people.

The descriptive statistics (means, standard deviations and t-test for mean comparison) of 29 initial social capital variables described above is presented in Appendix 9. Concerning the differences between CEE and WE countries, in most cases the data indicate higher social capital in WE countries. However, people in CEE countries are more interested in politics and more concerned

with fellow countryman. The T-test confirmed that all these differences among the mean values of social capital indicators are statistically significant at level p<0.05. As an exception, in case of three indicators – concern with immediate family, concern with people in the region and spending time with colleagues – the means are roughly the same in country groups.

Constructing latent variables of social capital
According to theoretical literature, the concept of social capital could be better characterised by its dimensions rather than individual variables. In order to capture all the information of the above 29 individual social capital indicators into smaller number of variables, latent variables were constructed for each selected dimension. To test the empirical validity of the multidimensionality of social capital, an exploratory factor analysis was used. If each of the various dimensions of social capital captures specific aspects of the concept, the initial indicators chosen to describe a particular dimension should load to the same factor. In order to test the similarities and differences of the social capital structure in CEE and WE countries, the following analysis is performed first on pooled data and afterwards separately for CEE and WE subsamples.

The exploratory factor analysis was conducted using the principal components method with equamax rotation.[25] 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 and the results are presented in Table 17. Names of the factors in the header row are derived directly from the respective survey questions (i.e. names of the initial indicators presented in the first column). Altogether, the extracted nine factors explain 62.44% of the total variance of 29 initial indicators included in the analysis. The KMO test statistic is 0.777, which shows that the factor solution is stable. The results also show that the indicators of social capital clearly divided into groups describing the pre-defined components of social capital (see Table 16) and every indicator corresponds to the dimension which this indicator was assumed to measure. The factor loadings of indicators in factors, which they were chosen for, are ranging from 0.61 to 0.88.

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[25] Equamax is chosen because it is a combination of varimax, which minimises the number of variables that have high loadings on each factor, and quartimax, which minimises the number of factors needed to explain each variable (SPSS, 2005). In order to test for stability of the results, other extraction methods (maximum likelihood, generalised least squares) and other rotation methods (varimax, quartimax) were implemented, but the general pattern of loadings of indicators into factors remained the same.

Table 17. Results of the exploratory factor analysis

Initial indicators	Factors of social capital								
	1	2	3	4	5	6	7	8	9
Prepared to help elderly people	**0.88**	0.11	0.02	0.03	0.04	0.09	0.05	0.00	0.13
Prepared to help sick and disabled people	**0.86**	0.06	0.01	0.04	0.03	0.09	0.07	0.02	0.11
Prepared to help people in the neighbourhood	**0.71**	0.30	0.10	0.06	0.04	0.06	0.10	0.07	0.15
Prepared to help immigrants	**0.66**	0.20	0.12	0.19	0.06	0.08	0.13	0.10	–0.03
Concerned with people in the region	0.16	**0.88**	0.04	0.01	0.08	0.04	0.02	0.04	0.02
Concerned with people in the neighbourhood	0.14	**0.82**	0.08	0.00	0.00	0.01	0.05	0.04	0.16
Concerned with fellow countrymen	0.18	**0.80**	0.01	0.03	0.12	0.05	0.01	0.04	–0.02
Confidence: Parliament	0.03	0.08	**0.79**	0.05	0.11	0.02	0.08	0.02	0.01
Confidence: The Civil Services	0.05	0.05	**0.78**	–0.02	0.04	0.04	0.01	0.00	0.01
Confidence: Justice System	0.02	0.00	**0.75**	–0.02	–0.01	0.03	0.05	0.06	0.03
Confidence: The Police	0.11	0.00	**0.74**	0.01	–0.07	0.12	0.06	0.04	0.03
Political action: joining in boycotts	0.03	–0.01	0.01	**0.79**	0.09	–0.02	0.10	0.09	–0.02
Political action: attending lawful demonstrations	0.03	0.04	–0.05	**0.77**	0.18	–0.05	0.07	0.06	0.00
Political action: signing a petition	0.14	–0.02	0.03	**0.76**	0.06	0.01	0.15	0.10	0.06
How often discusses political matters with friends	0.03	0.05	–0.07	0.12	**0.78**	–0.01	0.07	0.10	–0.01
How often follows politics in the news	0.02	0.03	0.00	0.05	**0.75**	0.05	0.03	–0.09	0.04

Table 17. Continued

Initial indicators	Factors of social capital								
	1	2	3	4	5	6	7	8	9
Politics important in life	0.03	0.06	0.11	0.12	**0.75**	0.03	0.08	0.10	0.03
Justifiable: cheating on taxes	0.08	0.05	0.09	–0.07	0.03	**0.77**	0.02	–0.04	0.02
Justifiable: claiming government benefits	0.03	–0.02	0.00	–0.01	0.05	**0.76**	0.04	–0.03	0.03
Justifiable: someone accepting a bribe	0.07	0.03	0.04	0.04	0.00	**0.71**	0.00	–0.04	0.04
Unpaid work	0.07	0.02	–0.02	0.03	0.04	–0.01	**0.88**	0.04	0.04
Belonging into organisations	0.10	–0.02	0.07	0.17	0.10	0.03	**0.85**	0.09	0.03
Most people can be trusted	0.00	0.07	0.15	0.21	0.05	0.07	0.27	0.17	–0.17
Spend time with friends	0.05	0.00	0.01	0.12	–0.02	–0.06	0.06	**0.79**	–0.03
Friends important in life	0.04	0.03	0.09	0.07	0.07	0.06	0.04	**0.68**	0.18
Spend time with colleagues from work	0.00	0.04	–0.04	0.04	0.04	–0.10	0.10	**0.65**	–0.05
Family important in life	0.03	–0.04	0.06	0.00	0.06	0.13	0.02	0.07	**0.68**
Prepared to help immediate family	**0.40**	0.04	0.01	0.06	0.02	–0.02	0.01	0.04	**0.67**
Concerned with immediate family	–0.14	**0.49**	–0.03	–0.04	–0.03	–0.08	–0.01	–0.06	**0.61**
Eigenvalues	2.77	2.51	2.45	1.98	1.85	1.78	1.69	1.63	1.45
Variance explained, %	9.55	8.65	8.45	6.82	6.38	6.15	5.82	5.64	4.99
Total variance explained, %	9.55	18.19	26.64	33.46	39.84	45.99	51.81	57.45	62.44

Notes: N=23385 (pooled sample). Rotated component matrix. Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization. KMO=0.777. Factor loadings greater than 0.3 are in bold.

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

At the same time, the factor loadings into other factors are all smaller than 0.3, with two exceptions: indicators of helping and concerning with immediate family are related to factor "family", but also to factors "helping" and "concern", respectively. This can be explained by the fact that respective indicators belong to certain question groups in the survey.

Next, in order to identify the possible structural differences of social capital in CEE and WE countries, an exploratory factor analysis was conducted separately for these two country groups (see the results in Appendix 10). In both cases, altogether nine factors were extracted. The total variance explained by nine factors was 61.22% in WE subsample and 62.76% in CEE subsample. The values of the KMO test statistic were 0.771 and 0.761, respectively, showing that the factor solutions are stable in both subsamples. Obtained factors were principally the same as in the case of pooled data, with only small differences in the ranking of the factors according to variance explained. **Thus, the results of the first-order exploratory factor analysis confirm the proposition P1a that the basic components of social capital are the same in CEE and WE countries.**

However, general trust did not load into any factor in the above three analyses. It had only weak loadings (between 0.2 and 0.3) into factors F4 polaction and F7 belong. Also, the communalities[26] for general trust were lower than 0.3, so it is justified to exclude this variable from the factor analysis. Instead, general trust is included into the following analysis of social capital separately with its standardised value. As a summary of factor analysis, Table 18 presents the abbreviations of obtained factors of social capital which are used throughout the subsequent research, together with a short description of their content.

Table 18. 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 [a]	Generalised trust towards unknown others

Note: [a] 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.
Source: compiled by the author.

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[26] Communality is the proportion of variance of the variable that can be explained by the common factors (SPSS 1999).

Table 19. 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 (pooled data).

In order to form the basis for further analysis of the relations between social capital components, and also for the analysis of social capital determinants and economic effects in Subchapters 2.2 and 2.3, social capital components were next re-estimated using confirmatory factor analysis. The results are presented in Table 19. It can be seen that the explanatory power of the obtained latent factors range from 48.5% (factor "family") to 79.2% (factor "formal networks") of the total variance in initial indicators, which can be considered as a good explanation level.

Second-order factors of social capital
The structure of social capital components would be further clarified by second-order factor analysis, using initially obtained individual factor scores as inputs. This approach enables validation of the measurement model of social capital, showing whether empirical data confirm the theoretically derived structure of social capital, as presented earlier in Table 16. Similar approach has been used, for example, by van Oorschot *et al.* (2006: 10), who used structural equation modelling for deriving the second-order structure of social capital. Again, the pooled data analysis is followed by separate analyses for WE and CEE sub-samples.

Altogether, three components were extracted from the pooled data, which explain 47% of the total variance of initial indicators (see Appendix 11). The KMO test statistic is 0.686 which shows that the factor solution is stable. The first component comprises five elements of social capital: general trust, engagement in formal organisations, informal socialising with friends and colleagues, people's actual interest in politics and readiness to take political action. This component was labelled as "networks and trust". The second component includes more soft attitudes towards family relations, readiness to help others and concern about others, altogether labelled as "altruism". The third component consists of social norms and institutional trust, labelled shortly as "norms and institutions". However, there is some small overlapping between second-order components – general trust as a part of the first factor is also moderately and positively related to the third factor.

Next, the same analysis was run separately for CEE and WE sub-samples. Results derived from the sub-sample of WE countries were similar to those of full sample, concerning both the composition of the factors and the average values of factor loadings (see Appendix 11). Total variance explained by obtained three factors was 48.4% and the value of the KMO test statistic 0.671 shows that the factor solution is stable.

In case of CEE sub-sample, differently, four factors were extracted as a result of second-order exploratory factor analysis (see Table 20), which altogether explain 54.6% of the total variation in initial indicators. The KMO test statistic is 0.638, showing the stability of factor solution.

Table 20. Comparison of the second-order components of social capital by country groups

First-order components of social capital	Second-order components of social capital											
	FK1 altruism			FK2 participation			FK3 trust			FK4 friends and norms		
	WE	CEE	total	WE	CEE	total	WE	CEE	total	WE	CEE	total
F9 family	**0.742**	**0.750**	**0.756**	-0.054	-0.089	-0.039	-0.096	-0.144	-0.092	0.000	-0.064	-0.033
F1 helping	**0.667**	**0.726**	**0.679**	0.241	0.251	0.229	0.180	0.032	0.218	-0.083	0.125	0.096
F2 concern	**0.800**	**0.656**	**0.747**	0.047	0.099	0.068	0.071	0.209	0.042	0.065	-0.012	-0.011
F4 polaction	0.006	0.020	0.049	**0.748**	**0.765**	**0.724**	-0.126	-0.096	0.098	0.237	-0.146	-0.249
F5 polinterest	0.172	0.068	0.110	**0.725**	**0.646**	**0.745**	0.030	0.041	-0.092	-0.117	0.208	0.190
F7 belong	0.053	0.121	0.074	**0.578**	**0.504**	**0.513**	0.234	0.133	**0.357**	0.079	-0.179	-0.109
F3 confidence	0.097	0.198	0.153	-0.084	-0.190	-0.156	**0.787**	**0.729**	**0.758**	-0.025	0.080	0.119
F10 gentrust	-0.107	-0.151	-0.113	**0.401**	0.206	0.277	**0.485**	**0.674**	**0.582**	0.145	-0.103	-0.079
F6 justified	0.113	0.178	0.134	0.056	0.141	0.085	**0.442**	0.103	0.267	**-0.655**	**0.788**	**0.777**
F8 friends	0.104	0.183	0.154	0.147	0.274	0.196	0.299	0.160	**0.348**	**0.764**	**-0.635**	**-0.627**
Variance explained (%)	17.1	16.7	16.9	16.8	15.1	15.5	12.6	11.2	13.1	11.2	11.6	11.4
Cumulative variance explained (%)	17.1	16.7	16.9	33.9	31.8	32.4	46.5	43.0	45.5	57.7	54.6	56.9

Notes: Principal Component Analysis, Equamax rotation with Kaiser Normalization. Factor loadings are obtained by separate analyses for all three country groups. Loadings with absolute values higher than 0.3 are in bold. For total sample, KMO=0.686, for WE subsample KMO=0.671 and for CEE subsample KMO=0.638.
Source: author's calculations on the basis of WVS.

The first component in CEE sub–sample matches with the second component in WE countries, consisting of family relations, readiness to help others and concern about others. The second component includes both indicators of political engagement and formal participation, the third component puts together socialising with friends and following social norms (with opposite signs) and the fourth component comprises two trust indicators – general and institutional trust.

In order to find the general basis for comparing the second-order social capital components in both country groups, several attempts were made to form similar structure of these components in CEE and WE sub-samples. Firstly, when trying to get three factors out of analyses of CEE countries, their composition was different than in case of WE countries and the explanatory power of this model was lower than in case when four factors were extracted. Secondly, four factors were extracted from the sub-sample of WE countries (and also from the total sample). This attempt was more successful, as the obtained factors had the same composition than those extracted from the sub-sample of CEE countries, and the variance explained was also higher (57.7%) than in case of three factors. Comparison of the rotated component matrixes of the analyses of three different country groups are presented in Table 20. As can be seen, the loadings into component "trust" do not become so clearly distinct in the sub-sample of WE countries and in the total sample, but general picture is comparable.

Table 21. Comparison of the pre-determined dimensions and empirically obtained factors of social capital

Dimension of social capital	Pre-determined components of social capital	Results of factor analysis	
		WE countries	CEE countries
Networks	Formal participation	F1 – networks and trust	F2 – participation
	Relations with friends	F1 – networks and trust	F3 – friends and norms
	Family relations	F2 – altruism	F1 – altruism
Trust	Generalised trust	F1 – networks and trust	F4 – trust
	Institutional trust	F3 – norms and institutions	F4 – trust
Civic commit-ment	Following social norms	F3 – norms and institutions	F3 – friends and norms
	Interest in politics	F1 – networks and trust	F2 – participation
	Political action	F1 – networks and trust	F2 – participation
Sense of community (altruism)	Concerned with others	F2 – altruism	F1 – altruism
	Prepared to help others	F2 – altruism	F1 – altruism

Source: compiled by the author.

When comparing the results of the second-order factor analysis with the pre-determined structure of social capital as presented in Table 16, we can see that the components obtained do not coincide with the expected structure of social capital. In the whole sample and in WE countries, none of the pre-determined dimensions appear again through factor analysis (see Table 21). In CEE countries, only the dimension of trust appears exactly in the same composition as expected. In addition, the dimension "sense of community" is similar in both country groups and, together with family indicator, forms factor "altruism". Taken together, **the results of the second-order factor analysis mostly supported the proposition P1d which suggested that the relations between social capital components might be different in WE and CEE country groups.**

From the above results, it can be concluded that empirical data do not confirm the theoretical composition of social capital, as presented in Table 16 and used in many empirical studies (e.g. Anheier *et al.* 2004, Whiteley 2000). Also, as the structure of social capital at the higher aggregation level appeared to be different in CEE countries compared to WE countries and pooled sample, an analysis based on a common measurement model will probably give biased result for the CEE countries. This warns against using overly aggregated social capital indicators in cross-national studies. It follows that the subsequent analysis of the determinants and economic effects of social capital would be more adequate on the basis of the first-order components of social capital, in order to ensure the comparability of the regression results among the two country groups.

2.1.2. Comparison of the levels of social capital

Previous subchapter showed that the first-order components of social capital are principally the same in WE and CEE country groups, while differences exist at the higher aggregation level (in case of second-order factors). In this subchapter, the levels of social capital in the two country groups are compared, considering both first-order and second-order components of social capital.

Summary statistics for the comparison of the first-order components of social capital is given in Appendix 12, 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 Figure 17) indicates remarkable differences in the levels of social capital between the two country groups. The T-test confirms that all differences in the mean values are statistically significant ($p <= 0.000$). In most cases, the level of social capital components is expectedly higher in WE countries. 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.

As confirmatory factors draw more clear distinction between different dimensions of social capital, these factor scores are also a good basis for getting an idea of the relative levels of social capital and its variation at country level. Mean country factor scores are presented in Appendix 13. However, these results do not show a clear pattern across Europe – countries with high scores in some aspect may have lower scores in other aspects.
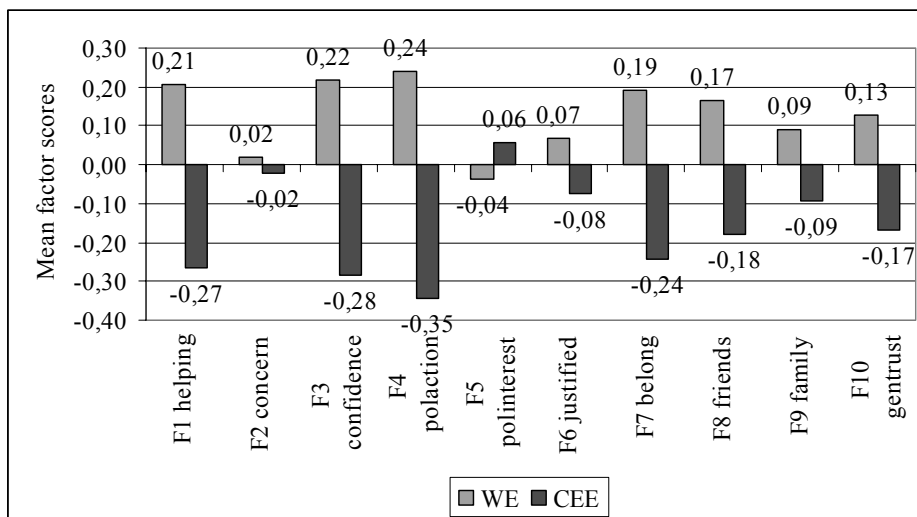
Figure 17. Comparison of the mean factor scores by country groups. (Source: author's calculations on the basis of WVS, pooled data).

As could be expected, general trust is highest in the Scandinavian countries (Denmark, Sweden, Finland), but also in the Netherlands. The lowest scores of trust are found in Romania, Portugal, and Slovakia. Concerning confidence in institutions, upper positions belong to Iceland and Denmark, while Lithuania, Greece and the Russian Federation have lowest ranks. Social norms are considered to be most important in Malta and Denmark, and not important in Belarus and Greece. Formal participation is highest in Sweden, the Netherlands and Iceland, and lowest in Russia, Lithuania and Romania. For informal networks, results are mixed: friends are most important in Sweden and Ireland and less important in Malta and Poland, but at the same time Malta (together

with Hungary) is ahead of others concerning the importance of family. Family is least valued in Finland, Denmark and other more developed countries. This finding supports the results of other studies that have also found a negative relationship between the development level of the country and an importance attached to family (see e.g. Beugelsdijk and Smulders 2003, cf. van Oorschot and Arts 2005, p.18). Further, as noted already earlier, indicators of political engagement behave differently – while people in Western Europe are more ready to take political action (especially in Sweden, Iceland and France, as opposed to Hungary, Belarus and Romania), interest in politics is higher than on average also in several CEE countries like Lithuania (2nd position), Czech Republic (6), Russia (7) and Ukraine (8). At the same time, interest in politics is lowest in WE countries – Great Britain, Spain and Portugal. Finally, rankings based on the components describing the sense of community are mixed. On the one hand, readiness to help others is highest in Sweden, Ireland and Croatia, and lowest in Belarus, Ukraine and Lithuania. On the other hand, people in Denmark and Finland are less concerned with others, compared to people in Germany and Ireland, but also in Slovakia and Belarus.
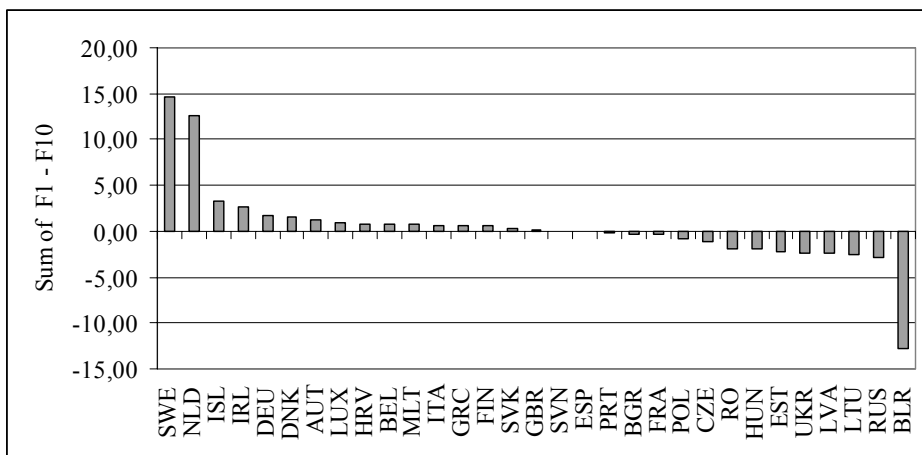
Figure 18. Country ranking by the sum of first-order factor scores (Source: composed by the author on the basis of Appendix 13).

If the ranking of countries by different social capital components is so different, can we say anything about the total social capital in separate countries? Although the following approach is definitely not perfect, summing country mean factor scores can give some information in this question. From Figure 18, it can be seen that Sweden is remarkably better endowed with social capital than other countries, basically because of its very high participation rate (both voluntary and political) and also high values of trust and informal network indicators. Surprisingly, other Scandinavian countries lag behind – Denmark

holds sixth position with total social capital close to the average of non-transition countries, while Finland is on 15th position because of low scores on family relations, concern and interest in politics. The worst position among non-transition countries belongs to France (followed by Portugal and Spain) because of low scores on following social norms, concerning about others and belonging to voluntary organisations. Low level of total social capital in Portugal and Spain is caused solely by low participation rate (both voluntary and political).

Among transition countries, Croatia holds the highest (10th) position thanks to high scores on helping others and valuing friends. Slovakia stands relatively high thanks to helping and concerning about others and also formal participation. Contrary to that, Belarus has the last position because of very low score on helping, but also on social norms, political action and family relations. Similarly bad results has Russia, who holds next to the last position and precedes Belarus only thanks to a relatively high score on political interest. Other backmost positions belong to the Baltic countries and Ukraine, but no common pattern can be drawn concerning which components are worse or better. Among these countries, Lithuania performs best in political interest and concern and worst in helping and institutional trust, Latvia's scores are lowest on concern and friends, but best in social norms, while Estonia and Ukraine have low scores on political action and helping, which is partly compensated by higher interest in politics and concern in Ukraine. Taken together, **country-level comparisons of the first-order components of social capital support the proposition P1c which stated that relative importance of different social capital components might be different in WE and CEE country groups.**

The comparison of the second-order components of social capital is based on the results of the pooled analysis. The descriptive statistics of this analysis by country groups is presented in Appendix 12 and country mean factor scores in Appendix 14. Figure 19 presents mean factor scores comparatively for CEE and WE countries. As can be seen, average scores of WE countries are mostly and expectedly higher than those of CEE countries. The gap in social capital is largest in case of interpersonal and institutional trust (FK3), where all upper positions are occupied by non-transition countries starting from Denmark, Finland and Sweden, which could confirm the positive relationship between trust and welfare state regime. As an exception, the factor "friends and norms" has on average higher value in CEE countries. However, the explanation of this result is not so straightforward, as both first-order components "friends" and "justified" were higher in WE countries. The "trick" lies in the fact that in the separate analysis of WE subsample, FK4 consists of the component "friends" with a positive sign and the component "justified" with a negative sign, while in CEE subsample and total sample these signs are opposite. Thus, it would be more correct to compare absolute values in case of FK4, which results in slightly higher level of this type of social capital in WE countries. Finally, the sum of factor scores called "total social capital" confirms the general

proposition that developed countries have more social capital – in this ranking only Croatia and Poland have positions above average (see Figure 20).
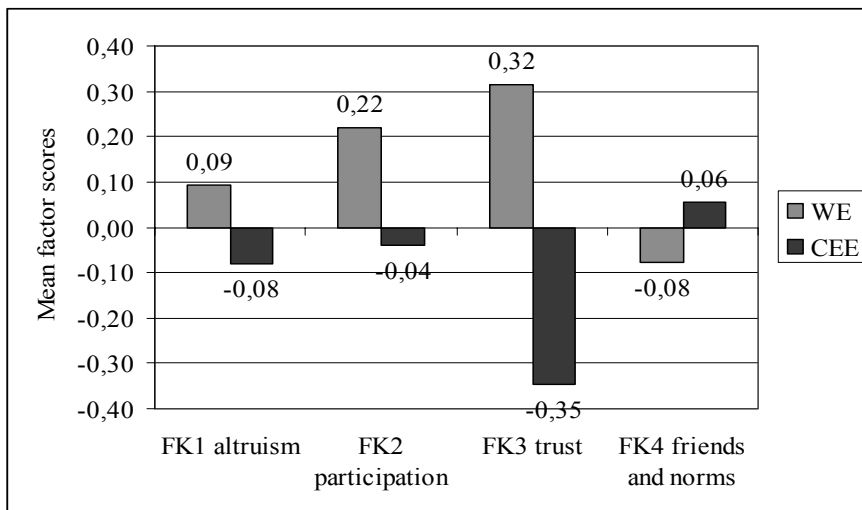
Figure 19. Comparison of the mean factor scores from second-order factor analysis by country groups. (Source: composed by the author on the basis of Appendix 12)
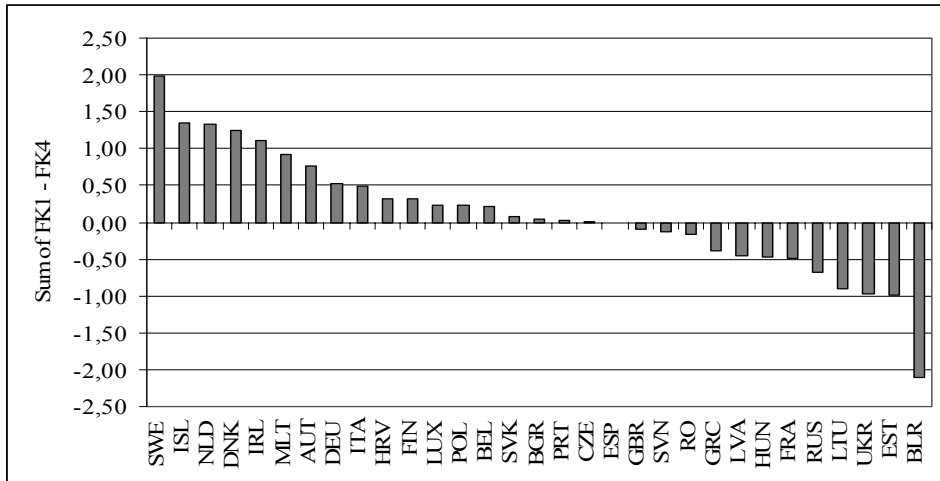
Figure 20. Country ranking by the sum of second-order factor scores. (Source: composed by the author on the basis of Appendix 14)

Summing up the above comparisons of the first-order and the second-order components of social capital, it can be concluded that in general, social capital is higher in WE countries as compared to CEE countries. As the only clear

exception, interest in politics was higher in CEE subsample at both group and country level. Taken together, **the proposition P1b about the higher level of social capital in WE countries is mostly supported.** The gap in the levels of social capital is highest in case of trust and all types of participation – formal, informal and political. Still, at country level there are several Eastern European nations where the factor scores of concern, helping and family are higher than in many Western European countries. Taken together, the research results indicate that the alternative types of social capital – especially bonding and bridging – may substitute for each other at different levels of development.

2.1.3. Relations between social capital components

Next, the results of the first-order confirmatory factor analysis are used for analysing the relations between social capital components. Both individual means and country means of the component scores are used as inputs in correlation analysis. The purpose of this subchapter is to identify structural similarities and differences in WE and CEE countries, and also assess the problems related to aggregation of social capital indicators from individual to national level.

The results of correlations analysis are presented in Table 22 separately for the CEE and WE sub-samples and also for the total sample. In pooled sample, all individual-level correlations between the first-order components of social capital are statistically significant at the 0.01 level and the majority of them are also positive, although relatively small (see left-lower panel of Table 22). As an exception, negative correlations appear between norms and political action, norms and friends, and general trust and family. The same correlations are negative also in separate samples of WE and CEE countries. In both country groups, additional negative correlations appear between political action and confidence in institutions, indicating that dissatisfaction with formal institutions motivates people to be politically active. In CEE countries, two other negative correlations appear – those between family and political action, and between general trust and social norms. However, these correlations are very weak and statistically insignificant. In general, it can be concluded that individual-level correlations between social capital components are similar in WE and CEE country groups, concerning the relative size, sign and significance of the coefficients. **Thus, the proposition P1d about the possible differences regarding the relations between social capital components is not supported at individual level.** The only notable differences associate with the insignificance of the relationship between formal networks and social norms, general trust and social norms, and general trust and helping in CEE subsample.

At aggregate level, there is a smaller number of both positive and significant correlations. From the right-upper panel of Table 22, it can also be seen that all negative correlations are statistically insignificant in pooled sample.

Table 22. Correlations between social capital components at individual level (left-lower panel) and aggregate level (right-upper panel).

Individual level	Aggregate level	F1 helping	F2 concern	F3 confidence	F4 polaction	F5 polinterest	F6 justified	F7 belong	F8 friends	F9 family	F10 gentrust
F1 helping	WE		0.37	0.20	0.23	0.23	0.27	0.40	0.12	0.31	0.22
	CEE	1	−0.05	0.29	0.52	−0.17	0.79**	0.49	0.20	0.37	−0.78**
	total		0.07	0.47**	0.59**	−0.11	0.63**	0.50**	0.39*	0.33	0.09
F2 concern	WE	0.42**		−0.31	−0.32	−0.14	−0.07	−0.31	−0.15	0.77**	−0.46
	CEE	0.34**	1	−0.00	0.12	−0.05	−0.41	0.29	0.50	0.18	0.25
	total	0.37**		−0.14	−0.09	−0.11	−0.20	−0.12	0.11	0.55**	−0.25
F3 confidence	WE	0.11**	0.11**		0.19	0.12	0.62**	0.32	0.16	−0.35	0.49*
	CEE	0.10***	0.12**	1	−0.19	−0.57*	0.11	0.26	0.01	0.43	−0.21
	total	0.16***	0.11**		0.54**	−0.17	0.49**	0.58**	0.46**	0.03	0.57**
F4 polaction	WE	0.12***	0.05***	−0.02**		0.55*	−0.15	0.74**	0.57*	−0.11	0.58*
	CEE	0.18***	0.07***	−0.08***	1	0.32	0.21	0.71**	0.51	−0.37	−0.17
	total	0.20***	0.06***	0.03***		0.19	0.21	0.80**	0.71**	−0.05	0.56**
F5 polinterest	WE	0.18***	0.17***	0.11***	0.35***		0.06	0.59*	0.20	0.10	0.51*
	CEE	0.12***	0.13***	0.02***	0.26**	1	−0.08	−0.09	−0.19	−0.49	0.21
	total	0.13***	0.15***	0.06***	0.28**		−0.04	0.25	−0.05	−0.13	0.29
F6 justified	WE	0.16***	0.06***	0.16***	−0.09***	0.06**		0.06	−0.23	−0.28	0.36
	CEE	0.19***	0.08***	0.06***	−0.03***	0.08**	1	−0.02	−0.06	0.34	−0.66**
	total	0.19***	0.07***	0.13**	−0.04**	0.06**		0.18	0.03	0.03	0.20

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Table 22. Continue

Individual level	Aggregate level	F1 helping	F2 concern	F3 confidence	F4 polaction	F5 polinterest	F6 justified	F7 belong	F8 friends	F9 family	F10 gentrust
F7 belong	WE	0.19**	0.07**	0.09**	0.24**	0.23**	0.05**	1	0.56*	-0.06	0.72**
	CEE	0.17***	0.09***	0.03***	0.22***	0.11***	0.01	1	0.45	-0.16	-0.17
	total	0.21***	0.08***	0.11***	0.28***	0.18***	0.04***	1	0.65**	0.02	0.70**
F8 friends	WE	0.09**	0.09**	0.06**	0.22**	0.12**	-0.07**	0.17**	1	-0.29	0.53*
	CEE	0.09***	0.09***	0.04***	0.19***	0.09***	-0.11**	0.15**	1	-0.08	0.22
	total	0.12***	0.09***	0.09***	0.25***	0.09***	-0.08**	0.19**	1	-0.08	0.58**
F9 family	WE	0.25***	0.36***	0.04***	0.01	0.08***	0.07***	0.03***	0.03**	1	-0.53*
	CEE	0.33***	0.25***	0.04***	-0.00	0.07***	0.07***	0.03***	0.06**	1	-0.44
	total	0.30***	0.31***	0.06***	0.03***	0.07***	0.07***	0.05***	0.06**	1	-0.35
F10 gentrust	WE	0.11***	0.05***	0.13***	0.19***	0.17***	0.05***	0.20***	0.14***	-0.05**	1
	CEE	0.00	0.07***	0.06***	0.08***	0.06***	-0.01	0.07***	0.08***	-0.03**	1
	total	0.09**	0.06**	0.13**	0.18**	0.11**	0.04**	0.18**	0.14**	-0.03**	1

Notes: Pearson correlation coefficients, * significant at the 0.05 level, ** significant at the 0.01 level (2-tailed). Because of missing values, total number of observations varies between 28 and 31 at aggregate level, and between 23404 and 38919 at individual level (in CEE subsample 9646<N<17221, in WE subsample 13756<N<21700).

Source: author's calculations on the basis of WVS and national-level social capital database.

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When analysing different components separately, it appears that interest in politics is not significantly correlated with any other factor, family relations are significantly correlated only with concern about others and social norms with institutional trust and helping others. Rest of the components are correlated with at least four other components. Yet, when analysing CEE and WE countries separately, the picture is different concerning the significance, strength and sign of the correlations at aggregate level. The only common strong positive and significant correlation in both country groups appears between political action and formal networks, suggesting that there might be common roots for overall social and civic activity. As regards differences, in WE countries the only strong negative and significant correlation appears between general trust and family – the result produced already several times in the earlier analysis. In CEE countries, significant and strong but negative correlations appear between general trust and helping, general trust and norms, and between institutional trust and interest in politics. For comparison, the same correlations in WE countries are positive but insignificant. **Thus, the proposition P1d about the possible differences in social capital structure in WE and CEE countries found confirmation at national level.** This conclusion is also supported by the earlier second-order factor analysis, which gave different results in WE and CEE subsamples.

Next, the proposition P1e about the possibility to aggregate social capital indicators from micro- to macro-level is addressed by comparing the correlations at individual and aggregate level. From Table 22, it appears that there are differences between WE and CEE country groups both concerning the pattern of statistically significant correlations and, in some cases, the sign of correlation between the same components of social capital. Among the few negative correlations at micro level, only the one between family and general trust remains negative and significant. On the other hand, there are several positive micro-level correlations that turn negative and insignificant at macro-level. General and logical tendency is that the weaker the specific micro-level correlation is, the more probably it turns negative and insignificant at macro-level. In this respect, the most problematic seem to be the components concern and interest in politics. However, there are also several important correlations that are positive and significant at both micro- and macro-level. For example, institutional trust seems to aggregate pretty well, as its correlations with most of the other components remain positive and significant at macro-level. The same holds, with some concessions, for general trust, formal networks and helping. **Altogether, comparison of the individual and national level correlations in Table 22 supports partially the proposition P1e about the difficulties when aggregating social capital from individual to national level, but no clear differences appeared between WE and CEE countries in this respect.**

As regards further analysis, subchapters 2.2 and 2.3 should answer the question whether the differences in social capital structure at individual and

national level, and between WE and CEE country groups have an impact on the research results of social capital determinants and economic effects.

2.2. Comparison of the determinants of social capital

2.2.1. Individual-level determinants of social capital

The previous chapter 2.1 showed that although the basic components of social capital are similar in WE and CEE countries, there are significant differences in the levels of social capital between the country groups. The current chapter 2.2 aims to explain these differences in the levels of social capital, focusing on the empirical investigation of the individual level (subchapter 2.2.1) and national level (subchapter 2.2.2) determinants of social capital in WE and CEE country groups. As such, differently from many previous studies which have focused on a limited number of individual attributes as determinants of people's degree of social capital, the current dissertation follows multi-level analysis which takes into account also macro-level or contextual factors of social capital. Analogical attempts have been made earlier, for example, by Rose *et al.* (1997), van Oorschot *et al.* (2005), and Halman and Luijkx (2006). Broadening the range of possible determinants is important for several reasons, as individuals are not living in isolation but are part of a certain culture, and it is very likely that these national cultures have an impact on individual levels of social capital.

The following analysis is divided into four stages. At the first stage, in this subchapter traditional set of individual-level determinants of social capital will be investigated. In the second stage, in subchapter 2.2.2 contextual factors are added into individual-level models of social capital. Then, independent effect of macro-level determinants on individual-level social capital is analysed. Finally, the effect of macro-level factors on national-level social capital is assessed.

Throughout the analysis, ten components of social capital – as derived from confirmatory factor analysis in chapter 2.1 – are used as dependent variables. Selection of independent variables is based on theoretical considerations (see discussion in subchapter 1.1.3) and on the availability of respective data in WVS. The exact descriptions of the selected 17 individual-level indicators used as independent variables in OLS regressions are presented in Appendix 15. These individual-level determinants of social capital are divided into two subsets. Firstly, socio-economic factors like age, gender, education, income, relationship status, number of children, size of town, employment status and neighbourhood diversity are included in the analysis. Secondly, the following psychological and cultural (contextual) factors are considered: individualism, post-materialism[27], support for equality, satisfaction with the development of

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[27] Post-materialism is measured with an index describing the views of a respondent about the importance of post-materialist values (giving people more say in important

democracy, and religiosity. In addition, major religious denominations (orthodox, protestant, catholic) are distinguished. Descriptive statistics of the indicators predisposed to determine the levels of social capital is presented in Appendix 16. In most cases (apart from age, stable relationship and overall religiosity), the t-test indicates statistically significant (p<0.05) differences in the mean values of these indicators in WE and CEE country groups.

Full regression results of individual-level determinants of social capital are presented in Appendix 21 separately for WE and CEE sub-samples. In order to compare the country groups, Table 23 summarises only the significant results from WE and CEE analyses. The following discussion of these results goes in three lines. Firstly, the effect of alternative influencing factors is analysed by separate social capital components, which are organised by broader dimensions as presented in Table 16 (see chapter 2.1). Secondly, the results are (re)presented from the viewpoint of influencing factors, focusing on two questions: which of them have largest (or most widespread) effect on social capital, and whether the results are in accordance with previous empirical findings. Finally, the differences between CEE and WE countries are highlighted.

As a general remark, it has to be pointed out that mostly the regression coefficients are very small, which is related to a large sample size. The following discussion focuses on the coefficients with absolute values larger than 0.1 (at the significance level p≤0.01), which can be considered having medium effect on social capital. In addition, significant regression coefficients with absolute values higher than 0.07 (considered as indicating small effect on social capital) are discussed in some cases of interest.

The determinants of networks (F7 belong, F8 friends, F9 family)
Formal participation in and unpaid work for voluntary organisations is expectedly positively influenced by education and income both in CEE and WE countries. Age associates positively with participation in WE countries, but not in CEE ones. On the other hand, in CEE countries formal participation relates positively to employment and democracy, and negatively to town size. Values related to individualism and materialism decrease the participation rates in both country groups.

Informal networks in the form of friendship (bridging) and family (bonding) relations have different determinants compared to formal networks. Friends are more important at younger ages in both country groups. The association of age with family relations is opposite, being significant only in CEE countries. Friends are also more important for those who are employed (this might be related to the fact that the component "friends" also includes a question about socialising with colleagues), who are more satisfied with democracy, and who do not have children and/or a stable relationship. Family relations, on the other

government decisions and protecting free speech) versus materialist values (maintaining order in the nation and fighting rising prices).

hand, are more valued by religious persons, and expectedly by those being in a stable relationship and having children. Both types of informal networks associate also positively and significantly with education and income, but the size of these effects is insignificant. Finally, men tend to value more friends and less family relations, as compared to women.

The determinants of trust (F3 justified and F10 gentrust)
Generalised (or social) trust as one of the basic components of social capital has three main determinants: people who are more trusting live in less diverse neighbourhood, are more educated and also more satisfied with the development of democracy. Households with higher income are more trusting in WE countries, while in CEE countries this effect is weak and insignificant. In addition, higher general trust associates with lower individualism and higher support for post-materialist values. In most cases, the effect is stronger in WE countries. Age, gender and having children have no effect on general trust. The same holds for overall religiosity, while belonging into orthodox denomination associates with lower trust in WE countries.

Institutional trust is most influenced by satisfaction with democracy. Size of town has somewhat smaller negative effect – people living in larger settlements have less confidence in formal institutions. In CEE countries, there is a non-linear effect of age, suggesting that confidence is lower among younger persons, then increases and starts to decrease again at older ages.

The determinants of civic commitment (F4 polaction, F5 polinterest, F6 justified)
There are only few significant determinants of following the social norms. In both country groups, older persons, women, and people supporting higher equality are more "civic". Norms are obeyed less likely by persons with individualistic attitudes, especially in WE countries. Overall religiosity and belonging to catholic denomination associates with higher norm-abiding in WE subsample. Finally, belonging to orthodox denomination associates negatively with social norms in WE subsample, and positively in CEE subsample.

As regards political participation, the determinants of political action and interest in politics are largely the same. Age has very strong positive effect especially on interest in politics. Education has medium and income weak positive effect on political participation, while men tend to be politically more active than women. Materialist and individualist values associate with lower political participation. All the above effects are roughly the same in CEE and WE countries. Still, there are also some small differences between country groups. For example, in WE countries higher political activity associates with lower religiosity and higher support for equality, while in CEE countries these factors have no significant effect on political activity (respective regression coefficients are very small and with opposite signs).

The determinants of sense of community (F1 helping, F2 concern)

Sense of community (or altruistic attitudes) in the form of helping others and concerning about others ("others" mean here people with different background and/or needs, like immigrants, elderly and disabled) are most influenced by age – older people are usually more caring and ready to help. In addition, religious persons and those with less individualistic and materialist values are more helpful and concerning. Satisfaction with democracy associates positively with helping in CEE countries, and with concern in WE countries. As regards education, it has positive effect on helping in WE countries and insignificant effect on helping in CEE countries. Income associates positively with helping in both country groups, while it has no significant effect on concern about others in WE subsample.

When generalising the above results, it can be concluded that **different components of social capital have different sources, so proposition P2a is supported.** More specifically, networks and civic commitment are mostly influenced by socio-economic and demographic factors, while cultural and psychological factors dominate in case of trust and sense of community. Also, the pattern of statistically significant individual-level determinants is rather similar in WE and CEE subsamples in case of socio-economic and demographic factors, but different in case of cultural and psychological factors.

Table 23 enables also to analyse the determinants of social capital from the viewpoint of influencing factors. It can be seen that age has strongest effect on social capital. In most cases, older people have more social capital than younger, with two exceptions: younger people have higher confidence in institutions (this effect is significant only in CEE countries) and they value friendship more. Also, age has no significant effect on general trust (in both subsamples), on institutional trust and family in WE countries, and on formal participation in CEE countries.

Gender has mostly very small or insignificant effect on social capital, supporting mostly the results of previous studies. For example, men are more socially and politically active, while women possess more cognitive forms of social capital. Stable relationship and having children associate positively with importance of family and negatively with friendship in both groups of countries, as expected.

Education and income, which were expected to be most influential factors of social capital, appear to be insignificant or having only very small effect on most social capital components. However, they both have positive and significant effect on "traditional" components of social capital, like general trust, formal participation, and also political engagement. Similarly to education and income, the employed persons have more structural social capital and also higher general trust. All these effects are basically the same in CEE and WE country groups, with only one exception: while in WE countries more educated people are also more helpful, an opposite holds for CEE countries.

Table 23. Comparison of the influence of individual-level social capital determinants in WE and CEE country groups

Determinants		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Gender	WE	0.043			−0.076	**−0.118**	0.071		−0.045	0.066	
	CEE			0.047	**−0.111**	**−0.134**	0.055	−0.043	−0.075	0.059	
Age	WE	**0.430**	**0.208**		**0.377**	**0.688**	**0.257**	**0.246**	**−0.561**		
	CEE	**0.473**	**0.418**	**−0.239**	**0.314**	**0.783**	**0.419**		**−0.552**	**0.174**	
Age squared	WE	**−0.354**			**−0.476**	**−0.462**			**0.347**		
	CEE	**−0.474**	**−0.329**	**0.301**	**−0.341**	**−0.570**	**−0.192**	**−0.155**	**0.304**	**−0.289**	
Stable relationship	WE								−0.091	**0.101**	
	CEE	0.041				0.041	0.034		−0.079	**0.130**	−0.046
Children	WE		0.035						−0.069	**0.116**	
	CEE								−0.064	0.084	
Education	WE	0.073	0.049	0.037	**0.218**	**0.244**		**0.181**	0.094	0.040	**0.140**
	CEE		0.037	−0.033	**0.133**	**0.221**		**0.139**	0.058	0.042	0.084
Income	WE	0.042			0.072	0.074		**0.102**	0.036	0.056	0.085
	CEE	0.083	0.032	0.032	0.048		0.033	0.064	0.054	0.090	
Size of town	WE	−0.049		−0.028	0.056	0.045		−0.073		0.042	−0.041
	CEE			−0.077	0.056	0.030		−0.049	−0.038		
Employed	WE								0.058		
	CEE				0.038			0.071	0.061		0.036
Neighbourhood	WE	−0.070			−0.057	−0.042			−0.029		−0.087
	CEE				−0.038						−0.077

Socio-demographic characteristics

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Table 23. Continue

	Determinants		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Cultural and psychological characteristics	Individualism	WE	−0.080	−0.098	−0.027	−0.092	**−0.111**	−0.082	−0.050	−0.029		**−0.103**
		CEE	−0.029	−0.073		−0.051	−0.090	−0.032	−0.041			−0.029
	Democracy	WE		0.078	**0.322**	−0.037	0.038			0.036	0.054	0.069
		CEE	0.044		**0.333**		0.030	0.036	0.031	0.074		0.085
	Post-Materialism	WE	0.079	0.033	−0.040	**0.114**	**0.110**		0.061			0.073
		CEE	0.078	0.031		**0.134**	0.083	0.032	0.037	0.059	−0.041	0.038
	Equality	WE	**0.102**	**0.119**		0.045	0.037	0.028		0.039	0.061	
		CEE	0.092	0.064	0.072	−0.031		0.050			0.081	−0.033
	Religiosity	WE	**0.111**	0.059	0.052	−0.061	0.029	0.091	0.076		0.034	
		CEE	0.075	0.039	0.061						0.052	
	Orthodox	WE	−0.033		−0.055	−0.046	0.068	**−0.115**		0.060		−0.042
		CEE	0.062	0.043				0.051			0.061	
	Protestant	WE						0.097		0.039	−0.068	
		CEE	0.036		0.094	−0.063			0.074		0.054	
	Catholic	WE		0.045	0.066						0.077	
		CEE	0.087	0.042		0.050	0.069	0.049			0.052	

Notes: Standardised coefficients from OLS regressions. For higher clarity, the coefficients which were insignificant at level p≤0.001 are suppressed. The absolute values of these coefficients were also very low (mostly less than 0.03), indicating hardly any real effect. The coefficients with absolute values higher than 0.1 (indicating medium or strong effect) are marked in bold.

Source: Compiled by the author on the basis of regression results in Appendix 21.

As regards town size, it could be expected that in larger settlements people have less informal social contacts and they are less trusting. These presumptions hold more in CEE countries than in WE countries (in the latter, for example, friends and family are less valued in small cities). On the other hand, in both groups of countries people living in larger cities are more engaged in political activities. Living in diverse neighbourhood expectedly decreases social capital, especially general trust, but these effects are mostly insignificant in CEE countries.

Altogether, the **above results mostly confirm the proposition P2b which stated that socio-economic and demographic factors have similar effect on social capital components in WE and CEE countries.**

Among cultural and psychological factors, individualism, (post-)materialism and support for equality have largely similar effect on social capital. Their influence is highest on altruism and family relations, and the signs of the regression coefficients are in accordance with the theory. Among these factors, the only remarkable difference between the country groups appears in relation between support for equality and political action, which is positive in WE and negative in CEE subsample. Satisfaction with democracy has strong positive effect on institutional trust, and it is also positively and significantly associated with general trust in both country groups. Finally, religious persons tend to have stronger altruistic attitudes and higher institutional trust, and they value family relations more. As regards religious denominations, belonging to orthodox church mostly associates negatively with social capital in WE subsample (where, however, only 5.3% of respondents belonged to this denomination; see Appendix 19) but positively in CEE subsample. Other denominations have only a few significant and positive (except in two negative cases in WE countries) relations with social capital components. Taken together, the **proposition P2c which stated that the cultural and psychological factors of social capital are different in WE and CEE countries is partially proved.**

Based on the above results, it can be generalised that individual-level determinants of social capital are mostly the same in CEE and WE countries. Some minor differences appeared regarding the size and significance of some factors, while the differences in signs were rare. This similarity in the effect of individual-level determinants raises further the question about the possible alternative factors leading to differences in social capital levels in CEE and WE countries, as was affirmed in chapter 2.1. The following subsection investigates the effect of macro-level (or contextual) determinants of social capital.

2.2.2. Aggregate-level determinants of social capital

In this subchapter, the previous analysis of social capital determinants at the level of individuals is complemented with national-level indicators, in order to find out whether these contextual factors affect the individual amount of social capital. Also, separate effect (independent of individual characteristics) of national-level factors is assessed both on individual and national social capital.

Selection of national-level indicators is based mostly on theoretical consideration (see discussion in subchapter 1.1.3), but also on previous empirical studies in order to ensure the comparability of the results, and on the availability of reliable data for the countries of interest. In the following analysis, national-level determinants of social capital are divided into two groups. First, indicators related to the overall development level of a country, which are measured directly at national level, are included in the analysis. These indicators comprise GDP per capita (measuring the overall wealth), GINI index (measuring the income inequality), human capital (denoted as LEIEDU and including education and health sub-indices from HDI), corruption control (proxy for institutional quality), and composite factor named "communication", which measures the spread of modern communication tools (telephones, mobiles and internet) and is often referred to as the globalization indicator in the literature. The second set of independent variables includes several country-level aggregates that are derived from individual responses to WVS questions, including individualism, satisfaction with democracy, post-materialism, importance of equality, and religiosity (all calculated as country means of the respective individual-level measures). Measurement details of all macro-level indicators are presented in Appendix 17 and descriptive statistics for WE and CEE country groups in Appendix 18.

Firstly, only the first set of national-level characteristics was added into individual-level regression analysis (because the second set of indicators caused multicollinearity, these were omitted from the analysis at this stage). As these factors did not influence the relative size and significance of individual-level factors, the results are presented together with individual-level determinants in Appendix 21. Table 24 summarises the main regression results of national-level characteristics, which were obtained from separate analyses in WE and CEE subsamples. Both similarities and differences between country groups can be found. Similarly in both country groups, higher level of GDP associates with lower importance attached to family relations, while human capital associates positively with family factor. More developed communication infrastructure is related to lower concern but higher helping attitudes and higher political activity. In addition, better corruption control leads logically to higher general trust both in WE and CEE countries. On the other hand, people in less corrupted countries are less eager to join voluntary organisations and help others (especially in CEE subsample).

Table 24. Comparison of the influence of aggregate-level determinants on individual social capital in WE and CEE country groups

Determinants of individual social capital	Country group	F1 helping	F2 concern	F3 confidence	F4 polaction	F5 politerest	F6 justified	F7 belong	F8 friends	F9 family	F10 gentrust
GDP per capita	WE	-0.070		**0.114**		0.082		**-0.161**	0.059	**-0.115**	-0.093
	CEE	**0.106**			0.089	-0.045		**0.193**		**-0.136**	
GINI	WE	-0.087	-0.059			**-0.231**	-0.051	**-0.158**	0.092		**-0.138**
	CEE				**-0.137**	0.062			**-0.129**		
Human capital	WE	**0.185**		-0.041	0.043	-0.076	-0.084	**0.177**	0.095	0.064	**0.134**
	CEE		0.090						-0.078	**0.203**	-0.079
Communication	WE	0.072	-0.128	0.080	0.049	**-0.123**					
	CEE	**0.211**	**-0.198**		**0.137**		**0.148**	**0.342**	**0.137**		
Corruption control	WE	-0.075	0.069	0.077		0.078	0.051	-0.081	**0.139**	-0.074	0.042
	CEE	**-0.394**			**-0.209**	-0.068	**-0.156**	**-0.107**	-0.063	-0.066	0.098

Notes: The table presents standardised coefficients from separate OLS regressions for WE and CEE subsamples. For higher clarity, the coefficients which were insignificant at level p<=0.001 are suppressed. The absolute values of these coefficients were also very low (mostly less than 0.03), indicating hardly any real effect. The coefficients with absolute values higher than 0.1 (indicating medium or strong effect) are marked in bold.

Source: Compiled by the author on the basis of regression results in Appendix 21.

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However, rest of the statistically significant regression coefficients have opposite signs in WE and CEE country groups, and these differences are often difficult to explain.[28] For example, higher GDP per capita associates with higher participation rate and readiness to help in CEE, while the opposite holds in WE countries. Also, corruption control is positively related to most social capital components in WE countries, but negatively in CEE countries. Similar pattern appears in relations of human capital with general trust and friends. Taken together, no clear conclusions can be drawn from the above results, apart from the fact that **macro-level determinants that are related to the level of economic development have often dissimilar effects on individual social capital in WE and CEE countries. Thus, the proposition P2d is mostly supported.**

When comparing the goodness of fit of the individual-level social capital models which include different sets of determinants (see the values of adjusted R^2 in Appendix 21), the following conclusions can be drawn about the interplay of individual and national determinants. Firstly, models which consider both individual- and national-level determinants are better than those including only micro-level or national-level determinants. This holds in both country groups and in case of all social capital components. Secondly, when comparing the models with only micro-level or only national-level determinants, the values of adjusted R^2 are mostly higher in case of former, indicating the higher importance of individual-level factors as compared to contextual factors. Still, there are some exceptions: factors F7 belong and F9 family are better described by national-level determinants in both country groups, and the same holds for factor F1 helping in CEE countries. Thirdly, the components which are best (i.e. with higher number of significant determinants) described by analysed determinants at individual level are: political action (F4), interest in politics (F5), institutional trust (F3), and informal (F8) and formal (F7) networks. This list is the same in both country groups, with only small variation in the order of respective social capital components. It can be generalised that individual characteristics determine better the structural aspects of social capital. Finally, when comparing the values of adjusted R^2 in CEE and WE subsamples, in most cases these values are higher in WE subsample, with the following exceptions: proposed determinants predict better F1 helping and F9 family in CEE countries; the results are roughly equal in case of F8 friends; and R^2 is also higher in CEE in the model predicting the level of F4 polaction with only macro-level determinants. Taken together, **these comparisons support the proposition P2e in the question that the relative importance of micro- and macro-level factors might be different in different country groups, and in case of different social capital components.**

Next, all the aggregate-level determinants of social capital were added into an individual-level analysis. As the country-level aggregates of individual social

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[28] Some possible explanations are given in subsection 2.4 where all empirical results will be discussed and synthesised.

capital determinants caused multicollinearity in the multivariate models, their effect was assessed without individual-level characteristics. Still, also in models with only national-level characteristic multicollinearity appeared (see Appendix 22). This problem was especially visible in the CEE subsample, where even 5 indicators out of ten had VIF values over 10, while in WE subsample only GINI index did not meet this criterion. An attempt to overcome the collinearity problem by reducing the dimensions of independent variables with factor analysis was not successful – the obtained factors[29] were different in WE and CEE subsamples, making the comparisons between country groups impossible. Backward regressions were used as another alternative, but even in this case collinearity remained the problem in several final models. Thus, the following analysis is based on pooled dataset, where possible differences between WE and CEE countries are assessed with transition dummy (TRANS) and Chow test. However, the pooled analysis is also not completely free from the collinearity problem – VIF values for GDP per capita, LEIEDU and TRANS are respectively 15.2, 14.8 and 9.9 (this was expected also on the basis of high correlations between these indicators – see Appendix 20). As such, the results of this analysis, which are presented separately for different social capital components in Appendix 23 and for comparisons shortly gathered into Table 25, should be interpreted with caution.

Regression results in Table 25 indicate that the influence of aggregate-level factors is most extensive in case of F1 helping and F9 family, followed by F10 gentrust and F7 belong. Among directly measured national-level characteristics, communication and corruption control appear to be most influential – availability of communication tools increases social capital (except F2 concern), while corruption control increases trust but decreases the need for formal and informal networking and altruistic behaviour. GINI index has much smaller effect on social capital components. Expectedly, income inequality reduces trust, but also political and formal participation; and increases the value of helping, family and social norms. GDP per capita associates positively and significantly with institutional trust and social norms, while the relations with other social capital components are negative. Finally, higher human capital leads mostly to higher levels of social capital, except in case of informal networks (F8 friends).

Among national-level aggregates from WVS, satisfaction with democracy and post-materialism are most strongly associated with social capital. However, democracy seems to lead to lower general trust and political activity, but higher value attached to altruistic attitudes (helping, concern, family and also social norms). Post-materialist values associate also with lower trust (both general and institutional), but higher political engagement and valuing more friends instead of family relations.

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[29] These results are not presented in the dissertation for the reason of space.

Table 25. Aggregate-level determinants of individual social capital in the pooled sample

Determinants of individual social capital	F1 helping	F2 concern	F3 confidence	F4 polaction	F5 polinterest	F6 justified	F7 belong	F8 friends	F9 family	F10 gentrust
National-level characteristics										
GDP per capita			**0.196**		**−0.170**	0.089	**−0.240**		**−0.218**	−0.095
GINI	**0.106**		−0.069	−0.040	0.029	0.087	−0.044		0.027	−0.055
Human capital	**0.107**			0.083			**0.132**	−0.080	**0.218**	**0.169**
Communication	**0.279**	**−0.282**	**0.105**	**0.258**	**0.139**		**0.525**	**0.127**		**0.110**
Corruption control	**−0.287**		**0.176**	−0.083			**−0.168**	0.070	**−0.182**	**0.139**
Transition dummy	**0.236**	−0.092		−0.094	0.090	**0.213**		**−0.154**	**−0.111**	−0.070
National-level aggregates (country means) of individual-level characteristics										
Individualism	**−0.141**	**−0.102**	0.064	−0.066	−0.075	−0.050	**−0.115**	−0.037		
Democracy	**0.333**	**0.149**		**−0.143**		**0.170**		**−0.107**	**0.259**	**−0.224**
Post-materialism	**0.161**		**−0.119**	**0.165**	0.086			**0.116**	**−0.104**	−0.054
Equality	**0.123**	0.086	−0.044		−0.093	−0.097	−0.029	0.066	**0.117**	**−0.152**
Religiosity	0.079		0.097	−0.061		**0.136**		−0.061		0.027
Adjusted R²	0.141	0.029	0.103	0.145	0.025	0.037	0.127	0.049	0.059	0.066
Chow test	345.4	272.9	130.0	152.9	335.0	271.8	311.1	131.9	331.3	205.3

Notes: 29768≤N≤35737. The table presents standardised coefficients from OLS regressions. For higher clarity, the coefficients which were insignificant at level p<=0.001 are suppressed. The coefficients with absolute values higher than 0.1 (indicating medium or strong effect) are marked in bold. Chow test was significant (p<0.001) in all models.

Source: Compiled by the author on the basis of individual-level regression results in Appendix 23.

Table 26. Aggregate-level determinants of national social capital in the pooled sample

Determinants of national social capital	F1 helping	F2 concern	F3 confidence	F4 polaction	F5 politerest	F6 justified	F7 belong	F8 friends	F9 family	F10 gentrust
National-level characteristics										
GDP per capita			**0.830**		−0.650					
GINI							−0.237			0.441
Human capital		**1.086**	−0.511							
Communication	0.550	−1.244		**0.399**			**0.963**			
Corruption control	**−0.695**		**0.607**				−0.360		−0.574	0.582
National-level aggregates (country means) of individual-level characteristics										
Individualism				−0.229			**−0.319**			
Democracy	**0.456**								0.781	**−0.584**
Post-materialism	0.412			**0.470**	0.464			**0.653**		
Equality	0.267				−0.435	−0.441			0.392	**−0.497**
Religiosity			0.188			**0.478**		−0.321		
Adjusted R²	0.472	0.239	0.760	0.791	0.216	0.251	0.803	0.455	0.257	0.662
Chow test	ns	ns	ns	7.545	4.343	ns	7.723	ns	ns	7.102

Notes: 28≤N≤31. The table presents standardised coefficients from OLS regressions. Only the significant (p<0.1) coefficients of the backward reduced models are presented. The coefficients which were significant also in the initial model are in bold.
Source: Author's calculations on the basis of national-level social capital database (see also Appendix 23 for full models).

Expectedly, individualism is related negatively to most social capital components. Religiosity associates positively with trust and altruism, but negatively with social and political participation. Finally, support for equality leads to lower trust and civic participation, being instead related to higher informal socialising and altruistic attitudes. Altogether, **these results support the proposition P2a in that different components of social capital at individual level are influenced differently by proposed macro-level determinants.**

However, when comparing the above results from the pooled-data analysis with the previous results obtained from WE and CEE subsamples (see Table 24), no clear conclusions can be drawn about the direction of the influence on the basis of signs of regression coefficients. In separate country groups, the regression coefficients were with opposite signs in several cases. In the pooled sample, the results are mixed and no clear pattern appears in respect of which country group dominates in determining the pooled results. Thus, in order to assess possible differences and similarities between WE and CEE country groups, transition dummy was used, which has significant and strongest positive effect on helping (F1) and social norms (F6), and negative effect on factors friends (F8) and family (F9). At the same time, institutional trust (F3) and participation in voluntary organisations (F7) were not significantly influenced by TRANS. Finally, **the results of Chow test indicate that the effect of macro-level determinants is different in WE and CEE subsamples in case of all social capital components, giving thus additional support to the proposition P2d.**

Next, the effect of national-level determinants of social capital on national-level social capital was analysed in the pooled sample. In this analysis, collinearity is still the problem – VIF for GDP per capita was 14.1 and for LEIEDU 12.9. One could expect that gathering these indicators together into human development index (HDI) would remedy the problem, but this was not the case and VIF value for HDI remained also higher than 10. Thus, in order to get more reliable results, initial macro-level regressions were re-estimated with backward method. Initial models are presented in Appendix 23 and backward results in Table 26.

When looking at the results by social capital components, the following regularities can be highlighted. Helping and family factors are similarly positively influenced by democracy and equality, and negatively by corruption control. Institutional trust depends highly on GDP, corruption control, human capital and overall religiosity in the country. Political activity is higher in countries that have better communication infrastructure, which are less individualistic and attach more importance to post-materialist values. Interest in politics is higher in poorer countries and in countries with lower support for equality. The latter associates negatively also with social norms which, in addition, are followed more probably in religious countries. Formal participation is related to lower income inequality, better communication

infrastructure, less corruption control and less individualism. Informal socialising with friends is more frequent in less religious countries where post-materialist values are dominating. Importance attached to family relations associates positively with satisfaction with democracy and support for equality, and negatively with corruption control. Finally, in case of general trust, relations with macro-level determinants are opposite to those of factor family, complemented with the positive effect of human capital. Taken together, **the above results support the proposition P2a that different components of social capital are influenced differently by proposed determinants also at national level.**

As transition dummy was insignificant in all models (and is therefore not presented in Table 26), no conclusions can be drawn about the possible differences in WE and CEE subsamples on this basis. Still, the results of Chow test (see Table 26) enable to suggest that political action (F4), interest in politics (F5), participation in voluntary organisations (F7) and general trust (F10) are influenced differently in WE and CEE countries by proposed macro-level determinants. **As such, additional support is provided to the proposition P2d – some components of social capital at national level are determined differently by proposed macro-level factors in country groups**.

In summary, the determinants of social capital at individual and national level are rather similar – all determinants which were significant at both levels are with the same signs, and mostly also with the same relative strength. Therefore, it can be suggested that national-level social capital aggregates which are derived from directly measured social capital indicators at individual level are correct enough in order to use them in the subsequent analysis of the relations between social capital and economic growth in Chapter 2.3, and thereafter synthesise the results of social capital determinants and economic effects in Chapter 2.4.

2.3. Comparison of the effect of social capital on economic growth and its factors

2.3.1. Direct effect of social capital on economic growth

In subchapters 1.2.2 and 1.2.3 it was shown that the effect of social capital on economic growth could work through different channels. The analysis in the current chapter 2.3 tests three of them. First, in subchapter 2.3.1 direct effect of social capital on economic growth is assessed on the basis of the extended neoclassical growth model, where social capital is considered as additional independent growth factor together with traditional growth factors. Second, the indirect effect of social capital on growth through physical capital investments is analysed in subchapter 2.3.2. Finally, subchapter 2.3.3 focuses on the analysis of the indirect effects of social capital on growth through human capital.

When assessing the direct effect of social capital, GDP per capita average growth rate over years 2000–2006 (GDPGR) is used as dependent variable, while independent variables are divided into three subsets:

1) Initial conditions comprise GDP per capita level in year 2000 (GDP0), institutional background[30] (GOV) and transition dummy (TRANS);
2) Traditional growth factors include population growth (POP), gross capital formation (CAP), educational levels (PRIM, SEC, TERT) of labour force[31] as a proxy for human capital, and trade volume (TRADE) as a measure of economic openness;
3) Social capital in its various specifications, as defined and empirically derived in Subchapter 2.1.

In addition, indirect effect of social capital will be estimated with regressions where investments and human capital are considered as dependent variables and social capital components as independent variables. In these cases, enlarged set of dependent variables is used in order to get information about what aspects of traditional growth factors are most influenced by social capital. When analysing the effect of social capital on investments, the following dependent variables are used as alternative to growth in gross capital formation: average gross capital formation (CAPGDP), average gross fixed capital formation (CAPFGDP), foreign direct investments (FDIGDP) and domestic savings (SAVDOM) – the latter showing the potential of domestic investment financing. All these variables are expressed as percentage of GDP. When assessing the indirect effect of social capital through human capital, the sum of life expectancy and education indexes (LEIEDU) from Human Development Report (2008) is used as an additional and more broad-based human capital measure. A detailed description of the above variables together with data sources is given in Appendix 24.

Descriptives and correlations

Descriptive statistics of analysed growth factors can be found in Appendix 26 (traditional growth factors) and Appendix 25 (components of social capital). Shortly, while generally WE countries enjoy higher values of growth factors, CEE countries have higher mean values in political interest, GDP per capita growth rate, gross capital formation, secondary and tertiary education and trade.

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[30] More precisely, institutional background (which is considered as macro-level social capital by some authors) is measured by six indicators of institutional quality, including rule of law, control of corruption, government effectiveness, political stability, regulatory quality, voice and accountability. These initial indicators are aggregates into factor governance (GOV) with confirmatory factor analysis. Together with institutional trust and political engagement, these indicators can be considered as a part of broader institutional environment influencing economic performance.

[31] In the literature of economic development, the nation's stock of human capital is usually assessed through gross enrolment ratios, but in author's opinion this is not very good proxy, especially when the sample is relatively homogeneous in respect of educational enrolment.

As regards the significance of the differences between WE and CEE economies, t-test revealed that between-group differences are not statistically significant ($p < 0.05$) in case of social capital factors F2 concern, F5 polinterest, F6 justified and F9 family; and also in case of four traditional growth factors: tertiary education, trade, FDI and domestic savings.

The results of correlation analysis with the first-order social capital constructs are presented in Table 27 and results with other growth factors in Appendix 27. Simple Pearson correlations in column (1) indicate that most of the proposed growth factors are significantly related to the GDP per capita growth rate. However, Pearson correlations do not capture the possible effect of transition processes on these relationships, keeping in mind that the initial values of growth factors are usually lower in transition economies. Therefore, partial correlations (controlling for transition dummy) were calculated and are presented in column (2). It can be seen that only four growth factors – helping, justified, CAP and TERT – remain significantly correlated to GDP growth after controlling for transition. In addition, all second-order constructs of social capital (FK1-FK4) are insignificantly related to GDP level and growth rate (see Appendix 27). Therefore, these aggregated social capital indicators are excluded from the following regression analysis. This is justified also on the basis of the research results in subchapter 2.1.1 which showed that the second-order constructs of social capital are different in WE and CEE subsamples, and their interpretations were not clear enough.

As regards the signs of correlations, statistically significant dimensions of social capital are positively related to initial GDP levels and negatively to growth rates. The latter, however, should not be interpreted as social capital retards growth – instead, the explanation might be related to the fact that faster growing CEE economies have historically lower levels of social capital, as was explained in Subchapter 1.3.1. In this sense, social capital variables perform similarly to the initial GDP per capita level, reflecting social catch-up processes in the course of economic development. When controlling for TRANS dummy, the absolute values of the correlation coefficients tend to decrease, and in some cases (F8 friends, F10 gentrust and Olson-type networks) the initial negative correlation turns positive, supporting the idea that social capital might be beneficial to economic growth.

Table 27. Correlations between the first-order social capital components, GDP per capita and economic growth

	Growth 2000–2006		GDP per capita 2000			
	(1)	(2)	(3)	(4)	(5)	(6)
	Pearson	Partial (TRANS)	Pearson	Pearson (Lux-out)	Partial (TRANS)	Partial (Lux-out)
F1 helping	**−0.687**	**−0.563**	**0.505**	**0.581**	0.204	**0.374**
	(0.000)	(0.001)	(0.004)	(0.001)	(0.280)	(0.046)
F2 concern	−0.072	−0.134	−0.082	−0.096	−0.130	−0.222
	(0.701)	(0.479)	(0.661)	(0.613)	(0.494)	(0.246)
F3 confidence	**−0.633**	−0.124	**0.724**	**0.750**	0.355	**0.371**
	(0.000)	(0.513)	(0.000)	(0.000)	(0.054)	(0.047)
F4 polaction	**−0.644**	−0.178	**0.695**	**0.804**	0.310	**0.579**
	(0.000)	(0.347)	(0.000)	(0.000)	(0.096)	(0.001)
F5 polinterest	0.238	0.143	−0.102	−0.106	0.091	0.166
	(0.198)	(0.451)	(0.583)	(0.577)	(0.631)	(0.391)
F6 justified	**−0.460**	**−0.407**	0.176	0.355	−0.101	0.155
	(0.009)	(0.026)	(0.343)	(0.054)	(0.595)	(0.422)
F7 belong	**−0.468**	−0.048	**0.581**	**0.682**	0.286	**0.545**
	(0.008)	(0.799)	(0.001)	(0.000)	(0.126)	(0.002)
F8 friends	**−0.425**	0.069	**0.509**	**0.610**	0.116	0.292
	(0.017)	(0.718)	(0.003)	(0.000)	(0.542)	(0.124)
F9 family	−0.208	−0.162	0.085	0.038	−0.051	−0.195
	(0.261)	(0.392)	(0.651)	(0.840)	(0.787)	(0.310)
F10 gentrust	−0.314	0.163	**0.408**	**0.570**	0.030	0.314
	(0.086)	(0.388)	(0.023)	(0.001)	(0.874)	(0.097)
Putnam	**−0.537**	−0.123	**0.684**	**0.753**	**0.438**	**0.680**
	(0.002)	(0.519)	(0.000)	(0.000)	(0.015)	(0.000)
Olson	−0.180	0.093	0.258	**0.373**	0.052	0.262
	(0.333)	(0.626)	(0.161)	(0.042)	(0.784)	(0.170)
Sum F1–F10	**−0.706**	−0.318	**0.671**	**0.789**	0.240	**0.507**
	(0.000)	(0.087)	(0.000)	(0.000)	(0.201)	(0.005)
GOV	**−0.575**	−0.087	0.683	–	0.341	–
	(0.000)	(0.649)	(0.000)	–	(0.065)	–

Notes: significance levels in parentheses below correlation coefficients. Statistically significant coefficients (p<0.05) are marked bold.

Source: author's calculations on the basis of national-level social capital database.

Columns (3)–(6) in Table 27 present correlations between initial GDP per capita and proposed development factors. As Luxembourg has extreme value in GDP0, this country is excluded from the analysis results in columns (4) and (6). While Pearson correlations are mostly not influenced by including or excluding Luxembourg, in case of partial correlations there are remarkable differences – without Luxembourg, many correlations turn stronger and statistically significant. Concerning the question which dimensions of social capital are significantly correlated to GDP level, the results are roughly the same when comparing simple Pearson correlations and Partial correlations without Luxembourg (except in case of F5 justified and F8 friends, which are insignificant in partial correlation analysis). The same first-order constructs of social capital were also significantly related to GDP growth.

Regression results: direct effect of social capital on economic growth
The following regression analysis is based on a simplified neoclassical growth model in widely used Mankiw-Romer-Weil (1992) specification, where GDP per capita depends on investments and population growth. This basic specification can be modified to estimate GDP per capita growth rates over a certain period, including a wide range of social and institutional variables as possible determinants of economic growth.[32] The model adopted in the current dissertation takes the following form:

$$GDPGR = \beta_0 + \beta_1(\text{initial conditions}) + \beta_2(\text{traditional growth factors}) + \\ + \beta_3(\text{social capital}) + \varepsilon$$

At the first stage of the analysis, only traditional growth factors are included in the regressions as independent variables. Then, social capital components will be added one-by-one into models including either GDP0 or TRANS as indicators of initial conditions. Finally, the models including all social capital components will be constructed.

Table 28 presents regression results with traditional growth factors without social capital. Firstly, we can see the high importance of catch-up term in determining GDP growth rate (Model 1A). Expectedly, richer countries grow slower, indicating the potential of real convergence in the long run. However, including other traditional growth factors decreases the catch-up effect, while capital growth and trade (in conjunction with higher education levels) appear to be significant predictors of GDP growth (see Models 1B-1C). The effect of population growth remains weak and mostly insignificant in alternative model specifications.

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[32] See Tomer 2008, pp. 40-43 for more detailed overview of the additional growth factors used in recent empirical studies.

Table 28. Results of the regressions with traditional growth factors

Dependent	GDP per capita growth rate 2000–2006			
Predictors	Model 1A	Model 1B	Model 1C	Model 1D
GDP0	–0.709*** (–5.409)	–0.134 (–0.885)	–0.271** (–2.105)	–
POP	–	–0.317* (–2.552)	–0.213 (–1.765)	–0.201* (–1.853)
CAP	–	0.593*** (5.397)	0.511*** (5.377)	0.490*** (5.488)
TRADE	–	0.133 (1.462)	0.207** (2.651)	0.082 (1.195)
PRIM	–	–	0.771 (1.642)	0.505 (1.123)
SEC	–	–	0.831* (1.929)	0.456 (1.090)
TERT	–	–	0.668** (2.578)	0.505* (2.058)
TRANS	–	–	–	0.359** (2.738)
F-statistic	29.259***	33.430***	31.138***	35.250***
Adjusted R^2	0.485	0.817	0.878	0.895
Chow test	18.563***	2.000	0.883	–

Notes: standardised coefficients from OLS regression. * Significant at level $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; t statistics in parentheses.

Source: author's calculations on the basis of national-level social capital database.

In models 1C and 1D, all human capital variables have positive effect on GDP growth, but only the effect of tertiary education is statistically significant in both specifications. Altogether, these models confirm expected regularities that growth is faster in countries with lower initial income level, higher capital formation and economic openness, and higher share of labour force with secondary and especially tertiary education. The insignificance of the Chow test in models 1B and 1C indicates that traditional factor endowment has largely similar effect on growth both in transition and non-transition countries. As an exception, the catch-up term is significantly different in these two country groups, indicating differences in the convergence processes.

Model 1D introduces also transition dummy for testing the effect of initial conditions. As transition dummy is highly correlated to GDP0 ($p = -0.809^{**}$) and respective VIF values are high, they cannot be added into the same model. Therefore, in order to avoid multicollinearity, Model 1D does not include GDP0. Estimation results show that transition dummy is highly significant together with investments and tertiary education, while secondary education and TRADE turn insignificant and remarkably weaker than in previous models. At the same time, the size of the effect of CAP and TERT remains largely the same

in alternative model specifications. Summing up, it seems that transition dummy takes over the initial negative effect of GDP0 and positive effect of TRADE. This result enables to suggest that transition countries have higher growth rates not only because of lower initial income level, but there are some other structural features which favour growth besides investments, trade and human capital. Next model specifications attempt to test whether social capital could be among these additional growth factors.

Firstly, all ten social capital factors are added one-by-one[33] to growth models together with traditional factors which were significant and with absolute t-values over 2.5 in Models 1C and 1D (CAP, TERT, TRANS)[34]. The results are presented in Table 29. However, in most cases the effect of social capital factors remained insignificant and backward reduced models resulted all in the same specification (Model 2A). As an exception, F1 (helping), F4 (polaction) and F6 (justified) appeared to be significant but negative predictors of economic growth together with CAP, TERT and TRANS (Models 2B-2D).

Table 29. Results of the regressions with most influential traditional growth factors (excluding GDP0) and social capital components

Dependent	GDP per capita growth rate 2000–2006				
Predictors SC=	Model 2A (other)	Model 2B (F1)	Model 2C (F4)	Model 2D (F6)	Model 2E (Sum F10)
CAP	0.464*** (5.626)	0.457*** (5.973)	0.464*** (5.959)	0.487*** (6.469)	0.463*** (6.178)
TERT	0.244*** (3.826)	0.147* (2.019)	0.250*** (4.142)	0.175** (2.735)	0.228*** (3.899)
Social capital (SC)	ns	−0.187** (−2.269)	−0.164* (−2.028)	−0.163** (−2.549)	−0.199** (−2.516)
TRANS	0.521*** (6.477)	0.434*** (5.175)	0.407*** (4.310)	0.460*** (6.006)	0.382*** (4.168)
F-statistic	80.670***	71.826***	69.063***	75.437***	74.982***
Adjusted R^2	0.895	0.910	0.907	0.914	0.914

Notes: standardised regression coefficients of the backward reduced models. When social capital was captured by first-order constructs F2, F3, F5, F7-F10, backward regression resulted in Model 2A. * Significant at level $p<0.10$, ** $p<0.05$, *** $p<0.01$; t statistics in parentheses.

Source: author's calculations on the basis of national-level social capital database.

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[33] When all ten social capital factors were added together into Model 1D, also only F4 and F6 were significant but negative predictors of economic growth, while transition dummy was insignificant. However, this model was not well specified due to a large number of predictors, compared to small sample size.

[34] The results did not change when all traditional growth factors were included, so for the reason of space, only the reduced models are presented in the Tables 29 and 30.

The presence of these social capital factors in the models also increased slightly the positive effect of TRANS, as compared with baseline Model 1D. Based on these results, transition (or communist past) has strong positive effect on economic growth. However, as noted already several times earlier, this result reflects simply ongoing convergence process, as initial income level is lower in transition countries.

The models without transition dummy, where the possible differences between WE and CEE countries were assessed through Chow test, are presented in Table 30. In addition to the three social capital factors which were significant growth predictors in Model 2, also the coefficients of F8 (friends) and F10 (gentrust) were significant in Model 3. Among all of them, F1 and F4 have the strongest direct negative effect on growth.

Table 30. Results of the regressions with basic growth factors (excluding TRANS) and social capital components

Dependent:	GDP per capita growth rate 2000–2006				
Predictors SC =	Model 3A F1 helping	Model 3B F4 polaction	Model 3C F6 justified	Model 3D F8 friends	Model 3E F10 gentrust
GDP0	–0.326*** (–3.663)	ns	–0.438*** (–4.255)	–0.321*** (–2.922)	–0.332** (–2.622)
CAP	0.477*** (5.867)	0.582*** (7.525)	0.534*** (5.424)	0.503*** (5.457)	0.461*** (4.616)
TRADE	0.253*** (3.726)	ns	0.230** (2.721)	0.223*** (2.902)	0.181* (1.939)
SEC	ns	0.257*** (3.380)	ns	ns	0.177* (1.865)
TERT	ns	0.279*** (3.632)	ns	0.195*** (2.873)	0.313*** (3.272)
Social capital (SC)	–0.336*** (–4.777)	–0.370*** (–5.075)	–0.208*** (–2.779)	–0.258*** (–3.142)	–0.180* (–1.875)
F-statistic	63.685***	50.543***	41.216***	42.271***	28.911***
Adjusted R^2	0.900	0.876	0.852	0.881	0.857
Chow test	1.071	1.071	1.071	1.071	0.714

Notes: standardised regression coefficients of the backward reduced models. Chow test is calculated on the basis of full models. Ns – insignificant predictor.
* Significant at level $p<0.10$, ** $p<0.05$, *** $p<0.01$; t statistics in parentheses.

Source: author's calculations on the basis of national-level social capital database.

When compared to Table 29, the effect of significant social capital components is stronger in Table 30, reflecting the complementarities between the effect of social capital and transition. However, as Chow test was insignificant in all

specifications of Model 3, it cannot be concluded that separate social capital components have different effect on economic growth in transition and non-transition countries.

Indirectly, the effect of social capital could appear through the changes in the regression coefficients of traditional growth factors, when comparing the augmented Model 3 with Model 1 (Table 28). It can be seen that the highest indirect effect appears in Model 3C, where adding social norms (F6 justified) into model increases the absolute values of all significant traditional growth factors. In Model 3E, on the contrary, the initial effects remain largely unchanged. When generalised, the initial effect of CAP and TRADE tend to increase (or remain the same in some cases) when adding social capital, while the effect of education decreases (except SEC in Model 3B). Hence, it is worth to perform alternative tests to see whether social capital influences investments and human capital – and through them indirectly also economic growth.

Next, all social capital components were added into models without traditional growth factors as predictors of GDP per capita growth. Besides, the baseline model was complemented with governance indicator (GOV), which could be interpreted as an indicator of macro-level social capital, or as a factor of institutional background. The results are presented in Table 31.

Table 31. Results of the regressions with social capital factors as independent variables

Dependent:	GDP per capita growth 2000–2006		
Predictors	Model 4A	Model 4B	Model 4C
F1 helping	–0.359** (–2.320)	–0.557*** (–4.434)	–0.374*** (–3.604)
F4 polaction	–0.486*** (–3.123)	ns	ns
F5 polinterest	0.278** (2.182)	ns	ns
GOV	–	–0.390*** (–3.101)	ns
TRANS	–	–	0.632*** (6.092)
F-statistic	15.036***	21.611***	47.639***
Adjusted R^2	0.584	0.579	0.757
Chow test	3,682**	5.250**	–

Notes: standardised regression coefficients of the backward reduced models. Social capital components that were backward insignificant in all models are not presented in the table. * Significant at level $p<0.10$, ** $p<0.05$, *** $p<0.01$; t statistics in parentheses. Chow test is calculated on the basis of full models. Ns – insignificant predictor.

Source: author's calculations on the basis of national-level social capital database.

It can be seen that only three social capital factors out of ten are significant in one model. F1 (helping) has statistically significant values in all specifications. F4 and F5 (political action and interest) were related to GDP growth only when additional factors (TRANS and GOV) were not taken into account. The effect of GOV is unexpectedly negative. This factor apparently takes over the initial negative effect of F4 polaction and F5 polinterest, and also increases the size and significance of the effect of F1 helping. As regards the effect of transition dummy, it apparently takes over the effects of F4 and F5, while the size of the other significant social capital effects remains largely the same.

Generally, Model 4A indicates that GDP growth is mostly related to civil society (i.e. political engagement), while more individual-based social capital elements (like general trust, formal and informal networks) are insignificant in this respect. In addition, the significance of Chow test in Models 8A and 8B indicates differences in the effect of social capital on GDP per capita growth in WE and CEE countries.

When summarising the above results about the direct effect of social capital on economic growth, the following conclusions can be drawn (see Table 32). Firstly, social capital is negatively associated with growth, except in case of political interest (which, however, is insignificant in most model specifications). Secondly, the most apparent is the effect of components F1 helping, F4 polaction and F6 justified. While F6 reflects the attitudes (tolerance) toward not allowed behaviours, F1 and F4 are more related to the actual readiness to take action in favour of the broader society. Thirdly, macro-level social capital in the form of governance has also significant effect on growth. Fourthly, the empirical results show that traditional social capital indicators, like trust and networks, are not good predictors of economic growth at national level.

Concerning the question whether social capital components have different effect on economic growth in WE and CEE countries, the results are mixed. On the one hand, TRANS dummy was a significant and positive predictor of growth in all model specifications where it was included. On the other hand, Chow test was significant only for models which included social capital components (both first-order and second-order constructs) without other growth factors, while in models with traditional growth factors Chow test was insignificant. However, in the latter case it could be suggested that the insignificance of the Chow test is mostly related to traditional growth factors (as was also shown in Model 1), while differences in the direct effect of social capital cannot be excluded.

Table 32. Summary of the relationships between social capital components and economic growth

	Correlation results		Regres-sion results	Transition aspect		
	Pearson	Partial		TRANS Model 2, 4C	Chow test	
					Mode 1 3 [b]	Model 4A,B [c]
F1 helping	negative	negative	negative (5/5) [a]	positive	ns	Significant
F2 concern	ns	ns	ns	–	–	–
F3 confidence	negative	ns	ns	–	–	–
F4 polaction	negative	ns	negative (3/5)	positive	ns	Significant
F5 polinterest	ns	ns	positive (1/5)	–	–	Significant
F6 justified	negative	negative	negative (2/5)	positive	ns	–
F7 belong	negative	ns	ns	–	–	–
F8 friends	negative	ns	negative (0/5)	–	ns	–
F9 family	ns	ns	ns	–	–	–
F10 gentrust	ns	ns	negative (1/5)	–	ns	–
GOV (governance)			negative (1/2)	positive	–	Significant

Notes: [a] In column 4, the numbers in the parenthesis indicate in how many models (from the total number of models where the predictor was added) the respective social capital component was significant; [b] Traditional growth factors included in the model; [c] Traditional growth factors not included in the model

Source: compiled by the author on the basis of the correlation and regression results.

A short summary of the validity of the proposed propositions is presented in Table 33. According to P3a, general trust and social norms were expected to have direct positive effect on economic growth. The results support the significance of F6 justified for growth, while the effect of F10 gentrust was insignificant in most models. The possible effect of macro-level social capital was assessed by P3b, which was only partially supported in case of quality of governance (GOV), while F3 confidence was insignificant in most regressions.

The proposition P3c suggested that participation in voluntary organisations has a positive effect on economic growth, while the effect of informal networks might be negative. This proposition was not validated by the empirical results, as the component F7 belong was insignificant in all models, and the components F8 friends and F9 family were also insignificant in most models. Additional network-related effects of social capital were captured in P3d, which assumed positive effect of political engagement on growth. This proposition was partially supported, as the component F4 polaction was significant

(although negative) in most models and the component F5 polinterest was positive and significant in one model. Finally, the proposition P3e about the effect of altruism on growth was only partially supported: F1 helping was a significant (but negative) predictor in all model specifications, but F2 concern was insignificant in all models.

Table 33. Validity of the propositions about the direct effect of social capital components on economic growth

Social capital components	Proposition	Existence of significant effect*	Comparison of WE and CEE countries
Social trust (F10) and norms (F6)	P3a	F10 – yes F6 – yes	Similarity supported
Institutional trust (F3) and governance (GOV)	P3b	GOV – yes F3 – no	Differences partially supported
Formal networks (F7) and informal networks (F8, F9)	P3c	F7, F9 – no F8 – yes	Differences not supported
Political action (F4) and interest in politics (F5)	P3d	F4 – yes F5 – yes	Similarity partially supported
Helping (F1) and concern (F2)	P3e	F1 – yes F2 – no	Similarity partially supported

Note: * Existence of significant effect is marked "yes" if the respective regression coefficient was significant in at least one regression model.

Source: compiled by the author on the basis of regression results.

Taken together, **with the exception of the proposition P3c which was not supported by the analysis, all other propositions (P3a,b,d,e) about the direct effect of social capital components on economic growth found partial confirmation by the analysis.** However, as the results were rather mixed concerning the differences in the effect of alternative social capital components, a more thorough discussion of these results follows in chapter 2.4.

2.3.2. The effect of social capital on investments

The following analysis investigates the possible indirect effect of social capital on economic growth through encouraging investments. Theoretically, investments are expected to be higher in societies where there is more trust between economic agents. Higher trust associates with better investment climate and lower risk-aversion, encouraging both domestic and foreign investments. In addition, it is interesting to see whether other social capital components (not analysed in previous studies) have any effect on investments. The following

alternative indicators are 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) and income level (GDP0) are used as control variables in some model specifications.

Estimation results with capital growth and investments' share in GDP as dependent variables are presented in Table 34. In Model 5A, 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 34. Effect of social capital on investments

Dependent:	CAP	CAPGDP		CAPFGDP	
Predictors	Model 5A	Model 5B	Model 5C	Model 5D	Model 5E
F1 helping	ns	ns	0.672** (2.246)	0.721** (2.331)	ns
F3 confidence	−0.454*** (−2.696)	ns	ns	ns	ns
F4 polaction	ns	ns	−0.746*** (−3.370)	−0.663*** (−2.899)	ns
F6 justified	ns	ns	−0.489** (−2.193)	−0.506** (−2.193)	ns
F9 family	ns	ns	−0.353* (−1.869)	−0.345* (−1.769)	ns
F10 gentrust	ns	−0.396** (−2.322)	ns	ns	−0.352* (−1.988)
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: standardizsed regression coefficients of the backward reduced models. Social capital components that were backward insignificant in all models are not presented in the table. * Significant at level p<0.10, ** p<0.05, *** p<0.01; t statistics in parentheses. Ns – insignificant predictor.
Source: author's calculations on the basis of national-level social capital database.

In Model 5B, 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 into model, F1, F4, F6 and F9 turned out to be significant predictors of investments share in GDP. Models 5D and 5E 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 5B and 5E), or F1, F4, F6 and F9 (Models 5C and 5D). Except in case of F1, higher investments are associated with lower level of social capital. Still, this result could simply indicate the higher investment potential of CEE economies where the levels of social capital are lower.

As regards the effect of macro-level social capital on investments, adding governance factor GOV into Model 5 did not change the results. All models were also tested for traditional growth factors (SEC, TERT, TRADE) and income level GDP0 as independent variables, but their inclusion did not change the results. When transition dummy was taken into account, it turned the only significant predictor in Models 5A–5C, but remained insignificant in Models 5D–5E. 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 5. 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 35 and 36. 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. Governance 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 6D where it has negative effect on FDI. Chow test was significant only in Model 6B, where it is obviously related to governance, but not to other 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 6A 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 transition and non-transition countries in a similar way.

Table 35. Effect of social capital on FDI

Dependent:	FDIGDP			
Predictors	Model 6A	Model 6B	Model 6C	Model 6D
F4 polaction	ns	ns	0.606*** (3.263)	ns
F5 polinterest	−0.337* (−1.752)	−0.409** (−2.317)	−0.458*** (−3.301)	−0.271** (−2.225)
F6 justified	ns	ns	ns	0.211* (1.885)
F7 belong	0.521* (2.103)	0.612*** (2.917)	ns	0.402** (2.683)
F8 friends	−0.426* (−1.774)	ns	−0.347* (−1.891)	ns
F9 family	ns	ns	0.246* (1.866)	ns
F10 gentrust	ns	ns	0.463** (2.497)	ns
GOV	–	−0.621*** (−3.041)	−0.710*** (−4.377)	−0.864*** (−5.704)
TRADE	–	–	0.652*** (5.375)	0.666*** (6.007)
GDP0	–	–	– (ns)	–
TRANS	– (ns)	– (ns)	–	−0.427** (−2.655)
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. Social capital components that were backward insignificant in all models are not presented in the table. * Significant at level $p<0.10$, ** $p<0.05$, *** $p<0.01$; t statistics in parentheses.
Source: author's calculations on the basis of national-level social capital database.

Table 36 presents the effect of social capital components on domestic savings. It can be seen from Model 7A that social capital solely[35] 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.

When initial income level is taken into account, factors F4 polaction and F9 family turn significant but negative predictors of savings (Model 7B). Together with GOV and traditional growth factors (Models 7C–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 –

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[35] The results did not change when GOV or TRANS were added into model 7A.

participation (F7), general trust (F10) and also institutional trust (F3) – are insignificant in all model specifications (the only exception is F3 in Model 7A, as explained earlier).

Table 36. Effect of social capital on domestic savings

Dependent:	SAVDOM				
Predictors	Model 7A	Model 7B	Model 7C	Model 7D	Model 7E
F1 helping	ns	ns	1.461*** (5.068)	1.281*** (4.568)	1.448*** (5.794)
F2 concern	ns	ns	0.275* (1.954)	0.370** (2.821)	0.383*** (3.063)
F3 confidence	0.328* (1.835)	ns	ns	ns	ns
F4 polaction	ns	–0.451** (–2.156)	–0.531** (–2.517)	–0.701*** (–3.536)	–0.828*** (–4.086)
F5 polinterest	ns	ns	ns	ns	ns
F6 justified	ns	ns	–0.465*** (–2.854)	–0.317* (–2.033)	–0.399** (–2.863)
F7 belong	ns	ns	ns	ns	ns
F8 friends	ns	ns	–0.552*** (–2.972)	–0.508*** (–3.006)	–0.580*** (–3.664)
F9 family	ns	–0.330** (–2.190)	–0.701*** (–4.631)	–0.696*** (–5.156)	–0.750*** (–5.763)
F10 gentrust	ns	ns	ns	ns	ns
GOV	– (ns)	– (ns)	0.612*** (3.799)	0.414** (2.260)	0.434** (2.643)
SEC	–	–	ns	0.202* (1.788)	0.460*** (2.950)
TERT	–	–	1.022*** (5.554)	0.995*** (5.390)	1.110*** (6.535)
TRADE	–	–	0.436*** (3.941)	0.297** (2.654)	0.479*** (4.916)
GDP0	–	0.847*** (4.046)	–	0.478** (2.376)	–
TRANS	– (ns)	–	–	–	–0.669** (–2.840)
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. Social capital components that were backward insignificant in all models are not presented in the table. * Significant at level $p<0.10$, ** $p<0.05$, *** $p<0.01$; t statistics in parentheses.

Source: author's calculations on the basis of national-level social capital database.

Table 37. 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.

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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.

Table 37 summarises the effects of social capital on alternative investments variables. 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. As 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.

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 6B. However, in this case the differences between WE and CEE countries are attributable to governance indicator, not to ten social capital components. Taken together, **the results of regression analysis in this subchapter support partially the proposition P3f, which stated that higher social capital fosters economic growth indirectly through increasing 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.

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2.3.3. The effect of social capital on human capital

Another possible influence channel from social capital to economic growth runs through human capital. Although complementarities between human and social capital enable to suggest both directions of causality between these factors, the following analysis focuses on the effect of social capital on human capital (an opposite effect was analysed in Subsection 2.2 when discussing the determinants of social capital). Theoretically, it is expected that social capital assures both better access and higher returns to human capital, thus encouraging higher and less risky investments into human capital.

The following regression analysis investigates the effect of first-order and second-order constructs of social capital on alternative human capital indicators. In addition to educational levels of the workforce (PRIM, SEC and TERT as defined earlier), a more broad-based human capital index LEIEDU is used as a dependent variable, which is obtained from human development index by subtracting GDP per capita sub-index. Besides, transition dummy and income level were used as alternative control variables.

Regression results with first-order constructs of social capital as independent variables are presented in Table 38. It appears that only four components of social capital – F1 helping, F4 polaction, F5 polinterest and F10 gentrust – are significant predictors of more than one alternative human capital indicator. At the same time, F2 concern and F7 belong are insignificant in all model specifications; and F3 confidence and F6 justified explain only the level of LEIEDU, but not educational levels of labour force. It should also be noted that explanatory power of the models with TERT and LEIEDU as dependent variables (when control variables are not taken into account) is much higher that in case of PRIM and SEC, so it could be suggested that social capital explains better overall human capital and higher education.

As regards control variables, income level was insignificant in all model specifications where it was added. The same holds for governance, except in case of tertiary education where its effect was significant but negative. In the latter case, GOV also made apparent the positive effect of F3 confidence and F4 polaction.

TRANS dummy is significant in all cases except tertiary education, showing that CEE countries have higher share of labour force with secondary education, but relatively fewer workers with primary education and lower overall human capital level as measured by LEIEDU. Also, including transition dummy in the models improved overall model fit in all cases, but it also changed the pattern of significant social capital components. In case of primary education, TRANS increases slightly the positive effect of F1 helping and replaces the initial significant effect of F5 polinterest with the stronger effect of F4 polaction. Similar replacement could be noticed in case of secondary education (here the effects of F4 and F5 are with an opposite sign as compared to primary education).

Table 38. Effect of social capital on human capital.

Dependent:	PRIM		SEC		TERT		LEIEDU	
Predictors	Model 8A	Model 8B	Model 8C	Model 8D	Model 8E	Model 8F	Model 8G	Model 8H
F1 helping	0.384** (2.501)	0.455*** (3.233)	ns	ns	-0.708*** (-4.668)	-0.939*** (-6.677)	ns	0.399** (2.421)
F3 confidence	ns	ns	ns	ns	ns	0.586*** (3.061)	0.300** (2.120)	ns
F4 polaction	ns	-0.799*** (-4.677)		0.610*** (3.438)	ns	0.442** (2.381)	0.576*** (4.075)	ns
F5 polinterest	-0.424*** (-2.758)	ns	0.447** (2.633)	ns	ns	ns	ns	ns
F6 justified	ns	ns	ns	ns	ns	ns	ns	-0.254* (-1.741)
F8 friends	ns	ns	ns	ns	0.466*** (3.071)	0.371** (2.422)	ns	ns
F9 family	ns	ns	-0.307* (-1.733)	ns	ns	ns	ns	ns
F10 gentrust	ns	ns	-0.346* (-1.923)	ns	ns	ns	ns	0.265* (1.996)

Table 38. Continued

Dependent:	PRIM		SEC		TERT		LEIEDU	
Predictors	Model 8A	Model 8B	Model 8C	Model 8D	Model 8E	Model 8F	Model 8G	Model 8H
GOV	– (ns)	–	– (ns)	–	–	–0.782*** (–4.217)	– (ns)	–
TRANS	–	–0.936*** (–5.887)	–	1.038*** (5.850)	– (ns)	– (ns)	–	–0.519*** (–3.459)
GDP0	– (ns)	–	– (ns)	–	– (ns)	–	– (ns)	–
F-statistic	8.150***	17.642***	3.797**	17.520***	11.886***	12.160***	22.161***	14.274***
Adjusted R^2	0.330	0.633	0.224	0.533	0.429	0.658	0.585	0.639
Chow test	3.185*	–	4.808**	–	2.746*	–	0.336	–

Notes: Standardised regression coefficients of the backward reduced models. Social capital components that were backward insignificant in all models are not presented in the table. * Significant at level $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; t statistics in parentheses.

Source: author's calculations on the basis of national-level social capital database.

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In addition, TRANS eliminates the initially significant but negative effect of F9 family and F10 gentrust on secondary education. In case of LEIEDU, including transition dummy makes institutional and political factors insignificant and highlights the importance of general trust and norms (including the norm of helping). Finally, Chow test indicates that first-order social capital has similar effect on human capital in WE and CEE countries in case of LEIEDU, while there are significant differences concerning the effect of social capital on alternative educational levels.

When summing up the above analysis about the effect of social capital on human capital, the following conclusions can be drawn. Firstly, the most widespread effect on human capital have social capital components F1 helping and F4 polaction. Secondly, trust has positive effect only on LEIEDU, but general trust is also negatively associated with secondary education. Thirdly, it was proved that in most cases (with tertiary education as an exception, which could be explained by the fact that the shares of labour force with tertiary education were very similar in both country groups), the effect of social capital on human capital is different in WE and CEE subsamples. Taken together, **the results of regression analysis in this subchapter support partially the proposition P3g, which stated that higher social capital associates with higher investments in human capital, and that this effect is similar in WE and CEE countries.** The proposition was supported in that many social capital components associated positively and significantly with human capital indicators. Also, Chow test did not indicate the differences between WE and CEE country groups in the way how social capital influences the overall human capital. On the other hand, the proposition was not supported in that the relationship between social capital and human capital was negative in some cases, and differences between WE and CEE countries appeared in the models with educational levels as dependent variables.

2.4. Discussion and synthesis of the research results

Based on the overview of the comprehensive theoretical and empirical literature in chapters 1.1 and 1.2, the conceptual framework for the present empirical research and related research propositions were set up in subsection 1.3. Previous chapters 2.1–2.3 presented the empirical analysis for validating the proposed research propositions, while the results of this analysis were presented mainly in technical terms. This subchapter aims to provide a deeper discussion of the empirical results, including possible explanations to some controversies, and synthesis of the results from different groups of propositions.

Research results on the structure and levels of social capital in WE and CEE countries (P1a–P1e)
The dominant view in the literature is that social capital cannot be measured by a single variable or overly aggregated indicators. Instead, it is suggested that social capital consists of different components, which characterise different aspects of the concept (e.g. Bjørnskov 2006, van Oorschot *et al.* 2006). From here the question arises whether the composition of social capital is the same in different countries. Also, the firm relationships between these components, as was expected in earlier literature (e.g. Putnam *et al.* 1993, 2000), cannot be taken as granted. Additionally, it has been argued that the relative importance of different social capital components might be different in different countries (e.g. Rose 1999, Paldan 2000, Fukuyama 2000), meaning that social capital components may substitute for each other depending on the overall development level of a country.

Table 39 summarises the main research results and conclusions about the validity of the propositions set up to compare the structure and levels of social capital in WE and CEE countries. The basic assumption in this dissertation was that social capital is an empirically stable concept in all countries, but its structure and levels can differ for different reasons. The results of the first-order exploratory factor analysis confirmed the stability of the concept of social capital, as the obtained components were similar in WE and CEE subsamples, and also in the pooled dataset. As regards the differences in the social capital level in WE and CEE countries, the data used in this analysis confirmed the results of many previous comparisons in that the levels of social capital are higher in Western European countries and lower in Central and Eastern Europe. Differences were largest in case of traditional social capital indicators, like trust and formal participation. As the only clear exception, interest in politics was higher in CEE subsample at both group and country level. This result is probably influenced both by the development level of democracy and by the political stability or instability of the countries. Still, at country level there are several Eastern European nations where the factor scores of concern, helping and family are higher than in many Western European countries.

Table 39. Summary of the main research results on the structure and levels of social capital in WE and CEE countries.

Propositions P1a–P1e and main findings	Validity
P1a: The components of social capital are robust and the same in WE and CEE countries. • Based on the first-order exploratory factor analysis, the components of social capital are the same in WE and CEE subsamples. In both cases, the initial social capital indicators from WVS survey divided into theoretically pre-defined components of social capital. The pooled analysis gave similar results.	Supported
P1b: The levels of social capital are lower in CEE countries compared to WE countries. • The comparison of the mean factor scores by country groups showed that the level of social capital is usually higher in WE countries, except in case of the first-order factors of concern and interest in politics. • The gap in the levels of social capital (in favour of WE countries) was highest in case of trust (both general and institutional) and all types of participation (formal, informal and political).	Mostly supported
P1c: The relative importance of different social capital components might be different in WE and CEE country groups. • Country comparisons showed that the relative importance of different social capital components is not the same in WE and CEE countries, but differences exist also inside the subsamples and no clear pattern appeared in this question.	Supported
P1d: The relations between social capital components are expected to be different in WE and CEE country groups. • The correlations between the first-order social capital components were largely similar in WE and CEE subsamples at individual level, but different at national level (regarding the size, sign and significance of correlation coefficients). • At a higher level of aggregation, the second-order factors of social capital were different in WE and CEE subsamples. In both country groups, the obtained second-order constructs were also different from pre-defined subdimensions of social capital.	Partially supported
P1e: The relations between social capital components at national level might be different from the respective relationships at individual level in both country groups. • The correlations between social capital components were not always the same at individual level and national level. No clear differences appeared between WE and CEE countries. • Aggregation from micro- to macro-level is less problematic in case of institutional trust, general trust, formal networks and helping.	Partially supported

Source: compiled by the author.

This result refers to the differences in altruistic values and importance of bonding ties, which are apparently related to the development level of the respective countries. Earlier literature has also pointed out that people in poorer countries rely more on bonding ties. Additionally, there are several cases where a country is on the top positions in one aspect and at the end of the order in other aspects of social capital. Taken together, the research results confirm the possibility that alternative types of social capital – especially bonding and bridging – may substitute for each other at different levels of development.

Further, correlation results at individual level indicated that in most cases, the relations between social capital components are similarly positive in both groups of countries, thus supporting the idea that social capital in its various forms is "additive" – the more is better. In the pooled sample, the only remarkable exception from this pattern was a negative association of social norms with political action and friends. The explanation of this result might be two-fold. On the one hand, accepting social norms might be, in some cases, the expression of passivity in societal questions, leading also to low political activity. On the other hand, it might be that strong support from friends encourages violating the social norms. In separate country groups, additional negative correlations appeared between political action and confidence in institutions, indicating that dissatisfaction with formal institutions motivates people to be politically active. As regards differences, the relationships of social norms with formal networks and general trust were insignificant in CEE subsample. These exceptions can be attributed to the historically lower levels of trust and participation in CEE countries, and also to the double-dealing in attitudes about the importance of following the social norms. Additionally, when the relations between components of social capital were further clarified with a second-order factor analysis, the results were also different in WE and CEE subsamples. This outcome is in line with the warnings against using overly aggregated social capital indexes in international comparisons.

At the aggregate level, the relationships between social capital components were weaker. The only common strong positive and significant correlation in both country groups appeared between political action and formal networks, suggesting that there might be common roots for overall social and civic activity. As regards the differences, general trust was negatively related to family in WE countries. This result was produced already several times in the previous analyses, referring to the fact that in more developed societies, bonding family ties are not so important and general trust stems from other sources. In CEE countries, general trust was negatively related to helping and social norms. These results clearly mirror the presence of communist legacy, suggesting that bonding relationships do not broaden the general trust towards unknown others, on the one hand, while breaking the social norms is not an obstacle of trusting strangers, on the other hand. Also, negative relationship appeared between institutional trust and interest in politics in CEE subsample, indicating that with untrustworthy institutions people in CEE simply abandon following politics instead of

expressing their opinion. It could be suggested that this is so because of their past experience, as under communist rule people did not have many possibilities to influence political processes.

Finally, the comparison of the micro-level and macro-level correlations enabled to shed some light on the possibility to aggregate social capital indicators from individual to national level. Although some small differences appeared between WE and CEE countries in this respect, the general conclusion is that many social capital components (e.g. institutional and general trust, formal networks and helping) aggregate pretty well, so it could be suggested that the supposed externalities (see Harper 2001, Glaeser *et al.* 2002) do not have very strong effect.

Research results about the determinants of social capital in WE and CEE countries (P2a–P2d)

In the current research, various forms of social capital are distinguished. However, only a few of them were included in the previous studies of the determinants of social capital. Mostly, the determinants of participation in voluntary organisations and interpersonal trust have been studied, and only individual-level characteristics have been considered. Van Oorschot and Arts (2005), who themselves have analysed the determinants of eight different social capital components both at micro- and macro-level, summarise from previous research that education and income (reflecting people's social resources) are most influential factors of formal participation and trust. Employment status is also related to social resources – unemployed have usually less social capital. Social capital generally increases with age, indicating that the creation of social networks takes time, and that at older ages people value more social relations as a source of life satisfaction. Unfortunately, the previous studies have not paid much attention to the transition aspect (except the works of Fidrmuch and Gėrxhani (2005), Jasińska-Kania (2004) and Kaasa and Parts (2008) – which, however, showed mixed results), so the present research is rather novel in this respect. Alternatively, per capita income level can be seen as a substitute for transition indicator in the European sample, which has shown to have a positive effect on most types of social capital.

Table 40 summarises the main research results and conclusions about the validity of the propositions which were set up to compare the determinants of social capital in WE and CEE countries.

Unlike in many previous studies, in the present research distinction was made between the socio-economic and demographic determinants on the one hand, and cultural and psychological determinants of individual social capital on the other hand. In this respect, it appeared that the structural aspects of social capital (i.e. different networks and civic engagement) are influenced more by socio-economic and demographic factors, while cultural and psychological determinants dominate as predictors of cognitive dimension (i.e. trust and sense of community) of social capital. Among the first group of the proposed determinants, no differences

appeared between WE and CEE countries, while the opposite holds for the second group of determinants. The reason why the effect of cultural and psychological factors is somewhat different in WE and CEE could be attributed to the different past experience. Similar explanation has been highlighted by Uslaner (2002), who argues that although the basic psychology is everywhere the same, the effect of respective factors might depend on differences in collective experience.

Table 40. Summary of the main research results on the determinants of social capital in WE and CEE countries

Propositions P2a–P2e and main findings	Validity
P2a: Different components of social capital might have different determinants. • Different components of social capital have different sources. Networks and civic commitment are mostly influenced by socio-economic and demographic factors, while cultural and psychological factors dominate in case of trust and sense of community. • The pattern of statistically significant individual-level determinants is rather similar in WE and CEE subsamples in case of socio-economic and demographic factors, but different in case of cultural and psychological factors. • At national level, different components of social capital are influenced differently by the proposed macro-level determinants.	Supported
P2b: Among individual-level determinants, socio-economic and demographic factors are expected to have a similar effect on social capital in WE and CEE countries. • The effect of demographic factors (age, gender, children) on social capital components is largely similar in WE and CEE countries. • Among socio-economic factors, education has a similar effect on social capital in WE and CEE countries. In case of other determinants, differences are more likely to appear (however, these differences are mostly related to the significance of the determinants, not their sign).	Mostly supported
P2c: Among individual-level determinants, cultural and psychological factors are expected to have a different effect on social capital in WE and CEE countries. • Individualism has a negative effect, and post-materialism and equality a positive effect on social capital – especially on cognitive dimension and civic engagement. Generally, these effects are somewhat stronger in WE subsample. • In both country groups, satisfaction with democracy associates positively with general and institutional trust. • Overall religiosity associates positively with altruism, institutional trust and family relations. In WE subsample, a negative relationship between orthodox denomination and most types of social capital appeared. In CEE subsample, social capital is most (positively) influenced by catholic denomination.	Partially supported

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Table 40. Continued

Propositions P2a–P2e and main findings	Validity
P2d: Macro-level determinants might have a different effect on social capital in WE and CEE countries. • Macro-level determinants that are related to the level of economic development have often dissimilar effects on individual social capital in WE and CEE countries. • The results of Chow test indicate that the effect of macro-level determinants on individual social capital is different in WE and CEE subsamples in case of all social capital components. • At national level, Chow test indicates that social capital components like political action, interest in politics, participation in voluntary organisations and general trust are determined differently by the proposed macro-level factors in WE and CEE country groups.	Supported
P2e: The relative importance of micro- and macro-level factors might be different in different country groups, and in case of different social capital components. • The comparison of the adjusted R^2 of the regression models with different sets of social capital determinants showed that the models which consider both individual- and national-level determinants are better than those including only micro-level or national-level determinants. This result holds in both country groups and in case of all social capital components. • When comparing the models with only micro-level or only national-level determinants, the values of adjusted R^2 are mostly higher in case of former, indicating the higher importance of individual-level factors as compared to contextual factors (with some exceptions). • Social capital components which have a larger number of significant predictors include political action, interest in politics, institutional trust, and informal and formal networks. This list is the same in both country groups, with only a small variation in the order of the respective social capital components.	Mostly supported

Source: compiled by the author.

As regards the significance and the direction of the effect of proposed individual-level determinants, the results were mostly in accordance with the theory and similar in both country groups – for example, a positive effect of age and employment, a negative effect of diverse neighbourhood, and insignificance of gender. However, education and especially income, which were expected to be among the most influential factors of social capital, appear to be insignificant or had only a very small positive effect on most social capital components. Still, education had somewhat stronger effect on "the traditional" components of social capital, like general trust, formal participation, and also political engagement. Also, these results are mostly in accordance with the recent study

of van Oorschot and Arts (2005), who have also used a broader set of social capital indicators in their analysis. Regarding cultural and psychological factors, the only remarkable difference between the country groups appeared in the relationship between support for equality and political action, which was positive in WE and negative in CEE subsample. The latter result could be related to the reluctance to publicly report support for equality because of the past experience of forced "equality" under the communist rule.

Unlike in most previous studies, in addition to individual characteristics, national-level indicators and aggregates as the determinants of social capital have been investigated in the current research. However, the results did not support the idea that the broader national-level context might influence individual incentives to invest in social capital (for example, it has been suggested that higher overall level of education suppresses the social returns to individual investments in education (see Parts 2005). Instead, several macro-level factors were directly associated with the levels of social capital. When generalised, the determinants which characterise the overall development level (e.g. GDP per capita, human capital, corruption control, communication infrastructure) are both in WE and CEE positively related to bridging social capital and trust, and negatively related to bonding social capital. As one exception, people in less corrupted countries are less eager to join voluntary organisations and help others (especially in CEE subsample). In case of the former result it could be speculated that in the absence of widespread corruption there is no need and/or possibility for rent-seeking activities. The latter result could be interpreted as a belief that everyone can get impartial help from formal institutions, so there is no urgent need for informal helping of strangers.

However, there were also several statistically significant relationships with opposite signs in WE and CEE country groups, which are difficult to explain. For example, higher GDP per capita associated with higher participation rate and readiness to help in CEE, while the opposite held for WE countries. It can be suggested that the relationship between material wealth and social capital is not linear – while in poorer CEE countries increasing incomes seem to enable more participation (e.g. to pay fees), in Western Europe higher wealth leads people to substitute participation for other activities. Also, corruption control is positively related to most social capital components in WE countries, but negatively in CEE countries. This result may be related to communist past, indicating that people still have higher perception of corruption despite the actual improvement in this field. A similar pattern appeared in relations of human capital with general trust and friends, which is more difficult to explain.

Altogether, the results confirmed that the importance of individual-level factors is higher as compared to contextual factors, while the models which include both individual- and national-level determinants describe social capital best. This holds in both country groups and in case of most social capital components. Also, it can be generalised that individual characteristics determine better the structural aspects of social capital. When comparing WE and CEE

countries, social capital is usually better described by the proposed determinants in the former case. As an exception, informal bonding ties and political activity are better described in CEE countries. Finally, both the individual-level and national-level results supported the idea that different components of social capital have different sources.

Relationships between social capital and economic growth (P3a–P3g)
In economics, the utility of social capital appears mostly through its effect on economic growth. The expected positive effect of social capital on economic growth is related to its ability to lower transaction cost and thus increase the efficiency, as was explained in subchapter 1.2.1. On the one hand, trust is an important prerequisite for cooperative behaviour, which helps to solve collective action problems and support the voluntary provision of public goods (Putnam *et al.* 1993). Similar argumentation holds for social norms which are complemented with sanctions (Coleman 1990). On the other hand, trust helps to save resources (i.e. money and time) otherwise devoted to monitoring possible malfeasance by partners in order to protect themselves from being exploited in economic transactions (Putnam *et al.* 1993, 2000). Trust also reinforces the investment climate in the economy (Hjerppe 2000), while different types of networks can be seen as mediators of widespread information (Coleman 1990). However, structural social capital may also lead to negative outcomes from the viewpoint of the society as a whole, when cooperation between agents aims at narrow self-interest and results in rent-seeking activities (e.g. Olson 1982, Abramson and Inglehart 1994).

Empirically, it has been shown that the cognitive aspects of social capital in the form of general trust and social norms are associated with better economic performance (e.g. Granato *et al.* 1996, Knack and Keefer 1997, Whiteley 2000, Zak and Knack 2001), while the effects of structural social capital are varied. It can be generalised that the positive effect of organisational membership appears usually at regional level (Rupasingha *et al.* 2002, Beugelsdijk and Schaik 2005), but at national level this effect is often insignificant (Knack and Keefer 1997, Hjerppe 2000). Unfortunately, again, the transition aspect has not been much studied in earlier research. Still, there is some evidence that differently from WE countries, trust is not significantly related to growth in CEE, while participation in civic organisations might have some positive effect on growth.

Table 41 summarises the main research results and conclusions about the validity of the propositions which were set up to investigate and compare the effect of social capital on economic growth in WE and CEE countries. The results of the propositions P3a-P3e suggest that the direct effect of social capital on economic growth goes mainly through components related to readiness to help, political action and social norms. While the latter reflects the attitudes or tolerance toward not allowed behaviours, F1 helping and F4 polaction are more related to the actual readiness to take action in favour of the broader society. At the same time, traditional (i.e. most empirically and theoretically researched)

social capital components, like different types of trust and networks, do not seem to be good predictors of economic growth at national level.

Table 41. Summary of the main research results on the relationships between social capital and economic growth in WE and CEE countries

Propositions P3a–P3g and main findings	Validity
P3a: Social trust F10 and norms F6 are expected to have a direct positive effect on economic growth both in WE and CEE countries. • Both social norms and general trust are significant but negative predictors of GDP per capita growth, when added separately in the growth models. • Chow test did not indicate the differences between WE and CEE countries.	Partially supported
P3b: Institutional trust F3 and the quality of governance GOV are positively related to economic growth in highly developed countries, but the relationship is expected to be weaker in poorer transition countries. • Institutional trust was insignificant in all different specifications of the growth model. • Governance was a significant but negative growth predictor only when transition aspect was not taken into account. Chow test indicated the differences between country groups in this model. • Transition dummy has a significant positive effect on growth, and it takes over the initial negative effect of governance.	Partially supported
P3c: Participation in voluntary organisations is expected to have a positive effect on economic growth, while an opposite might hold for informal socializing with friends and family. The differences between WE and CEE countries are more likely than in case of trust and norms. • Formal participation in voluntary organisations is insignificant in all model specification. • Socializing with friends and colleagues has a significant but negative effect on growth only in the model that includes also traditional growth factors. No differences between country groups appeared. • The component family which constitutes bonding ties is insignificant in all models	Not supported
P3d: Political engagement may be considered as a component of social capital which fosters economic growth similarly in both groups of countries. • Political activity has a significant but negative effect on growth. • Interest in politics has a significant positive effect on growth only when all social capital components are added together into growth model. • The joint effect of all social capital components differs in WE and CEE countries, while estimations of the separate effect of social capital components gave similar results.	Partially supported

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Table 41. Continued

Propositions P3a–P3g and main findings	Validity
P3e: The direct effect of altruism or sense of community is expected to be positive and similar in WE and CEE country groups • The component helping is a significant but negative growth predictor in all model specifications, while no differences exist between the country groups. • The component concern is insignificant in all models.	Partially supported
P3f: Social capital has a positive effect on investments similarly in WE and CEE countries. • Helping has a positive effect on investments, while the effect of other social capital components is mostly insignificant or negative. • An increase in capital formation is influenced significantly but negatively only by institutional trust. • Shares of gross and gross fixed investments in GDP are negatively influenced by political action, social norms, family and general trust. • The same holds for domestic savings, except the effect of general trust which is insignificant. Domestic savings are also positively influenced by helping, concern, confidence and governance. • Social capital components which had a negative effect on investment's share in GDP have a positive effect on foreign investment. In addition, FDI associates positively with formal networks and negatively with interest in politics, friends and governance. • There are no significant differences between WE and CEE countries.	Partially supported
P3g: Higher social capital is associated with higher investments into human capital similarly in WE and CEE countries. • Expected positive association between social capital and human capital appears in the following relationships: helping with primary education and overall human capital; political action with secondary and tertiary education and overall human capital; institutional trust with tertiary education and overall human capital; friends with tertiary education; and general trust with overall human capital. • Negative relationship appeared between helping and tertiary education, political engagement and primary education, family and secondary education and general trust and secondary education. • Chow test indicated the differences between WE and CEE countries in SC effect in case of educational levels, but not in case of overall human capital.	Partially supported

Source: compiled by the author.

Insignificance of the effect of organisational membership has appeared also in several earlier national-level studies (e.g. Knack and Keefer 1997, Hjerppe 2000); thus the results of this research are in line with the experience that benefits of voluntary associations (which are mostly local in their nature) appear mostly at community or regional level. Similar argument can be used in case of

informal networks. However, insignificance of trust indicators contrasts with the previous studies and is thus more difficult to explain. Institutional trust was insignificant in all growth regressions (although it was significantly but negatively correlated to growth), but it might be that in the current analysis this component was simply dominated by overall governance indicator, which had a significant effect on growth when the transition aspect was neglected. Taking into account the duality of the sample, it is rather logical that growth is affected by actual quality of institutional environment, not by subjective (especially in CEE subsample due to past experience of distrust) opinion of individuals.

General trust appeared a significant but negative growth predictor in only one model which included also traditional growth factors but not transition dummy and other social capital indicators. As the comparison of the correlations between social capital components (see Proposition P1e) indicated no aggregation problems in case of general and institutional trust and formal networks, it could be suggested that theoretically expected negative externalities are strong enough to offset the expected positive effect of trust and networks, but weak enough so that the negative effect would not turn significant.

Concerning the indirect effect of social capital through investments into physical capital, mostly the same components of social capital (F1 helping, F4 polaction, F6 justified) were significant that had also a direct effect on economic growth. In addition, bonding networks (F9 family) and general trust (F10) were significant predictors of investments. Altogether these results correspond to the theory behind proposition P3f, highlighting the importance of social capital components which are related to trust and norms. Another indirect effect of social capital, which is expected to run through human capital (proposition P3g), is not so well supported by the empirical results. In general, significant components of social capital are the same as in case of physical investments, but the overall pattern of their effect in different model specifications is not clear.

As regards the sign of the relationships between social capital and economic growth, instead of expected positive effect, negative coefficients appeared (with only a few exceptions, like in case of indirect effect through foreign investments). However, this would not probably mean that social capital inhibits growth. Instead, this result might simply be influenced by the strong convergence processes and/or reflect the level effects in the specific sample of countries. More precisely, social capital levels are lower in CEE countries, which grow faster due to other reasons. Both regularities can be explained, first of all, by lower income levels as compared to WE countries. However, this puzzle remains partly unsolved, as inclusion of the initial income level in regressions did not change the effect of social capital positive, as could be expected. On the other hand, it could be hypothesised that in such static framework (no time series for social capital were available), negative coefficients of social capital indicators reflect social convergence in Europe – as correlation analysis indicated the positive relationship between social capital

and GDP per capita levels, it might be that social capital level also converges during the process of economic growth.

Validating the effect of transition aspect is also quite tricky. On the basis of Chow tests, it could be suggested that the direct effect of significant social capital components on economic growth is similar in WE and CEE countries (this holds when social capital components are considered one-by-one). The same holds for indirect effect of social capital through physical investments and, with a few exceptions, also for human capital. However, when all social capital components were analysed together (but without traditional growth factors), Chow test was significant. On the other hand, transition dummy had positive and significant effect on economic growth in most model specifications. Still, the latter result obviously simply reflects the ongoing convergence processes in Europe, and thus cannot be the basis for estimating the differences between transition and non-transition countries. Therefore, future research is needed in this question, when more comprehensive social capital data become available (for example, longer time series in ESS), which would enable to perform a separate analysis by WE and CEE country groups.

Synthesis of the research results
In the current research, the determinants and economic effect of social capital were studied in an integrated framework, which was developed in subchapter 1.3.2. This approach enables to draw conclusions about the interrelationships between the sources and outcomes of social capital, which often constitute the same factors. In this way, clearer sequences could be outlined from certain social capital determinants to different aspects of social capital, and further to specific outcomes of social capital. Understanding these interrelationships would enable to draw policy recommendations for encouraging the emergence of those types of social capital which are beneficial to desired development objectives.

Empirical research was based on WVS database, which enabled to distinguish between ten social capital components (more than in any previous study). Such a broad-based approach relies 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. However, despite the existence of various dimensions of social capital, basic assumption in this dissertation – which also found empirical confirmation – was that social capital is an empirically stable concept in different countries, including WE and CEE country groups. The research also indicated that some components of social capital can be aggregated with simple techniques from individual to national level, suggesting that in case of networks and trust measures possible externalities have no strong effect. For other components, using alternative macro-level measures may be necessary – for instance, interest in politics could be replaced or complemented with voting activity at macro-level analysis.

Still, differences appeared in some (especially national-level) determinants of social capital, as well as in the relationships between social capital and economic growth. Regarding the components of social capital which benefit most economic growth (see the summary in Table 32), one of the most striking results was that a core indicator of social capital – general trust – was insignificant in most growth models. However, this should not mean that trust is not important for growth. In the author's opinion, the survey question about general trust is too abstract and it does not reflect the idea about usefulness of trust for economic development in the best way. As an alternative, results of the current study enable to suggest that the respondent's actual readiness to help strangers (i.e. social groups that are different from each other) could better reflect trust in the society, as the respective social capital component F1 helping was significant in all model specifications. Theoretically, also components of informal networks can be related to specific forms of trust – factor friends (F8) associates with process-based trust and factor family (F9) with ascribed trust – but these components had only an indirect effect on growth through investment activity (and to some extent also through human capital). Another core component of social capital – participation in formal networks – was also insignificant in most growth regressions. As several earlier studies have got similar results at national level, it could be suggested that formal networks are more useful for individual purposes (theoretically, this is likely true in countries with lower level of economic development), or at most for achieving common tasks at regional level.

When looking for the roots of most influential types of social capital – namely altruism and political engagement – the following conclusions can be drawn (see Tables 23–26). Firstly, the component helping, which was highly significant in all growth models, is determined positively by communication infrastructure, overall satisfaction with democracy and support for equality, and negatively with corruption control at national level. Average readiness to help strangers is similar in WE and CEE countries, as both transition dummy and Chow test were insignificant in national-level analysis. At individual level, people living in transition countries where human capital is high but incomes unequally distributed are more helpful. Secondly, the component political action is determined positively by communication infrastructure and negatively with individualistic attitudes at national level, while at individual level additional strong negative effect of satisfaction with democracy appears. Religiosity, individualism, corruption control and income inequality have somewhat lower negative effect on political activity at individual level, while positive effect appears in case of human capital. Based on Chow test, there might be differences between WE and CEE countries, and a negative sign of transition dummy in individual-level analysis indicates that people in WE countries are politically more active. Thirdly, social norms are followed more likely in countries where people are more religious and have lower support for equality. At individual level, these determinants are complemented with the positive

effect of satisfaction with democracy and transition dummy. To a smaller extent, social norms at individual level are positively influenced by GDP per capita and income inequality.

The above relationships are gathered to Figure 21, which would be also the basis for policy implications in the next paragraph. It can be concluded that the effect of social capital on growth depends on several background factors. When adding up the signs of the effects, it appears that only two factors have in total a positive effect on economic growth (i.e. those having a negative effect on social capital components). Firstly, better corruption control leads to higher growth rates through lowering helping attitudes, which can be interpreted as a result of replacing informal bonding ties with the more formal ones (including those with formal institutions). Secondly, strengthening individualistic attitudes foster growth through lower political activity, which may associate with more sound development environment in circumstances where political system and institutions function more or less properly.
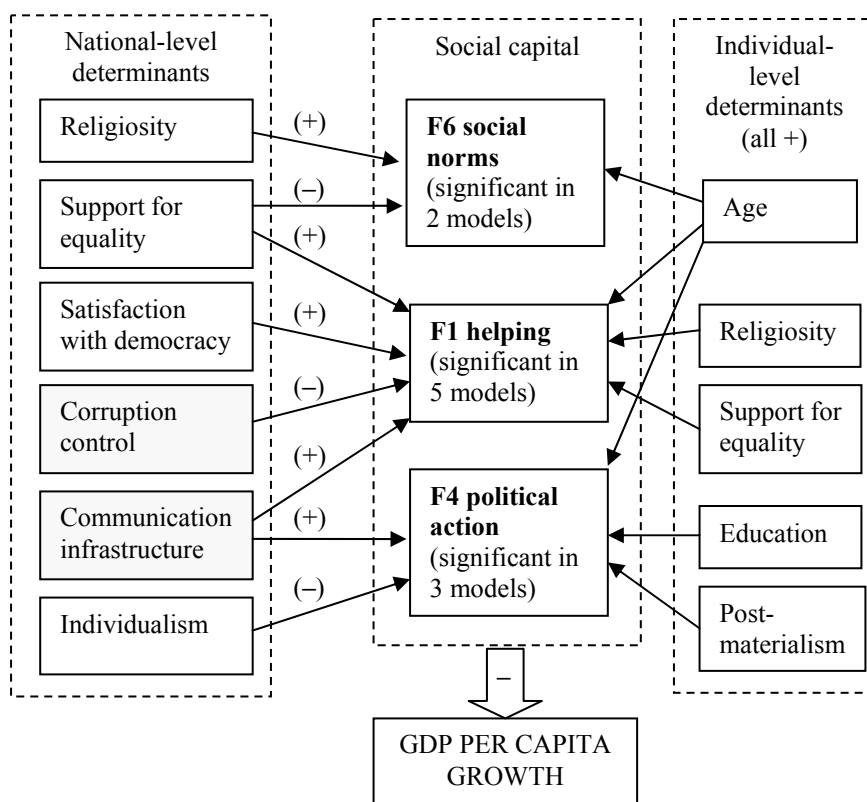
Figure 21. Synthesis of the individual and national-level determinants of social capital components which had a significant direct effect on economic growth. (−) negative effect, (+) positive effect. Shaded blocks denote the determinants that are related to the economic and institutional development, while others are related to culture and values. Source: compiled by the author on the basis of research results in chapters 2.2 and 2.3.

However, there is a deeper problem with signs of regression coefficients behind these explanations. As noted earlier, it might be that the reported negative effect of social capital on growth is a reflection or mixture of ongoing income convergence and gaps in social capital levels in Europe. Thus, the direction of the relationship between social capital and economic growth should be interpreted with caution.

As regards the growth effects of social capital through indirect channels, the results are more mixed. Generally, the same social capital components which had most visible direct effect on growth work also via investments and human capital. In case of investments, helping associates positively with investments share in GDP and domestic savings, while political activity and social norms are negatively related to these indicators, but positively to foreign investments. In addition, the components family and general trust have similar relations with investment indicators. However, clear causal chain from their determinants to better economic performance cannot be drawn, as their determinants at national level are with opposite signs. Education seems to be the only common factor behind family and general trust, which has positive effect on these social capital components in both country groups and both at individual and national level. In case of indirect effect through human capital, helping and political activity (but not social norms) are still most significant predictors, being both positively associated with overall human capital. Still, their relations with educational levels are with opposite signs (see Table 38). Other social capital components (like institutional trust, interest in politics and friends) associate significantly only with some human capital indicators, and given variations in their sources, no conclusions can be drawn in terms of which determinants are most influential for this indirect influence channel. As regards transition aspect, it can be generalised that the effect of social capital on investments is mostly similar in WE and CEE countries, while the effect on human capital differs.

Unfortunately, it was not possible to draw more precise conclusion about the differences between WE and CEE countries because of a small sample size at national level which enabled only the pooled analysis. Intuitively, social capital seems to foster economic growth above all in WE countries, where other development resources are already exploited at higher level and their marginal productivity is thus decreasing. In CEE countries, ongoing income convergence seems to dominate over all other results, so that the contribution of social capital to growth does not become clearly visible. Also, it could be suggested that in CEE countries the structure of existing social capital (i.e. relative availability of different types of social capital) offers more benefits at individual level than at societal level, because of overall underdevelopment of civil society.

Summing up, although interpretation of the research results is complicated – partly because of implicit interaction between the levels of social capital and economic development – it could be suggested that economic growth and convergence process in Europe are substantially influenced by social capital.

However, taking into account the small sample size and related limitations of methodology, the results should be viewed only as a way of describing data, rather than reflecting deep structural relations.

Implications

The empirical research together with theoretical background behind this provides a ground for several implications. Theoretical discussion of the concept of social capital highlighted the fact that social capital consists only of the ability to channel resources through social networks, but not the resources themselves. Thus, contrary to the expectations of some policy-makers, social capital is not a substitute for the provision of credit, material infrastructure, and education – although it can increase the yield of such resources (Portes and Landolt 2000: 547). It follows that although low level of social capital is an important development obstacle in CEE countries, increasing these levels (which is not an easy task anyway) is not sufficient. In addition, real investment resources are needed in order to reach sustainable economic growth. On the other hand, research results indicated that social capital encourages foreign investments in conjunction with openness to international trade, so open trade policy might help to achieve growth benefits from social capital.

Synthesis of the research results enable to draw several implications and suggestions about the relationship between social capital, its determinants and economic growth. From Figure 21 it can be seen that clear positive factors behind growth-related social capital components (i.e. helping, political action and social norms) are satisfaction with democracy and development level of communication infrastructure. These factors are more or less under the control of political authorities. On the other hand, better corruption control lowers helping attitudes, probably because people feel that the unknown others can get essential help from formal institutions. Thus, in order to fulfil these legitimate expectations, corruption control should go hand-in-hand with the development of legal social support system. Support for equality acts in dual way – it encourages helping attitudes, but suppresses importance of social norms in more religious societies. However, support for equality and individualism (which associates with lower political activity) is difficult to influence by any purposeful policies, as both components have some roots in history. Also, individualism tends to increase in course of overall economic development, thus slowing down the same process from which it has arisen.

When taking into account also the information about the individual-level determinants of social capital components (see Table 23), additional implications can be derived. Helping attitudes, political activity and social norms increase with age, so the process of population ageing, which has been usually interpreted in negative terms, might help to absorb the potential of social capital as a development factor in the future. Especially in CEE countries, generational change might be one possibility to overcome the negative influence of the communist past on the levels of social capital. Further, political activity is

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higher among more educated persons (and also among those with post-materialist values) in both country groups, so investments in education system might help to strengthen the mechanism which leads from political activity to higher pressure on public institutions, thus increasing their effectiveness and trustworthiness. Resulting increase in the quality of governance should, in turn, lead to a more stable environment for investments in particular and economic growth in general.

Taken together, the theoretical contribution of the current research comprises joint discussion and analysis of the determinants and economic effect of social capital, which is rare in the studies, performed by economists, and enables to draw several suggestions for encouraging economic growth with the help of social capital. Also, the theoretical framework developed in the dissertation enables to study the interrelationships of social capital with a broader set of development objectives than pure economic growth.

In terms of empirical contribution, the results of the current research support several earlier findings, especially concerning the composition and determinants of social capital. On the other hand, the results provide also some new evidence, as more components of social capital are included in the analysis compared to earlier studies, and transition aspect is investigated in more detail. Although poor data did not enable correct comparison of the relationships between social capital and economic growth in WE and CEE countries, the preliminary findings help to extend the understanding of the role of the communist past in employing social capital for achieving different development objectives.

CONCLUSIONS

The aim of this dissertation was to identify the similarities and differences between Western European (WE) and Central and Eastern European (CEE) countries concerning the composition, determinants and economic effects of social capital. The actuality of the topic is related to the growing awareness of the importance of social context and intangible assets in the process of economic development. Analysing the determinants and economic effects of social capital concurrently in the same study enables to propose the policies which support the accumulation of those forms of social capital that are beneficial to economic growth. However, the empirical results of this dissertation indicated that the relationships between social capital, its determinants and economic growth are often dissimilar in different country groups.

The present dissertation was composed of two major parts. In the first chapter, the theoretical basis for the research was presented by reviewing literature about the nature, determinants and economic effects of social capital. Then, based on the theoretical discussion and on the results of previous empirical studies, the research propositions were set up. The second chapter comprised the comparative research on the structure, determinants and economic effects of social capital in CEE and WE countries. The current conclusions summarise the main theoretical and empirical findings of the dissertation, together with suggestions for future research on the economic effects of social capital.

The theoretical background for studying the structure, determinants and economic effects of social capital

The theoretical part of the dissertation discussed the alternative approaches to social capital concept, the components and determinants of social capital, and the relations between social capital and economic growth. In general, interdisciplinary perspective was taken and the views from economics, sociology and political science were introduced.

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. 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. 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. 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. 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. 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. 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. 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.

The determinants of social capital can be divided into two groups. The first group includes a wide range of psychological and socio-economic characteristics of individuals, such as personal income and education, family and social status, values and personal experiences, which determine the incentive of individuals to invest in social capital. Empirical evidence suggests that social interactions tend to take place among individuals with similar lifestyles and socioeconomic characteristics. The second group of social capital determinants includes contextual or systemic factors at the level of community/nation, such as overall level of development, quality and fairness of formal institutions, distribution of resources and society's polarisation, and prior patterns of cooperation and trust. In addition, the theoretical literature addresses the question whether it is possible – or desirable – to encourage individual social capital investments, or to influence social capital formation by state policies. The theoretical model of social capital accumulation by individuals is comparable to physical and human capital investments, where the optimal level

of investments depends on the utility loss from foregone consumption (because the time devoted to social interaction reduces the time spent on working), and on the utility gain from higher social capital in the future. The society-centred approaches of social capital assume that the capacity of a society to generate social capital among its citizens is determined by its long-term experience of social organisation anchored in historical and cultural experience that is not possible to influence in arrears. Finally, concerning the possible differences in the determinants of social capital in WE countries and CEE countries, most of the previous studies have paid no attention to this question. There are only a few studies with contradictory results that cannot be generated.

The systematic discussion on social capital as a factor of economic growth and development is comparatively recent. The critics highlight several problems which stem from incorporating the concept of social capital into economics. Firstly, social capital theory contradicts the idea of rationality, which assumes that individuals calculate personal cost and benefits of each transaction, but do not take into account relational aspects of economic exchange. Secondly, combining the terms "social" and "capital" is argued to lead to a meaningless term which is not consistent with traditional meaning of the term "capital". Finally, it has been argued that social capital theory does not provide any new solutions to economic problems, as compared to known market and government regulations. In the following, some response to this criticism is provided.

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. As a regulator of allocation and cooperation, social capital constitutes cheaper and more flexible alternative to government regulations in providing public goods – for example, in organizing the management of common pool resources, etc. The mechanism leading to lower transaction costs could be described as follows: 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. Higher productivity which is gained through lower transaction costs constitutes a direct influence channel from social capital to economic growth. In addition, the discussion has started in the literature about the possible interaction effects of social capital through increasing the accumulation, quality and productivity of

other development factors, like physical and human capital, and improving the quality of governance. These are the so-called indirect impact channels.

In the current dissertation, the determinants and economic effect of social capital were studied in a broader conceptual framework, which was developed in subchapter 1.3.2. This approach enables to draw conclusions about the interrelationships between the sources and outcomes of social capital, which often constitute the same factors. In this way, causal sequences could be outlined from certain social capital determinants to different aspects of social capital, and further to specific outcomes of social capital. Understanding these interrelationships would enable to draw policy recommendations for encouraging the emergence of those types of social capital which are beneficial to the desired development objectives.

As the empirical part of the current dissertation aimed to compare the determinants and effect of social capital in WE and CEE countries, a separate paragraph was devoted to describing the specific characteristics of social capital in post-communist countries. In this respect, the basic task was to identify the reasons of the low level of social capital in CEE countries, which constitutes a serious development obstacle. The theoretical literature suggests two groups of explanations for the low level of social capital in CEE countries: communist past and its remains, and transformation processes and overall backwardness in socio-economic development. The first set of explanations focuses on the ways how communist system undermined voluntary horizontal associations, which were replaced with grey or black networks and informal provision networks. These types of networks were not based on (and did not induce) interpersonal trust, but were formed on rather mercenary basis. After the fall of communism, such networks mostly collapsed, but the emergence of new types of "civic" networks requires a longer time period. The second set of explanations refers to the uncertainty created by transformation processes, destruction of dominant values and widespread poverty and increasing competition, which do not create a good environment for mutual trust among people. As a conclusion, it is suggested that improving economic conditions, generational change and state support for developing civil society might remedy the problem of low social capital in CEE.

The data and research methodology

The comparative analysis of the structure, determinants and economic effects of social capital covered 14 countries from Central and Eastern Europe and 17 countries from Western Europe. Individual-level data about social capital and its determinants were obtained from the World Values Survey round four and referred mostly to year 1999, while national-level data of economic development and its factors were taken from the World Development Indicators database and Human Development Reports, covering the period over 2000–

2006. Altogether, the 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 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 dependent variables in the analysis of the determinants of social capital, and as independent variables in the analysis of economic effects of social capital. Second, T-test was used for finding out the mean differences in social capital components between CEE and WE country groups. In addition, a correlation analysis was used for investigating the relationships between social capital components. The comparison of the coefficients in different sub-samples enabled to draw conclusions about the similarities and differences in the social capital structure in different country groups. Third, multiple OLS regression models were used for investigating the relations between social capital components and their determinants, and between social capital components and economic development indicators. Individual-level analysis of social capital determinants was performed separately in WE and CEE subsamples, while a small number of observations at national level enabled only the pooled analysis of economic effects of social capital. In the latter case, the possible differences in the effect of social capital components on economic growth in WE and CEE countries were tested with two alternative methods – dummy variable 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.

Validity of research propositions

According to the theoretical framework which was developed in the first part of the dissertation, the determinants and economic effects of social capital are interrelated and equally important, and should be thus studied concurrently. Also, it should be taken into account that different components of social capital might have different determinants and different effects on economic growth, so dimensional approach which avoids constructing overly aggregated social capital indexes is preferred. Based on these considerations, three groups of propositions (with more specific sub-propositions) were set up. The first group of propositions concentrated on the composition of social capital and its

similarity or differences in WE and CEE countries. The second group of propositions concerned the possible similarities and differences in the individual and national-level determinants of social capital. The third group of propositions focused on the analysis of the direct and indirect effects of social capital on economic growth at national level. The second part of the dissertation aimed to test these propositions empirically. Next, the propositions and their empirical validity based on the results of the empirical analysis are presented.

P1a: The components of social capital are robust and the same in WE and CEE countries.

This proposition was fully supported by the analysis. The first-order exploratory factor analysis resulted in similar components in WE and CEE subsamples (although their relative importance in terms of variance explained by separate factors was slightly different). The similar factor structure appeared also in the pooled-sample analysis. In all cases, the initial social capital indicators from the WVS survey clearly divided into theoretically pre-defined components of social capital. Additionally, several components of social capital were similar to those derived by factor analysis in previous studies using different samples. Therefore, it could be suggested that social capital is an empirically stable concept in all countries.

P1b: The levels of social capital are lower in CEE countries compared to WE countries.

This proposition was mostly supported by the comparison of the mean component scores of the first-order and second-order components of social capital by WE and CEE country groups. The gap in the levels of social capital in favour of WE countries was highest in case of general and institutional trust, and all types of participation, including formal membership in voluntary organisations, informal socializing with friends and family, and political engagement. However, as an exception from the general pattern, the mean component scores of concern and interest in politics were higher in CEE countries. While the latter result could be explained by faster developments and higher instability of Eastern European societies, higher scores in the factor "concern" are apparently attributable to the overall lower development level and insufficient official support systems in CEE countries.

P1c: The relative importance of different social capital components is different in WE and CEE country groups.

This proposition found confirmation by the empirical analysis. The country-level comparisons of the first-order components of social capital showed that the order of the mean scores is different in WE and CEE subsamples. In Western European countries, which are on the top of the list by total social capital (e.g. Sweden, Netherlands, Denmark), have usually high scores in general and institutional trust and formal participation. On the other hand, in many Central and Eastern European countries (e.g. Croatia, Slovakia) the scores of soft or "informal" components, including the components concern, helping and family, are higher as compared to Western Europe. Also, there are several

cases where a country is on the top positions in one aspect and at the end of the order in other aspects of social capital. These results refer to the possibility that alternative types of social capital may substitute for each other at different stages of economic and social development.

P1d: The relations between social capital components are expected to be different in WE and CEE country groups.

This proposition found only partial confirmation. The results of the second-order factor analysis mostly supported the proposition, as obtained factors at higher aggregation level were different in WE and CEE subsamples. In both country groups, the obtained second-order constructs were also different from the pre-defined subdimensions of social capital. Also, the correlation pattern between the first-order components of social capital was different in the respective country groups at national level. On the other hand, individual-level correlations between the first-order social capital components were mostly similar in WE and CEE country groups, regarding the relative size, sign and significance of the correlation coefficients. As a summary, the proposition P1d was supported at the aggregate level but not supported at individual level.

P1e: The relations between social capital components at national level might be different from the respective relationships at individual level in both country groups.

This proposition was partially supported by the analysis, as the correlations between social capital components were not always the same at individual level and national level. Also, differences appeared between WE and CEE countries regarding the pattern of statistically significant correlations (especially at national level) and, in some cases, also the sign of correlations. On the other hand, it can be generalised that aggregation from micro- to macro-level is less problematic in case of institutional trust, general trust, formal networks and helping – these social capital components had positive and significant correlations with most of the other components both at individual and national level. However, as regards other components of social capital (especially concern and interest in politics), simple aggregation from micro- to macro-level may be not correct because of possible externalities of social capital. If this is the case, using alternative macro-level measures of social capital may be necessary. For instance, interest in politics could be replaced by real voting activity at national level.

P2a: Different components of social capital might have different determinants, which can be different in WE and CEE countries.

This proposition was confirmed both at individual and national level. At individual level, it can be generalised that networks and civic commitment are mostly influenced by socio-economic and demographic factors, while cultural and psychological factors dominate in case of trust and sense of community. Although the pattern of statistically significant individual-level social capital determinants is rather similar in WE and CEE subsamples in case of socio-economic and demographic factors, larger differences exist in case of cultural

and psychological factors. As regards the effect of national-level determinants on individual-level social capital, pooled regression results also support the suggestion that different components of social capital are influenced differently by proposed determinants. Similar conclusion can be drawn from the regression results testing the effect of national-level social capital determinants on national-level social capital.

P2b: Among individual-level determinants, socio-economic and demographic factors are expected to have similar effect on social capital in WE and CEE countries.

This proposition was mostly supported by the regression analysis. More precisely, the effect of demographic factors (age, gender, having children) on social capital components is largely similar in WE and CEE countries. Among socio-economic factors, education has also a similar effect on social capital in the compared country groups. In case of other socio-economic and demographic determinants of social capital, some small differences appeared. However, these differences were mostly related to the significance of alternative determinants, not their sign.

P2c: Among individual-level determinants, cultural and psychological factors are expected to have a different effect on social capital in WE and CEE countries.

This proposition was validated only partially. Comparison of the separate regression results for WE and CEE subsamples indicated that similarly in both groups of countries, individualism has a negative effect and postmaterialism and equality have a positive effect on social capital, especially on its cognitive dimension and also on civic engagement. These effects were somewhat stronger in WE subsample. Additionally, satisfaction with democracy associates positively with general and institutional trust in both country groups. As regards the effect of religion, overall religiosity associates positively with altruism, institutional trust and family relations similarly in both groups of countries. In WE subsample, additional negative relationship between orthodox denomination and most types of social capital appeared. In CEE subsample, social capital was most (positively) influenced by catholic denomination.

P2d: Macro-level determinants might have a different effect on social capital in WE and CEE countries.

This proposition was supported by the analysis. At individual level, the effects of macro-level determinants that are related to the level of economic development were analysed separately in WE and CEE subsamples. The regression results showed that the proposed factors – GDP per capita, income inequality, human capital and corruption control – have often dissimilar effects on individual social capital in WE and CEE countries. Further, the effect of a broader set of value-related social capital factors was tested at national level, using pooled dataset. In this analysis, the results of Chow test also indicated that the effect of macro-level determinants on individual social capital is different in WE and CEE subsamples in case of all social capital components, giving thus

additional support to the proposition P2d. However, the results of similar analysis at national level were less strict: Chow test indicated that only political engagement, participation in voluntary organisations and general trust are determined differently by proposed macro-level factors in WE and CEE country groups.

P2e: The relative importance of micro- and macro-level factors might be different in different country groups, and in case of different social capital components.

This proposition was mostly supported by the analysis. To validate this proposition, the goodness of fit (on the basis of adjusted R^2) of the regression models with different sets of social capital determinants was compared. It appeared that the models which consider both individual- and national-level determinants are better than those including only micro-level or national-level determinants. This result holds in both country groups and in case of all social capital components. Further, when comparing the models with only micro-level or only national-level determinants, the values of adjusted R^2 are mostly higher in case of former, indicating the higher importance of individual-level factors as compared to contextual factors (with some exceptions). Social capital components which have a higher number of significant predictors include political action, interest in politics, institutional trust, and informal and formal networks. This list is the same in both country groups, with only a small variation in the order of the respective social capital components. In sum, it can be generalised that individual characteristics determine better the structural aspects of social capital. Finally, in most cases the relations between social capital components and their determinants were stronger in WE subsample.

P3a: General trust and social norms are expected to have a direct positive effect on economic growth both in transition and non-transition countries.

This proposition was partially supported. Social capital components F6 justified and F10 general trust were both significant predictors of GDP per capita growth, when added separately in the regression models. Also, Chow test did not indicate the differences between WE and CEE subsamples. However, contrary to the expectations, the effect of social trust and norms was negative. There is no clear explanation for this result, although some suggestions will be made in the next section which is devoted to the generalisation of empirical findings.

P3b: Institutional trust and the quality of governance are positively related to economic growth in highly developed countries, but the relationship is expected to be weaker in poorer transition countries.

This proposition also found only partial confirmation by the analysis. Firstly, governance was a significant but negative growth predictor only when transition aspect was not taken into account. The comparison of the models with and without a governance indicator enables to suggest that governance takes over the initially significant effect of political engagement. Additionally, Chow test

indicated the differences between country groups in this model. On the other hand, Institutional trust was insignificant in all different specifications of the growth model.

P3c: Participation in voluntary organisations is expected to have a positive effect on economic growth, while the opposite might hold for informal socializing with friends and family. The differences between WE and CEE countries are more likely than in case of trust and norms.

This proposition was not confirmed by the empirical research. First of all, participation in voluntary organisations was insignificant in all model specification, providing no support for Putnam's hypothesis about the importance of formal networks for economic growth. The same holds for the component F9 family, which refers to informal bonding networks. Further, the component F8, referring to informal socializing with friends and colleagues, has a significant negative effect only in the model which includes also traditional growth factors, while Chow test did not indicate the differences between the country groups.

P3d: Political engagement may be considered as a component of social capital which fosters economic growth similarly in both groups of countries.

This proposition was partially supported. More specifically, political action has significant but negative effect on growth in all model specifications. On the other hand, interest in politics has significant positive effect on growth only in the model where all social capital components were added together into the growth model. As regards the possible differences between WE and CEE countries, the results of Chow test provide mixed evidence: the separate effect of political action seems to be similar in the country groups, while differences appear in the model where all social capital components are added together.

P3e: The direct effect of altruism or sense of community is expected to be positive and similar in WE and CEE country groups.

This proposition was partially confirmed by the analysis. In case of F1 helping, regression results suggested that this social capital component is a significant but negative growth predictor in all model specifications, while no differences appeared between the country groups. However, the component F2 concern was insignificant in all models where it was added.

P3f: Social capital has a positive effect on investments similarly in WE and CEE countries.

This proposition was also partially supported. Although the respective regression results were highly mixed, the following conclusions can be drawn. Firstly, the component helping has a positive effect on several investment indicators, while the effect of other social capital components is mostly insignificant or negative (except in case of FDI). Secondly, an increase in capital formation is influenced significantly but negatively only by institutional trust. Thirdly, the shares of gross and gross fixed investments in GDP are 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 is insignificant. Additionally, domestic savings are 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 have a positive effect on foreign investment. In addition, FDI associates positively with formal networks and negatively with interest in politics, friends and governance. Finally, Chow test indicated no significant differences between WE and CEE countries.

P3g: Higher social capital is associated with higher levels of human capital similarly in WE and CEE countries.

This last proposition found partial confirmation by the analysis. Expectedly, a positive association between social capital and human capital appeared in several cases. This relationship was significant between the following indicators: helping, primary education and overall human capital; political action and all human capital indicators, except primary education; institutional trust, tertiary education and overall human capital; friends and tertiary education; and general trust and overall human capital. However, a significant negative relationship appeared between helping and tertiary education, political engagement and primary education, family and secondary education and general trust and secondary education. As regards the possible influence of transition aspect, transition dummy was significant in all models except in case of tertiary education. In addition, Chow test indicated the differences between WE and CEE countries concerning the effect of social capital on educational levels, but not in case of overall human capital.

Generalisation of findings and implications

The results of this research indicated that social capital and economic growth are interrelated in several ways, and that these relationships are influenced by social capital determinants at both individual and national level. However, the results were not in accordance with all theoretical expectations, and even unsolvable controversies appeared in some cases. Thus, most of the propositions were only partially supported, while the remaining minority of propositions were fully supported or not supported.

The underlying assumption in this dissertation was that social capital is a multidimensional concept which is empirically stable in different countries. This proposition found full confirmation in WE and CEE subsamples. The research also indicated that network- and trust-related components of social capital can be aggregated with simple techniques from individual to national level, while in case of other components, using alternative macro-level measures may be necessary. Further, it was proved that different components of

social capital have different sources, which can additionally differ in different country groups and different levels of analysis.

The analysis results differed from the proposed regularities in case of some (national-level) determinants of social capital, as well as in the relationships between social capital and economic growth. One of the most striking results was that a core indicator of social capital – general trust – was insignificant in most growth models. Still, this should not mean that trust is not important for growth but, instead, might indicate that the survey question about general trust is too abstract and it does not reflect the idea about the usefulness of trust for economic development in the best way. Participation in formal networks as another widely researched social capital component was also insignificant in most growth regressions, but this result is in accordance with previous evidence at national level. In case of social capital components which were significant in growth regressions (except interest in politics), an unexpected negative association with economic growth appeared. However, from this one should not inevitably conclude that social capital retards growth. Instead, as social capital levels are lower in CEE countries which grow faster due to other reasons, this result might simply reflect the strong convergence process in Europe.

The social capital components with the most widespread effect on economic growth (including both direct and indirect influence channels) were helping (F1), political action (F4) and social norms (F6). Looking for the sources of these components enables to specify certain chains from social capital determinants to its growth effects. At national level, both helping and political activity are positively determined by communication infrastructure, which can be developed by proper state policies. Helping attitudes are additionally influenced by democracy, equality and corruption, while political activity depends on the spread of individualistic values. As the relationship between helping and corruption control is negative, it could be suggested that because of decreasing informal support, suppressing corruption should be complemented with the development of formal social support system. Considering the individual-level determinants of social capital enables to derive additional implications. Firstly, as helping attitudes, political activity and social norms increase with age, the process of population ageing might help to absorb the potential of social capital as a development factor in the future (especially in CEE countries where generational change has been seen as one possibility to overcome the negative influence of communist past). Secondly, political activity is higher among more educated persons in both country groups, so investments in education system might support the influence of this type of social capital on growth through more trustworthy and effective public institutions.

However, because of the small sample size and lacking panel data on social capital, the available research methods were limited and did not enable to draw clear conclusions about the similarities or differences between WE and CEE country groups. Some evidence was provided by transition dummy and Chow

test, which indicated that the direct effect of significant social capital components on economic growth is likely different in WE and CEE countries, but indirect effect through investments and human capital is rather similar. Intuitively, the convergence process seems to dominate over all other effects in CEE countries, so that the contribution of social capital to growth does not become visible. Also, it could be suggested that in CEE countries the structure of social capital offers more benefits at individual level than at societal level because of overall underdevelopment of civil society. Finally, although low levels of social capital have been seen as an important development obstacle in CEE countries, it should be noted that social capital consists only of the ability to channel resources through social networks, not the resources themselves. Thus, increasing the levels of social capital should be accompanied by increasing real investments (which are, however, related tasks as social capital improves also investment climate), in order to reach sustainable economic growth.

Taken together, the main theoretical contribution of this dissertation lies in creating an integrated framework that connects social capital components simultaneously with their determinants and economic effects. Also, the question about the similarities and differences in these aspects between countries with different historical background was introduced. In terms of empirical contribution, the results in this dissertation support some previous findings, but provide also new knowledge on the topic in the substantially extended framework.

Recommendations for future research

In the current dissertation, social capital, its determinants and economic effects were studied comparatively in two country groups – Western European democracies and Central and Eastern European post-communist states. The analysis could be extended to include other country groups, like Asian "tigers", less-developed countries in Southern Asia and Africa, or Latin American countries characterised by completely different value systems and development levels. Also, it could be that the regularities between social capital, its determinants and economic effects do not appear in the best way when using the pre-determined country groups. As an alternative, cluster analysis can be used for grouping countries on alternative bases, like the structure of social capital, or the specificity of the relationships between social capital and economic growth. This analysing method also enables to overcome the problem of a small sample size.

The current analysis suffered from poor data availability at national level, as cross-sectional data used in this analysis cannot provide a good test of economic growth. Unfortunately, there are no comparative panel data that incorporate social capital variables in both European transition and non-transition countries

and covers a sufficiently long period. Regarding the alternative methods for analysing the relationship between social capital and economic growth under current data constraint, less conventional techniques might give some new insight into this relationship. For example, using interaction terms of social capital and GDP per capita (instead of pure social capital components) as independent variables in growth regressions. Also, it can be experimented to calculate the first group-based country means of all indicators and then merge the data of separate groups for further analysis.

Causality issues were not covered in the current research. However, this aspect is extremely important when one attempts to give some real policy recommendations for encouraging economic growth with the help of social capital. Causal sequence from determining factors to social capital and from social capital to economic growths is more likely possible to study at the level of individual nations, if the national statistical system offers long enough time series of respective indicators.

The effect of social capital on economic growth through institutional factors was only theoretically discussed in the current dissertation (mainly because of space limits). However, these relationships deserve a much deeper analysis, and there is also a bulk of literature to rely on. For example, institution-centred approach states that for social capital to flourish, it needs to be embedded in and linked to formal political and legal institutions. On the one hand, social capital is believed to improve institutional quality through various mechanisms; on the other hand, institutional factors have impact on economic performance. Further, 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.

Finally, there are other development objectives, for which social capital might be even more important than for economic growth (although its effect on growth is, so far, more theoretically and empirically studied). The evidence shows that social capital is useful for alleviating poverty and reducing inequality, thus increasing social cohesion. These immaterial development objectives may contribute to individuals' life satisfaction and happiness much more than pure increase in incomes.

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APPENDICES

Appendix 1. Alternative definitions of social capital

Author (year)	Definition
Hanifan (1916, 1920)	Social capital as tangible substances that count for most in the daily lives of people.
Loury (1977, 1987)	A set of resources that inhere in family relations and in community social organization and that are useful for the cognitive or social development of a child or a young person.
Bourdieu (1980)	Social capital is defined by its function. Unlike other forms of capital, social capital inheres in the structure of relations between actors and among actors.
Schiff (1992: 160)	Social capital as the set of elements of the social structure that affect relations among people, and are inputs or arguments of the production and/or utility function.
Putnam (1993)	Networks, norms, and trust that enable participants to act together more effectively to pursue shared objectives
Putnam (2000)	Connections among individuals, and the social networks and norms of reciprocity and trustworthiness that arise from them.
Portes and Landolt (2000)	(1) The ability to secure resources by virtue of membership in social networks or larger social structures (p. 532) (2) Bonds of solidarity within a given community. Ability to marshal resources through social networks. (p. 546)
Coleman (1990: 302)	Social capital is defined by its function It is not a single entity, but a variety of different entities having characteristics in common: they all consist of some aspect of a social structure, and facilitate certain actions of individuals who are within the structure.
Ostrom (1999: 177)	Social capital is the shared knowledge, understandings, norms, rules, and expectations about the patterns of interactions that groups of individuals bring to a recurrent activity.
OECD (2001)	Networks together with shared norms, values and understandings that facilitate co-operation within or among groups (see Harper 2001: 8)
The World Bank (1998)	(1) Narrow definition: A set of horizontal associations between people, consisting of social networks and associated norms that have an effect on community productivity and well-being (2) Broader definition: Social capital as the institutions, relationships, attitudes and values that govern interactions among people and contribute to economic and social development.
Sabatini (2004)	Social capital as the stock resulting from the accumulation of use-values, which are defined as the flux of the outcomes of all those social interactions that, though not being the subject of market exchanges, are able to meet human needs.

Author (year)	Definition
Paldam (2000: 635)	(1) Social capital as ease of cooperation is the ability to work voluntarily together with others for a common purpose in groups and organizations (2) Social capital of a person is the total amount of benefits one can draw on his goodwill and networks(s) if necessary.
Rose (1999)	Social capital as the stock of formal or informal social networks that individuals use to produce or allocate goods and services
Cainelli et al (2005)	Social capital might and should be interpreted as a component of an investment which implies private and public benefits entangled with each other.
Robison, Siles, Schmid (2002)	Social capital as a person's or group's sympathy toward another person or group that may produce a potential benefit, advantage, and preferential treatment for another person or group of persons beyond that expected in an exchange relationship
Lin (2001: 19)	Social capital as investment in social relations with expected returns in the marketplace.
Inglehart (1999)	Social capital as a culture of trust and tolerance in which extensive networks of voluntary associations emerge.
Fukuyama (2000)	Social capital as an instantiated informal norm that promotes cooperation between individuals.
Fukuyama (1995: 10)	The ability of people to work together for common purposes in groups and organizations
Brehm & Rahn (1997: 999)	The web of cooperative relationships between citizens that facilitate resolution of collective action problems.
Baker (1990: 619)	Social capital as a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors.
Burt (1992: 9)	Friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital.
Van Staveren (2003: 415)	Social capital as a shared commitment to social values as expressed in the quantity and quality of social relationships, which may enable or constrain dynamic efficiency.
Adler and Kwon (2002)	Social capital as a sum of resources available to an individual or group by virtue of their location in the structure of their more or less durable social relations.
Nahapiet and Ghoshal (1998: 243)	The sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network.

Source: compiled by the author.

Appendix 2. Sources and consequences of social capital
at the level of individual
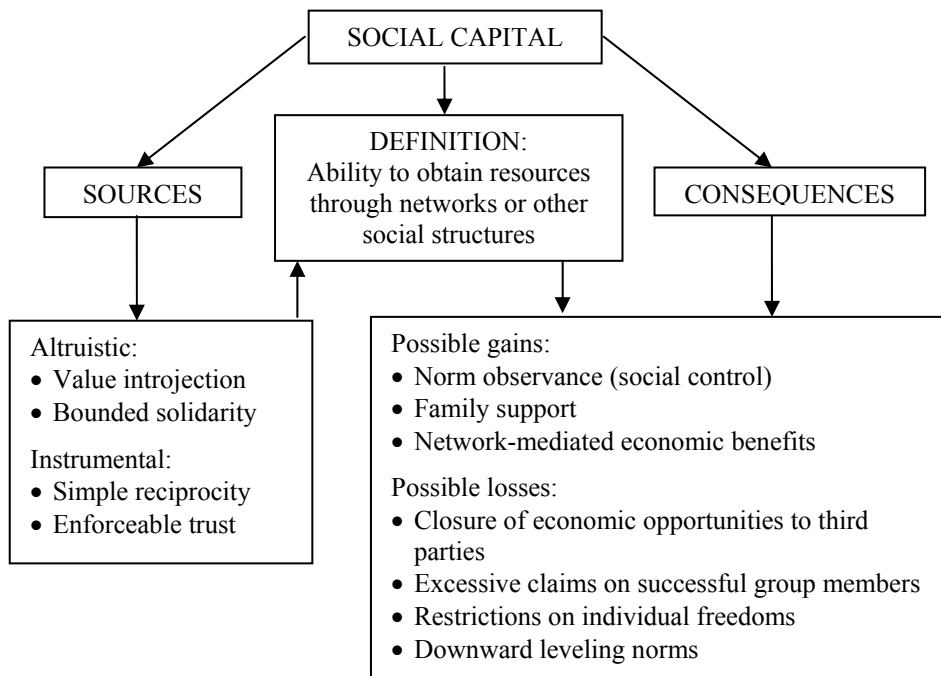
Sources: adopted by the author from Portes (1998: 7–9), Portes and Landolt (2000: 534)

Explanations of the sources of social capital:

- *Value introjection* refers to the internalised norms, which are followed by most people because they feel an obligation to behave in this manner – these norms are then appropriable by others as a resource.
- *Bounded solidarity* is an emergent product of a common fate – by being thrown together in a common situation, people learn to identify with each other and support each other's initiatives.
- *Simple reciprocity* means that donors provide privileged access to resources in the expectation that they will be fully repaid in the future. However, unlike in purely economic exchanges, the timing of the repayment and the currency with which obligations are repaid are unspecified.
- *Enforceable trust* is related to the sanctioning capacity of group rituals. The expectation of repayment is based on the insertion of both actors in a common social structure, implying that (a) the donor's returns may come not directly from the recipient but from the collectivity as a whole, and (b) the collectivity itself acts as guarantor that whatever debts are incurred will be repaid.

Appendix 3. A conceptual model of individual-level social capital by Adler and Kwon

	BENEFITS	COSTS
For the focal actor	- Information access - Power and influence - Solidarity - Common purpose - Goodwill	- Costs of creating and maintaining relationship - Tradeoff between power benefits and information benefits - Overembedding due to excessive external ties - Excessive claims - Restrictions on freedom - Lower creativity and innovation - Downward leveling of norms
Externalities for the broader aggregate	- Information diffusion - Positive task externalities where task accomplishment adds to social welfare - Civic community/ organisational citizenship behavior	- Excessive brokering - Information hoarding - Negative externalities of successful task accomplishment for broader aggregate - Fragmentation of broader whole due to excessive identification with focal group - Collusion by focal actors against broader aggregate interests - Restricted access by outsiders to focal group's knowledge and resources

Source: Adler and Kwon (2002: 32).

Appendix 4. Lin's model of social capital

Collective assets (trust, norms, etc.)

Structural and positional variations

Inequality (preconditions of social capital)

Accessibility (network locations and resources)

Mobilization (use of contacts and contact resources)

Capitalisation (elements of social capital)

Instrumental returns:
- Wealth
- Power
- Reputation

Expressive returns:
- Physical health
- Mental health
- Life satisfaction

Effects (Consequences of social capital)

Source: Lin (2001: 246)

Appendix 5. Model of social capital at the community level

What SC needs?	What SC is?	What SC does?	What follows from SC?
BASIS: Community ties	TRANSLATORS: Capabilities, incentives, motivators	PRODUCT: Collective action	CONSEQUENCE: Performance of institutions

- Social connections
- Civic networks
- Group identities
- Territorial identities

- Material and intellectual resources
- Norms and institutions
- Interpersonal and institutional trust
- Value orientations

All kinds of voluntary communal activities

The civic effect

- Transparency
- Reliability
- Accountability
- Responsivness
- Openness
- Efficiency

Social capital translates community ties into collective action

Source: Welzel et al (2005: 141)

Appendix 6. Dynamics of general trust and membership in Europe

Country	Trust (a)			Overall membership (b)		
	WVS2	WVS3	WVS4	WVS2	WVS3*	WVS4
Albania		1.27	1.24		1.40	1.72
Austria	1.32		1.33	1.04		1.49
Belgium	1.34		1.29	1.25		1.57
Bulgaria	1.30	1.29	1.27	0.63	0.49	0.36
Belarus	1.25	1.24	1.42		0.80	0.52
Croatia		1.25	1.21		2.26	0.74
Czech Republic	1.27	1.29	1.25	0.95	1.45	1.04
Denmark	1.58		1.67	1.59		1.91
Estonia	1.28	1.22	1.23	1.18	0.82	0.51
Finland	1.63	1.49	1.57	1.72	3.01	1.86
France	1.23		1.21	0.69		0.63
Germany	1.33	1.33	1.38	1.41	2.65	0.74
Hungary	1.25	1.23	1.22	0.70	1.27	0.45
Iceland	1.44		1.41	2.36		2.70
Ireland	1.47		1.36	0.94		1.20
Italy	1.35		1.33	0.56		0.77
Latvia	1.19	1.25	1.17	1.14	0.93	0.41
Lithuania	1.31	1.22	1.26	0.86	0.62	0.26
Malta	1.24		1.21	0.58		0.63
Netherlands	1.53		1.60	2.33		3.09
Norway	1.65	1.65		1.90	3.46	
Poland	1.35	1.29	1.18	0.58	0.14	0.40
Portugal	1.22		1.12	0.54		0.40
Romania	1.16	1.19	1.10	0.40	1.61	0.31
Russian Federation	1.37	1.24	1.24	1.01	0.84	0.38
Slovakia	1.22	1.27	1.16	0.90	1.46	1.13
Slovenia	1.17	1.16	1.22	0.58	1.72	0.98
Spain	1.34	1.30	1.36	0.36	1.97	0.48
Sweden	1.66	1.60	1.66	1.91	3.60	3.22
Switzerland	1.43	1.31		0.62	3.41	
Ukraine		1.31	1.27		0.71	0.45
Great Britain	1.44	1.30	1.29	1.05		0.60
Germany West	1.38	1.42	1.32	1.28	3.15	0.86
Germany East	1.26	1.25	1.43	1.61	2.15	0.62

Notes: (a) Percent of respondents answering "yes" to the survey question "Do you believe that people can be generally trusted?" (b) Average number of organisations people belong to * In WVS round 3, membership measures only active participation in organisations. (Source: composed by the author on the basis of WVS rounds 2-4.)

Appendix 7. List of countries included in the empirical analysis

Country	Abbre-viation	Year	Sample size	Effective sample size in factor analysis* (% of total)
Austria	AUT	1999	1522	1147 (75.4)
Belgium	BEL	1999	1912	888 (46.4)
Denmark	DNK	1999	1023	675 (66.0)
Finland	FIN	2000	1038	769 (74.1)
France	FRA	1999	1615	1041 (64.5)
Germany	DEU	1999	2036	1142 (56.1)
Greece	GRC	1999	1142	679 (59.5)
Iceland	ISL	1999	968	774 (80.0)
Ireland	IRL	1999	1012	679 (67.1)
Italy	ITA	1999	2000	1310 (65.5)
Luxembourg	LUX	1999	1211	738 (60.9)
Malta	MLT	1999	1002	654 (65.3)
Netherlands	NLD	1999	1003	769 (76.7)
Portugal	PRT	1999	1000	640 (64.0)
Spain	ESP	2000	1200	581 (48.4)
Sweden	SWE	1999	1015	576 (56.7)
Great Britain	GBR	1999	1000	589 (58.9)
Total of WE (17)			21699	13651 (62.9)
Bulgaria	BGR	1999	1000	505 (50.5)
Belarus	BLR	2000	1000	509 (50.9)
Croatia	HRV	1999	1003	551 (54.9)
Czech Republic	CZE	1999	1908	1342 (70.3)
Estonia	EST	1999	1005	454 (45.2)
Hungary	HUN	1999	1000	820 (82.0)
Latvia	LVA	1999	1013	575 (56.8)
Lithuania	LTU	1999	1018	397 (39.0)
Poland	POL	1999	1095	779 (71.1)
Romania	ROM	1999	1146	340 (29.7)
Russian Federation	RUS	1999	2500	1331 (53.2)
Slovakia	SVK	1999	1331	856 (64.3)
Slovenia	SVN	1999	1006	727 (72.3)
Ukraine	UKR	1999	1195	548 (45.9)
Total of CEE (14)			17220	9734 (56.5)
Total of all countries (31)			38919	23385 (60.1)

Note: * After pairwise deletion of missing values
Source: Compiled by the author on the basis of WVS.

Appendix 8. Indicators of social capital and scales used

	Latent factors of social capital	The exact name of indicator and the scale used
NETWORKS	Formal networks	Belong to all types of organizations (religious or church organizations; 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 organizations concerned with health; other voluntary organizations), number of organizations mentioned, scale 0-15
		Unpaid voluntary work for all types of organizations (same as above), scale 0-15
	Friends	How often spend time with friends, frequency on scale 1 (not at all) – 4 (weekly)
		Importance of friends in life, on scale 1 (not at all) – 4 (very important)
		How often spend time socially with colleagues from work or your profession, on scale 1 (not at all) – 4 (weekly)
	Family	Prepared to help immediate family, scale 1 (absolutely not) – 5 (absolutely yes)
		Concerned with immediate family, scale 1 (not at all) – 4 (very much)
		Family important in life, on scale 1 (not at all) – 4 (very important)
TRUST	General trust	Most people can be trusted (1) or you can't be too careful in dealing with people (0)
	Institutional trust	Confidence in parliament, on scale 1 (not at all) – 4 (a great deal)
		Confidence in the civil services, on scale 1 (not at all) – 4 (a great deal)
		Confidence in the police, on scale 1 (not at all) – 4 (a great deal)
		Confidence in justice system, on scale 1 (not at all) – 4 (a great deal)

CIVIC COMMITMENT	Social norms	Cheating on taxes if you have a chance, scale 1 (always justifiable) – 10 (never justifiable)
		Claiming government benefits to which you are not entitled, on scale 1 (always justifiable) – 10 (never justifiable)
		Someone accepting a bribe in the course of their duties, scale 1 (always justifiable) – 10 (never justifiable)
	Interest in politics	Discussing political matters with friends, scale 1 (never) – 3 (frequently)
		Politics important in life, on scale 1 (not at all) – 4 (very important)
		Following politics in the news, scale 1 (never) – 5 (every day)
	Political action	Attending lawful demonstrations, scale 1 (would never do) – 3 (have done)
		Joining in boycotts, scale 1 (would never do) – 3 (have done)
		Signing a petition, scale 1 (would never do) – 3 (have done)
ALTRUISM	Concern about other people	Concerned with people in own region, scale 1 (not at all) – 4 (very much)
		Concerned with fellow countrymen, scale 1 (not at all) – 4 (very much)
		Concerned with people in neighbourhood, scale 1 (not at all) – 4 (very much)
	Prepared to help others	Prepared to help elderly people, scale 1 (absolutely not) – 5 (absolutely yes)
		Prepared to help sick and disabled people, scale 1 (absolutely not) – 5 (absolutely yes)
		Prepared to help people in the neighbourhood, scale 1 (absolutely not) – 5 (absolutely yes)
		Prepared to help immigrants, scale 1 (absolutely not) – 5 (absolutely yes)

Source: composed by the author on the basis of WVS.

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Appendix 9. Mean comparison of the initial social capital indicators

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
Family important in life	WE	21604	3.84	0.437	15.245	0.000
	CEE	17087	3.77	0.505		
Concerned with immediate family	WE	21530	4.37	1.025	-0.235	0.814
	CEE	17086	4.37	0.955		
Prepared to help immediate family	WE	21503	4.67	0.618	21.990	0.000
	CEE	16938	4.51	0.806		
Friends important in life	WE	21590	3.39	0.655	38.073	0.000
	CEE	17086	3.12	0.703		
Spend time with friends	WE	21543	3.44	0.807	34.045	0.000
	CEE	16893	3.13	0.936		
Spend time with colleagues from work	WE	17344	2.30	1.074	1.556	0.120
	CEE	14286	2.28	1.107		
Most people can be trusted	WE	20768	1.36	0.480	29.296	0.000
	CEE	16564	1.22	0.417		
Confidence: The Police	WE	21411	2.78	0.785	58.601	0.000
	CEE	16711	2.29	0.834		
Confidence: Parliament	WE	20827	2.35	0.792	41.272	0.000
	CEE	16089	2.00	0.803		
Confidence: The Civil Services	WE	20780	2.36	0.748	22.316	0.000
	CEE	15902	2.19	0.767		
Confidence: Justice System	WE	21069	2.49	0.831	30.360	0.000
	CEE	16184	2.22	0.847		
Politics important in life	WE	21499	2.21	0.892	12.247	0.000
	CEE	16869	2.10	0.853		
How often discusses political matters with friends	WE	21558	1.84	0.658	-15.777	0.000
	CEE	16954	1.94	0.634		
How often follows politics in the news	WE	21597	3.86	1.355	-18.181	0.000
	CEE	17119	4.09	1.183		
Political action: signing a petition	WE	20988	2.40	0.742	65.989	0.000
	CEE	15867	1.86	0.803		
Political action: joining in boycotts	WE	20430	1.64	0.696	38.852	0.000
	CEE	15359	1.38	0.573		
Political action: attending lawful demonstrations	WE	20856	1.95	0.780	29.215	0.000
	CEE	16005	1.72	0.727		
Justifiable: claiming government benefits	WE	21233	8.76	2.014	5.359	0.000
	CEE	16526	8.65	2.117		
Justifiable: cheating on taxes	WE	21324	8.42	2.298	5.229	0.000
	CEE	16590	8.29	2.480		
Justifiable: someone accepting a bribe	WE	21351	9.34	1.488	21.594	0.000
	CEE	16825	8.95	1.907		
Prepared to help people in the neighbourhood	WE	21492	3.57	0.838	33.952	0.000
	CEE	16699	3.25	1.001		

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
Prepared to help elderly people	WE	21432	3.75	0.800	31.955	0.000
	CEE	16547	3.44	1.024		
Prepared to help immigrants	WE	21268	3.06	0.949	55.656	0.000
	CEE	16195	2.50	0.983		
Prepared to help sick and disabled people	WE	21405	3.81	0.808	31.525	0.000
	CEE	16491	3.50	1.054		
Concerned with people in the neighbourhood	WE	21555	3.04	1.017	16.413	0.000
	CEE	16953	2.87	1.017		
Concerned with people in the region	WE	21494	2.78	0.962	1.414	0.157
	CEE	16802	2.77	0.980		
Concerned with fellow countrymen	WE	21442	2.87	0.951	-7.092	0.000
	CEE	16767	2.94	0.991		
Belonging into voluntary organizations	WE	21699	1.34	1.693	55.683	0.000
	CEE	17220	0.57	0.998		
Unpaid work for voluntary organizations	WE	21699	0.56	1.130	25.898	0.000
	CEE	17220	0.31	0.801		
Putnam-type participation	WE	21699	0.60	1.011	39.988	0.000
	CEE	17220	0.25	0.722		
Olson-type participation	WE	21699	0.39	0.787	18.512	0.000
	CEE	17220	0.26	0.622		

Source: author's calculations on the basis of WVS

Appendix 10. Results of the exploratory factor analysis

Appendix 10.1. CEE sub-sample

Initial indicators	Factors of social capital in CEE countries								
	1	2	3	4	5	6	7	8	9
Prepared to help elderly people	**0.87**	0.01	0.11	0.05	0.10	0.05	0.06	-0.02	0.12
Prepared to help sick and disabled people	**0.86**	0.00	0.07	0.07	0.10	0.05	0.08	0.01	0.10
Prepared to help people in the neighbourhood	**0.76**	0.09	0.26	0.07	0.09	0.02	0.10	0.06	0.09
Prepared to help immigrants	**0.70**	0.08	0.18	0.09	0.07	0.04	0.05	0.07	-0.10
Confidence: Parliament	0.01	**0.80**	0.09	-0.02	-0.01	0.08	0.05	0.01	-0.01
Confidence: The Civil Services	0.04	**0.79**	0.02	-0.04	0.04	0.06	0.01	0.01	0.01
Confidence: Justice System	0.01	**0.76**	0.01	-0.04	0.00	-0.07	-0.01	0.04	0.00
Confidence: The Police	0.07	**0.76**	0.05	-0.02	0.08	-0.05	0.01	0.01	-0.01
Concerned with people in the region	0.15	0.04	**0.89**	0.03	0.04	0.08	0.04	0.04	0.00
Concerned with people in the neighbourhood	0.14	0.09	**0.82**	-0.01	0.02	-0.02	0.03	0.03	0.13
Concerned with fellow countrymen	0.16	0.01	**0.79**	0.07	0.05	0.11	0.04	0.04	-0.02
Political action: joining in boycotts	0.03	-0.04	0.03	**0.81**	-0.05	0.02	0.03	0.10	0.02
Political action: attending lawful demonstrations	-0.01	-0.03	0.02	**0.78**	-0.01	0.15	0.05	0.02	-0.01
Political action: signing a petition	0.16	-0.02	0.00	**0.76**	0.02	0.10	0.16	0.07	-0.06
Justifiable: cheating on taxes	0.11	0.09	0.03	-0.03	**0.79**	0.01	0.06	-0.05	0.00
Justifiable: claiming government benefits	0.05	-0.04	-0.03	0.01	**0.77**	0.04	-0.01	0.00	0.03

Justifiable: someone accepting a bribe	0.04	0.02	0.08	-0.02	**0.70**	0.02	-0.04	-0.09	0.04
Politics important in life	-0.01	0.08	0.07	0.08	0.01	**0.77**	0.02	0.08	0.00
How often discusses political matters with friends	0.04	-0.07	0.07	0.13	-0.01	**0.75**	0.06	0.12	-0.02
How often follows politics in the news	0.05	0.00	-0.01	0.05	0.07	**0.73**	0.02	-0.09	0.06
Unpaid work for voluntary organizations	0.05	0.01	0.04	0.06	-0.01	0.02	**0.90**	0.04	0.02
Belonging into voluntary organizations	0.06	0.01	0.01	0.11	0.00	0.06	**0.88**	0.08	-0.01
Spend time with friends	0.05	-0.03	-0.01	0.06	-0.09	-0.02	0.05	**0.80**	-0.08
Spend time with colleagues from work	0.01	0.00	0.04	0.08	-0.11	0.01	0.14	**0.67**	-0.04
Friends important in life	0.04	0.04	0.04	0.03	0.04	0.10	-0.03	**0.67**	0.18
Family important in life	0.04	0.03	0.00	0.04	0.12	0.09	0.07	0.08	**0.68**
Concerned with immediate family	-0.17	0.01	**0.42**	-0.11	-0.10	-0.06	-0.08	-0.04	**0.63**
Prepared to help immediate family	**0.54**	0.00	-0.02	0.06	-0.01	0.01	0.03	0.08	**0.56**
Most people can be trusted	-0.06	0.08	0.14	0.08	0.02	0.03	0.07	0.17	-0.22
Eigenvalues	3.03	2.49	2.43	1.94	1.82	1.80	1.69	1.66	1.33
Variance explained, %	10.46	8.60	8.38	6.70	6.26	6.21	5.84	5.73	4.58
Total variance explained, %	10.46	19.06	27.43	34.13	40.39	46.60	52.44	58.17	62.76

Notes: N=9734. Rotated component matrix. Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization. Factor loadings greater than 0.3 are in bold. KMO=0.761.

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

Appendix 10.2. Exploratory factor analysis: WE sub-sample

Initial indicators	Factors of social capital in WE countries								
	1	2	3	4	5	6	7	8	9
Concerned with people in the region	**0.87**	0.19	0.05	-0.01	0.08	0.03	0.01	0.05	0.03
Concerned with people in the neighbourhood	**0.84**	0.13	0.03	-0.04	0.03	0.00	0.04	0.04	0.16
Concerned with fellow countrymen	**0.79**	0.23	0.04	0.05	0.10	0.05	0.01	0.04	0.00
Prepared to help elderly people	0.10	**0.88**	0.01	-0.01	0.03	0.06	0.04	-0.02	0.12
Prepared to help sick and disabled people	0.05	**0.86**	0.00	0.01	0.00	0.07	0.06	0.00	0.11
Prepared to help immigrants	0.23	**0.63**	0.07	0.18	0.12	0.07	0.12	0.09	-0.05
Prepared to help people in the neighbourhood	0.35	**0.62**	0.07	0.00	0.09	0.03	0.10	0.06	0.16
Confidence: The Civil Services	0.07	0.04	**0.77**	0.01	0.00	0.04	0.01	-0.01	0.01
Confidence: Parliament	0.08	0.01	**0.77**	0.06	0.15	0.03	0.06	0.00	-0.01
Confidence: Justice System	-0.01	0.00	**0.72**	-0.02	0.04	0.04	0.05	0.07	0.05
Confidence: The Police	-0.03	0.08	**0.71**	-0.10	-0.03	0.13	0.02	0.02	0.03
Political action: joining in boycotts	-0.02	0.01	0.01	**0.76**	0.12	0.00	0.11	0.07	-0.07
Political action: attending lawful demonstrations	0.04	0.05	-0.07	**0.75**	0.19	-0.09	0.07	0.09	0.00
Political action: signing a petition	-0.02	0.04	-0.02	**0.74**	0.10	-0.02	0.10	0.09	0.10
How often discusses political matters with friends	0.03	0.05	-0.03	0.17	**0.77**	0.00	0.11	0.09	0.01

Politics important in life	0.06	0.07	0.10	0.10	**0.76**	0.03	0.09	0.09	0.02
How often follows politics in the news	0.05	0.02	0.04	0.11	**0.74**	0.05	0.07	-0.07	0.05
Justifiable: cheating on taxes	0.06	0.05	0.10	-0.08	0.03	**0.76**	0.00	-0.03	0.03
Justifiable: claiming government benefits	0.01	0.01	0.06	-0.01	0.02	**0.75**	0.08	-0.06	0.02
Justifiable: some- one accepting a bribe	-0.01	0.08	0.01	0.01	0.02	**0.72**	-0.01	0.00	0.04
Unpaid work for voluntary organizations	0.03	0.06	-0.04	0.02	0.05	-0.01	**0.87**	0.05	0.03
Belonging into voluntary organizations	-0.02	0.08	0.06	0.14	0.14	0.03	**0.84**	0.08	0.02
Most people can be trusted	0.03	0.06	0.16	0.22	0.09	0.09	0.30	0.17	-0.17
Spend time with friends	0.02	0.01	-0.01	0.12	-0.01	-0.05	0.04	**0.77**	-0.02
Friends important in life	0.02	0.03	0.06	-0.03	0.13	0.05	0.03	**0.71**	0.13
Spend time with colleagues from work	0.04	0.01	-0.01	0.12	-0.02	-0.08	0.12	**0.60**	-0.06
Prepared to help immediate family	0.13	0.19	0.02	0.09	0.01	-0.02	0.03	-0.02	**0.76**
Family important in life	-0.08	0.05	0.07	-0.06	0.06	0.13	-0.02	0.08	**0.66**
Concerned with immediate family	**0.53**	-0.08	-0.07	0.02	-0.03	-0.05	0.00	-0.06	**0.61**
Eigenvalues	2.61	2.48	2.30	1.92	1.91	1.75	1.67	1.58	1.53
Variance explained (%)	9.00	8.54	7.94	6.61	6.59	6.04	5.75	5.46	5.29
Total variance explained (%)	9.00	17.54	25.48	32.09	38.68	44.72	50.47	55.93	61.22

Notes: N=13651. Rotated component matrix. Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization. Factor loadings greater than 0.3 are in bold. KMO=0.771.

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

Appendix 11. Second-order components of social capital on the basis of WE sub-sample and total sample

First-order components of social capital	Second-order components of social capital					
	(1) Networks and trust		(2) Altruism		(3) Norms and institutions	
	Total	WE	Total	WE	Total	WE
F4 polaction	**0.734**	**0.728**	0.064	0.030	-0.080	-0.204
F7 belong	**0.601**	**0.594**	0.054	0.056	0.205	0.179
F8 friends	**0.578**	**0.519**	0.095	0.070	-0.146	-0.149
F10 gentrust	**0.481**	**0.524**	-0.168	-0.126	**0.379**	**0.343**
F5 polinterest	**0.480**	**0.594**	0.167	0.195	0.074	0.122
F9 family	-0.035	-0.071	**0.756**	**0.744**	-0.048	-0.058
F2 concern	0.092	0.083	**0.739**	**0.794**	0.067	0.053
F1 helping	0.240	0.216	**0.664**	**0.665**	0.268	0.228
F6 justified	-0.177	-0.126	0.141	0.107	**0.723**	**0.730**
F3 confidence	0.117	0.095	0.061	0.049	**0.651**	**0.677**
Variance explained (%)	18.085	18.614	16.540	17.023	12.448	12.780
Cumulative variance explained (%)	18.085	18.614	34.626	35.637	47.073	48.416

Notes: Principal Component Analysis, Equamax rotation with Kaiser Normalization. Factor loadings with absolute values higher than 0.3 are in bold. KMO=0.686 in total sample and 0.671 in WE subsample.

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

Appendix 12. Mean comparison of the individual-level social capital components

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
First-order components of social capital						
F1 helping	WE	21120	0.208	0.856	44.802	0.000
	CEE	15896	-0.266	1.108		
F2 concern	WE	21358	0.019	0.997	3.825	0.000
	CEE	16600	-0.020	1.002		
F3 confidence	WE	20053	0.216	0.940	47.024	0.000
	CEE	14850	-0.283	1.010		
F4 polaction	WE	19968	0.240	0.982	56.488	0.000
	CEE	14765	-0.346	0.934		
F5 polinterest	WE	21293	-0.036	1.040	-9.044	0.000
	CEE	16561	0.056	0.943		
F6 justified	WE	20992	0.068	0.933	13.627	0.000
	CEE	16040	-0.076	1.066		
F7 belong	WE	21699	0.192	1.125	45.533	0.000
	CEE	17220	-0.242	0.748		
F8 friends	WE	17236	0.166	0.924	30.864	0.000
	CEE	14116	-0.179	1.030		
F9 family	WE	21376	0.090	0.964	17.750	0.000
	CEE	16759	-0.091	1.010		
F10 gentrust	WE	20768	0.128	1.046	29.296	0.000
	CEE	16564	-0.169	0.909		
Second-order components of social capital						
FK1 altruism	WE	13757	0.094	0.948	13.653	0.000
	CEE	9647	-0.081	0.975		
FK2 participation	WE	13757	0.220	1.033	20.576	0.000
	CEE	9647	-0.041	0.896		
FK3 trust	WE	13757	0.316	0.974	53.256	0.000
	CEE	9647	-0.347	0.910		
FK4 friends and norms	WE	13757	-0.079	0.923	-10.147	0.000
	CEE	9647	0.056	1.051		

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

Appendix 13. Country mean factor scores of the first-order 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 14. Country mean factor scores of the second-order exploratory factor analysis

Country	Total social capital	FK1 altruism	FK2 participation	FK3 trust	FK4 friends and norms
Sweden	1.979	0.320	1.150	0.907	-0.398
Iceland	1.345	0.182	0.338	0.795	0.031
Netherlands	1.339	-0.031	0.771	0.731	-0.132
Denmark	1.246	-0.887	0.661	1.163	0.308
Ireland	1.113	0.587	0.016	0.621	-0.111
Malta	0.921	0.443	-0.220	0.014	0.685
Austria	0.772	0.058	0.139	0.359	0.216
Germany	0.530	0.382	0.260	-0.008	-0.105
Italy	0.493	0.015	0.250	0.130	0.098
Croatia	0.324	0.269	0.270	-0.134	-0.081
Finland	0.310	-0.710	0.185	0.988	-0.152
Luxembourg	0.227	0.248	0.004	0.309	-0.334
Poland	0.227	0.352	-0.308	-0.270	0.454
Belgium	0.213	0.168	0.336	0.036	-0.327
Slovakia	0.073	0.403	0.140	-0.298	-0.172
Bulgaria	0.051	0.251	-0.078	-0.280	0.158
Portugal	0.021	0.478	-0.282	-0.064	-0.111
Czech Republic	0.013	-0.526	0.500	-0.224	0.262
Spain	-0.012	0.239	-0.423	0.304	-0.133
Great Britain	-0.089	-0.088	-0.085	0.372	-0.289
Slovenia	-0.129	0.243	-0.079	-0.067	-0.227
Romania	-0.165	0.342	-0.161	-0.552	0.206
Greece	-0.394	0.282	0.335	-0.401	-0.610
Latvia	-0.457	-0.423	-0.066	-0.329	0.361
Hungary	-0.469	0.140	-0.603	-0.261	0.254
France	-0.485	-0.018	0.101	-0.189	-0.379
Russian Federation	-0.680	-0.283	-0.036	-0.585	0.224
Lithuania	-0.907	-0.375	0.229	-0.865	0.104
Ukraine	-0.977	-0.214	-0.080	-0.575	-0.108
Estonia	-0.981	-0.163	-0.276	-0.313	-0.230
Belarus	-2.112	-0.717	-0.365	-0.324	-0.706

Notes: Four factors were ordered for getting the comparable factors from WE and CEE subsamples. Countries are ranked according to the value of total social capital, which is the sum of all four factor scores.

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

Appendix 15. Indicators of the individual-level determinants of social capital

	Indicator	Code	The exact name of indicator and the scale used
Socio-demographic factors	Gender	x001	Sex of respondent, male (1) or female (2)
	Age	x003	Age of respondent in years (15 and older)
	Stable relationship	x004	(1) yes, (0) no
	Children	x011	Number of children of respondent, 0–8 (8 stands for 8 or more children)
	Education	x025	Highest education level attained, on scale 1 (lowest) – 10 (highest)
	Income	x047	Income of respondent's household, counting all wages, salaries, pensions and other incomes that come in, on scale 1 (lowest) – 10 (highest)
	Town size	x049	Size of town, on scale 1 (small) – 8 (large)
	Employed	c029	(1) yes, (2) no
	Neighbours: criminal	a124	(1) mentioned, (0) not mentioned
	Neighbours: different race	a125	(1) mentioned, (0) not mentioned
	Neighbours: immigrants/foreign workers	a129	(1) mentioned, (0) not mentioned
	Neighbourhood		Sum of the above three indicators, on scale 0–3
Cultural and psychological factors	Individualism	e152	Your opinion on the following statement: People should stick to their own affairs and not show too much interest in what others say or do: (1) strongly disagree … (5) strongly agree
	Democracy	e110	Satisfaction with the way democracy develops: (1) Not at all satisfied … (4) very satisfied
	Post-materialism	y002	Post-Materialist index 4-item, (1) postmaterialist, (2) mixed, (3) materialist
	Equality	e146	Importance of equality: (1) not at all important … (5) very important
	Religiousity	f034	Independently of whether you go to church or not, would you say you are a religious person, on scale 1–3: (1) A convinced atheist (2) Not a religious person (3) A religious person
	Religious denomination	f025	Dummy variables for orthodox, protestant and catholic doctrines

Source: compiled by the author on the basis of WVS

Appendix 16. Mean comparison of the individual-level determinants of social capital

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
Gender	WE	21688	1.52	0.499	-2.071	0.038
	CEE	17220	1.53	0.499		
Age	WE	21576	44.93	17.357	-0.840	0.401
	CEE	17210	45.08	17.055		
Stable relationship	WE	21671	0.68	0.466	1.275	0.202
	CEE	17199	0.68	0.468		
Children	WE	21369	1.65	1.587	3.136	0.002
	CEE	17115	1.61	1.247		
Education	WE	21443	4.32	2.136	-12.554	0.000
	CEE	17187	4.59	2.039		
Income	WE	16384	5.12	2.536	20.959	0.000
	CEE	15785	4.52	2.568		
Size of town	WE	21298	4.79	2.365	18.980	0.000
	CEE	17217	4.30	2.598		
Employed	WE	21659	0.55	0.497	6.793	0.000
	CEE	17191	0.52	0.500		
Neighborhood	WE	21473	0.59	0.808	-45.634	0.000
	CEE	16219	0.98	0.850		
Individualism	WE	21093	2.68	1.190	11.566	0.000
	CEE	16470	2.55	1.136		
Democracy	WE	20380	2.38	0.715	-74.407	0.000
	CEE	15871	2.95	0.742		
Post-Materialism	WE	19681	1.98	0.624	47.510	0.000
	CEE	16182	1.67	0.590		
Equality	WE	21190	2.25	1.182	17.573	0.000
	CEE	15473	2.04	1.148		
Religiosity	WE	20657	1.39	0.589	0.782	0.434
	CEE	15917	1.38	0.576		
Orthodox	WE	21699	0.05	0.223	-50.038	0.000
	CEE	17220	0.23	0.421		
Protestant	WE	21699	0.23	0.419	56.151	0.000
	CEE	17220	0.04	0.206		
Catholic	WE	21699	0.47	0.499	31.760	0.000
	CEE	17220	0.32	0.466		

Source: author's calculations on the basis of WVS

Appendix 17. Indicators of the aggregate-level determinants
of social capital

Indicator	The exact name of indicator and data source
GDP per capita	GDP per capita, 1999, HDR
GINI index	Gini index (mostly 1999 or 2000; or nearest year available), HDR
Human capital	Sum of life expectancy and education sub-indexes from HDI, 1999, HDR
Corruption	Control of corruption (based on various measures of perceptions of corruption), scale -2.5 … +2.5 ; Kaufmann et al 2008
Individualism	Country means of WVS question e153 (Stick to own affairs)
Democracy	Country means of WVS question e110 (Satisfaction with the way democracy develops)
Post-materialism	Country means of WVS question y002 (Post-materialism)
Equality	Country means of WVS question e146 (Importance of equality)
Religiosity	Country means of WVS question f034 (Religious person or not)
Fixed lines	Telephone mainlines per 1000 people, 2000, HDR
Mobile phones	Cellular mobile subscribers per 1000 people, 2000, HDR
Internet	Internet hosts per 1000 people, 2000, HDR
Communication	Latent factor of the above three indicators, obtained by confirmatory factor analysis
Transition	Dummy variable, (1) = CEE country, (0) = WE country

Source: compiled by the author

Appendix 18. Mean comparison of the national-level determinants of social capital

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
GDP per capita	WE	16	22.234	3.964	10.274	0.000
	CEE	14	8.361	3.346		
GINI index	WE	15	31.674	4.179	0.442	0.662
	CEE	14	30.765	6.690		
Human capital	WE	17	1.837	0.040	9.695	0.000
	CEE	14	1.687	0.046		
Communication	WE	17	0.798	0.718	7.612	0.000
	CEE	14	-0.895	0.461		
Corruption control	WE	17	1.559	0.787	5.248	0.000
	CEE	14	0.151	0.686		
Individualism	WE	17	3.322	0.362	-1.260	0.218
	CEE	14	3.481	0.330		
Democracy	WE	17	2.644	0.194	7.630	0.000
	CEE	14	2.084	0.215		
Post-materialism	WE	16	2.031	0.142	-5.031	0.000
	CEE	14	2.317	0.170		
Equality	WE	17	3.728	0.481	-1.856	0.074
	CEE	13	4.005	0.276		
Religiosity	WE	17	2.614	0.171	-0.153	0.879
	CEE	14	2.625	0.224		

Source: author's calculations on the basis of national-level social capital database

Appendix 19. Spread of the main religious denominations in WE and CEE subsamples

	WE subsample		CEE subsample	
Denomination	Frequency	Percent	Frequency	Percent
Orthodox	1143	5.3	3965	23.0
Protestant	4919	22.7	764	4.4
Roman Catholic	10280	47.4	5474	31.8
Total	16342	75.4	10203	59.2

Source: compiled by the author on the basis of WVS

Appendix 20. Correlations between national-level determinants of social capital

		1	2	3	4	5	6	7	8	9	10
1	GDP per capita	1	-0.079	0.930**	0.907**	0.750**	-0.364*	0.769**	-0.751**	-0.379*	-0.097
2	GINI index	-0.079	1	-0.102	-0.158	-0.300	0.311	-0.167	0.173	0.216	0.177
3	Human capital	0.930**	-0.102	1	0.859**	0.733**	-0.315	0.751**	-0.799**	-0.276	-0.123
4	Communication	0.907**	-0.158	0.859**	1	0.817**	-0.290	0.782**	-0.719**	-0.420*	-0.131
5	Corruption	0.750**	-0.300	0.733**	0.817**	1	-0.276	0.800**	-0.579**	-0.382*	-0.283
6	Individualism	-0.364*	0.311	-0.315	-0.290	-0.276	1	-0.081	0.277	0.397*	0.258
7	Democracy	0.769**	-0.167	0.751**	0.782**	0.800**	-0.081	1	-0.595**	-0.339	-0.025
8	Post-materialism	-0.751**	0.173	-0.799**	-0.719**	-0.579**	0.277	-0.595**	1	0.357	-0.081
9	Equality	-0.379*	0.216	-0.276	-0.420*	-0.382*	0.397*	-0.339	0.357	1	0.278
10	Religiosity	-0.097	0.177	-0.123	-0.131	-0.283	0.258	-0.025	-0.081	0.278	1

Notes: Pearson correlation coefficients (two-tailed). ** Correlation is significant at the 0.01 level, * Correlation is significant at the 0.05 level. Due to missing data, N varies between 28 and 31.

Source: author's calculations on the basis of national-level social capital database.

Appendix 21. Determinants of individual-level social capital in WE and CEE countries

Appendix 21.1. Determinants of preparedness to help others

Dependent: F1 helping	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	0.043	5.187	0.000	0.014	0.011	1.413	0.158	0.017
Age	0.430	8.482	0.000	0.003	0.473	9.611	0.000	0.003
Age squared	-0.354	-6.969	0.000	0.000	-0.474	-9.601	0.000	0.000
Stable relationship	0.003	0.277	0.782	0.017	0.041	4.816	0.000	0.020
Children	0.026	2.646	0.008	0.005	0.003	0.331	0.740	0.008
Education	0.073	7.543	0.000	0.004	0.004	0.410	0.681	0.005
Income	0.042	4.363	0.000	0.003	0.083	9.284	0.000	0.004
Size of town	-0.049	-5.451	0.000	0.003	-0.003	-0.363	0.716	0.003
Employed	-0.015	-1.525	0.127	0.017	-0.022	-2.402	0.016	0.020
Neighborhood	-0.070	-8.500	0.000	0.009	-0.004	-0.541	0.588	0.010
Individualism	-0.080	-9.627	0.000	0.006	-0.029	-3.756	0.000	0.007
Democracy	0.009	1.063	0.288	0.010	0.044	5.598	0.000	0.012
Post-Materialism	0.079	9.402	0.000	0.011	0.078	9.913	0.000	0.015
Equality	0.102	12.120	0.000	0.006	0.092	11.639	0.000	0.008
Religiosity	0.111	12.183	0.000	0.013	0.075	8.024	0.000	0.018
Orthodox	-0.033	-3.178	0.001	0.040	0.062	6.377	0.000	0.026
Protestant	0.001	0.051	0.959	0.023	0.036	4.440	0.000	0.043
Catholic	0.030	2.584	0.010	0.020	0.087	7.807	0.000	0.027
National-level characteristics								
GDP per capita	-0.070	-4.743	0.000	0.004	0.106	8.035	0.000	0.005
GINI	-0.034	-2.658	0.008	0.003	-0.087	-8.026	0.000	0.002
Human capital	0.008	0.701	0.484	0.281	0.185	9.586	0.000	0.453
Communication	0.072	4.490	0.000	0.021	0.211	12.194	0.000	0.042
Corruption control	-0.075	-6.660	0.000	0.012	-0.394	-33.318	0.000	0.019
adj. R^2 (a)	0.067				0.100			
adj. R^2 (b)	0.070				0.211			
adj. R^2 (c)	0.013				0.232			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.2. Determinants of concern with others

Dependent: F2 concern	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	0.005	0.645	0.519	0.016	0.011	1.264	0.206	0.017
Age	0.208	4.100	0.000	0.003	0.418	7.774	0.000	0.003
Age squared	-0.116	-2.284	0.022	0.000	-0.329	-6.095	0.000	0.000
Stable relationship	0.012	1.307	0.191	0.019	0.007	0.699	0.484	0.020
Children	0.035	3.589	0.000	0.006	0.006	0.564	0.573	0.008
Education	0.049	5.080	0.000	0.005	0.037	3.779	0.000	0.005
Income	0.011	1.133	0.257	0.004	0.032	3.318	0.001	0.004
Size of town	0.007	0.778	0.437	0.004	-0.067	-7.619	0.000	0.003
Employed	0.008	0.807	0.420	0.019	0.022	2.203	0.028	0.020
Neighborhood	-0.003	-0.342	0.733	0.010	0.023	2.799	0.005	0.010
Individualism	-0.098	-11.792	0.000	0.007	-0.073	-8.693	0.000	0.007
Democracy	0.078	9.427	0.000	0.012	0.020	2.359	0.018	0.012
Post-Materialism	0.033	3.982	0.000	0.013	0.031	3.607	0.000	0.015
Equality	0.119	14.077	0.000	0.007	0.064	7.360	0.000	0.008
Religiosity	0.059	6.499	0.000	0.015	0.039	3.805	0.000	0.018
Orthodox	0.000	-0.024	0.981	0.046	0.043	4.085	0.000	0.025
Protestant	-0.026	-2.371	0.018	0.027	-0.001	-0.098	0.922	0.043
Catholic	0.045	3.827	0.000	0.023	0.042	3.449	0.001	0.026
National-level characteristics								
GDP per capita	-0.030	-2.075	0.038	0.004	0.032	2.213	0.027	0.005
GINI	0.021	1.593	0.111	0.003	-0.059	-5.019	0.000	0.001
Human capital	0.035	2.937	0.003	0.326	0.090	4.251	0.000	0.448
Communication	-0.128	-8.011	0.000	0.025	-0.198	-10.449	0.000	0.041
Corruption control	0.069	6.070	0.000	0.013	0.040	3.127	0.002	0.019
adj. R^2 (a)	0.063				0.044			
adj. R^2 (b)	0.074				0.057			
adj. R^2 (c)	0.068				0.044			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.3. Determinants of institutional trust

Dependent: F3 confidence	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	0.004	0.514	0.608	0.014	0.047	5.646	0.000	0.017
Age	-0.044	-0.938	0.348	0.003	-0.239	-4.559	0.000	0.003
Age squared	0.114	2.426	0.015	0.000	0.301	5.723	0.000	0.000
Stable relationship	0.022	2.571	0.010	0.017	0.006	0.622	0.534	0.020
Children	0.008	0.876	0.381	0.005	0.003	0.355	0.723	0.008
Education	0.037	4.069	0.000	0.004	-0.033	-3.449	0.001	0.005
Income	0.001	0.077	0.939	0.003	0.032	3.370	0.001	0.004
Size of town	-0.028	-3.338	0.001	0.003	-0.077	-8.883	0.000	0.003
Employed	-0.017	-1.929	0.054	0.017	-0.005	-0.503	0.615	0.020
Neighborhood	-0.013	-1.698	0.090	0.009	-0.004	-0.504	0.614	0.010
Individualism	-0.027	-3.479	0.001	0.006	0.014	1.765	0.078	0.007
Democracy	0.322	42.087	0.000	0.010	0.333	39.292	0.000	0.012
Post-Materialism	-0.040	-5.196	0.000	0.012	-0.016	-1.897	0.058	0.014
Equality	0.005	0.688	0.491	0.006	0.072	8.565	0.000	0.007
Religiosity	0.052	6.180	0.000	0.013	0.061	6.091	0.000	0.018
Orthodox	-0.055	-5.755	0.000	0.040	-0.016	-1.532	0.126	0.025
Protestant	0.094	9.159	0.000	0.023	0.010	1.219	0.223	0.042
Catholic	0.066	6.118	0.000	0.020	0.000	0.002	0.999	0.026
National-level characteristics								
GDP per capita	0.114	8.433	0.000	0.004	0.001	0.092	0.927	0.004
GINI	0.026	2.199	0.028	0.003	-0.005	-0.476	0.634	0.001
Human capital	-0.041	-3.737	0.000	0.285	-0.038	-1.837	0.066	0.440
Communication	0.080	5.425	0.000	0.022	-0.027	-1.452	0.146	0.041
Corruption control	0.077	7.339	0.000	0.012	0.032	2.540	0.011	0.019
adj. R^2 (a)	0.185				0.141			
adj. R^2 (b)	0.206				0.142			
adj. R^2 (c)	0.083				0.027			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.4. Determinants of political action

Dependent: F4 polaction	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	-0.076	-10.268	0.000	0.015	-0.111	-13.596	0.000	0.015
Age	0.377	8.237	0.000	0.003	0.314	6.072	0.000	0.003
Age squared	-0.476	-10.399	0.000	0.000	-0.341	-6.580	0.000	0.000
Stable relationship	-0.024	-2.977	0.003	0.017	-0.014	-1.564	0.118	0.018
Children	-0.007	-0.798	0.425	0.005	-0.015	-1.546	0.122	0.007
Education	0.218	24.873	0.000	0.004	0.133	14.287	0.000	0.004
Income	0.072	8.395	0.000	0.003	0.048	5.065	0.000	0.003
Size of town	0.056	6.907	0.000	0.003	0.056	6.605	0.000	0.003
Employed	0.009	1.067	0.286	0.017	0.038	3.929	0.000	0.018
Neighborhood	-0.057	-7.705	0.000	0.009	-0.038	-4.766	0.000	0.009
Individualism	-0.092	-12.282	0.000	0.006	-0.051	-6.302	0.000	0.007
Democracy	-0.037	-4.976	0.000	0.010	-0.007	-0.782	0.434	0.011
Post-Materialism	0.114	15.079	0.000	0.012	0.134	16.134	0.000	0.013
Equality	0.045	5.871	0.000	0.006	-0.031	-3.730	0.000	0.007
Religiosity	-0.061	-7.466	0.000	0.014	-0.012	-1.200	0.230	0.016
Orthodox	-0.046	-4.912	0.000	0.041	0.009	0.884	0.377	0.023
Protestant	-0.008	-0.755	0.450	0.024	-0.002	-0.222	0.824	0.038
Catholic	-0.063	-6.020	0.000	0.021	0.050	4.271	0.000	0.024
National-level characteristics								
GDP per capita	0.031	2.344	0.019	0.004	0.089	6.382	0.000	0.004
GINI	-0.018	-1.504	0.133	0.003	-0.137	-12.094	0.000	0.001
Human capital	0.043	3.950	0.000	0.290	0.052	2.541	0.011	0.402
Communication	0.049	3.426	0.001	0.022	0.137	7.539	0.000	0.037
Corruption control	0.009	0.850	0.396	0.012	-0.209	-16.797	0.000	0.017
adj. R^2 (a)	0.237				0.130			
adj. R^2 (b)	0.245				0.172			
adj. R^2 (c)	0.070				0.104			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.5. Determinants of interest in politics

Dependent: F5 polinterest	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	-0.118	-15.660	0.000	0.016	-0.134	-16.663	0.000	0.015
Age	0.688	14.771	0.000	0.003	0.783	15.376	0.000	0.003
Age squared	-0.462	-9.926	0.000	0.000	-0.570	-11.155	0.000	0.000
Stable relationship	0.034	4.106	0.000	0.019	0.041	4.608	0.000	0.018
Children	-0.026	-2.950	0.003	0.006	-0.026	-2.720	0.007	0.007
Education	0.244	27.266	0.000	0.004	0.221	24.179	0.000	0.004
Income	0.074	8.463	0.000	0.004	0.025	2.761	0.006	0.003
Size of town	0.045	5.404	0.000	0.004	0.030	3.557	0.000	0.003
Employed	-0.013	-1.462	0.144	0.019	0.019	2.003	0.045	0.018
Neighborhood	-0.042	-5.536	0.000	0.010	-0.001	-0.175	0.861	0.009
Individualism	-0.111	-14.526	0.000	0.007	-0.090	-11.398	0.000	0.007
Democracy	0.038	5.033	0.000	0.011	0.030	3.658	0.000	0.010
Post-Materialism	0.110	14.393	0.000	0.013	0.083	10.126	0.000	0.013
Equality	0.037	4.838	0.000	0.007	-0.020	-2.472	0.013	0.007
Religiosity	0.029	3.537	0.000	0.015	-0.005	-0.500	0.617	0.016
Orthodox	0.068	7.137	0.000	0.044	-0.027	-2.705	0.007	0.023
Protestant	-0.017	-1.617	0.106	0.025	0.020	2.450	0.014	0.038
Catholic	0.002	0.201	0.841	0.022	0.069	5.991	0.000	0.023
National-level characteristics								
GDP per capita	0.082	6.056	0.000	0.004	-0.045	-3.272	0.001	0.004
GINI	-0.231	-19.462	0.000	0.003	0.062	5.564	0.000	0.001
Human capital	-0.076	-6.863	0.000	0.313	0.044	2.197	0.028	0.399
Communication	-0.123	-8.363	0.000	0.024	-0.010	-0.536	0.592	0.037
Corruption control	0.078	7.552	0.000	0.013	-0.068	-5.567	0.000	0.017
adj. R^2 (a)	0.184				0.145			
adj. R^2 (b)	0.218				0.155			
adj. R^2 (c)	0.082				0.040			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.6. Determinants of social norms

Dependent: F6 justified	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	0.071	8.793	0.000	0.015	0.055	6.659	0.000	0.018
Age	0.257	5.162	0.000	0.003	0.419	7.976	0.000	0.003
Age squared	-0.080	-1.601	0.109	0.000	-0.192	-3.650	0.000	0.000
Stable relationship	0.023	2.580	0.010	0.018	0.034	3.691	0.000	0.021
Children	0.022	2.331	0.020	0.006	0.006	.584	0.559	0.008
Education	0.021	2.163	0.031	0.004	0.005	.538	0.590	0.005
Income	0.033	3.507	0.000	0.003	-0.007	-.692	0.489	0.004
Size of town	-0.011	-1.274	0.203	0.004	-0.011	-1.248	0.212	0.004
Employed	0.011	1.160	0.246	0.018	-0.009	-.876	0.381	0.021
Neighborhood	-0.013	-1.658	0.097	0.009	-0.018	-2.259	0.024	0.010
Individualism	-0.082	-10.023	0.000	0.006	-0.032	-3.927	0.000	0.008
Democracy	0.023	2.791	0.005	0.011	0.036	4.225	0.000	0.012
Post-Materialism	0.016	1.914	0.056	0.012	0.032	3.832	0.000	0.015
Equality	0.028	3.397	0.001	0.007	0.050	5.968	0.000	0.008
Religiosity	0.091	10.212	0.000	0.014	0.024	2.426	0.015	0.019
Orthodox	-0.115	-11.233	0.000	0.043	0.051	4.916	0.000	0.026
Protestant	0.097	8.800	0.000	0.024	0.020	2.340	0.019	0.045
Catholic	0.036	3.161	0.002	0.021	0.049	4.085	0.000	0.027
National-level characteristics								
GDP per capita	-0.023	-1.608	0.108	0.004	-0.001	-.040	0.968	0.005
GINI	-0.051	-4.002	0.000	0.003	0.015	1.329	0.184	0.002
Human capital	-0.084	-7.074	0.000	0.301	0.007	.317	0.752	0.466
Communication	-0.024	-1.532	0.125	0.023	0.148	8.006	0.000	0.043
Corruption control	0.051	4.587	0.000	0.012	-0.156	-12.327	0.000	0.020
adj. R^2 (a)	0.092				0.081			
adj. R^2 (b)	0.102				0.100			
adj. R^2 (c)	0.083				0.049			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.7. Determinants of participating in voluntary organizations

Dependent: F7 belong	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	-0.012	-1.577	0.115	0.017	-0.043	-5.192	0.000	0.012
Age	0.246	5.130	0.000	0.003	-0.023	-0.436	0.663	0.002
Age squared	-0.155	-3.248	0.001	0.000	0.039	0.735	0.462	0.000
Stable relationship	-0.017	-1.994	0.046	0.021	-0.026	-2.795	0.005	0.015
Children	0.021	2.226	0.026	0.007	0.004	0.407	0.684	0.006
Education	0.181	19.671	0.000	0.005	0.139	14.747	0.000	0.003
Income	0.102	11.288	0.000	0.004	0.064	6.687	0.000	0.003
Size of town	-0.073	-8.512	0.000	0.004	-0.049	-5.657	0.000	0.002
Employed	0.029	3.126	0.002	0.021	0.071	7.317	0.000	0.015
Neighborhood	-0.020	-2.508	0.012	0.011	0.004	0.446	0.656	0.007
Individualism	-0.050	-6.330	0.000	0.007	-0.041	-5.003	0.000	0.005
Democracy	0.003	0.427	0.669	0.012	0.031	3.667	0.000	0.009
Post-Materialism	0.061	7.779	0.000	0.014	0.037	4.404	0.000	0.011
Equality	-0.014	-1.799	0.072	0.008	0.008	0.898	0.369	0.005
Religiosity	0.076	8.893	0.000	0.016	0.016	1.617	0.106	0.013
Orthodox	0.028	2.831	0.005	0.049	0.014	1.391	0.164	0.018
Protestant	-0.011	-1.006	0.315	0.028	0.074	8.608	0.000	0.031
Catholic	0.010	0.951	0.342	0.025	0.030	2.535	0.011	0.019
National-level characteristics								
GDP per capita	-0.161	-11.613	0.000	0.004	0.193	13.733	0.000	0.003
GINI	-0.017	-1.430	0.153	0.004	-0.158	-13.686	0.000	0.001
Human capital	0.177	15.646	0.000	0.348	-0.021	-1.043	0.297	0.326
Communication	0.342	22.598	0.000	0.027	0.030	1.600	0.110	0.030
Corruption control	-0.081	-7.626	0.000	0.014	-0.107	-8.516	0.000	0.014
adj. R^2 (a)	0.119				0.065			
adj. R^2 (b)	0.173				0.104			
adj. R^2 (c)	0.138				0.076			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.8. Determinants of socializing with friends

Dependent: F8 friends	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	-0.045	-5.431	0.000	0.015	-0.075	-8.953	0.000	0.017
Age	-0.561	-11.071	0.000	0.003	-0.552	-10.464	0.000	0.003
Age squared	0.347	6.841	0.000	0.000	0.304	5.754	0.000	0.000
Stable relationship	-0.091	-10.004	0.000	0.018	-0.079	-8.597	0.000	0.020
Children	-0.069	-7.016	0.000	0.006	-0.064	-6.436	0.000	0.008
Education	0.094	9.663	0.000	0.004	0.058	6.104	0.000	0.005
Income	0.036	3.785	0.000	0.003	0.054	5.607	0.000	0.004
Size of town	-0.002	-0.244	0.807	0.004	-0.038	-4.428	0.000	0.003
Employed	0.058	5.936	0.000	0.018	0.061	6.299	0.000	0.020
Neighborhood	-0.029	-3.461	0.001	0.009	-0.009	-1.045	0.296	0.010
Individualism	-0.029	-3.502	0.000	0.006	0.011	1.349	0.177	0.007
Democracy	0.036	4.309	0.000	0.011	0.074	8.730	0.000	0.012
Post-Materialism	0.006	0.667	0.505	0.012	0.059	6.955	0.000	0.015
Equality	0.039	4.583	0.000	0.007	0.005	0.618	0.536	0.008
Religiosity	0.014	1.509	0.131	0.014	-0.010	-1.019	0.308	0.018
Orthodox	0.060	5.819	0.000	0.043	0.031	2.987	0.003	0.026
Protestant	0.039	3.528	0.000	0.025	-0.010	-1.115	0.265	0.043
Catholic	-0.008	-0.682	0.495	0.022	-0.018	-1.473	0.141	0.026
National-level characteristics								
GDP per capita	0.059	4.033	0.000	0.004	-0.039	-2.734	0.006	0.005
GINI	0.092	7.150	0.000	0.003	-0.129	-11.179	0.000	0.002
Human capital	0.095	7.906	0.000	0.303	-0.078	-3.746	0.000	0.452
Communication	-0.001	-0.093	0.926	0.023	0.137	7.394	0.000	0.042
Corruption control	0.139	12.249	0.000	0.013	-0.063	-4.970	0.000	0.019
adj. R^2 (a)	0.163				0.168			
adj. R^2 (b)	0.181				0.179			
adj. R^2 (c)	0.033				0.031			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.9. Determinants of importance of family

Dependent: F9 family	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	0.066	8.093	0.000	0.016	0.059	7.113	0.000	0.017
Age	-0.069	-1.368	0.171	0.003	0.174	3.308	0.001	0.003
Age squared	0.025	0.493	0.622	0.000	-0.289	-5.480	0.000	0.000
Stable relationship	0.101	11.073	0.000	0.019	0.130	14.231	0.000	0.020
Children	0.116	11.966	0.000	0.006	0.084	8.486	0.000	0.008
Education	0.040	4.077	0.000	0.004	0.042	4.457	0.000	0.005
Income	0.056	5.915	0.000	0.004	0.090	9.457	0.000	0.004
Size of town	0.042	4.626	0.000	0.004	0.009	1.002	0.316	0.003
Employed	0.012	1.288	0.198	0.019	0.005	0.463	0.643	0.020
Neighborhood	-0.020	-2.434	0.015	0.010	0.004	0.482	0.630	0.010
Individualism	-0.011	-1.303	0.192	0.007	0.012	1.519	0.129	0.007
Democracy	0.054	6.499	0.000	0.011	0.020	2.322	0.020	0.012
Post-Materialism	-0.023	-2.718	0.007	0.013	-0.041	-4.905	0.000	0.014
Equality	0.061	7.231	0.000	0.007	0.081	9.593	0.000	0.007
Religiosity	0.034	3.809	0.000	0.015	0.052	5.155	0.000	0.018
Orthodox	0.015	1.459	0.145	0.045	0.061	5.855	0.000	0.025
Protestant	-0.068	-6.121	0.000	0.026	0.054	6.233	0.000	0.042
Catholic	0.077	6.619	0.000	0.022	0.052	4.370	0.000	0.026
National-level characteristics								
GDP per capita	-0.115	-7.863	0.000	0.004	-0.136	-9.683	0.000	0.004
GINI	-0.014	-1.092	0.275	0.003	0.010	0.838	0.402	0.001
Human capital	0.064	5.356	0.000	0.315	0.203	9.866	0.000	0.441
Communication	0.028	1.765	0.078	0.024	-0.074	-4.027	0.000	0.041
Corruption control	-0.066	-5.815	0.000	0.013	-0.020	-1.568	0.117	0.019
adj. R^2 (a)	0.073				0.087			
adj. R^2 (b)	0.080				0.099			
adj. R^2 (c)	0.094				0.103			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 21.10. Determinants of general trust

Dependent: F10 gentrust	WE countries				CEE countries			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
Individual-level characteristics								
Gender	-0.010	-1.237	0.216	0.017	0.000	0.005	0.996	0.016
Age	0.126	2.587	0.010	0.003	0.082	1.504	0.133	0.003
Age squared	-0.062	-1.269	0.204	0.000	-0.024	-0.445	0.656	0.000
Stable relationship	-0.027	-3.090	0.002	0.020	-0.046	-4.819	0.000	0.018
Children	0.006	0.649	0.516	0.006	0.018	1.727	0.084	0.007
Education	0.140	14.941	0.000	0.005	0.084	8.601	0.000	0.004
Income	0.085	9.267	0.000	0.004	0.008	0.794	0.427	0.003
Size of town	-0.041	-4.746	0.000	0.004	-0.018	-1.990	0.047	0.003
Employed	0.018	1.922	0.055	0.020	0.036	3.585	0.000	0.018
Neighborhood	-0.087	-11.013	0.000	0.010	-0.077	-9.061	0.000	0.009
Individualism	-0.103	-12.943	0.000	0.007	-0.029	-3.406	0.001	0.007
Democracy	0.069	8.672	0.000	0.012	0.085	9.708	0.000	0.011
Post-Materialism	0.073	9.040	0.000	0.013	0.038	4.373	0.000	0.013
Equality	-0.001	-0.116	0.907	0.007	-0.033	-3.720	0.000	0.007
Religiosity	0.022	2.514	0.012	0.015	-0.004	-0.388	0.698	0.016
Orthodox	-0.042	-4.258	0.000	0.047	-0.033	-3.059	0.002	0.023
Protestant	0.025	2.324	0.020	0.027	-0.002	-0.171	0.864	0.039
Catholic	-0.016	-1.404	0.160	0.023	-0.026	-2.101	0.036	0.024
National-level characteristics								
GDP per capita	-0.093	-6.581	0.000	0.004	-0.022	-1.521	0.128	0.004
GINI	-0.138	-11.094	0.000	0.003	-0.001	-0.087	0.931	0.001
Human capital	0.134	11.616	0.000	0.329	-0.079	-3.706	0.000	0.411
Communication	0.027	1.730	0.084	0.025	-0.019	-1.007	0.314	0.038
Corruption control	0.042	3.821	0.000	0.014	0.098	7.459	0.000	0.017
adj. R^2 (a)	0.119				0.031			
adj. R^2 (b)	0.143				0.037			
adj. R^2 (c)	0.083				0.022			

Notes: Results of OLS regressions, standardised coefficients
(a) Model including only individual-level characteristics
(b) Model including both individual and national characteristics
(c) Model including only national-level characteristics

Source: author's calculations on the basis of WVS

Appendix 22. Collinearity statistics of the individual-level social capital models with macro-level determinants

	WE sub-sample		CEE sub-sample		Pooled data	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
GDP per capita	0.327	3.057	0.219	4.574	0.069	14.445
GINI index	0.077	12.956	0.129	7.727	0.582	1.720
Human capital	0.107	9.366	0.043	23.258	0.077	13.018
Communication	0.189	5.291	0.041	24.545	0.115	8.722
Corruption control	0.324	3.082	0.137	7.324	0.210	4.764
Individualism	0.288	3.471	0.402	2.487	0.575	1.741
Democracy	0.218	4.588	0.093	10.798	0.182	5.502
Post-materialism	0.519	1.928	0.132	7.570	0.246	4.062
Equality	0.157	6.364	0.090	11.110	0.567	1.764
Religiosity	0.399	2.505	0.044	22.859	0.628	1.593

Source: author's calculations on the basis of WVS

Appendix 23. Aggregate-level determinants of social capital in pooled sample

Dependent: F1 helping	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.034	-1.754	0.079	0.002	-0.080	-0.143	0.888	0.034
GINI	0.106	13.753	0.000	0.001	0.140	0.706	0.490	0.018
Human capital	0.107	5.627	0.000	0.215	0.253	0.474	0.642	2.985
Communication	0.279	19.039	0.000	0.015	0.571	1.364	0.192	0.194
Corruption control	-0.287	-26.527	0.000	0.010	-0.651	-1.967	0.067	0.157
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.141	-21.472	0.000	0.019	-0.278	-1.397	0.181	0.274
Democracy	0.333	25.632	0.000	0.036	0.685	1.882	0.078	0.509
Post-materialism	0.161	16.095	0.000	0.047	-0.317	-1.105	0.286	0.660
Equality	0.123	18.586	0.000	0.017	0.263	1.306	0.210	0.230
Religiosity	0.079	12.612	0.000	0.034	0.190	0.993	0.335	0.480
Transition	0.236	15.134	0.000	0.031	0.428	0.964	0.349	0.425
adj. R^2	0.141				0.402			

Dependent: F2 concern	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.022	-1.093	0.274	0.003	-0.051	-0.066	0.948	0.031
GINI	0.018	2.253	0.024	0.001	0.047	0.167	0.870	0.016
Human capital	0.029	1.459	0.145	0.226	-0.021	-0.028	0.978	2.723
Communication	-0.282	-18.318	0.000	0.015	-0.916	-1.559	0.139	0.177
Corruption control	0.033	2.931	0.003	0.011	0.070	0.152	0.881	0.143
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.102	-14.773	0.000	0.020	-0.299	-1.073	0.299	0.250
Democracy	0.149	10.919	0.000	0.038	0.429	0.841	0.413	0.464
Post-materialism	0.025	2.350	0.019	0.049	-0.206	-0.513	0.615	0.602
Equality	0.086	12.360	0.000	0.018	0.322	1.142	0.270	0.210
Religiosity	-0.011	-1.643	0.100	0.036	-0.102	-0.382	0.707	0.437
Transition	-0.092	-5.569	0.000	0.033	-0.294	-0.473	0.642	0.388
adj. R^2	0.029				0.155			

Dependent:	Individual social capital (a)				National social capital (b)			
F3 confidence	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	0.196	9.637	0.000	0.003	0.711	1.969	0.067	0.016
GINI	-0.069	-8.464	0.000	0.001	-0.186	-1.446	0.167	0.008
Human capital	-0.055	-2.761	0.006	0.227	-0.365	-1.055	0.307	1.417
Communication	0.105	6.789	0.000	0.015	0.285	1.052	0.309	0.092
Corruption control	0.176	15.449	0.000	0.011	0.418	1.952	0.069	0.075
National-level aggregates (country means) of individual-level characteristics								
Individualism	0.064	9.269	0.000	0.020	0.158	1.230	0.236	0.130
Democracy	-0.039	-2.838	0.005	0.038	-0.033	-0.138	0.892	0.241
Post-materialism	-0.119	-11.316	0.000	0.050	0.243	1.307	0.210	0.313
Equality	-0.044	-6.363	0.000	0.018	-0.070	-0.537	0.599	0.109
Religiosity	0.097	14.697	0.000	0.036	0.211	1.707	0.107	0.228
Transition	-0.032	-1.946	0.052	0.033	-0.105	-0.365	0.720	0.202
adj. R^2	0.103				0.749			

Dependent:	Individual social capital (a)				National social capital (b)			
F4 polaction	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.061	-3.053	0.002	0.003	-0.176	-0.525	0.607	0.018
GINI	-0.040	-5.077	0.000	0.001	-0.087	-0.726	0.478	0.009
Human capital	0.083	4.218	0.000	0.223	0.200	0.623	0.542	1.542
Communication	0.258	17.129	0.000	0.015	0.622	2.468	0.025	0.100
Corruption control	-0.083	-7.480	0.000	0.011	-0.201	-1.012	0.327	0.081
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.066	-9.700	0.000	0.020	-0.148	-1.233	0.235	0.142
Democracy	-0.143	-10.683	0.000	0.037	-0.315	-1.442	0.169	0.263
Post-materialism	0.165	16.059	0.000	0.049	-0.435	-2.520	0.023	0.341
Equality	0.005	0.715	0.474	0.018	-0.002	-0.019	0.985	0.119
Religiosity	-0.061	-9.425	0.000	0.035	-0.099	-0.862	0.401	0.248
Transition	-0.094	-5.854	0.000	0.033	-0.241	-0.902	0.381	0.220
adj. R^2	0.145				0.784			

Dependent: F5 polinterest	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.170	-8.345	0.000	0.003	-0.906	-1.311	0.209	0.023
GINI	0.029	3.572	0.000	0.001	0.045	0.183	0.857	0.012
Human capital	-0.005	-0.236	0.814	0.227	-0.021	-0.032	0.975	2.046
Communication	0.139	9.028	0.000	0.015	0.699	1.346	0.197	0.133
Corruption control	-0.023	-1.990	0.047	0.011	-0.186	-0.453	0.657	0.108
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.075	-10.839	0.000	0.020	-0.331	-1.343	0.198	0.188
Democracy	0.000	0.006	0.995	0.038	-0.018	-0.040	0.969	0.349
Post-materialism	0.086	8.173	0.000	0.050	-0.418	-1.174	0.257	0.452
Equality	-0.093	-13.359	0.000	0.018	-0.333	-1.337	0.200	0.158
Religiosity	0.010	1.479	0.139	0.036	0.105	0.442	0.664	0.329
Transition	0.090	5.493	0.000	0.033	0.269	0.489	0.631	0.292
adj. R^2	0.025				0.081			

Dependent: F6 justified	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	0.089	4.359	0.000	0.003	0.357	0.515	0.613	0.027
GINI	0.087	10.718	0.000	0.001	0.234	0.948	0.357	0.014
Human capital	0.008	0.374	0.708	0.227	0.056	0.084	0.934	2.329
Communication	0.035	2.285	0.022	0.015	0.207	0.399	0.695	0.151
Corruption control	0.020	1.769	0.077	0.011	-0.085	-0.206	0.839	0.123
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.050	-7.224	0.000	0.020	-0.126	-0.509	0.617	0.214
Democracy	0.170	12.360	0.000	0.038	0.501	1.109	0.284	0.397
Post-materialism	-0.018	-1.693	0.090	0.050	0.118	0.330	0.745	0.515
Equality	-0.097	-13.816	0.000	0.018	-0.329	-1.317	0.206	0.180
Religiosity	0.136	20.477	0.000	0.036	0.486	2.045	0.058	0.374
Transition	0.213	12.871	0.000	0.033	0.659	1.196	0.249	0.332
adj. R^2	0.037				0.079			

Dependent: F7 belong	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.240	-12.452	0.000	0.002	-0.512	-1.485	0.157	0.020
GINI	-0.044	-5.692	0.000	0.001	-0.187	-1.523	0.147	0.010
Human capital	0.132	6.960	0.000	0.215	0.327	0.990	0.337	1.751
Communication	0.525	35.939	0.000	0.015	10.194	4.608	0.000	0.114
Corruption control	-0.168	-15.555	0.000	0.010	-0.263	-1.286	0.217	0.092
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.115	-17.507	0.000	0.019	-0.330	-2.681	0.016	0.161
Democracy	-0.030	-2.337	0.019	0.036	-0.134	-0.594	0.561	0.298
Post-materialism	0.022	2.190	0.029	0.047	0.011	0.062	0.951	0.387
Equality	-0.029	-4.461	0.000	0.017	-0.085	-0.688	0.501	0.135
Religiosity	-0.001	-0.135	0.892	0.034	0.056	0.471	0.644	0.281
Transition	0.028	1.816	0.069	0.031	0.046	0.169	0.868	0.250
adj. R^2	0.127				0.771			

Dependent: F8 friends	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.055	-2.508	0.012	0.003	-0.192	-0.358	0.725	0.020
GINI	-0.021	-2.357	0.018	0.001	-0.008	-0.041	0.968	0.010
Human capital	-0.080	-3.700	0.000	0.243	-0.550	-1.069	0.301	1.753
Communication	0.127	7.587	0.000	0.017	0.515	1.276	0.220	0.114
Corruption control	0.070	5.642	0.000	0.012	0.211	0.663	0.517	0.092
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.037	-5.002	0.000	0.021	-0.232	-1.212	0.243	0.161
Democracy	-0.107	-7.241	0.000	0.040	-0.300	-0.856	0.405	0.299
Post-materialism	0.116	10.180	0.000	0.053	-0.633	-2.291	0.036	0.387
Equality	0.066	8.737	0.000	0.019	0.359	1.855	0.082	0.135
Religiosity	-0.061	-8.474	0.000	0.038	-0.310	-1.683	0.112	0.282
Transition	-0.154	-8.663	0.000	0.035	-0.510	-1.194	0.250	0.250
adj. R^2	0.049				0.446			

Dependent: **F9 family**	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.218	-10.891	0.000	0.003	-0.656	-0.901	0.381	0.034
GINI	0.027	3.383	0.001	0.001	0.055	0.212	0.835	0.018
Human capital	0.218	11.039	0.000	0.220	0.496	0.711	0.487	3.011
Communication	0.008	0.498	0.619	0.015	0.143	0.262	0.797	0.195
Corruption control	-0.182	-16.241	0.000	0.011	-0.655	-1.516	0.149	0.158
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.011	-1.662	0.096	0.019	-0.126	-0.484	0.635	0.277
Democracy	0.259	19.255	0.000	0.037	0.821	1.728	0.103	0.513
Post-materialism	-0.104	-10.073	0.000	0.048	0.147	0.393	0.700	0.665
Equality	0.117	17.047	0.000	0.018	0.373	1.419	0.175	0.232
Religiosity	0.011	1.726	0.084	0.035	-0.053	-0.212	0.834	0.484
Transition	-0.111	-6.861	0.000	0.032	-0.151	-0.260	0.798	0.429
adj. R^2	0.059				-0.020			

Dependent: **F10 gentrust**	Individual social capital (a)				National social capital (b)			
	Beta	t-stat	Sig.	SE	Beta	t-stat	Sig.	SE
National-level characteristics								
GDP per capita	-0.095	-4.743	0.000	0.003	-0.317	-0.685	0.503	0.019
GINI	-0.055	-6.891	0.000	0.001	-0.167	-1.013	0.326	0.010
Human capital	0.169	8.568	0.000	0.223	0.469	1.058	0.306	1.622
Communication	0.110	7.245	0.000	0.015	0.322	0.927	0.368	0.105
Corruption control	0.139	12.405	0.000	0.011	0.453	1.652	0.118	0.085
National-level aggregates (country means) of individual-level characteristics								
Individualism	-0.014	-2.119	0.034	0.020	-0.098	-0.591	0.562	0.149
Democracy	-0.224	-16.616	0.000	0.037	-0.648	-2.146	0.048	0.276
Post-materialism	-0.054	-5.187	0.000	0.049	0.135	0.567	0.578	0.358
Equality	-0.152	-22.083	0.000	0.018	-0.456	-2.731	0.015	0.125
Religiosity	0.027	4.167	0.000	0.035	0.063	0.398	0.696	0.260
Transition	-0.070	-4.317	0.000	0.033	-0.243	-0.659	0.519	0.231
adj. R^2	0.066				0.589			

Notes: Results of OLS regressions, standardised coefficients.
(a) $29768 \leq N \leq 35737$, (b) $28 \leq N \leq 31$

Source: author's calculations on the basis of WVS and national-level social capital database

Appendix 24. Indicators of economic development and its factors

Abbreviation	Indicator	Source
	Economic growth and development	
GDP0	GDP per capita in 2000, PPP (constant 2005 international $)	WDI
GDPGR	GDP per capita average yearly growth 2000-2006, calculated as (GDP2006/GDP2000)/6	WDI
	Traditional factors of economic growth	
CAP	Gross capital formation (constant 2000 billions US$), 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
TRADE	Trade (% of GDP), average 2000-2006	WDI
POP	Population growth 2000-2006, calculated as (POP2006/POP2000)/6	WDI
FDIGDP	Foreign direct investments (% of GDP), average 2000-2006	WDI
SAVDOM	Domestic savings (% of GDP), average 2000-2006	WDI
GOV	Governance (sum of six indicators), average 1998/2000	Kaufmann et al 2008
	Indicators of human capital	
PRIM	Labor force with primary education (% of total), average 2000-2005	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
LEIEDU	Sum of life expectancy and education indexes from HDI, 2006	HDR 2008

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Appendix 25. Mean comparison of the national-level social capital components as growth factors

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		
Sum F1-F10	WE	17	1.272	1.556	5.361	0.000
	CEE	14	-1.579	1.365		
FK1 altruism	WE	17	-0.067	0.429	-1.585	0.124
	CEE	14	0.146	0.288		
FK2 participation	WE	17	0.114	0.334	0.505	0.617
	CEE	14	0.044	0.437		
FK3 trust	WE	17	0.099	0.496	0.833	0.412
	CEE	14	-0.054	0.521		
FK4 friends and norms	WE	17	-0.055	0.310	-0.300	0.766
	CEE	14	-0.022	0.293		
Sum FK1-FK4	WE	17	0.090	0.875	-0.076	0.940
	CEE	14	0.114	0.846		

Source: author's calculations on the basis of national-level social capital database

Appendix 26. Mean comparison of the traditional growth factors

Indicator	Sample	N	Mean	Std. dev.	t-test	Sig.
GDP0	WE	17	30177.91	9234.76	7.405	0.000
	CEE	14	10350.01	4220.89		
GDPGR	WE	17	0.19	0.01	-7.109	0.000
	CEE	14	0.24	0.03		
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		
TRADE	WE	17	100.40	60.21	-0.861	0.396
	CEE	14	115.92	33.17		
POP	WE	17	0.17	0.01	6.789	0.000
	CEE	14	0.16	0.00		
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		
GOV	WE	17	0.59	0.77	4.705	0.000
	CEE	14	-0.71	0.76		
PRIM	WE	17	34.07	16.22	4.428	0.000
	CEE	13	14.96	6.38		
SEC	WE	17	39.56	15.34	-4.092	0.000
	CEE	13	60.60	11.84		
TERT	WE	17	23.91	8.47	-0.035	0.973
	CEE	13	24.05	13.03		
LEIEDU	WE	17	1.87	0.03	6.541	0.000
	CEE	14	1.75	0.07		

Source: author's calculations on the basis of national-level social capital database

Appendix 27. Correlations between economic development and its factors

		Growth 2000-2006		GDP per capita 2000			
		(1)	(2)	(3)	(4)	(5)	(6)
		Pearson	Partial (transition)	Pearson	Pearson (Lux-out)	Partial (transition)	Partial (Lux-out)
Second-order constructs of social capital	FK 1	0.097	-0.241	-0.140	-0.319	0.156	-0.070
		(0.602)	(0.200)	(0.451)	(0.086)	(0.411)	(0.719)
	FK 2	-0.198	-0.211	0.081	0.055	0.009	-0.055
		(0.287)	(0.262)	(0.665)	(0.775)	(0.961)	(0.777)
	FK 3	-0.114	0.019	0.082	0.102	-0.071	-0.095
		(0.540)	(0.923)	(0.660)	(0.591)	(0.709)	(0.623)
	FK 4	0.156	0.192	0.014	0.001	0.100	0.136
		(0.402)	(0.309)	(0.942)	(0.995)	(0.600)	(0.482)
	Sum FK1-FK4	-0.057	-00.120	0.027	-0.056	0.065	-0.063
		(0.759)	(0.529)	(0.887)	(0.767)	(0.734)	(0.747)
Traditional growth factors	GDPGR	1	1	**-0.709**	**-0.839**	-0.141	**-0.397**
				(0.000)	(0.000)	(0.457)	(0.033)
	GDP0	**-0.709**	-0.141	1	1	1	1
		(0.000)	(0.457)				
	CAP	**0.850**	**0.744**	**-0.620**	**-0.669**	-0.237	-0.313
		(0.000)	(0.000)	(0.000)	(0.000)	(0.216)	(0.105)
	POP	**-0.700**	-0.167	**0.757**	**0.793**	0.336	0.328
		(0.000)	(0.378)	(0.000)	(0.000)	(0.069)	(0.082)
	PRIM	**-0.568**	-0.163	0.316	0.353	**-0.367**	**-0.597**
		(0.001)	(0.399)	(0.089)	(0.060)	(0.050)	(0.001)
	SEC	**0.367**	-0.292	-0.283	-0.324	**0.456**	**0.723**
		(0.046)	(0.124)	(0.130)	(0.086)	(0.013)	(0.000)
	TERT	0.352	**0.602**	-0.028	-0.023	-0.039	-0.046
		(0.056)	(0.001)	(0.883)	(0.908)	(0.843)	(0.815)
	TRADE	0.164	0.061	0.249	-0.250	**0.649**	0.183
		(0.379)	(0.749)	(0.177)	(0.183)	(0.000)	(0.343)
	GOV	**-0.575**	-0.087	0.683	-	0.341	-
		(0.000)	(0.649)	(0.000)	-	(0.065)	-

Notes: significance levels in parentheses below correlation coefficients. Statistically significant coefficients (p<0.05) are in bold.
Source: author's calculations on the basis of national-level social capital database

SUMMARY IN ESTONIAN – KOKKUVÕTE

SOTSIAALKAPITAL, SELLE ALLIKAD JA SEOSED MAJANDUSKASVUGA: LÄÄNE-EUROOPA RIIKIDE NING KESK- JA IDA-EUROOPA RIIKIDE VÕRDLUS

Töö aktuaalsus

Majandusteaduse üheks oluliseks uurimisobjektiks on riikide majanduskasv, mis on tarvilik (kuigi mitte alati piisav) eeltingimus üksikisikute heaolu kasvuks. Neoklassikalises kasvuteoorias (Solow 1956) tuuakse majanduskasvu teguritena välja füüsiline kapital, tööjõud ja tehnoloogia, kuid empiiriliste uuringute tulemuste põhjal võib väita, et need tegurid ei suuda riikide arenguerinevusi piisavalt hästi selgitada. Seetõttu on majandusarengu uuemates käsitlustes hakatud enam tähelepanu pöörama inimese ja inimsuhetega seotud kapitaliliikidele ning institsionaalsetele arenguteguritele.

Endogeense kasvu mudelid (Romer 1986, 1990; Lucas 1988) lisasid tootmistegurite loetellu inimkapitali, mis on defineeritav kui inimtöö tootlikkust suurendavad oskused, teadmised ja kogemused. Siit edasi jõuti tõdemuseni, et inimese osa majanduses ei piirdu vaid füüsilist kapitali vahendava tööjõu ja oskusteabe kandja rolliga, vaid et majandusprotsesside toimimist mõjutavad ka inimeste sotsiaalsed suhted ühiskonnas. Neid suhteid reguleerivad mitme-sugused institutsioonid – turg, valitsus, formaalsed ja mitteformaalsed reeglid ning organisatsioonid – mis konkureerivad üksteisega tootmise organiseerimisel ja ressursside jaotamisel (Lin ja Nugent 1995). Formaalsete institutsioonide mõju arengule on uuritud uue institutsiooniökonoomika raames (North 1990). Sotsiaalkapitali teooria aitab teadvustada, et inimeste osalemine mitte-formaalsetes võrgustikes ja sellel baseeruv usaldus on ühelt poolt samuti osa inimkäitumist reguleerivatest mitteformaalsetest institutsioonidest, teisalt aga vaadeldav tootmisprotsessi sisendina ehk kapitalina.

Ühiskonna, majanduse ja inimsuhete sotsiaalseid aspekte on erinevate nimetuste all uuritud tegelikult juba ammu. Samas on enamik autoreid käsitlenud sotsiaalkapitali erinevaid tunnuseid nagu usaldus, normid ja võrgustikud ilma vastavat terminit otseselt kasutamata. Arvatakse, et mõiste juured ulatuvad 18.–19. sajandi sotsiaalteoreetilistesse töödesse, peamiste autoritena nimetatakse Alexis De Tocqueville, Emile Durkheimi ja Karl Marxi (vt. Carrol and Stanfield 2003, Stolle 2004). Näiteks Tocqueville kirjeldas USA näitel indiviidide koostöövalmidust ühiste eesmärkide saavutamisel, väites, et tugev kodanikuühiskond tugevdab demokraatiat. Durkheim on käsitlenud kiirete sotsiaalsete muutuste negatiivseid tagajärgi nagu enesetappude ja lahutuste arvu kasv, väites, et parimaks vastumürgiks sotsiaalsele tõrjutusele ja sellest tulenevale enesehävituslikule käitumisele on toetavate suhtevõrgustike

olemasolu. Vastupidiselt Durkheimile tõstis Marx esile radikaalsete sotsiaalsete muutuste positiivse mõju ühiskonna sidususele klassisisese solidaarsuse suurenemise näol.

Termin "sotsiaalkapital" ilmus teaduskirjandusse teadaolevalt esmakordselt Lyda J. Hanifani (1916, 1920) töödes, mis käsitlesid maakoolide rolli kogukonna keskusena. Hanifan kirjeldas termini "sotsiaalkapital" abil "reaalseid substantse (*tangible substances*), mis mõjutavad enim inimeste igapäevaelu". Mõned kümnendid hiljem hakkas termin sotsioloogias laiemalt levima. Tuntumatest autoritest on seda kasutanud Jane Jacobs (1961) oma töödes linnaelanike naabrussuhetest, Pierre Bourdieu (1984) sotsiaalsete suhete analüüsil ning James Coleman (1988, 1990) hariduse sotsiaalse konteksti uurimisel.

Esimesed terviklikud sotsiaalkapitali käsitlused ühiskonna tasandil tekkisid 1990ndatel aastatel. Valdkonna klassikaks kujunes politoloog Robert Putnami (1993) võrdlev uurimus Põhja- ja Lõuna-Itaalia arengu erinevustest, mille põhjusena nimetati nende piirkondade sotsiaalkapitali taseme ja struktuuri erinevusi. Putnami jt hilisemad tööd (1995, 2000) käsitlevad sotsiaalkapitali vähenemise põhjusi ning selle protsessi võimalikke negatiivseid tagajärgi Itaalia ja Ameerika Ühendriikide näitel.

Majandusteadlaste varasematest töödest saab sotsiaalkapitali uurimisega siduda Hirschmani (1956), Adelmani ja Morrise (1967), Beckeri (1974) ning Loury (1977, 1981) kirjutisi. Näiteks G. Beckeri (1974) tarbija käitumise teoorias on üheks keskseks nõudluse mõjuriks "sotsiaalne sissetulek" (*social income*), mis hõlmab lisaks indiviidi rahalisele sissetulekule ka temaga seotud isikute, eelkõige pereliikmete tulu ja laenuvõimalusi. G. Loury (1977) jõudis sotsiaalkapitali mõisteni eri rassist isikute tuluerinevusi uurides, leides, et need on tingitud eelkõige sotsiaalsest kasvukeskkonnast, mis määrab inimeste edasised võimalused tööturul.

Majandusteaduse oluliseks uurimisobjektiks tõusis sotsiaalkapital siiski alles 1990. aastatel, mil hakati varasemast rohkem tähelepanu pöörama majandusarengu sotsiaalsetele ja institutsionaalsetele aspektidele. Sellise rõhuasetuse muutuse põhjusteks peetakse mitmeid samal perioodil toimunud sündmusi maailmamajanduses: kommunistliku süsteemi kokkuvarisemine ning sellega seotud raskused uute turumajanduslike institutsioonide loomisel siirderiikides, Ladina-Ameerika ja Ida-Aasia finantskriis ning vaesuse süvenemine arengumaades (Woolcock 2000). Teedrajavatena võib nimetada Fukuyama (1995), Knacki ja Keeferi (1997) ning Knacki (1999) uurimusi sotsiaalkapitali ja riigi majandusarengu seostest. Samal ajal tõusis sotsiaalkapital ka Maailmapanga huviorbiiti ning hilisem diskussioon sotsiaalkapitali rollist majandusarengus ongi toimunud suures osas 1996. aastal Maailmapanga juurde loodud sotsiaalkapitali algatuse töögrupi egiidi all. Maailmapanga sotsiaalkapitali alaste tööde spekter on väga lai, hõlmates probleeme vaesuse tõrjumisest ettevõtete haldamiseni (World Bank 1998). Seejuures on põhirõhk sotsiaalsel sidususel kui jätkusuutliku majandusarengu olulisel komponendil.

Sotsiaalkapitali uuemad uurimissuunad majandusteaduses hõlmavad ettevõtete ühiskondlikku vastutust (Carroll 1999, Swift and Zadek 2002), suurte organisatsioonide juhtimise efektiivsust (Melander ja Nordquist 2002) ning sotsiaalsete võrgustike rolli integreeritud tööstuspiirkondade (*industrial districts*) edukal funktsioneerimisel (Wilson 1997).

Käesolev doktoritöö täiendab uurimisalast tühimikku, mis puudutab sotsiaalkapitali struktuuri, allikate ja mõjude võrdlemist erinevates riikide gruppides. Täpsemalt on antud töös rõhuasetus Euroopa post-kommunistlike riikide ja "läänelike" demokraatiate võrdlemisel, mille kohta leidub suhteliselt vähe varasemaid uurimusi. Käsitluse uudsus seisneb eelkõige selles, et sotsiaalkapitali allikaid ja mõju majanduskasvule analüüsitakse ühtses raamistikus. Teoreetilises osas pööratakse erilist tähelepanu sotsiaalkapitaliga seotud mehhanismide põhjuslikkuse selgitamisele. Empiirilises osas on erinevalt enamikust varasematest töödest, mis vaatlevad sotsiaalkapitali elementidena peamiselt üldist usaldust ja osalemist vabatahtlike organisatsioonide tegevuses, analüüsi kaasatud oluliselt suurem hulk sotsiaalkapitali komponente. Samuti pole varem empiiriliselt põhjalikult uuritud sotsiaalkapitali komponentide omavahelisi seoseid.

Uurimuse eesmärk ja ülesanded

Käesoleva doktoritöö eesmärgiks on välja selgitada Lääne-Euroopa (LE) ning Kesk- ja Ida-Euroopa (KIE) riikide sarnasused ja erinevused sotsiaalkapitali struktuuris, allikates ning seoses sotsiaalkapitali ja majanduskasvu vahel. Eesmärgi täitmiseks püstitatakse järgmised uurimisülesanded:

1) anda ülevaade sotsiaalkapitali käsitlevast teoreetilisest kirjandusest rõhuasetusega sotsiaalkapitali komponentide ja allikate eristamisele;
2) uurida varasemate teoreetiliste ja empiiriliste tööde põhjal sotsiaalkapitali ja majanduskasvu seoseid, tuues välja võimalikud põhjus-tagajärg mehhanismid;
3) määratleda sotsiaalkapitali eripärad Kesk- ja Ida-Euroopa endistes kommunistlikes riikides võrrelduna Lääne-Euroopa demokraatlike riikidega, leidmaks selgitusi põhjustele, miks sotsiaalkapitali tase, allikad ja mõju majanduskasvule võib neis riikide gruppides erineda;
4) luua kontseptuaalne raamistik, mis hõlmab üheaegselt võimalusi nii sotsiaalkapitali allikate kui majanduslike mõjude analüüsiks;
5) formuleerida eelneva alusel uurimisväited sotsiaalkapitali struktuuri, allikate ja seoste kohta majanduskasvuga ning tutvustada uurimismetoodikat;
6) hinnata püstitatud uurimisväidete paikapidavust rõhuasetusega KIE ja LE riikide sarnasuste ja erinevuste tuvastamisele;
7) tuua välja uurimistulemuste üldistused ja järeldused viisil, mis võimaldab hinnata erinevate poliitikameetmete kasutusvõimalusi majanduskasvu soodustamiseks sotsiaalkapitali ja selle tekkeallikate kaudu.

Doktoritöö struktuur ja teoreetiline taust

Käesolev doktoritöö koosneb kahest põhiosast. Esimeses osas kujundatakse kirjanduse ülevaate põhjal välja teoreetiline baas sotsiaalkapitali struktuuri, allikate ja majanduslike mõjude analüüsiks. Tutvustatakse sotsiaalkapitali alternatiivseid käsitlusi ja erinevaid liike, antakse ülevaade sotsiaalkapitali allikaid uurivast kirjandusest ning selgitatakse sotsiaalkapitali ja majanduskasvu vahelisi seoseid. Seejärel kirjeldatakse sotsiaalkapitali eripärasid siirderiikides, luuakse raamistik sotsiaalkapitali allikate ja majanduslike mõjude ühisanalüüsiks, esitatakse eelneva põhjal uurimisväited ning tutvustatakse andmeid ja uurimismeetodeid. Töö teine osa sisaldab võrdlevat analüüsi sotsiaalkapitali struktuuri, allikate ja majanduskasvule avaldatava mõju kohta KIE ja LE riikides, misjärel tulemused sünteesitakse ning esitatakse nende põhjal järeldused ja soovitused. Dissertatsiooni üldine loogika on esitatud joonisel 1.

Doktoritöö esimene osa algab lühikese ülevaatega sotsiaalkapitali kontseptsiooni ajaloolisest kujunemisest. Seejärel tutvustatakse sotsiaalkapitali alternatiivseid käsitlusi erinevates uurimisdistsipliinides ning tuuakse välja nende ühisjooned ja erinevused (alapunkt 1.1.1). Esimene käsitlus tuleneb sotsioloogiast ning vaatleb sotsiaalkapitali indiviidi tasandil, keskendudes mitmesuguste ressursside ja hüvede kättesaadavusele sotsiaalsete suhete kaudu. Selle suuna tuntumad esindajad on Bourdieu (1979, 1980) ja Coleman (1988, 1990). Teine, poliitika- ja majandusteaduses domineeriv lähenemine käsitleb sotsiaalkapitali kogukonna ja riigi tasandil. Selle kohaselt ei ilmne sotsiaalkapitalist saadav kasu mitte otseselt üksikindiviidi hüvangu, vaid kogukonnas/regioonis/riigis tervikuna parema haldussuutlikkuse ja üldise kõrgema heaolutaseme näol. Selle suuna kuulsaimad autorid on Putnam (1993, 2000) ja Fukuyama (1995, 2001). Kolmas sotsiaalkapitali käsitlus on välja kasvanud institutsiooniökonoomikast ning seostub North'i (1990) ja Olsoni (1982) töödega, keskendudes formaalsetele institutsioonidele, nende kvaliteedile ja usaldusväärsusele kui peamistele teguritele, mis mõjutavad sotsiaalsete struktuuride kujunemist ja muutusi. Kõik kolm käsitlust on pigem üksteist täiendavad kui vastanduvad, kuna igaüks neist kirjeldab täpsemalt mingit kindlat sotsiaalkapitali aspekti ja avaldumistasandit.

Järgmise alapunkti 1.1.2 eesmärgiks on uurida detailsemalt erinevatest lähenemistest tulenevate sotsiaalkapitali elementide olemust, alamliike ja omavahelisi seoseid, samuti võimalusi sotsiaalkapitali mõõtmiseks. Sotsiaalkapitali liikide (elementide) eristamine on edasise analüüsi seisukohalt oluline, kuna nad võivad tuleneda erinevatest allikatest ja mõjutada majanduskasvu erinevate mehhanismide kaudu. Sotsiaalkapitali elemendid saab liigitada kognitiivse ja strukturaalse dimensiooni alla. Strukturaalne sotsiaalkapital on sotsiaalse suhtlemise soodustajaks ning hõlmab mitmesuguseid võrgutikke, mille vahendusel toimub erinevate ressursside, sealhulgas info liikumine. Kognitiivne sotsiaalkapital hõlmab usaldust ja norme ning selles nähakse jõudu, mis pärsib oportunistlikku käitumist ja paneb inimesed tegutsema ühiste huvide nimel.

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┌─────────────────────────────────────────────────────────────────┐
│   Sotsiaalkapitali kontseptsiooni ja komponentide alternatiivsed  │
│                          käsitlused                               │
│                 (alapunktid 1.1.1–1.1.2 ja 1.2.1)                 │
└─────────────────────────────────────────────────────────────────┘
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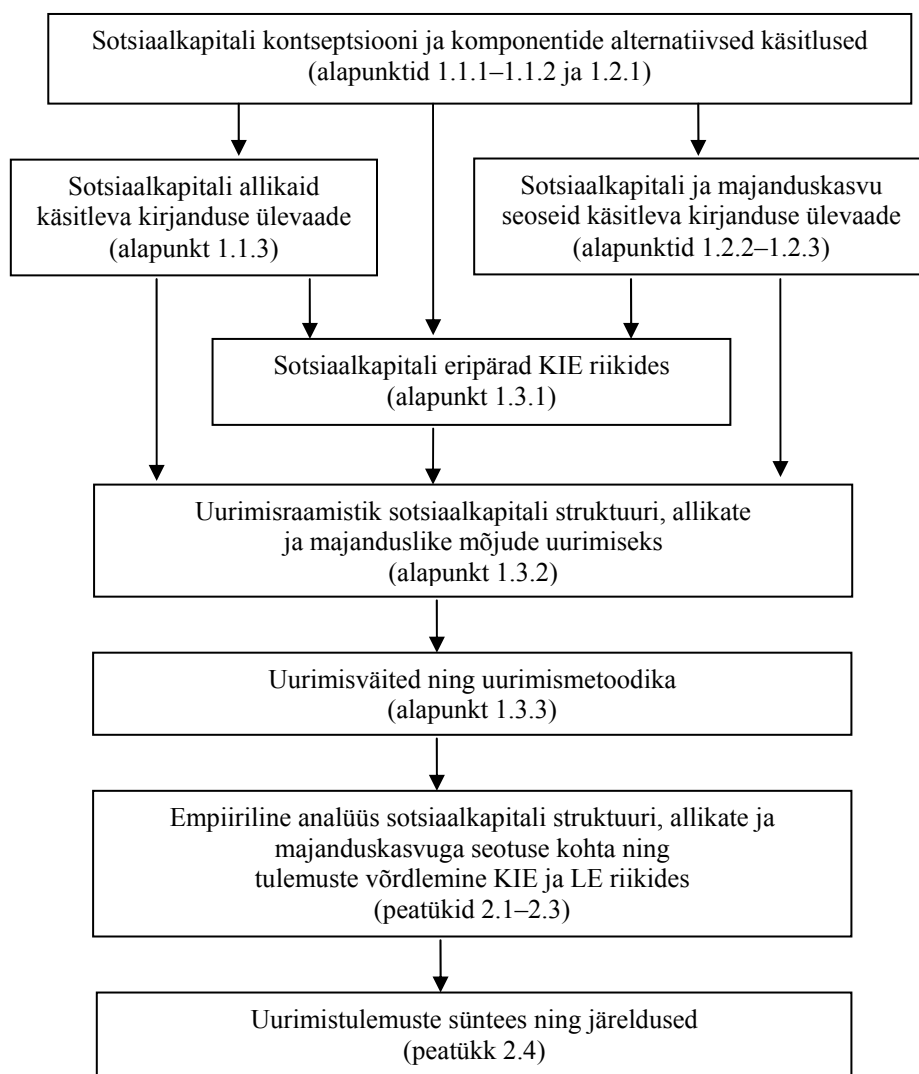
Joonis 1. Doktoritöö ülesehitus.

Sotsiaalkapitali avaldumistasandite osas eristatakse mikro-, meso- ja makro-tasandit. Avaldumistasandeid ja dimensioone omavahel kombineerides võib jõuda sotsiaalkapitali eri liikideni, millel kõigil on ühiskonnas täita oma roll. Samuti võivad sotsiaalkapitali erinevad elemendid üksteist nii täiendada kui asendada, sõltuvalt ühiskonna majanduslikust ja institutsionaalsest arengu-tasemest. Kuna sotsiaalkapitali avaldumistasandid ja –vormid on tihedalt seotud ja üksteise poolt mõjutatavad, uuritakse nendevahelisi seoseid edasi töö empiirilises osas.

Edasi keskendutakse sotsiaalkapitali allikate analüüsile (alapunkt 1.1.3), vaadeldes eraldi indiviidi tasandi ja riigi tasandi tegureid. See valdkond on varem käsitlemist leidnud peamiselt sotsioloogide töödes (vt. nt. Portes 1998, Glaeser *et al.* 2002), samas majandusteadlasi on kritiseeritud sotsiaalkapitali allikate tähelepanuta jätmises. Selge on aga see, et niivõrd keerulist ja komp-leksset nähtust, nagu seda on sotsiaalkapital, ei saa vaadelda lahus laiemast kontekstist: kus ta tekib, avaldub ja kuidas ümbritsevat mõjutab. Sotsiaalkapitali allikate mõistmist peetakse eriti oluliseks siirderiikide puhul, kus sotsiaal-kapitali vähesus kujutab endast olulist arengutõket (vt. Paldam and Svendsen 2000). Üldistades nii varasemate (nt. Alesina ja Ferrara 2000, Glaeser *et al.* 2002) kui uuemate sotsiaalkapitali allikate uuringute (Christoforou 2005, van Oorschot *et al.* 2006, Halman and Luijkx 2006, Kaasa and Parts 2008) tulemusi võib väita, et indiviidi sotsiaal-majanduslike tunnuste hulgas on sotsiaalkapitalile suurima mõjuga sissetulek, haridustase ja tööturustaatus, samas kui riigi tasandi teguritest domineerivad ühine minevikukogemus, ühiskonna polariseeritus, institutsionaalse keskkonna kvaliteet ning riigi üldine arengutase. Alapunkti lõpus uuritakse võimalusi sotsiaalkapitali sihipäraseks loomiseks majanduspoliitiliste meetmete abil. Selles küsimuses tuleb paraku tõdeda, et sotsiaalkapitali suurendamise teoreetilised võimalused pole praktikas sageli rakendatavad – paljud tegurid (näiteks ajalugu, minevikukogemus, vanus) pole poliitiliste meetmetega mõjutatavad, mõne mõjutamine tähendaks aga vastutöötamist majandusarengu üldisele loogikale.
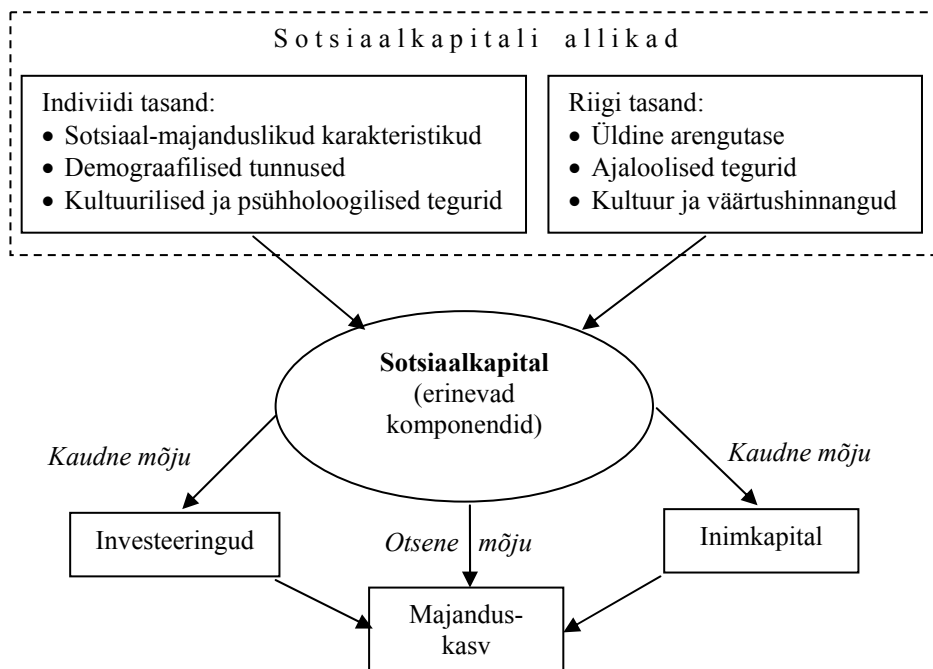
Järgmisena võetakse vaatluse alla sotsiaalkapitali ja majanduskasvu seosed (peatükk 1.2). Kuigi majanduskasvu kui majandusarengust kitsamat mõistet ei saa pidada peamiseks arengueesmärgiks, on see siiski oluline teiste arengueesmärkide saavutamiseks vajaliku materiaalse baasi loomisel. Teoreetiline kirjandus (Ostrom 1990, 1994, Coleman 1990, Fukuyama 2000) 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. Empiirilises kirjanduses kasutatakse sotsiaalkapitali kui kasvuteguri käsitlemisel kahte lähenemist (vt Knorringa ja Staveren 2005). Esimese lähenemise puhul lisatakse sotsiaalkapital iseseisva lisamuutujana traditsioonilistesse kasvumudelitesse (nt. Putnam 1993, Grootaert 1998, Knack ja Keefer 1997, Whiteley 2000, Hjerppe 2000, Rupashinga jt 2002). Selle lähenemise puuduseks on asjaolu, et sotsiaalkapital ei vasta täielikult kapitali mõistele traditsioonilises tähenduses (vt laiemat kriitikat Fine 2001). Teise lähenemise puhul käsitletakse sotsiaalkapitali kaudsete kanalite kaudu toimiva taustategurina, mis mõjutab ülejäänud kasvutegurite – eelkõige inimkapitali ja füüsilise kapitali – akumulatsiooni ja kvaliteeti (Coleman 1988, Teachman jt 1996, Knack ja Keefer 1997, Meier 2002). Üldiselt näitavad empiiriliste uuringute tulemused, et sotsiaalkapitali kognitiivsed aspektid seostuvad selgelt kiirema majanduskasvuga riigi tasandil, samas kui võrgustike mõju (strukturaalne

aspekt) pole üheselt määratletav ja sõltub väga palju konkreetse võrgustiku eripärast.

Alapunktis 1.3.1 käsitletakse sotsiaalkapitali eripärasid post-kommunistlikes riikides, eesmärgiga leida selgitusi sealse madala sotsiaalkapitali taseme kohta. Kirjanduses pakutakse antud küsimuses välja kaks selgituste gruppi. Esimene lähenemine seostab sotsiaalkapitali vähesust siirdeprotsesside loodud määramatuse ja ebakindlusega, varem domineerinud väärtussüsteemi lagunemisega ning kasvanud konkurentsi ja ebavõrdsusega, mis ei loo eriti head baasi inimestevahelise usalduse tekkeks. Teise lähenemise kohaselt on sotsiaalkapitali madal tase KIE riikides otsene jäänuk kommunistlikust minevikust. Tollane süsteem pärssis vabatahtlike organisatsioonide teket, mida ajapikku asendasid pooleldi mitteseaduslikud võrgustikud poliitiliste veendumuste väljendamiseks ning mitteformaalsed varustusvõrgustikud defitsiitsete kaupade hankimiseks. Taolised võrgustikud ei põhinenud mitte vastastikusel usaldusel, vaid pigem omakasul. Kommunistliku süsteemi lagunedes kaotasid sellised võrgustikud suure osa oma tähtsusest, kuid nende asemele "läänelike" organisatsioonide tekkimine võtab aega.

Mis puudutab sotsiaalkapitali empiirilisi erinevusi KIE ja LE riikides, siis neid on seni uuritud vaid üksikutes töödes. Eelkõige on tegeletud sotsiaalkapitali tasemete võrdlemisega idas ja läänes (nt. Rose jt 1997, Paldam ja Svendsen 2002, Raiser jt 2001, Uslaner 2003, Howard 2003). Sotsiaalkapitali allikate erinevuste osas on tulemusi vähe ja need on vastuolulised. Näiteks Jasińska-Kania (2004) ning Fidrmuc ja Gėrchani (2005) leidsid, et erinevusi praktiliselt pole, kuid Kaasa ja Parts (2008) on näidanud vastupidist. Majanduskasvu osas on leitud, et siirderiikides ei kehti tavapärane päripidine seos suurema üldise usalduse ja kiirema kasvu vahel, mille põhjuseks võib pidada ajaloost tulenevat vähest usaldust kombinatsioonis konvergentsiprotsessist tuleneva kiire kasvuga.

Edasi, tuginedes teoreetilisele kirjandusele ja varasemate empiiriliste uurimuste tulemustele, arendati välja kontseptuaalne raamistik sotsiaalkapitali allikate ja majanduslike mõjude ühisanalüüsiks (alapunkt 1.3.2), mis on esitatud joonisel 2. Selline koondpilt on vajalik, sest kui meid huvitavad sotsiaalkapitali majanduslikud mõjud, siis tekib ka vajadus sotsiaalkapitali enda mõjutamiseks, et selle positiivsete vormide teket soodustada ja negatiivseid vorme tõrjuda. Sotsiaalkapitali mõjutamiseks sobilike poliitikate väljatöötamine eeldab aga selle allikate ja toimemehhanismide täpsemat tundmist. Siinkohal tuleb silmas pidada, et sotsiaalkapitali allikaid ja tagajärgi on sageli raske eristada, mistõttu joonisel kujutatud seosed võivad olla tsirkulaarsed. Samuti tuleb sotsiaalkapitali majanduslike mõjude uurimisel arvestada, et selle eri komponendid mõjutavad arengu eri aspekte erineval määral ja erinevate mehhanismide kaudu.

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        S o t s i a a l k a p i t a l i   a l l i k a d
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Indiviidi tasand:
- Sotsiaal-majanduslikud karakteristikud
- Demograafilised tunnused
- Kultuurilised ja psühholoogilised tegurid

Riigi tasand:
- Üldine arengutase
- Ajaloolised tegurid
- Kultuur ja väärtushinnangud

Sotsiaalkapital
(erinevad komponendid)

Kaudne mõju

Kaudne mõju

Investeeringud

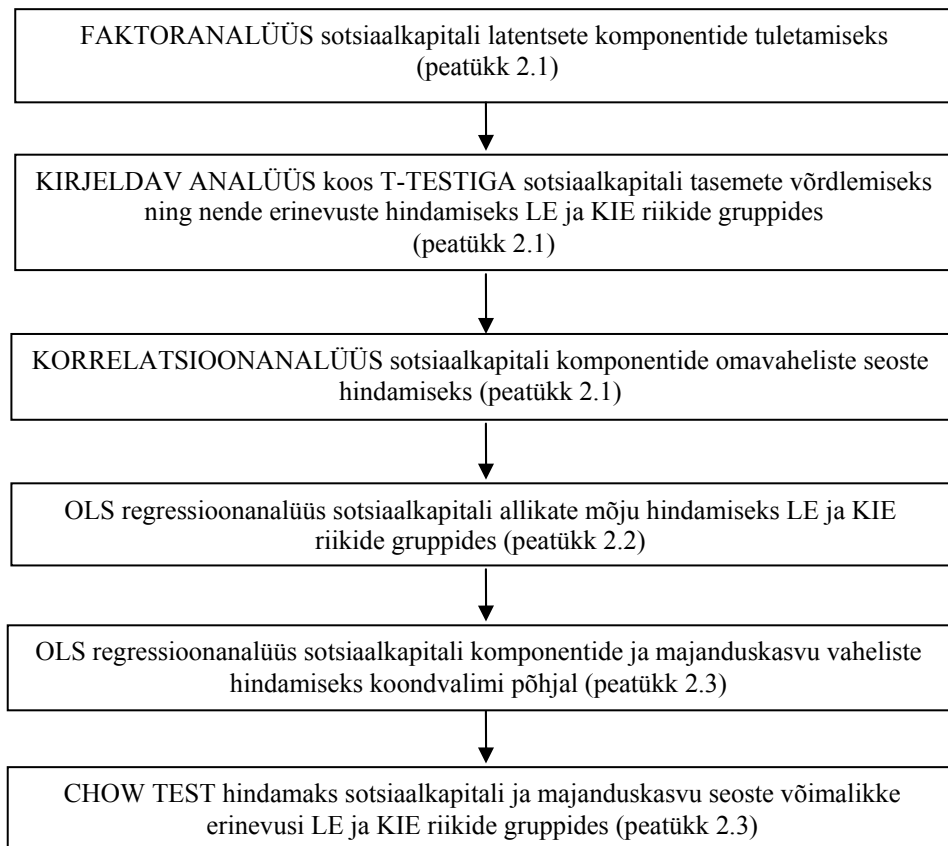*Otsene mõju*

Inimkapital

Majandus-kasv

Joonis 2. Doktoritöö kontseptuaalne raamistik.

Uurimismetoodika ja kasutatavad andmed

Käesoleva doktoritöö empiiriline analüüs hõlmab 14 Kesk- ja Ida-Euroopa (KIE) riigi ning 17 Lääne-Euroopa (LE) riigi võrdlust. Tulenevalt andmete kättesaadavusest on kaasatud järgmised riigid: Austria, Belgia, Taani, Soome, Prantsusmaa, Saksamaa, Kreeka, Island, Iirimaa, Itaalia, Luxemburg, Malta, Holland, Portugal, Hispaania, Rootsi ja Suurbritannia arenenud riikide hulgast ning Bulgaaria, Valgevene, Horvaatia, Tšehhi, Eesti, Ungari, Läti, Leedu, Poola, Rumeenia, Venemaa, Slovakkia, Sloveenia ja Ukraina siirderiikide hulgast. Sotsiaalkapitali ja selle allikate andmed pärinevad Maailma Väärtus-hinnangute Uuringu (WVS – *World Values Survey*) neljandast voorust, mis viidi läbi aastatel 1999-2004. Valim sisaldab 17220 vaatlust KIE riikidest ning 21699 vaatlust LE riikidest, mis teeb koguvalimi suuruseks indiviidi tasandil 38919 vaatlust. Sotsiaalkapitali ja majanduskasvu seoste hindamiseks riigi tasandil moodustati uus andmebaas, mis koondab endasse sotsiaalkapitali ja selle allikate riigikeskmised väärtused WVS-st. Sellesse andmebaasi lisati riikide majandusarengut ja seda mõjutavaid tegureid iseloomustavad näitajad, mis pärinevad kolmest allikast: Maailma Arenguindikaatorite andmebaasist (WDI – *World Development Indicators*), Inimarengu aruandest (HDR – *Human*

Developemnt Report) ning haldussuutlikkuse näitajate andmebaasist (Kaufmann et al 2008). Statistilise analüüsi teostamisel kasutati andmetöötluspaketi SPSS versioone 15.0– 17.0.

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┌─────────────────────────────────────────────────────────────┐
│  FAKTORANALÜÜS sotsiaalkapitali latentsete komponentide       │
│  tuletamiseks                                                 │
│  (peatükk 2.1)                                                │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  KIRJELDAV ANALÜÜS koos T-TESTIGA sotsiaalkapitali tasemete   │
│  võrdlemiseks ning nende erinevuste hindamiseks LE ja KIE     │
│  riikide gruppides                                            │
│  (peatükk 2.1)                                                │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  KORRELATSIOONANALÜÜS sotsiaalkapitali komponentide           │
│  omavaheliste seoste hindamiseks (peatükk 2.1)                │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  OLS regressioonanalüüs sotsiaalkapitali allikate mõju        │
│  hindamiseks LE ja KIE riikide gruppides (peatükk 2.2)        │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  OLS regressioonanalüüs sotsiaalkapitali komponentide ja      │
│  majanduskasvu vaheliste hindamiseks koondvalimi põhjal       │
│  (peatükk 2.3)                                                │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│  CHOW TEST hindamaks sotsiaalkapitali ja majanduskasvu seoste │
│  võimalikke erinevusi LE ja KIE riikide gruppides (peatükk    │
│  2.3)                                                         │
└─────────────────────────────────────────────────────────────┘
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Joonis 3. Doktoritöö uurimismetodoloogia.

Kuna sotsiaalkapitali andmed on staatilised, siis kasutati töös ristandmetele sobivaid uurimismeetodeid. Erinevatel uurimisetappidel kasutatud meetoditest annab kokkuvõtliku ülevaate joonis 3. Kõigepealt tuletati empiirilise osa esimeses peatükis WVS-s leiduvatest sotsiaalkapitali üksiknäitajatest (kokku 29 näitajat) faktoranalüüsi abil latentsed muutujad (ehk faktorid) sotsiaalkapitali laiemate dimensioonide kirjeldamiseks. Seejärel võrreldi saadud faktorite alusel sotsiaalkapitali taset KIE ja LE riikides ning hinnati tasemete erinevuse statistilist olulisust t-testiga. Järgnes korrelatsioonanalüüs sotsiaalkapitali komponentide omavaheliste seoste hindamiseks nii indiviidi kui riigi tasandil. Empiirilise osa teises peatükis uuriti vähimruutude meetodil põhineva

regressioonianalüüsi (OLS – *ordinary least squares regression analysis*) abil seoseid sotsiaalkapitali erinevate liikide ja neid mõjutavate tegurite vahel. Ka see analüüs toimus paralleelselt indiviidi ja riigi tasandil, kusjuures indiviidi tasandi analüüs viidi läbi eraldi KIE ja LE riikide gruppides. Empiirilise analüüsi kolmandas osas kasutati samuti OLS regressioonianalüüsi, hindamaks nii otseseid kui kaudseid seoseid sotsiaalkapitali faktorite ja majanduskasvu vahel. Majanduskasvu vaadeldi perioodi 2000–2006 keskmisena. Kuna väike vaatluste arv riigi tasandil (kokku 31 vaatlust) ei võimaldanud antud aspektis eraldi analüüsi KIE ja LE riikide kohta, kasutati regressioonikordajate võimalike erinevuste hindamiseks nendes riikide gruppides Chow testi.

Töös püstitatud uurimisväited ja nende analüüsi tulemused

Käesoleva doktoritöö kontseptuaalne raamistik sätestab, et sotsiaalkapitali allikaid ja mõju majanduskasvule tuleks uurida seotult. Samuti toodi eelnevalt välja, et sotsiaalkapitali erinevate komponentide allikad ja mõjud võivad olla erinevad, mistõttu pole õigustatud liialt agregeeritud koondnäitajate kasutamine. Viimaks, töö eesmärgipüstitus eeldab igas aspektid KIE ja LE riikide võrdlemist. Neid asjaolusid arvestades jagunevad püstitatud uurimisväited kolme gruppi. Esimene grupp (P1) keskendub sotsiaalkapitali koostise, struktuuri ja tasemete uurimisele ning võrdlemisele KIE ja LE riikides. Teine grupp (P2) vaatleb sotsiaalkapitali allikate võimalikke sarnasusi ja erinevusi nendes riikides. Kolmas grupp (P3) hindab sotsiaalkapitali otsest ja kaudset mõju majanduskasvule. Järgnevalt esitatakse kõik uurimisväited koos peamiste analüüsitulemustega ja nendel põhineva hinnanguga väidete kehtivuse kohta.

P1a: Sotsiaalkapitali komponendid on KIE ja LE riikides ühesugused.

See uurimisväide leidis analüüsi käigus kinnitust, kuna avastava faktoranalüüsi tulemusena saadi mõlemas riikide grupis sarnased komponendid. Samasugune faktorstruktuur ilmnes ka koondandmete analüüsil. Kõigil juhtudel koondusid sotsiaalkapitali algnäitajad WVS-st täpselt sellistesse komponentidesse, nagu teoorias eeldati. Samuti kattusid leitud komponendid varasemates uuringutes ning erinevate andmete põhjal saadutega. Kokku leiti 10 sotsiaalkapitali komponenti, mis tähistati ja nimetati edasise analüüsi tarbeks järgnevalt: F1 abistamine, F2 hoolimine, F3 institutsionaalne usaldus, F4 poliitiline aktiivsus, F5 huvi poliitika vastu, F6 sotsiaalsed normid, F7 osalemine (vabatahtlikes organisatsioonides), F8 sõbrad, F9 perekond ja F10 üldusaldus.

P1b: KIE riikides on sotsiaalkapitali tase madalam kui LE riikides.

See uurimisväide leidis analüüsi käigus suuremas osas kinnitust. Faktor-analüüsiga leitud komponentide riigikeskmiste faktorlaadungite võrdlemine näitas, et üheksa komponendi puhul kümnest olid nende keskmised väärtused LE riikide grupis kõrgemad kui KIE riikide grupis. Suurim erinevus Lääne-Euroopa riikide kasuks ilmnes poliitilise aktiivsuse, institutsionaalse usalduse ja

abistamise puhul, neile järgnesid võrgustikunäitajad – osalemine organisat-sioonides, suhtlemine sõpradega ning perekonna väärtustamine, samuti üldusaldus. Kuigi t-test kinnitas, et kõigi komponentide erinevused riikide gruppides on statistiliselt olulised, oli hoolimine, poliitikahuvi ja sotsiaalsete normide puhul tegelik erinevus üsna tagasihoidlik. Samas oli huvi poliitika vastu ainus komponent, mille faktorlaadungite keskmine väärtus oli KIE riikide grupis kõrgem kui LE grupis. Selle erandi põhjuseks on ilmselt siirdeprotsessiga kaasnevad kiired poliitilised ja ühiskondlikud muutused, millega inimesed püüavad kursis olla.

P1c: Sotsiaalkapitali komponentide suhteline olulisus on KIE ja LE riikides erinev.

See uurimisväide leidis analüüsi käigus kinnitust. Esiteks, avastava faktoranalüüsi tulemusena saadud komponendid kirjeldasid algnäitajate varieeruvust riikide gruppides erinevalt. Teiseks, võrdlus üksikute riikide tasandil tõi esile erinevused komponentide suhtelise olulisuse pingereas. Üldi-selt kõrge sotsiaalkapitali tasemega Lääne-Euroopa riikides (nt. Rootsi, Holland ja Taani) on kõrgeimad usalduse ja formaalsete võrgustike näitajad. Seevastu madalama sotsiaalkapitali üldtasemega KIE riikides (nt. Horvaatia, Slovakkia) domineerivad mitteformaalsete suhete näitajad, nagu hoolimine, abistamine ja pereväärtused. Lisaks ilmnes, et sotsiaalkapitali mingi aspekti kõrge tase ei tähenda ilmtingimata sama kõrget taset teistes aspektides. Viimane tulemus viitab teoorias esile toodud võimalusele, et sotsiaalkapitali erinevad kompo-nendid võivad üksteist asendada sõltuvalt riigi majanduslikust ja institut-sionaalsest arengutasemest.

P1d: Võib eeldada, et sotsiaalkapitali komponentide omavahelised seosed on KIE ja LE riikides erinevad.

See uurimisväide leidis kinnitust vaid osaliselt. Uurimisväidet toetasid teist järku avastava faktoranalüüsi tulemused, mille käigus moodustusid KIE ja LE valimis erinevad teist järku komponendid, viidates võimalikele erinevustele esimest järku komponentide korrelatsioonistruktuuris. Esimest järku kompo-nentide korrelatsioonianalüüs riigi tasandil kinnitas nende erinevuste olemasolu. Samas indiviidi tasandi korrelatsioonianalüüs ei kinnitanud uurimisväite tõesust, kuna esimest järku komponentide seosed olid KIE ja LE valimis sarnased nii korrelatsioonikoefitsientide suhtelise suuruse, märgi kui ka olulisuse osas.

P1e: Agregeerimisprobleemidest tulenevalt võivad komponentide vahelised seosed indiviidi tasandil olla erinevad samadest seostest riigi tasandil.

Analüüsi tulemused toetasid seda uurimisväidet osaliselt. Esiteks, sotsiaalkapitali komponentide vahelised seosed olid indiviidi ja riigi tasandit võrreldes kohati erinevad (seda nii eraldi riikide gruppides kui koondandmete põhjal). Teiseks ilmnesid erinevused KIE ja LE riikide vahel (eriti ilmselt riigi tasandil) statistiliselt oluliste korrelatsioonide mustris ning mõnel juhul ka korrelatsioonikoefitsiendi märgi osas. Samas võib indiviidi ja riigi tasandi

korrelatsioone võrreldes üldistada, et nö. "traditsiooniliste" sotsiaalkapitali komponentide puhul – nagu näiteks institutsionaalne ja üldusaldus ning vabatahtlikes organisatsioonides osalemine – on näitajate agregeerimine mikrotasandilt makrotasandile vaba teoorias eeldatud negatiivsete välismõjude mõjust. Ülejäänud komponentide (eriti poliitikas hõivatuse) puhul on agregeerimine problemaatilisem ning võib osutuda mõttekaks täiendavate, otse riigi tasandil mõõdetavate näitajate (näiteks valimisaktiivsus) kaasamine makrotasandi analüüsi.

P2a: Sotsiaalkapitali allikad võivad olla erinevad nii komponentide kui ka riikide gruppide lõikes.

See uurimisväide leidis kinnitust nii indiviidi kui riigi tasandil. Indiviidi tasandi analüüsi tulemusi üldistades võib öelda, et võrgustikud, normid ja poliitosalus on enim mõjutatud sotsiaalmajanduslike ja demograafiliste tegurite poolt, samas kui usalduse ja kogukonnatunnetuse (*sense of community*) puhul domineerivad sotsiaalkapitali allikate hulgas kultuurilised ja psühholoogilised tegurid. Samuti ilmnes, et esimese tegurite grupi mõjude osas on KIE ja LE riigid üsna sarnased, kuid teise tegurite grupi osas erinevad. Analüüsides koondandmete põhjal riigi tasandi tegurite mõju nii indiviidi kui riigi sotsiaalkapitalile saadi mõlemal juhul samuti tulemuseks, et vaadeldud tegurid mõjutavad erinevaid sotsiaalkapitali komponente erinevalt.

P2b: Sotsiaalmajanduslikud ja demograafilised tegurid mõjutavad sotsiaalkapitali KIE ja LE riikides ühtemoodi.

See uurimisväide leidis regressioonanalüüsi käigus suures osas kinnitust. Peamiste demograafiliste tegurite (vanus, sugu, laste olemasolu jt) mõju oli mõlemas riikide grupis sarnane. Samas sotsiaalmajanduslikest teguritest oli täiesti sarnane vaid hariduse mõju. Teisalt, ülejäänud tegurite puhul ilmnenud väikesed erinevused puudutasid vaid seoste statistilist olulisust, mitte suunda (st. regressioonikordajate märgid olid mõlemas valimis samad).

P2c: Kultuuriliste ja psühholoogiliste tegurite puhul võib eeldada erinevat mõju KIE ja LE riikide sotsiaalkapitali tasemele.

Seda uurimisväidet kinnitasid analüüsitulemused vaid osaliselt. KIE ja LE valimite põhjal leitud regressioonikordajate võrdlemine näitas, et mõlemas riikide grupis on individualismil negatiivne ning postmaterialismil ja võrdsusetaotlusel positiivne mõju sotsiaalkapitalile – eriti selle kognitiivsetele aspektidele, aga ka ühiskonnaelus osalemisele. Samuti ilmnes mõlema valimi puhul positiivne seos demokraatiaga rahulolu ning institutsionaalse ja üldusalduse vahel; ning üldise religioossuse ja altruismi, institutsionaalse usalduse ja pereväärtuste vahel. Erinevused ilmnesid eelkõige erinevate religioossete doktriinide mõju osas: LE riikides osutus oluliseks sotsiaalkapitali negatiivne seos ortodoksse konfessiooniga, KIE riikides aga positiivne seos katoliku kirikusse kuulumisega.

P2d: Riigi tasandi tegurite mõju sotsiaalkapitalile on KIE ja LE riikides erinev.

See uurimisväide leidis analüüsi käigus kinnitust. Riigi arengutasemega seotud makrotegurite mõju indiviidide sotsiaalkapitalile oli võimalik uurida riikide gruppide lõikes eraldi. Tulemused näitasid, et nende tegurite – keskmise tulutaseme, tulujaotuse ebavõrdsuse, inimkapitali taseme ja korruptsiooni kontrolli – mõju KIE ja LE riikide indiviidi tasandi sotsiaalkapitalile on valdavalt erinev. Ülejäänud makrotegurite mõju analüüs toimus koondandmete põhjal, kus mõjude erinevust riikide gruppides hinnati Chow testiga. Selle tulemused kinnitasid üldiste väärtustega seotud tegurite (individualism, postmaterialism, religioossus, võrdsusetaotlus) erinevat mõju sotsiaalkapitalile KIE ja LE riikides. Uurimisväide ei leidnud täielikku kinnitust riigi tasandi analüüsis, kus makrotegurite mõju oli riikide gruppides erinev ainult poliitikas hõivatuse, vabatahtlikes organisatsioonides osalemise ja üldusalduse osas.

P2e: Indiviidi ja riigi tasandi mõjurite suhteline olulisus võib erineda nii riikide gruppides kui ka sotsiaalkapitali komponentide lõikes.

Antud uurimisväide leidis analüüsi käigus suures oas kinnitust. Väite tõesuse hindamiseks võrreldi erinevaid sotsiaalkapitali mõjureid sisaldavate regressioonimudelite kohandatud R^2 näitajaid. Ilmnes, et mudelid, mis sisaldavad nii indiviidi kui riigi tasandi näitajaid, kirjeldavad sotsiaalkapitali tasemete varieeruvust paremini kui ainult indiviidi või ainult riigi tasandi tegureid sisaldavad mudelid. See tulemus kehtis eraldi mõlemas riikide grupis ning kõigi sotsiaalkapitali komponentide puhul. Ainult mikro- või makrotegureid sisaldavate mudelite võrdlemisel selgus, et indiviidi tasandi tegurite mõju on üldjuhul olulisem kui riigi tasandi ehk nn. kontekstuaalsete tegurite mõju. Sotsiaalkapitali komponentidest kirjeldasid vaadeldud tegurid kõige paremini hõivatust poliitikas, institutsionaalset usaldust ning osalemist formaalsetes ja mitteformaalsetes võrgustikes. Ka selles osas olid KIE ja LE riigid sarnased. Kokkuvõtvalt võib veel üldistada, et indiviidi tasandi tegurid kirjeldavad paremini sotsiaalkapitali strukturaalseid aspekte ning riigi tasandi tegurid kognitiivseid aspekte. Lõpetuseks, enamikul juhtudel olid vaadeldud seosed tugevamad LE riikides.

P3a: Üldisel usaldusel ja ühiskondlikel normidel on otsene positiivne mõju majanduskasvule nii KIE kui LE riikides.

Seda uurimisväidet kinnitasid analüüsitulemused vaid osaliselt. Kuigi nii usalduse kui normide näitaja osutusid eraldivõetuna statistiliselt olulisteks kasvuteguriteks, olid vastavad regressioonikoefitsiendid – vastupidiselt ootustele – negatiivsed. Sellele tulemusele ei ole selget põhjendust, kuid kuna sarnane ebakõla ilmnes ka mitme teise sotsiaalkapitali komponendi puhul, arutatakse selle üle edasi töö tulemusi kokkuvõtvas osas. Samas leidis kinnitust uurimisväite teine pool: Chow test näitas, et usalduse ja normide mõju majanduskasvule on ühesugune nii KIE kui LE riikides.

P3b: Institsionaalse keskkonna kvaliteedi ja institutsioonide usaldus-väärsuse seos kiirema majanduskasvuga on LE riikides tugevam kui KIE riikides.

Ka see uurimisväide leidis kinnitust vaid osaliselt. Analüüs tõendas, et institsionaalse keskkonna kvaliteedi kirjeldamiseks kasutatud haldussuutlikkuse näitaja on statistiliselt oluline kasvutegur, kuid selle seos kasvuga oli vastu ootusi negatiivne. Kui haldussuutlikkuse näitaja lisati algsesse, ainult sotsiaalkapitali kümmet põhikomponenti sisaldavasse mudelisse, siis muutus poliitikas hõivatuse mõju, mis enne oli oluline, ebaoluliseks (sotsiaalkapitali komponentidest jäi oluliseks vaid abistamine). Seega võib väita, et institsionaalne keskkond ja poliitiline aktiivsus on teatud mõttes teineteist asendavad kasvutegurid, st. esimese halvenemine suurendab teist (kuid ilmselt ei kehti vastupidine seos). Chow testi põhjal leidis kinnitust, et vaadeldud kahe institsionaalse kasvuteguri mõju on KIE ning LE riikides erinev. Samas oli institutsioonide usaldusväärsuse näitaja kõigis mudeli versioonides ebaoluline.

P3c: Vabatahtlikes organisatsioonides osalemise seos majanduskasvuga on eeldatavalt positiivne, samas kui mitteformaalne sotsialiseerumine seostub kasvuga pigem negatiivselt. Mõlemal juhul võib oletada mõningaid erinevusi KIE ja LE riikide vahel.

See uurimisväide oli ainukene, mis analüüsi käigus peaaegu täielikult tagasi lükati. Osalemine vabatahtlikes organisatsioonides osutus kõigis mudeli spetsifikatsioonides ebaoluliseks, seega ei leidnud kinnitust Putnami hüpotees formaalsete võrgustike tähtsusest majanduskasvu jaoks. Sarnane tulemus saadi peresuhete väärtustamise komponendi puhul, seega ei saa kindlalt väita, et mitteformaalsed siduvad suhted (*bonding ties*) otseselt kasvu takistavad. Analüüs kinnitas vähesel määral sõprussuhete olulisust majanduskasvus, kuid see seos oli negatiivne ning ilmnes ainult ühes mudelis juhul, kui arvestati ka traditsiooniliste kasvutegurite mõju. Samas ei näidanud Chow test eeldatud erinevusi riikide gruppides.

P3d: Hõivatus poliitikas soodustab majanduskasvu sarnaselt mõlemas riikide grupis.

See uurimisväide leidis osaliselt kinnitust. Poliitiline aktiivsus osutus statistiliselt oluliseks, kuid taas negatiivseks kasvuteguriks kõigis mudeli spetsifikatsioonides. Samas huvi poliitika vastu oli ainus sotsiaalkapitali komponent, mille seos majanduskasvuga oli positiivne – tõsi, antud seos ilmnes ainult ühes mudelis, mis sisaldas üheaegselt kõiki sotsiaalkapitali komponente. Siinkohal tuleb märkida, et huvi poliitika vastu on ühtlasi ainus komponent, mille komponentkaalude keskmine väärtus oli KIE riikide grupis kõrgem kui LE riikides. Chow testi tulemused oli sõltuvalt mudeli spetsifikatsioonist erinevad: poliitiliste näitajate efektid eraldivõetuna olid riikide gruppides sarnased, kuid kõiki komponente koos mudelisse lülitades ilmnesid erinevused.

P3e: Kogukonnatunnetusel ehk altruismil on otsene positiivne mõju majanduskasvule mõlemas riikide grupis.

See uurimisväide leidis analüüsi tulemusena osaliselt kinnitust. Abistamise komponent osutus üldse kõige olulisemaks kasvumõjuriks kõigis mudelites, kuid taas oli tema märk negatiivne. Kinnitust leidis ka eeldus, et erinevusi riikide gruppide vahel pole. Teisalt osutus hoolimise komponent kõigis mudelites ebaoluliseks.

P3f: Sotsiaalkapital toetab majanduskasvu kaudselt läbi investeeringute soodustamise ning see seos on KIE ja LE riikides ühesugune.

Ka see uurimisväide leidis kinnitust osaliselt. Kuna antud väidet 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 välis-investeeringute 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.

P3g: Sotsiaalkapital toetab majanduskasvu kaudselt läbi inimkapitali taseme kasvu ühtemoodi nii KIE kui LE riikides.

Viimane uurimisväide leidis samuti vaid osaliselt kinnitust. Ootuspärane positiivne seos sotsiaalkapitali ja inimkapitali vahel ilmnes järgmistel juhtudel: abistamise seos alghariduse ja üldise inimkapitaliga; poliitilise aktiivsuse seos kõigi inimkapitali näitajatega (v.a. algharidus); institutsionaalse usalduse seos kõrghariduse ja üldise inimkapitaliga; sõprussuhete seos kõrgharidusega; ning üldise usalduse seos üldise inimkapitaliga. Kuid samas ilmnesid ka mitmed negatiivsed seosed, näiteks abistamise ja kõrghariduse vahel, poliitikas hõivatuse ja algharidus vahel, pereväärtuste ja keskharidus vahel ning üldusalduse ja keskharidus vahel. Ilmselt mängib nende seoste puhu rolli riigi üldine arengutase, mida kinnitab ka siirderiikide fiktiivnäitaja olulisus kõigis mudelites (v.a. kõrghariduse mõjurite hindamisel). Lõpetuseks, KIE ja LE riikide erinevusi uurides ilmnes, et need eksisteerivad haridustasemete puhul, kuid puuduvad üldise inimkapital kasutamisel sõltuva muutujana.

Kõiki uurimistulemusi üldistades võib väita, et sotsiaalkapital ja majanduskasv on omavahel mitmel moel seotud, ning et neid seoseid mõjutavad

sotsiaalkapitali allikad nii indiviidi kui riigi tasandil. Samas ei olnud sugugi kõik uurimistulemused kooskõlas teoreetiliselt eeldatuga, ning mitmel juhul ilmnesid väga raskesti selgitatavad vastuolud. Üldjoontes leidsid kinnitust sotsiaalkapitali komponentide, struktuuri ja tasemega seotud väited, mille kokkuvõtteks saab öelda, et sotsiaalkapital on multidimensionaalne kontseptsioon, mille struktuur on KIE ja LE riikides ühesugune, kuid mille erinevate komponentide tasemed ja suhteline olulisus erinevad vaadeldud riikide gruppides. Samuti leidis kinnitust väide, et sotsiaalkapitali erinevate komponentide allikad ei pruugi olla ühed ja samad – seda nii üldiselt kui ka riikide gruppide ja analüüsitasandite (indiviidi ja riigi tasand) lõikes.

Kõige ootamatuteks uurimistulemusteks võib pidada sotsiaalkapitali komponentide negatiivset seotust majanduskasvuga, samuti seda, et üldise usalduse ja vabatahtlikes organisatsioonides osalemise puhul ei ilmnenud üldse olulist seost majanduskasvuga. Esimese vastuolu selgitusena võib nimetada konvergentsiprotsess Euroopas ning sotsiaalkapitali ja SKP taseme positiivse seose peidetud avaldumist. Nimelt iseloomustab sotsiaalkapitali madalam tase (mis on tingitud eelkõige ajaloolistest teguritest) just vaesemaid KIE riike, mis kasvavad kiiremini muude tegurite mõjul. Siit võib edasi oletada, et sotsiaalkapitali positiivne mõju majanduskasvule ilmneb pigem jõukamates riikides, kus traditsioonilised arenguressursid (füüsiline- ja inimkapital) hakkavad ammenduma ja nende tootlikkus seetõttu väheneb. Teise vastuolu puhul võib oletada, et uuringutes kasutatav ankeediküsimus üldise usalduse kohta on liiga abstraktne ega mõõda antud nähtust parimal viisil. Näiteks käesoleva töö alusel võib oletada, et hoopis abistamise komponent võiks olla alternatiivseks üldusalduse näitajaks, kuna selle puhul hinnatakse konkreetsemalt inimeste usalduslikku suhtumist endast erinevatesse ühiskonnakihtidesse (immigrandid, vanemaealised, teisest rassist isikud jne), ning abistamise komponent osutus ka kõige rohkemates mudelites oluliseks kasvuteguriks.

Kui jätta kõrvale sotsiaalkapitali ja majanduskasvu seose märgiga seotud vastuolud, siis majanduskasvu seisukohalt osutusid kõige olulisemateks ja tugevaima mõjuga sotsiaalkapitali komponentideks abistamine, poliitiline aktiivsus ning ühiskondlikud normid. Kui võtta eesmärgiks kasvu enim-mõjutavate sotsiaalkapitali liikide toetamine, tuleb kõigepealt vaadata, millised on nende peamised allikad. Sotsiaalkapitali allikate analüüsist nähtub, et nii abistamine kui poliitiline aktiivsus sõltuvad positiivselt kommunikatsiooni infrastruktuurist (st. interneti- ja telefoniside arengust), mis ühelt poolt areneb ise üldise majandusarengu käigus, kuid mille arengut saab ka sobivate riigipoolsete meetmetega toetada ning kiirendada. Lisaks on abistamise norm negatiivselt mõjutatud kontrollist korruptsiooni üle, mille puhul võib oletada, et vähema korruptsiooni korral saavad inimesed vajalikku abi (ja eeldavad seda ka teiste puhul) pigem formaalse sotsiaaltoetuste süsteemi kaudu. Kui vaadata sotsiaalkapitali mõjureid indiviidi tasandil, siis on kõige tugevam vanuse positiivne mõju eelnimetatud kasvu soodustavatele sotsiaalkapitali komponentidele. Siin peitub teatud kaudne lahendus kasvuprobleemidele vananeva

rahvastikuga ühiskondades, sest töötegijate arvu kahanemist võib teatud ulatuses kompenseerida sotsiaalkapitali kasvu kaudu saavutatav suurem efektiivsus nii tootmises kui üldiste ühiskondlike probleemide lahendamisel. Lisaks nähtub sotsiaalkapitali allikate analüüsist, et poliitiline aktiivsus on nii KIE kui LE riikides suurem kõrgema haridustasemega isikute hulgas, seega võivad täiendavad investeeringud haridussüsteemi suurendada sotsiaalkapitali mõju kasvule läbi mehhanismi, kus indiviidide poliitiline aktiivsus tõstab avalike institutsioonide efektiivsust ja usaldusväärsust.

Kokkuvõtvalt võib öelda, et käesoleva doktoritöö teoreetiline panus seisneb eelkõige ühtse analüüsiraamistiku loomises sotsiaalkapitali allikate ja mõjude uurimiseks, mis võimaldab kujunevate seosahelate alusel anda poliitikasoovitusi eelistatud arengueesmärkide paremaks saavutamiseks. Empiiriline analüüs täiendab varasemaid uuringuid eelkõige uute esilekerkinud vastuoludega, mis tulenevad KIE ja LE riikide erinevustest ning sunnivad edaspidistes uuringutes tähelepanelikumalt jälgima sotsiaalkapitali mõjude võimalikke erinevusi erinevates riikide gruppides.

Ettepanekud edasisteks uuringuteks

Käesoleva doktoritöö vastuolulised tulemused ning varasemate uuringute vähesus kinnitavad, et sotsiaalkapitali allikate ning mõjude erinevused KIE ja LE riikides (ning laiemalt erineva arengutasemega riikides) on veel väh
euuritud valdkond, mis vajab kindlasti edasist põhjalikumat käsitlemist. Eelkõige on see vajalik Euroopas toimuvate konvergentsiprotsesside paremaks mõistmiseks ja suunamiseks tingimustes, kus Euroopa Liiduga ühinevad üha uued kommunistliku minevikukogemusega Ida-Euroopa riigid. Taoliste uuringute vähesuse üheks põhjuseks võib pidada võrreldavate paneelandmete puudumist sotsiaalkapitali osas, mis oli probleemiks ka käesolevas doktoritöös. Aegridade puudumise tõttu ei saanud käesolevas töös näiteks uurida sotsiaalkapitali allikate ja tagajärgede vaheliste seoste põhjuslikkust. Siin on vajalik üle-Euroopalise sotsiaalkapitali andmebaasi loomine, mille aluseks sobib hästi praegu iga kahe aasta tagant läbiviidav Euroopa Sotsiaaluuring (ESS – *European Social Survey*). Teiseks huvipakkuvaks uurimissuunaks võiks olla sotsiaalkapitali avaldumine mesotasandil ehk ettevõtetes ja organisatsioonides, mis eeldab kvalitatiivsete andmete kogumist ja juhtumianalüüsi meetodi rakendamist. Veel üks uurimissuund, mida käesolevas töös vaid põgusalt puudutati, käsitleb majanduskasvu stimuleerimist institutsionaalsete tegurite kaudu. See valdkond on küll nii teoreetilises kirjanduses kui empiirilistes uuringutes palju käsitlemist leidnud, kuid edasist selgitamist vajavad formaalsete ja mitteformaalsete institutsioonide (viimaseid saab vaadelda sotsiaalkapitali osana) mõjude eripärad.

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