Social capital in Europe from 1990 to 2012: trends, path-dependency and convergence

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Abstract

Social capital affects many social and economic outcomes; hence, it is important to monitor its changes over time. Previous literature on trends of social capital focused mainly on the case of US, devoting less attention to other regions of the world, such as Europe. This study uses WVS-EVS integrated data (1990-2012) to describe the trends of 10 proxies of social capital in 30 Western and Eastern European countries. The paper demonstrates that the convergence of social capital among European regions was limited, and it shows evidence of path dependency, especially in case of relational social capital.

keywords: social capital; convergence; path-dependency; trends; Europe; EVS - WVS.

JEL classification codes: A12; Z13.

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1 Introduction

Social capital, defined as "network together with shared norms, values and understandings that facilitate co-operation within or among groups" (OECD, 2001), affects many real-life domains. The literature documented its relationship with health (Jetten et al., 2010), economic growth (Knack and Keefer, 1997, Beugelsdijk and Van Schaik, 2005b), well-being (Powdthavee, 2010, Bartolini and Sarracino, 2014, Western et al., 2005), and democracy (Putnam et al., 1993). However, the literature paid limited attention to three important issues. First, the information about how various dimensions of social capital evolved over time and across countries is limited. Second, the path-dependency of trends of social capital has not been explored, i.e. it is not clear to what extent the trends depend on the initial levels of social capital. Third, the convergence of social capital among European regions remains under explored. This paper addresses these issues analyzing trends of social capital in 30 European countries from 1990 to 2012.

The evolution of social capital over time, and in particular the possible erosion of social capital in modern societies, is not a new topic in the literature (Polanyi, 1968, Hirsch, 1976). However, the scarcity of long time series and cross-country comparable data limited the analysis of the trends. This issue received a renewed attention after the work by Robert Putnam showing that since the 1970s the American society experienced a decline in several indicators of social capital (Putnam, 2000). This evidence raised the awareness about the erosion of social capital and animated a lively debate (for a review, see: Stolle and Hooghe, 2004). The scarce availability of data from non US societies limited the analyses to selected countries or only to a limited set of indicators (Arts and Halman, 2004, Van Oorschot et al., 2006, Morales, 2004, Adam, 2008, Sarracino, 2010, Beugelsdijk and Van Schaik, 2005a).

The first goal of this analysis is to describe the trends of social capital in Europe overcoming many of the previous limitations. This analysis uses time-series not only for Western, but also for Eastern European countries: those which entered the European Union as well as some of those that stayed outside. Moreover, this analysis employs a wide set of indicators. Contrary to the majority of existing studies, the description is not limited to changes of trust in others, membership in associations, and voluntary work. In order to provide a more comprehensive picture, the paper analyzes also an index of civic cooperation, which measures the perceived obligations of individuals toward other people and the state. Furthermore, recognizing the importance of state institutions for the creation and sustaining of social capital, the paper also analyzes how confidence in institutions has changed over recent decades. Extending the analysis to new regions and using a broad set of indicators allows us to draw a more complete picture of how social capital has been changing over recent decades in Europe.

The second goal of this analysis is to explore the convergence of social capital among European regions. In other words, the goal it to test whether the European unification has an equalizing effect on social capital. This issue is particularly relevant for the post-communist and Southern countries where the endowments of social capital are generally lower than in North-Western countries (Fidrmuc and Gërxhani, 2008). The European integration with its institutions and common rules may have equalizing effects on social capital, thus filling the gap among regions in Europe.

Finally, the third goal of this paper is to investigate the path dependency of the trends of social capital. Specifically this analysis investigates how the trends of various dimensions of social capital are related to their initial levels. This amounts to test whether the low level of social capital hinders its subsequent growth.

The time frame covers the period between the early 1990s up to the year 2012.[1] This period corresponds to important changes taking place all over Europe. In many countries of the broadly defined West, it was the period of gradual dismantling of the welfare state, which might have affected various dimensions of social capital. In the East, the same period was marked by political and economic transformation, where the collapse of state economies was accompanied by drastic reduction of social security. In the same period, however, countries of Eastern Europe experienced unprecedented widening of individual and political freedoms. These changes might have affected the trends of social capital in unpredictable ways.

The paper is organized as follows. Section 2 summarizes previous research on the trends of social capital and on its regional variations. Section 3 describes the data adopted for the research and the methodological approach. Section 4 describes the results of the analysis looking at differences among trends by country (section 4.1), by region (section 4.2) and by ranking (section 4.3). Section 4.4 describes the findings concerning the convergence of social capital among European regions. Section 4.5 explores the hypothesis that the trends of social capital are path-dependent, whereas section 5 provides some concluding remarks.

2 Literature review

2.1 Trends of social capital

Putnam (2000) showed that the American society experienced a decline of several dimensions of social capital: voting turnout; attending meetings, political rallies or speeches; trust in the government; and membership and activity in voluntary organizations. These results supported the thesis that civil society is subject to erosion. Subsequent works confirmed Putnam's findings to varying degrees. For instance, Bartolini et al. (2013) reported negative trends of various dimensions of American social capital, including: frequency of marriages and separations, social trust, frequency of socializing with neighbors, and confidence in a range of institutions. The work by Ebbinghaus (2002) described a strongly negative trend of US membership in labour unions. Other studies provided less support to the thesis of decline of social capital over time. An analysis by Paxton (1999) about US reported some decline in a general measure of social capital, in particular trust in individuals, but no general decline in trust in institutions, and no decline in membership in associations. Similarly, Costa and Kahn (2001), referring to the decline of social capital in the US between 1970s-1990s, concluded that it has been largely overstated. Their results showed that the largest decline concerned socializing daily with family, friends and neighbors, which they explain by rising communities' heterogeneity and income inequality, as well as the rise in women's labor

[1] Data from the 1980s are not included because they cover exclusively Western countries.

force participation. In a similar vein, Adam (2008), using World Values Survey data, found no evidence of decreasing American social capital.

The analysis of European data contributed to a separate, even though less developed, stream of research. If the erosion of social capital is driven by social and demographic processes, there are reasons to expect similarities between the trends in Europe and in the US. For instance, Costa and Kahn (2001) predicted that – due to immigration and growing income inequalities – also Western European countries would experience an erosion of social capital. The evidence about the decline of social capital in Europe is mixed, and varies depending on which dimensions are considered.

Trust in others, one of the most common measures of social capital, shows some signs of decline. Adam (2008) examined World Values Survey and European Values Study data and found that in the 1980s, trust in others was generally growing in Europe, whereas in the 1990s the negative trends outnumbered the positive ones. (The negative trends occurred mainly in Eastern Europe; out of EU-15 six showed a negative trend, five – positive, and two – stable.) An analysis by Dekker and Broek (2005) for 10 Western European countries, US, and Canada also failed to observe a consistent decline of trust in others. A similar conclusion is supported by the works reviewed by Stolle and Hooghe (2004) and by the results provided by Sarracino (2010, 2012). The latter provided evidence that trust in others has been growing in several Western European countries.

A more positive picture has been drawn for membership in voluntary organizations. Adam (2008) reported a heterogeneous, but on average positive, trend of involvement in associations in European countries. Both membership and unpaid voluntary work have been decreasing in Europe in the 1980s, whereas for the 1990s the results are more mixed: membership increased in 11, and unpaid work in 19 out of 30 countries. Several other analyses concluded that neither positive nor negative trends prevail in Europe (Morales, 2004, Dekker and Broek, 2005, Stolle and Hooghe, 2004), whereas Sarracino (2010, 2012) pointed out a positive trend in several countries.

An overall negative picture has been drawn also for the trends of confidence in institutions. Sarracino (2010, 2012) showed that since the 1980s the citizens of Western European countries have lost confidence in the judicial system, religious institutions, parliament, and civil service, although some countries stood out as notable exceptions.

2.2 Regional variation of social capital in Europe

Despite the progressing economic and political unification, Europe remains highly heterogeneous. Levels of social capital, as well as the trends, differ across countries and regions (Van Oorschot et al., 2006).

Among European regions, Scandinavia is consistently described as the one which stands out with high levels of social capital, including membership, trust in others, and civic engagement (the Netherlands is typically also included in this group, see: Adam, 2008, Bartkowski and Jasińska-Kania, 2004, Pichler and Wallace, 2007). Bartkowski and Jasińska-Kania (2004) noticed that the already high membership and activity in voluntary associations in Scandinavian countries have been growing also in the last two decades of the twentieth century. Scandinavian social capital has also other peculiarities: low levels of informal contacts with next-of-kin (lowest scores in Europe,

see: Van Oorschot et al., 2006), and high proportion of "checkbook membership", i.e. extensive, but passive membership in associations, often limited to paying the membership fees and not generating much opportunities for face-to-face contacts (Stromsnes and Wollebæk, 2006).

Other Western European countries are typically characterized by relatively high levels of social capital (Adam, 2008). Van Oorschot et al. (2006) described this region as scoring slightly lower than average on political engagement, and higher than European average on trust in institutions. A specific country in this context is Great Britain. Sarracino (2010) pointed out that it has the most negative trends of social capital in Europe: 14 out of the 15 analyzed proxies have been declining between 1980 and 2000.

Southern European countries (including typically Italy, Spain, Portugal, and Greece) score relatively low on social capital, including trustworthiness, trust in institutions, active participation and political engagement (Van Oorschot et al., 2006). Bartkowski and Jasińska-Kania (2004) related the low levels of social activity in these countries with lower socio-economic development, economic freedom, and civil liberties. The long periods of autocratic rule in Spain, Portugal, and Greece might also contribute to explain the specificity of the region (Bartkowski and Jasińska-Kania, 2004). The analysis by Adam (2008) points out that social capital in Italy, France and Spain was comparable with other Western countries, whereas in Greece and Portugal was much lower. The social capital in Southern countries is not only low, but it also depends heavily on informal networks (Pichler and Wallace, 2007).

In Eastern Europe social capital is typically lower than in Western Europe (Fidrmuc and Gërxhani, 2008, Fidrmuc and Gërxhani, 2004). However, this general statement must be taken cautiously, as the whole region is very heterogeneous. Adam (2008) noticed that the levels of social capital were close to European average in Slovenia, Czech Republic, and Slovakia, whereas they were much lower in Poland, Hungary, Latvia, Lithuania, Romania, Bulgaria, Russia, and Ukraine. Bartkowski and Jasińska-Kania (2004) drew a similar picture: social involvement was relatively high, and growing in Czech Republic and Slovakia; in contrast, in Poland and Hungary, the initially high social involvement of the 1990s declined to the level of the countries belonging to the former Soviet Union (Bartkowski and Jasińska-Kania, 2004). In Baltic states membership and activity were rather low, although higher than in other former Soviet Union countries (Bartkowski and Jasińska-Kania, 2004). Finally, Russia, Ukraine, and Belarus stood out not only with the lowest levels of economic freedom, civil liberties, and socio-economic development, but also with the lowest levels of voluntary activity – despite the relatively high indicators of formal membership in organizations (e.g. trade unions or youth organizations). It is worth emphasizing that such organizations were state-controlled bureaucratic institutions in the former Soviet Union. Also here the fall of communism was followed by a dramatic decline in membership (membership overall in Russia fell from 70% in 1990 to 30% in 1999; membership in trade unions in Russia and Ukraine fell from about 50% to slightly over 20% of the population, see: Bartkowski and Jasińska-Kania, 2004).

Overall, the pattern of geographical variation seems to be related to the quality of functioning of state institutions. Several authors have associated high social capital with economic development (Norris, 2001, Curtis et al., 2001, Fidrmuc and Gërx-

hani, 2004, Delhey and Newton, 2005, Van Oorschot and Arts, 2005), democratization (Norris, 2001, Curtis et al., 2001, Stromsnes and Wollebæk, 2006), and the quality of democratic infrastructure and institutions (Stromsnes and Wollebæk, 2006, Fidrmuc and Gërxhani, 2004, Letki and Evans, 2005, Delhey and Newton, 2005). Indeed, according to some authors social capital is a consequence rather than a precondition of well-functioning institutions (Stromsnes and Wollebæk, 2006, Letki and Evans, 2005). This suggests that the expansion of the European Union may be a chance for the relatively backward Eastern and Southern regions to catch-up (Fidrmuc and Gërxhani, 2004).

2.3 Current study

The goal of this study is threefold. First, it describes the trends of social capital in 30 European countries, using a larger set of proxies of social capital, a longer time-span, and a larger number of countries than previous studies. Second, it tests the hypothesis that social capital among European countries converges, i.e. that Eastern and Southern countries catch up with the levels of social capital of Northern and Western Europe. Finally, the paper examines path-dependency of social capital in Europe. In particular, it tests the hypothesis that initial low levels of social capital may result in lower subsequent growth.

3 Data and method

The World Values Survey and the European Values Study integrated data-set (WVS, 2009, EVS, 2011) allows to study the trends of social capital and to compare them across European regions. Although EVS and WVS are two separate surveys, they are directly comparable.[2] Both EVS and WVS are wide compilations of surveys collected in more than 80 countries, representing over 80% of the world's population. They provide information on socio-cultural and political change, individual beliefs (on politics, the economy, religion, etc.), topics related to social and ethnic divisions, personal finances, familiar and social relationships, happiness and life satisfaction. EVS data has been collected in four waves between 1981 and 2008, while WVS has been administered in six waves (1981-84, 1989-93, 1994-99, 1999-2004, 2005-2007 and 2010-2014).

Since this study focuses on trends of social capital across European regions, the sample covers countries and waves observed approximately in the same period. Discrepancies are systematic: almost every transition country has been surveyed for the first time in the 1990s, whereas the majority of Western European countries were already surveyed in the early 1980s. To monitor, describe, and compare the trends on a homogeneous period, only those countries observed from the wave 1989-1993 onward are retained for the analysis. The list of countries and waves adopted in the analysis is available in Table 1. Overall, the paper covers 30 European countries monitored over a period of over 20 years.

[2] On the WVS web-site it is possible to download A four waves integrated WVS-EVS data-set is available on their website together with instructions on how to integrate it with the new waves of EVS and WVS data.

Table 1: Availability of data across countries and waves

country	wave 2 1989-93	wave 3 1994-98	wave 4 1999-04	wave 5 2005-09	wave 6 2010-14	first year	last year	time span considered
Western countries:								
Austria	1460	–	1522	1510	–	1990	2008	18
Belgium	2792	–	1912	1509	–	1990	2009	19
France	1002	–	1615	2502	–	1990	2008	18
Germany	3437	2026	2036	4139	2046	1990	2013	23
Netherlands	1017	–	1003	2604	1902	1990	2012	22
Switzerland	1400	1212	–	2513	–	1989	2008	19
Mediterranean countries:								
Italy	2018	–	2000	2531	–	1990	2009	19
Malta	393	–	1002	1500	–	1991	2008	17
Portugal	1185	–	1000	1553	–	1990	2008	18
Spain	4147	1211	2409	2700	1189	1990	2011	21
Anglosaxon countries:								
Great Britain	1484	1093	1000	2602	0	1990	2009	19
Ireland	1000	–	1012	1013	–	1990	2008	18
Scandinavian countries:								
Denmark	1030	–	1023	1507	–	1990	2008	18
Finland	588	987	1038	2148	–	1990	2009	19
Iceland	702	–	968	808	–	1990	2009	19
Norway	1239	1127	–	2115	–	1990	2008	18
Sweden	1047	1009	2030	2190	1206	1990	2011	21
Baltic countries:								
Estonia	1008	1021	1005	1518	1533	1990	2011	21
Latvia	903	1200	1013	1506	–	1990	2008	18
Lithuania	1000	1009	1018	1500	–	1990	2008	18
Central-Eastern countries:								
Czech Rep.	3033	–	1908	1821	–	1991	2008	17
Hungary	999	650	1000	2520	–	1991	2009	18
Poland	1920	1153	1095	2510	966	1989	2012	23
Slovakia	1602	1095	1331	1509	–	1990	2008	18
Slovenia	1035	1007	1006	2403	1069	1992	2011	19
Central-Southern countries:								
Bulgaria	1034	1072	1000	2501	–	1990	2008	18
Romania	1103	1239	1146	3265	1503	1993	2012	19
Turkey:								
Turkey	1030	1907	4607	3730	1605	1990	2011	21
Former Soviet Union countries:								
Belarus	1015	2092	1000	1500	1535	1990	2011	21
Russian Federation	1961	2040	2500	3537	2500	1990	2011	21

Consistently with the literature referring to the definition and operationalization of social capital provided by the OECD (Paxton, 1999, Costa and Kahn, 2003, Van Schaik, 2002, Sabatini, 2009), the paper monitors both the relational and the non-relational aspects of social capital (for details, see Table 2). The relational social capital is captured by three components.

Table 2: Summarizing scheme of the different constituents of social capital.

Relational social capital	trust in others participation in groups and organizations index of civicness
Non relational social capital	confidence in armed forces confidence in police confidence in religious institutions confidence in democratic institutions (including: educational system, press, and labor unions) confidence in public institutions (including: parliament, social security system, and civil service) confidence in judicial system confidence in major companies

1. Trust in others is observed through answers to the question: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?", with answers coded as 1 – *most people can be trusted* and 0 – *you can't be too careful* (Knack and Keefer, 1997).

2. Participation in groups and associations is measured with a dichotomous variable set to 1 if the respondent participates or performs unpaid voluntary work for at least one of the listed groups or associations, and 0 otherwise. The list of groups or associations prompted during the interview contains: social welfare service for elderly; religious organization; education, arts, music or cultural activities; labour unions; political parties; local political actions; human rights; conservation, the environment, ecology, animal rights; professional associations; youth work; sports or recreation; women's groups; peace movement; organizations concerned with health; consumer groups; and other groups.

3. The index of civic cooperation is based on answers to questions concerning acceptability of (1) claiming government benefits which you are not entitled to, (2) avoiding a fare on public transport, (3) cheating on taxes if you have the chance, and (4) accepting a bribe. Answers to these questions range on a scale from 1 – *never justifiable* to 10 – *always justifiable*. For the purpose of present analysis, each of these variables has been first recoded so that higher values represent stronger norms of civic cooperation. Subsequently, after verifying that all four items load on a single factor, the index of civic cooperation is defined as the average of the four variables. The resulting index of civic cooperation is measured on a scale from 1 to 10, where higher values represent stronger civicness.

The non-relational component is measured through several reports of confidence in institutions. The list of institutions includes (1) religious institutions, (2) armed forces, (3) police, (4) major companies, (5) judicial system, (6) democratic institutions (including: education system, press, and labour unions), and (7) public institutions (including: parliament, social security system, and civil service). Answers range on a scale from 1 – *none at all* to 4 – *a great deal*.

For a proper estimation of the trends, and comparability across countries, missing data are a major issue. Information on confidence in major companies and the index of civic cooperation are missing mainly in the fourth and (to a lesser degree) third waves, when they were not consistently surveyed, which implies that these data are missing completely at random.[3] As such, they are not liable to bias estimates. Given the subjective nature of such variables, imputation techniques would require strong, if not arbitrary, assumptions. Therefore, and considering the limited number of variables affected by the problem, the data is used without imputation. The percentages of missing data for the remaining variables are typically below 10% thus they do not raise concerns of seriously biasing the estimates (Schafer, 1997, Allison, 2001, Little and Rubin, 2002). Table 3 presents the descriptive statistics of the social capital measures for the overall sample.

Table 3: Descriptive statistics

variable	mean	sd	min	max	obs	missing (%)
participation in groups and organizations	0.441	0.574	0	1	190058	0.6
trust in others	0.297	0.509	0	1	186244	2.6
index of civic cooperation	8.733	1.565	1	10	183606	4.0
confidence in religious institutions	2.573	0.978	1	4	182683	4.4
confidence in armed forces	2.648	0.884	1	4	182057	4.8
confidence in democratic institutions	2.379	0.624	1	4	186484	2.4
confidence in police	2.623	0.851	1	4	185278	3.1
confidence in public institutions	2.353	0.683	1	4	185222	3.2
confidence in major companies	2.305	0.797	1	4	156795	18.0
confidence in judicial system	2.475	0.852	1	4	176651	7.6

To estimate the country-specific trends, the proxies of social capital are regressed on a time variable, which contains the years 1990-2012 (Aguiar and Hurst, 2007, Sarracino, 2012). The regression technique reflects the nature of the dependent variable. For dichotomous variables a probit model with robust standard errors is used, for which the marginal effects at the mean are reported. Hence, for trust in others and participation in groups and organizations the model presented in equation 1 is used, where the individual-level indicators of social capital, z_i, are regressed on time (subscript i refers to individuals). This model is estimated for each country separately.

[3]For a more detailed discussion on pattern of missingness and their implication for econometric analysis, please refer to Schafer (1997, 1999), Allison (2001).

$$SC_i = \begin{cases} 1 & \text{if } z_i > 0, \\ 0 & \text{if } z_i \leq 0, \end{cases} \tag{1}$$
$$z_i = \beta \text{ TIME}_i + \varepsilon_i, \text{ where } \varepsilon_i \sim N(0,1)$$

For discrete ordered dependent variables, ordered probit or logit models should be applied (Ferrer-i Carbonell, 2005). However, in such cases OLS estimation gives equivalent results in terms of the sign and of the significance of the coefficients (Ferrer-i Carbonell and Frijters, 2004, Blanchflower, 2008). Moreover, OLS models have the advantage of allowing a direct comparison between results of various estimations. Therefore, for the non-relational measures of social capital, and for the index of civic cooperation (which is measured on a continuous scale), the model presented in equation 2 is used. Also in these cases, models are estimated for individual data (subscript *i* refers to individuals), and separate regressions are run for each country.

$$SC_i = \alpha + \beta \text{ TIME}_i + \varepsilon_i \tag{2}$$

The coefficient of the TIME variable in OLS models (equation 2), and the marginal effects in probit models (equation 1) represent the average yearly change of social capital in a given country over the observed period. These values are considered as measures of the country-specific trends of social capital.

The hypothesis on convergence of social capital among European regions is tested with the model described in equation 3.

$$SC_i = \alpha + \beta_1 TIME_i + \beta_2 REGION_i + \beta_3 REGION_i \cdot TIME_i + \varepsilon_i \tag{3}$$

where *REGION* is a dummy variable indicating Southern countries for the South – North-West convergence, and Eastern countries for the East – North-West convergence. Equation 3 is estimated with a probit model in case of dichotomous dependent variables, and an OLS in case of other variables. The analysis is run on the pooled sample of countries. The sign of the coefficient β_3 informs about convergence: a positive sign indicates that compared to the trend in North-Western countries, the trend in the region of interest was more positive. This may indicate closing the gap in case of an initial negative gap, but also widening of the gap if the initial gap was positive. To facilitate the interpretation of the results, for each proxy of social capital the predicted gap in 1990 and 2012 are reported.

A set of bivariate correlations of the initial level of social capital and the trends of social capital for each proxy used in the analysis informs about the path dependency in the trends of social capital. This analysis is performed at country level.

4 Results

This section first illustrates the cross-country and cross-regional variation of trends of social capital. Subsequently, it reports the results on the convergence of social capital among European regions. The section concludes by describing the results of path-dependency of the trends of social capital. Tables 8 and 9 (in the Appendix) report the coefficients of the TIME variable for each proxy of social capital in each country.

4.1 Trends of social capital across Europe

Figure 1 summarizes for each country the trends of the three measures of relational social capital: participation in groups and associations, trust in others, and civic cooperation.

The trends of *participation in groups and associations* are mixed. Participation is slightly increasing in Western Europe, and particularly in Switzerland, Ireland, Denmark, France, Belgium, and Italy. Slovenia seems to be the only transition country with a positive trend of participation in groups and associations. In other countries the trends of membership and voluntary activities are negative or non significantly different from zero. The strongest decline of the trends happened in Baltic, Central Eastern and post-soviet countries.

A mixed pattern arises also for the *index of civic cooperation*. The trend is most positive in Hungary, Finland, Portugal, Belgium and, to a smaller extent, in other Western and Scandinavian countries. On average trends are more positive in the Western part of Europe than in the Eastern one, but the regional division is not clear-cut.

Trust in others grows most in Denmark, and Belarus. Generally, trust in others increases in Scandinavian, Baltic, and Western countries, and it decreases in all Mediterranean and Anglosaxon countries, as well as in many post-communist countries (Poland, Slovakia, Bulgaria and Russian Federation). The strongest decline in trust in others takes place in Bulgaria, Slovakia, Ireland, and Spain.

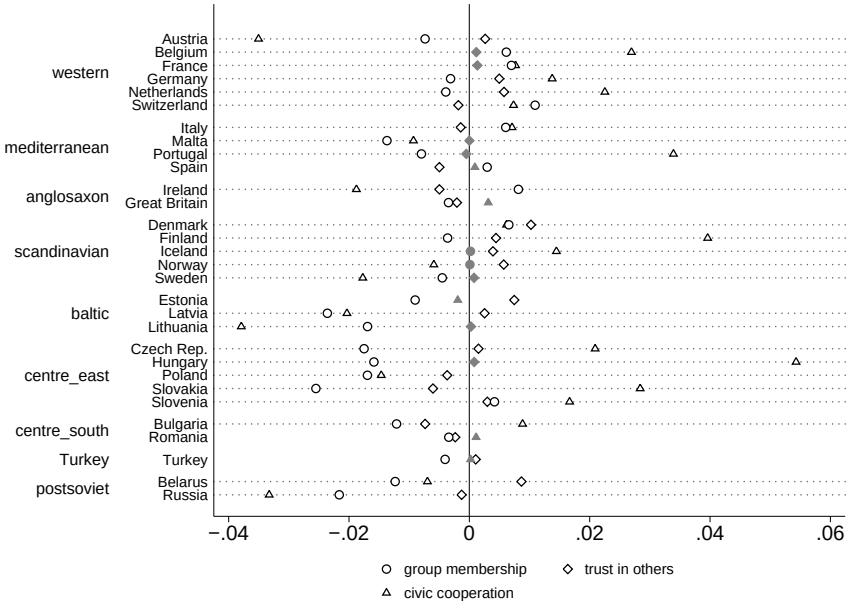
The trends of non-relational social capital are summarized in Figures 2 and 3. Non-relational social capital grows in the Baltic countries, whereas the Central-Eastern countries (with the exception of Slovenia and Slovakia) mainly experience a decline.

As documented in previous studies (Sarracino, 2012), the trends of confidence in *religious institutions* are mixed. The strongest increase takes place in Bulgaria, Romania, Turkey, Belarus, and Denmark, whereas the strongest declines occur in the traditionally Catholic countries: Ireland, Spain, and Poland. However, even though the trends of confidence in religious institutions are both positive and negative, the positive trends are overall weak, whereas the negative ones have larger magnitudes. The only exception are the Central-Southern countries and Turkey, where the confidence in religious institutions increases considerably.

A similar pattern emerges for the *confidence in major companies* which declines in sixteen countries, exhibits flat trends in Norway, and Portugal, and increases in twelve countries. The drop of confidence in major companies affects mainly the residents of the Western part of Europe. Here the trends are predominantly negative, and some increase occurs only in Switzerland and Denmark. In the post-communist countries the trends are predominantly positive, and negative only in Poland, Hungary, and Bulgaria.

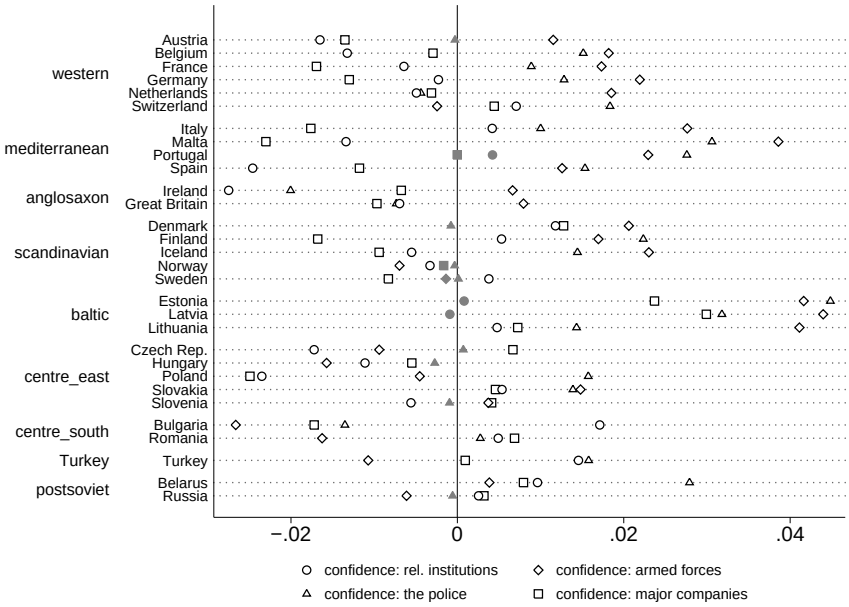
The *confidence in democratic institutions* grows mainly in the Western, Mediterranean, Anglosaxon, and Scandinavian countries, whereas the major negative variations pertain to Bulgaria, Romania, Poland, Hungary, and the Russian Federation.

Confidence in public institutions follows a similar path: it increases in the majority of Western European countries with the exception of Anglosaxon ones. The most notable exceptions among this set of countries are Austria, Germany, the Netherlands, and Iceland. In contrast to that, some of the Central-Eastern and Central-Southern



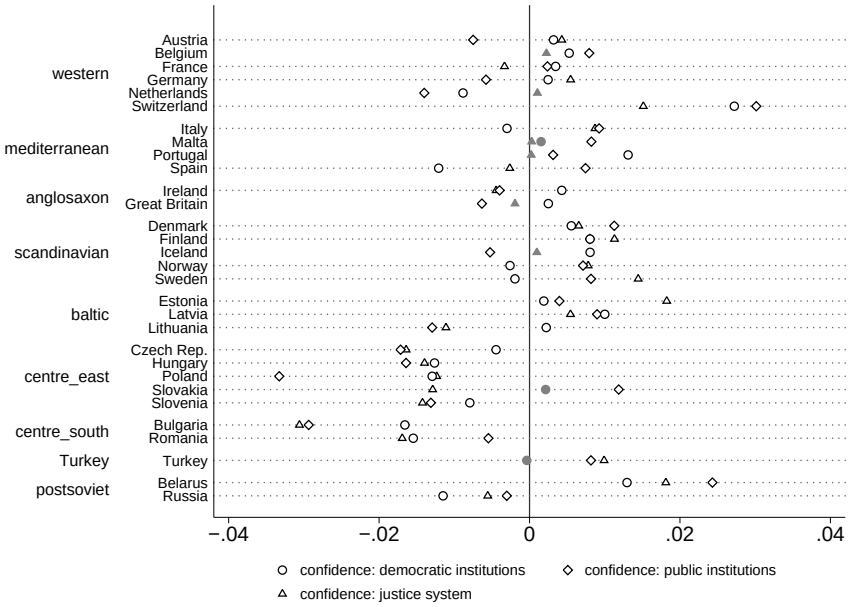
Note: The graph shows the average yearly change over the observed period. Non-significant trends are denoted by shaded shapes. Trust in others and participation in groups and associations take the values between 0 and 1, index of civic cooperation takes the values between 1 and 10.

Figure 1: The trends of the three proxies of relational social capital for each country: trust in others, participation in groups and associations, and the index of civic cooperation.



Note: The graph shows the average yearly change over the observed period. Non-significant trends are denoted by shaded shapes. Confidence in institutions takes the values between 1 and 4.

Figure 2: The trends of the four proxies of confidence in institutions for each country: armed forces, religious institutions, police, and major companies.



Note: The graph shows the average yearly change over the observed period. Non-significant trends are denoted by shaded shapes. Confidence in institutions takes the values between 1 and 4.

Figure 3: The trends of the three proxies of confidence in institutions for each country: public institutions, democratic institutions, and judicial system.

countries showed the most negative trends. All over Europe, Poland experiences the strongest decrease of confidence in public institutions, followed by Bulgaria.

The *confidence in judicial system* increases in Scandinavian and Western countries, whereas it declines in Central-Eastern, Central-Southern countries as well as in Russia and Lithuania.

Only two indicators of confidence in institutions show clear, positive trends between 1990 and 2012: the armed forces and the police. *Confidence in armed forces* increases in Western and Baltic countries. Specifically, Lithuania, Latvia and Estonia experience the strongest increase in Europe, followed by Malta, and Italy. Norway, and Switzerland are exceptional among Western countries in their negative trends. Finally, confidence in armed forces declines in many transition countries, with the strongest trend in Bulgaria.

Trends of *confidence in police* follow an even more positive pattern, as they increase almost everywhere in Europe. Again, the strongest increase occurs in Baltic countries. The exception to this picture are the Anglosaxon countries, the Netherlands, and Bulgaria where the confidence in police declined strongly.

4.2 Differences in the trends of social capital across European regions

The differences in the trends of various dimensions of social capital among European regions are shown in Figures 4 and 5.

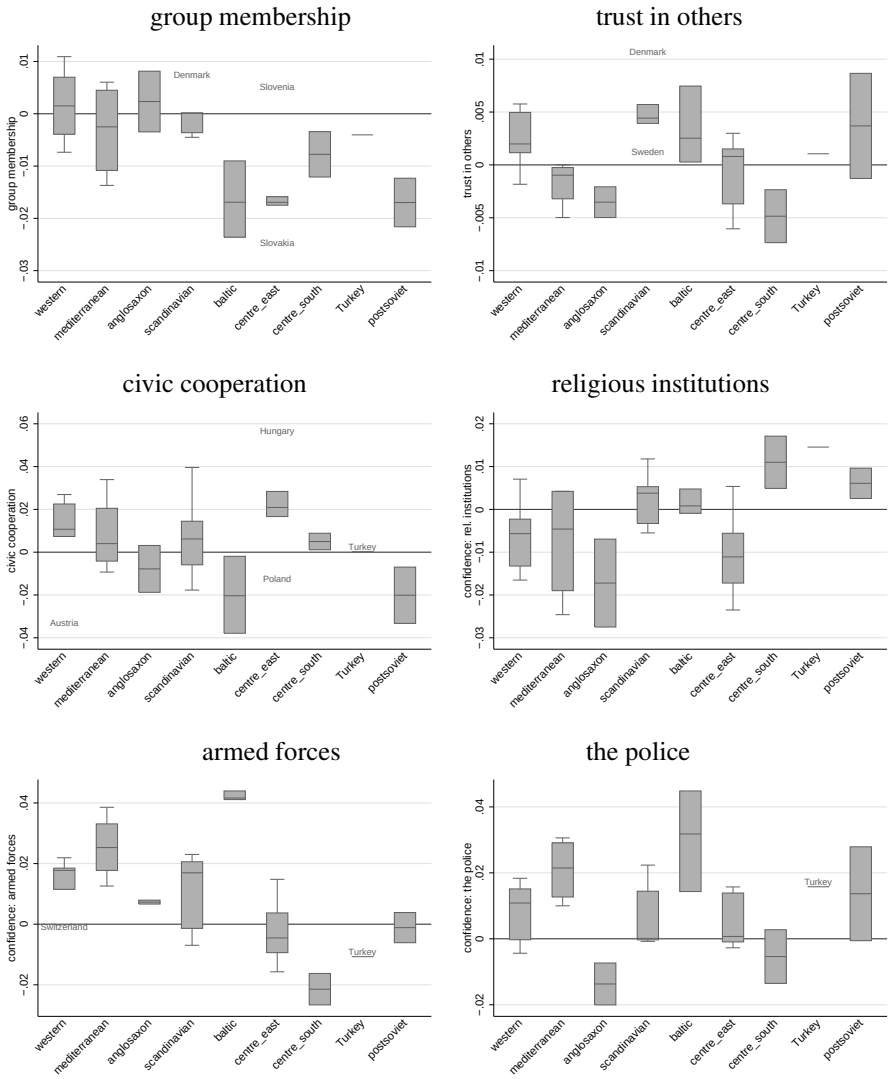
The boxplots reveal that almost in every case the trends differ both across and within regions. A clear East-West divide is noticeable for *group membership*. The Western, Mediterranean, Anglosaxon, and Scandinavian countries experience weakly positive trends, whereas the Eastern part of Europe is characterized by negative trends (see Figure 4). Membership declines most strongly in Baltic, Centre-Eastern and post-soviet countries.

Trust in others increases in Western, Scandinavian, Baltic, and post-soviet countries. The growth experienced by Denmark is much stronger than in other European countries. In the Mediterranean and Anglosaxon countries the changes are rather homogeneous and negative. Similarly negative trends are observed in Central-Southern Europe and, to some extent, also in Central-Eastern Europe.

The trends of the *index of civic cooperation* are on average positive in Western, Central-Eastern and Central-Southern countries. Post-soviet, Baltic and Anglosaxon countries are characterized by negative trends.

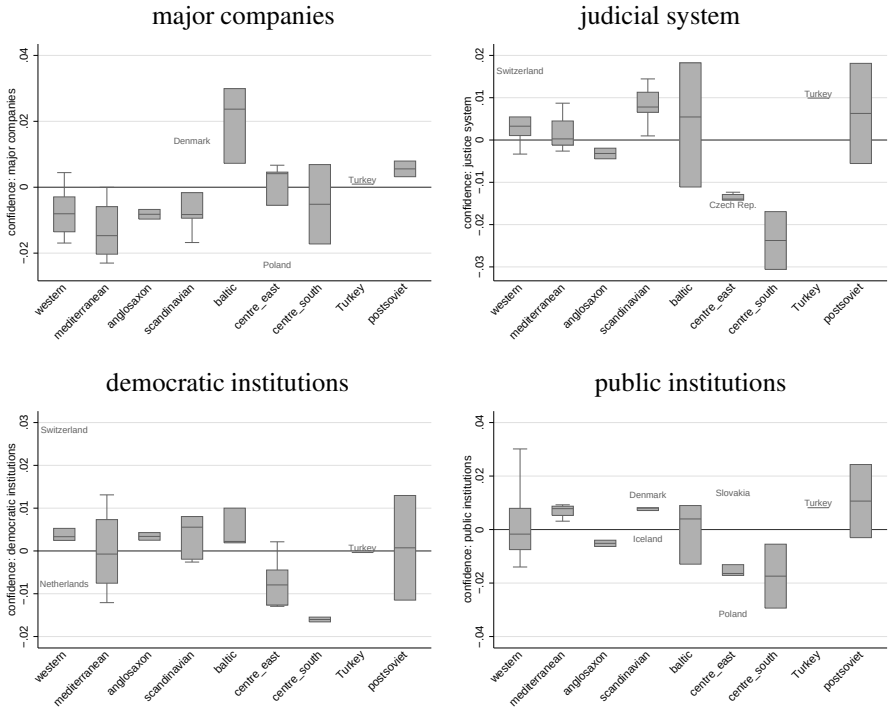
The remaining three graphs in Figure 4 present the trends of confidence in religious institutions, in armed forces, and in police. As pointed out previously, the trends of *confidence in religious institutions* are predominantly negative across Europe. They are homogeneously positive only in Central-Southern countries, Turkey, and post-soviet countries.

Also the charts on the *confidence in armed forces and police* are substantially in line with the positive trends illustrated in the previous section. Confidence in armed forces again divides Europe into East and West: Western, Mediterranean, Anglosaxon, and Scandinavian countries, along with the Baltic ones, report predominantly positive



Note: The boxplots show the median as well as the upper and lower quartile of the trends in each region.

Figure 4: Distribution of the trends (i.e. the average yearly change over the observed period) of social capital by regions in Europe.



Note: The boxplots show the median as well as the upper and lower quartile of the trends in each region.

Figure 5: Distribution of the trends (i.e. the average yearly change over the observed period) of social capital by regions in Europe.

trends. In this group, Mediterranean and Baltic countries experience a stronger growth than others. Countries of Eastern Europe experience almost flat trends, in many cases not-significantly different from zero. Only in Central-Southern countries and Turkey the confidence in armed forces clearly decreases.

Confidence in police increases almost everywhere in Europe. The only clear exception are Anglosaxon countries where the confidence declines, and – to a smaller extent – Central-Southern countries. The confidence increases most in the Baltic and Mediterranean countries, as well as in Post-Soviet countries and in Turkey.

The West-East divide appears clearly in the case of *confidence in major companies* (see Figure 5). The Western, Mediterranean, Anglosaxon, and Scandinavian countries report decreasing trends of confidence, whereas Eastern countries report flat trends. Confidence in major companies increases only in Baltic countries and to a smaller extent in post-soviet countries. In contrast, Central-Southern countries are characterized by high within group variability which makes them more similar to their Western counterparts.

The trends of *confidence in judicial system* do not show remarkable differences

across regions. The trends are overall close to zero, and only some of the post-soviet and Baltic countries experience a strong increase. However, both post-soviet and Baltic countries are characterized by considerable internal differences, as illustrated by the large size of the boxes. The Central-Eastern and Central-Southern countries are the ones in which confidence in judicial system uniformly decreases.

A similar picture appears for *confidence in democratic and public institutions*. Also in these cases the trends are modest and close to zero in almost all regions. The trends within regions are relatively homogeneous, except for post-soviet countries and Mediterranean ones (in case of confidence in democratic institutions). Similarly to the case of confidence in judicial system, also the confidence in democratic institutions declines more in Central-Eastern and Central-Southern countries. Also *confidence in public institutions* declines more strongly in Central-Eastern and Central-Southern countries and, to a smaller extent, in Baltic ones. The trends of confidence in public institutions are positive and relatively homogeneous in Mediterranean and Scandinavian countries; they are negative in Anglosaxon countries.

4.3 Rankings

To summarize the differences among the trends of the proxies of social capital, Table 4 reports the rankings of countries with the most positive and the most negative trends.

Some of the patterns highlighted in previous sections are visible. For example, the trends of *group membership* are predominantly negative (20 out of 30 countries). Moreover, the 3 countries with the most positive trends are all Western, and the countries with the most negative trends are all post-communist. The trends of *trust in others* are more positive, with 13 countries experiencing growth, and 10 – decline. Denmark is among the three countries with the most positive trends (together with Switzerland and Belarus), whereas Slovakia, Ireland, and Bulgaria appear among the countries with the most negative trends. The trends of *the index of civic cooperation* follow a similar pattern: 15 countries experience growth and other 10 experience decline. Also in this case the list of the countries with the worst trends is made mainly of Eastern European countries. A quick look at the last column of Table 4 confirms that this is a quite general feature of the trends of social capital in Europe. Only in few cases among countries with the most negative trends appear Anglosaxon countries (confidence in police, in religious institutions, and trust in others), Germany and Malta (confidence in major companies), Spain (confidence in religious institutions). This suggests that the East-West gap in endowments of social capital (Fidrmuc and Gërxhani, 2008) is accompanied by a gap in trends: Eastern countries not only have lower levels of social capital, but also declining trends.

For what concerns non-relational social capital, Table 4 confirms the prevalence of positive trends of confidence in armed forces and in police (growth in 18 and 20 countries out of 30, respectively), the mixed trends of confidence in religious, democratic, and public institutions, and in judicial system, while for confidence in major companies negative trends prevail (16 countries). Moreover, Baltic countries stand out with the fastest growth rate of the confidence in major companies, police, and armed forces in Europe.

Table 4: Number of positive, negative and non significant trends along with a list of the three countries with the most positive and most negative trends by proxy of social capital.

variable	N of countries with positive trends	N of countries with negative trends	N of countries with non-significant trends	3 countries with most positive trends	3 countries with most negative trends
participation in groups and associations	8	20	2	Switzerland Ireland France	Slovakia Latvia Russia
trust in others	13	10	7	Denmark Belarus Switzerland	Bulgaria Slovakia Ireland
index of civic cooperation	15	10	5	Hungary Finland Portugal	Belarus Czech Rep. Lithuania
confidence in religious institutions	12	15	3	Bulgaria Turkey Romania	Poland Spain Ireland
confidence in armed forces	20	9	1	Latvia Malta Lithuania	Hungary Romania Bulgaria
confidence in democratic institutions	15	12	3	Switzerland Portugal Belarus	Hungary Bulgaria Romania
confidence in police	18	4	8	Estonia Latvia Belarus	Bulgaria Great Britain Ireland
confidence in public institutions	16	14	0	Switzerland Belarus Spain	Germany Poland Bulgaria
confidence in major companies	12	16	2	Latvia Estonia Belarus	Germany Poland Malta
confidence in judicial system	12	12	6	Turkey Belarus Switzerland	Bulgaria Hungary Romania

4.4 Convergence among regions

This section tests the hypothesis of convergence of social capital among European regions. This amounts to check whether the social capital gap among regions in 2012 reduced compared to the gap in 1990. The results of the model presented in equation 3 are summarized in Table 5 for Eastern countries, and in Table 6 for Southern countries. In both cases the tables report the coefficient of the interaction term between regions and trends, its significance and the predicted gaps in 1990 and 2012.

Table 5: Convergence of social capital between Eastern and North-Western countries.

variable	interaction term	gap 1990	gap 2012
participation in groups and associations	-0.034*	0.15	-0.09
trust in others	-0.008*	-0.12	-0.18
index of civic cooperation	-0.002	-0.21	-0.25
confidence in religious institutions	-0.000	-0.11	-0.11
confidence in armed forces	-0.008*	0.17	0.00
confidence in democratic institutions	-0.009*	0.07	-0.12
confidence in the police	0.006*	-0.45	-0.31
confidence in public institutions	-0.012*	-0.19	-0.45
confidence in major companies	0.010*	-0.08	0.15
confidence in judicial system	-0.015*	-0.27	-0.59

* $p < 0.10$

The trends for Eastern countries are significantly different from those of North-Western countries in 8 out of 10 variables. However, only in case of confidence in police and in major companies this meant closing the gap, i.e. the initially disadvantaged East cought up with the West of Europe. By 2012 people in Eastern Europe trusted major companies more than in North-Western countries, which means that the gap reversed. On the contrary, the gap widened in case of trust in others, confidence in public institutions, and judicial system. In 1990 Eastern countries had, on average, higher participation in groups and associations, and more confidence in democratic institutions and in armed forces. In 2012 the latter converged to the levels of North-Western European countries (the gap in 2012 is zero), while the former two variables reduced and the gap turned negative.

The trends of social capital in Southern countries are not significantly different from those of North-Western countries in case of participation in groups and associations, and civic cooperation. Hence the gap remained the same (see Table 6). The gap widened in the case of trust in others, and of confidence in religious institutions, democratic institutions, and major companies. In these cases, the initial gap was favorable to Southern countries, but 22 years later this asset was entirely wasted. The gap narrowed in case of confidence in police and in public institutions: in both cases the differences between regions reduced and Southern countries caught-up with North-Western ones. The trends of confidence in judicial system between North-Western and Southern countries diverged: the initial gap widened over the considered period. Armed forces is the

Table 6: Convergence of social capital between Southern and North-Western countries.

variable	interaction term	gap 1990	gap 2012
participation in groups and associations	0.002	-0.22	-0.20
trust in others	-0.016*	0.04	-0.09
index of civic cooperation	0.000	-0.03	-0.03
confidence in religious institutions	-0.008*	0.05	-0.12
confidence in armed forces	0.007*	0.03	0.17
confidence in democratic institutions	-0.007*	0.01	-0.14
confidence in the police	0.012*	-0.40	-0.14
confidence in public institutions	0.007*	-0.18	-0.02
confidence in major companies	-0.004*	0.05	-0.04
confidence in justice system	-0.004*	-0.29	-0.37

* $p < 0.10$

only institution whose confidence was higher in Southern countries in 1990 and for which the gap further increased in 2012.

Summing up, these figures do not show any consistent convergence among regions in Europe. While in some cases the gap narrowed, in other cases the differences increased or remained unchanged.

4.5 Path-dependency

The hypothesis of path dependency states that the past stocks of social capital may affect its future trends. To investigate this issue, the trends of each proxy of social capital are correlated with their initial levels. The results are reported in Table 7.

Table 7: Correlations between trends and initial endowments of social capital.

variables	coefficient	p-values
participation in groups and organizations	0.35	0.053
trust in others	0.33	0.068
index of civic cooperation	−0.47	0.007
confidence in religious institutions	−0.24	0.208
confidence in armed forces	−0.71	0.000
confidence in police	−0.55	0.001
confidence in major companies	−0.80	0.000
confidence in judicial system	0.05	0.757
confidence in democratic institutions	−0.19	0.315
confidence in public institutions	−0.34	0.070

In 3 out of 10 proxies of social capital the correlation is not significant at 10% level. These are: confidence in religious institutions, in democratic institutions, and in the judicial system. In case of group membership and of trust in others the correlation

is positive and significant at 10%; in case of the index of civic cooperation and of confidence in armed forces, police, and major companies the negative correlations are significant at 1%. This leads to conclude that the index of civic cooperation, and several aspects of confidence in institutions grow more in countries where they are initially lower, whereas group membership and trust in others grow more in countries where the initial levels are high. These results suggest that the development of relational social capital depends on its existing stocks, while this does not hold for confidence in institutions.

5 Conclusions

The goal of this analysis was to extend the existing evidence on the trends of social capital in Europe by investigating the changes that took place in 30 countries from 1990 to 2012. It accounted for 10 measures of social capital, including both relational social capital (trust in others, participation in groups and associations, and index of civic cooperation) and non-relational social capital (confidence in institutions).

The results show a mixed picture, with some proxies of social capital increasing in some countries and regions, and decreasing in others. The negative trends prevail most for participation in groups and associations, and for confidence in religious institutions and in major companies. The increase of social capital was strongest in terms of confidence in police and in armed forces; also the confidence in public institutions and trust in others increased in at least half of the countries. For other proxies of social capital the results were mixed.

This analysis adds to previous works showing that Robert Putnam's thesis on the erosion of social capital cannot be directly generalized to other countries. In Europe the trends were both positive and negative for various proxies and various countries. Moreover, the proxies of social capital that decreased the most do not necessarily signify erosion of civic society. The trends of participation in groups and associations consistently decreased in many post-communist countries, but this change was the effect of systemic transformation. Considering that such organizations in communist regimes were often bureaucratic institutions controlled by the state leads to conclusion that counting them among the sources of social capital was a mistake resulting from applying Western definitions to Eastern reality. Similarly, the decline of confidence in major companies does not necessarily indicate the erosion of civic society, but rather may be interpreted as a growth of awareness that potentially builds a platform for further civic movements.

Moreover, the results show some signs of convergence of social capital among European regions. Confidence in police in both Southern and Eastern regions converged with North-Western Europe. Trends converged also for confidence in major companies (in Eastern Europe) and for confidence in public institutions (in Southern Europe). However, other proxies of social capital show no signs of convergence. For some of these proxies the gap widened. This happened for confidence in the judicial system and democratic institutions (in both East and South of Europe), and confidence in public institutions and trust in others (in Eastern Europe). This is alarming because the period of European unification was related to enlarging of the gap of confidence in judicial

and public institutions, rather than to closing it.

The results for path-dependency are mixed. On one hand, relational social capital – including participation in groups and associations and trust in others – increased more in countries where its initial level was higher. For non relational social capital and the index of civic cooperation the result was opposite: higher initial values correlated with negative trends. The countries where the initial level of social capital was the lowest were also the countries which experienced the strongest growth of confidence in armed forces, police, and major companies. The process may be related to the European integration, since Lithuania, Latvia, and Estonia were often among the countries with the lowest initial levels and the strongest increase. However, this conclusion cannot be generalized to other countries, in particular to the Central-Eastern and Central-Southern ones, which often experienced a considerable decline of social capital.

Overall, this evidence suggests that the dynamics related to the two forms of social capital – relational and non relational – are different. The growth of relational social capital seems to depend on the existing stocks of this form of social capital. The index of civic cooperation is an exception to this rule. This is probably because functioning of and confidence in institutions affect social cooperation thus making this proxy more similar to non relational social capital. In the latter case, growth seems to be strongest when it originates from low initial levels.

A Trends by country

Table 8: Trends (average change per 10 years) of relational social capital by country.

Country	participation in groups and associations	trust in others	index of civic cooperation
AUSTRIA	-0.07*	0.03*	-0.35*
BELGIUM	0.06*	0.01	0.27*
BULGARIA	-0.12*	-0.07*	0.09*
BELARUS	-0.12*	0.09*	-0.07*
CZECH REPUBLIC	-0.17*	0.02*	0.21*
DENMARK	0.07*	0.10*	0.06*
ESTONIA	-0.09*	0.07*	-0.02
FINLAND	-0.04*	0.04*	0.40*
FRANCE	0.07*	0.01	0.08*
GERMANY	-0.03*	0.05*	0.14*
HUNGARY	-0.16*	0.01	0.54*
ICELAND	0.00	0.04*	0.14*
IRELAND	0.08*	-0.05*	-0.19*
ITALY	0.06*	-0.01*	0.07*
LATVIA	-0.24*	0.03*	-0.20*
LITHUANIA	-0.17*	0.00	-0.38*
MALTA	-0.14*	0.00	-0.09*
NETHERLANDS	-0.04*	0.06*	0.23*
NORWAY	0.00	0.06*	-0.06*
POLAND	-0.17*	-0.04*	-0.15*
PORTUGAL	-0.08*	-0.01	0.34*
ROMANIA	-0.03*	-0.02*	0.01
RUSSIAN FEDERATION	-0.22*	-0.01*	-0.33*
SLOVAKIA (Slovak Republic)	-0.26*	-0.06*	0.28*
SLOVENIA	0.04*	0.03*	0.17*
SPAIN	0.03*	-0.05*	0.01
SWEDEN	-0.05*	0.01	-0.18*
SWITZERLAND	0.11*	-0.02*	0.07*
TURKEY	-0.04*	0.01*	0.00
UNITED KINGDOM	-0.03*	-0.02*	0.03

Note: * $p < 0.10$.

Table 9: List of the trends (coefficients and their significance) of non relational social capital by country.

Country	Confidence in...																	
	religious instit.		armed forces		democratic instit.		police		public instit.		major companies		judicial system	
AUSTRIA	-0.17	*	0.12	*	0.03	*	-0.00		-0.07	*	-0.14	*	0.04	*
BELGIUM	-0.13	*	0.18	*	0.05	*	0.15	*	0.08	*	-0.03	*	0.02	
BULGARIA	0.17	*	-0.27	*	-0.17	*	-0.14	*	-0.29	*	-0.17	*	-0.31	*
BELARUS	0.10	*	0.04	*	0.13	*	0.28	*	0.24	*	0.08	*	0.18	*
CZECH REPUBLIC	-0.17	*	-0.09	*	-0.04	*	0.01		-0.17	*	0.07	*	-0.16	*
DENMARK	0.12	*	0.21	*	0.06	*	-0.01		0.11	*	0.13	*	0.07	*
ESTONIA	0.01		0.42	*	0.02	*	0.45	*	0.04	*	0.24	*	0.18	*
FINLAND	0.05	*	0.17	*	0.08	*	0.22	*	0.08	*	-0.17	*	0.11	*
FRANCE	-0.06	*	0.17	*	0.03	*	0.09	*	0.02	*	-0.17	*	-0.03	*
GERMANY	-0.02	*	0.22	*	0.02	*	0.13	*	-0.06	*	-0.13	*	0.05	*
HUNGARY	-0.11	*	-0.16	*	-0.13	*	-0.03		-0.16	*	-0.05	*	-0.14	*
ICELAND	-0.06	*	0.23	*	0.08	*	0.14	*	-0.05	*	-0.09	*	0.01	
IRELAND	-0.27	*	0.07	*	0.04	*	-0.20	*	-0.04	*	-0.07	*	-0.04	*
ITALY	0.04	*	0.28	*	-0.03	*	0.10	*	0.09	*	-0.18	*	0.09	*
LATVIA	-0.01		0.44	*	0.10	*	0.32	*	0.09	*	0.30	*	0.05	*
LITHUANIA	0.05	*	0.41	*	0.02	*	0.14	*	-0.13	*	0.07	*	-0.11	*
MALTA	-0.13	*	0.39	*	0.02		0.31	*	0.08	*	-0.23	*	0.00	
NETHERLANDS	-0.05	*	0.19	*	-0.09	*	-0.04	*	-0.14	*	-0.03	*	0.01	
NORWAY	-0.03	*	-0.07	*	-0.03	*	-0.00		0.07	*	-0.02		0.08	*
POLAND	-0.24	*	-0.05	*	-0.13	*	0.16	*	-0.33	*	-0.25	*	-0.12	*
PORTUGAL	0.04		0.23	*	0.13	*	0.28	*	0.03	*	-0.00		0.00	
ROMANIA	0.05	*	-0.16	*	-0.15	*	0.03	*	-0.05	*	0.07	*	-0.17	*
RUSSIAN FEDERATION	0.03	*	-0.06	*	-0.11	*	-0.01		-0.03	*	0.03	*	-0.06	*
SLOVAKIA (Slovak Republic)	0.05	*	0.15	*	0.02		0.14	*	0.12	*	0.05	*	-0.13	*
SLOVENIA	-0.06	*	0.04	*	-0.08	*	-0.01		-0.13	*	0.04	*	-0.14	*
SPAIN	-0.25	*	0.13	*	-0.12	*	0.15	*	0.07	*	-0.12	*	-0.03	*
SWEDEN	0.04	*	-0.01		-0.02	*	0.00		0.08	*	-0.08	*	0.14	*
SWITZERLAND	0.07	*	-0.02	*	0.27	*	0.18	*	0.30	*	0.04	*	0.15	*
TURKEY	0.15	*	-0.11	*	-0.00		0.16	*	0.08	*	0.01	*	0.10	*
UNITED KINGDOM	-0.07	*	0.08	*	0.03	*	-0.07	*	-0.06	*	-0.10	*	-0.02	

Note: * $p < 0.10$.

References

Adam, F. (2008). Mapping social capital across Europe: findings, trends and methodological shortcomings of cross-national surveys. *Social Science Information*, 47(2):pp. 159 – 186.

Aguiar, M. and Hurst, E. (2007). Measuring trends in leisure: The allocation of time over five decades. *The Quarterly Journal of Economics*, 122(3):969–1006.

Allison, P. (2001). Missing data. *SAGE University Paper*, 136.

Arts, W. and Halman, L. (2004). *European values at the turn of the millennium*. Brill NV, Leiden, the Netherlands.

Bartkowski, J. and Jasińska-Kania, A. (2004). Voluntary organizations and the development of civil society. In Arts, W. A. and Halman, L., editors, *European Values at the Turn of the Millennium*, pages 109–38. Brill.

Bartolini, S., Bilancini, E., and Pugno, M. (2013). Did the decline in social connections depress Americans' happiness? *Social Indicators Research*, 110(3):1033–1059.

Bartolini, S. and Sarracino, F. (2014). Happy for how long? How social capital and GDP relate to happiness over time. *Ecological Economics*, 108:pp. 242 – 256.

Beugelsdijk, S. and Van Schaik, T. (2005a). Differences in social capital between 54 Western European regions. *Regional Studies*, 39(8):1053–1064.

Beugelsdijk, S. and Van Schaik, T. (2005b). Social capital and growth in European regions: an empirical test. *European Journal of Political Economy*, 21(2):301–324.

Blanchflower, D. (2008). International evidence on well-being. *IZA Discussion Papers*, (3354).

Costa, D. and Kahn, M. (2003). Understanding the decline in social capital, 1952-1998. *Kyklos*, 56:17–46.

Costa, D. L. and Kahn, M. E. (2001). Understanding the decline in social capital, 1952-1998. Technical report, National Bureau of Economic Research.

Curtis, J. E., Baer, D. E., and Grabb, E. G. (2001). Nations of joiners: Explaining voluntary association membership in democratic societies. *American Sociological Review*, pages 783–805.

Dekker, P. and Broek, A. V. D. (2005). Involvement in voluntary associations in North America and Western Europe: trends and correlates 1981–2000. *Journal of Civil Society*, 1(1):45–59.

Delhey, J. and Newton, K. (2005). Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review*, 21(4):311–327.

Ebbinghaus, B. (2002). Trade unions'changing role: Membership erosion, organizational reform, and social partnership in Europe. *Industrial Relations Journal*, 33(5):465.

EVS (2011). European values study 1981-2008, longitudinal data file. Technical report, GESIS Data Archive, Cologne, ZA4804 Data File Version 2.0.0 (www.europeanvaluesstudy.eu).

Ferrer-i Carbonell, A. (2005). Income and well-being: an empirical analysis of the comparison income effect. *Journal of Public Economics*, 89(5-6):pp. 997 – 1019.

Ferrer-i Carbonell, A. and Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness? *Economic Journal*, 114(497):pp. 641 – 659.

Fidrmuc, J. and Gërxhani, K. (2004). Formation of social capital in Eastern Europe: Explaining the gap vis-á-vis developed countries. *German Institute for Economic Research*.

Fidrmuc, J. and Gërxhani, K. (2008). Mind the gap! Social capital, East and West. *Journal of comparative economics*, 36:264–286.

Hirsch, F. (1976). *Social limits to growth*. Harvard University Press, Cambridge, Mass.

Jetten, J., Haslam, C., and Haslam, S. A., editors (2010). *The Social Cure. Identity, Health and Well-Being*. Psychology Press.

Knack, S. and Keefer, P. (1997). Does social capital have an economic payoff? a cross-country investigation. *The Quarterly Journal of Economics*, 112(4):1251–1288.

Letki, N. and Evans, G. (2005). Endogenizing social trust: democratization in East-Central Europe. *British Journal of Political Science*, 35(3):515–529.

Little, R. and Rubin, D. (2002). *Statistical analysis with missing data*. John Wiley & Sons, New York, 2nd edition.

Morales, L. (2004). Changing patterns of associational involvement in Europe. Workshop 8 - The changing structure of civil society, directed by Derrick Purdue & Mario Diani, ECPR Joint Sessions, Uppsala.

Norris, P. (2001). Making democracies work: social capital and civic engagement in 47 societies. Paper for panel 1-10 'social capital and organizations', Midwest Political Science Association 60th Annual Meeting, Palmer House Hilton, Chicago.

OECD (2001). Are trust and civic engagement declining in OECD countries? In *The well-being of nations: the role of human and social capital*, pages 99 – 103. OECD, Paris.

Paxton, P. (1999). Is social capital declining in the United States? A multiple indicator assessment. *American Journal of Sociology*, 105(1):88 – 127.

Pichler, F. and Wallace, C. (2007). Patterns of formal and informal social capital in Europe. *European Sociological Review*, 23(4):423–435.

Polanyi, K. (1968). *The great transformation*. Boston: Beacon.

Powdthavee, N. (2010). *The happiness equation: The surprising economics of our most valuable asset*. Icon Books, London.

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.

Putnam, R., Leonardi, L., and Nanetti, R. (1993). *Making democracy work: civic traditions in modern Italy*. Princeton University Press, Princeton, New Jersey.

Sabatini, F. (2009). Social capital as social networks: a new framework for measurement and an empirical analysis of its determinants and consequences. *The Journal of Socio-Economics*, 38(3):429–442.

Sarracino, F. (2010). Social capital and subjective well-being trends: comparing 11 western European countries. *Journal of Socio-Economics*, 39(4):482 – 517.

Sarracino, F. (2012). Money, sociability and happiness: Are developed countries doomed to social erosion and unhappiness? *Social Indicators Research*, 109(2):135–188.

Schafer, J. (1997). *Analysis of incomplete multivariate data*. Chapman and Hall/CRC, CRC Press Company.

Schafer, J. (1999). Multiple imputation: a primer. *Statistical methods in medical research*, 8:3–15.

Stolle, D. and Hooghe, M. (2004). Inaccurate, exceptional, one-sided or irrelevant? The debate about the alleged decline of social capital and civic engagement in Western societies. *British Journal of Political Science*, 35:149 – 167.

Stromsnes, K. and Wollebæk, D. (2006). Mapping voluntarism – Scandinavia in comparison. In *7th International ISTR Conference, Bangkok*, pages 9–12.

Van Oorschot, W. and Arts, W. (2005). The social capital of European welfare states: the crowding out hypothesis revisited. *Journal of European Social Policy*, 15(1):05–26.

Van Oorschot, W., Arts, W., and Gelissen, J. (2006). Social capital in Europe, measurement and social and regional distribution of a multifaceted phenomenon. *Acta Sociologica*, 49(2):149 – 167.

Van Schaik, T. (2002). Social capital in the European Values Study surveys. *Country paper prepared for the OECD-ONS International Conference on Social Capital Measurement London*.

Western, J., Stimson, R., Baum, S., and Van Gellecum, Y. (2005). Measuring community strength and social capital. *Regional studies*, 39(8):1095–1109.

WVS (2009). World Values Survey 1981-2008, official aggregate v.20090901. Technical report, World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: ASEP/JDS, Madrid.