

Chapter 8

Social Capital, Trust, and Economic Growth



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Abstract This contribution revisits the existing research in the field of social capital, trust, and economic growth, with the aim of elaborating a possible extension of the neo-classical model by incorporating social capital into its assumptions. It describes the state of the art and definition of social capital and interpersonal trust and discusses the positive and negative relationships between social capital, trust, and growth. It offers a brief discussion of the operationalization of social capital and provides an overview of the empirical findings to date with respect to social capital, trust, and growth. In its conclusions, this contribution calls for further research on the relationship between trust and economic growth.

Keywords Social capital · Trust · Economic growth

1 Introduction

In recent years, the concept of “social capital” has been firmly established within the academic discipline of economics under the JEL classification Z13. The World Bank in particular helped to operationalize the concept of social capital by recognizing its contribution to sustainable development and to combatting global poverty. In his Foreword to the 24-volume series on social capital, Ismail Serageldin argues that the

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“traditional composition of natural capital, physical or produced capital, and human capital needs to be broadened to include social capital.” (Serageldin, 1999, p. iii). He continues: “Social capital is the glue that holds societies together and without it there can be no economic growth or human well-being.” But the World Bank is not the only institution to stress the importance of social capital. The Organization for Co-operation and Economic Development (OECD) has intertwined the paradigm of social capital with that of human capital and analyses possible interaction between social capital, human capital, human well-being, and economic growth (OECD, 2001). In addition, the European Union, while not explicitly emphasizing the paradigm of social capital, promotes in its Lisbon Strategy the idea that, in addition to economic growth and employment, special attention must be paid to increasing social cohesion within the European Community.

2 Extension of the Neoclassical Model Assumption

The logic of social capital has mostly been negotiated in economics as a black-box concept. Social contexts do not play a role in the neoclassical production function (Solow, 1956). One thing is certain: alongside the classic factors of production—capital, labor, and human capital—one finds an equally important factor, namely social infrastructure. In contemporary research, it is referred to under the collective term “social capital”. Temple identifies with social capital all those social phenomena that decisively influence long-term growth (Temple, 2001 in OECD, 2001, p. 39). A clear delineation of which cultural and social factors should ultimately be included in the concept of social capital has not yet been made in contemporary research.

Nevertheless, research in the field of social capital and economic growth is based primarily on the paradigm of trust (Inglehart, 1990; Putnam, 1993; Fukuyama, 1996; Heliwell, 1996; Knack & Keefer, 1997; Whiteley, 2000; Zak & Knack, 2001; Beugelsdijk et al., 2004; Berggren et al., 2008; Roth, 2007, 2009), the concept of civic engagement (Heliwell, 1996; Inglehart, 1997; Putnam, 1993; Putnam & Helliwell, 1999), and the concept of norms of reciprocity (Knack & Keefer, 1997). Whereas economists first extended the neoclassical production function in the early 1990s to include the human capital paradigm, so that the concept of conditional convergence and international growth rates could be better explained empirically (see Barro, 1991; Mankiw et al., 1992; Barro & Sala-i-Martin, 2004, p. 60), in recent years, the neoclassical model is being extended by the social capital factor (Dasgupta, 1999; Serageldin, 1999; Serageldin & Grootaert, 1999; Whiteley, 2000). In the scientific debate, however, it has not yet been clarified whether social capital should be included in the production model as a simple scale factor (Knack & Keefer, 1997; Zak & Knack, 2001; Whiteley, 2000) or whether it should be included

in total factor productivity as the basis of the entire production process (Dasgupta, 1999, p. 390 ff.). If it is included as a simple scale factor, the true potential and cost of social capital are likely to be underestimated.

3 Criticism of the Concept of Social Capital or Why Is There Capital in Social Capital?

Robert Solow discusses the concept of social capital controversially. On the one hand, he considers research on social capital to be an important but difficult task; on the other hand, he considers the term social capital to be poorly chosen (Solow, 1999, pp. 6–10). He criticizes the term social capital by pointing out that capital is usually a stock of produced and natural production factors that support production. Moreover, he argues, social capital does not correspond to the conventional definition of capital, i.e., a stock of tangible, solid, and enduring things such as buildings, machinery, and inventory. Kenneth Arrow argues similarly (Arrow, 1999, pp. 3–5). He criticizes the use of the term “capital” in social capital. According to Arrow, the concept of capital involves three aspects: 1) extension in time, 2) deliberate sacrifice in the present for future benefit, and 3) alienability. Arrow argues that especially the second point does not apply to social capital. Social networks are not linked for the purpose of economic benefit.

Neither contribution really gets to the heart of the discussion. They suggest, however, that the concept of social capital is controversial. This can certainly be inferred from the fact that the capitalization of social phenomena, such as interpersonal trust as a proxy for civic solidarity and networks of civic engagement, is an indication that these phenomena can no longer be considered as natural, but rather that they are part of a social infrastructure that must be supported by the state and kept alive by civil society. They are not a collective good with unlimited resources, but always run the risk of being written off in the market-economy based production process. This is precisely why politicians are concerned every day about whether the social glue that holds society together is not eroding. Criticizing social capital theorists of poor conceptualization does not help scientific theorizing and prevents formulating questions to describe problems that currently exist. Or as Habisch puts it: *“In a certain way, social capital theory is itself a consequence of a changed reality: for something that is self-evident must first become non-self-evident before it can even be the subject of explicit scientific research, before it can be conceptualized”* (English translation of Habisch, 1999, p. 497).

4 The State of the Art and Definition of Social Capital

In recent years, the literature on the topic of social capital has grown exponentially.¹ Woolcock (1998, pp. 193–196) differentiates six areas of research.² And Portes (2000) differentiates between two levels of analysis.³ This contribution deals with the research on the interface between social capital and economic growth. Although there are various definitions of social capital (Fukuyama, 1996, p. 26; Temple, 2001 in OECD, 2001, p. 39; Ostrom, 1999, p. 176; Newton, 1997, p. 576; Woolcock, 1998, p. 189),⁴ the “classical” definitions of James Coleman and Robert Putnam will be used here to clarify the relationship between social capital and trust.

4.1 Coleman’s Definition of Social Capital

Coleman clarifies the paradigm of social capital in his treatises *Social Capital in the Creation of Human Capital* and *Foundations of Social Theory* (Coleman, 1988, 1990). According to Coleman’s definition, social capital is intended to be a resource from the social structure of actors within society. This resource represents capital for the actors. All social structures favor certain actions by actors who are within the structure, some more effectively and others less so. The concept of social capital

¹Research has found that only 20 international research papers were published on social capital before 1983, p. 109 between 1991 and 1995, and 1,003 between 1996 and March 1999 (Winter 2000, p. 17 in Putnam, 2001, p. 18). As of June 2006, the number has increased to 1,429. For an historical overview, see Putnam (2001) and Woolcock (1998). For a detailed review of the literature on social capital, see Habisch (1999).

²The research areas can be divided into six categories: 1) family and youth, 2) education, 3) community, 4) labor and organizations, 5) democracy, and 6) general cases of collective action problems. In current research, more than six research areas have been established. The research area between social capital and growth and between welfare state mechanisms and social capital should be mentioned here.

³The concept of social capital can be differentiated between two levels of analysis. On the one hand, the analysis can take place at the micro-level. In the center of this research are the so-called “networks of an actor”. With the help of this research design, relationships between income, human capital, and the networks of a person can be analyzed. This type of research was initiated by Pierre Bourdieu (1983) and James Coleman (1988). Esser (2000) calls this form of social capital “relational capital”. Relational capital is a private good. On the other hand, social capital can also be used as a concept at both the meso- and macro-levels. In this kind of relationship, social capital is seen as a stock, which is available for communities, regions, or nations. The analysis then does not focus on the individual actor but on the nation with its particular characteristics. These characteristics include aggregated entities, for example, the yearly change of stock of the Gross Domestic Product, the stock of the labor force, or the stock of human capital. The stock of social capital is, as well, a characteristic of a nation. Esser calls this kind of social capital “system capital”. System capital is characterized by its quality as a collective good.

⁴For a detailed list of definitions of social capital, see especially Woolcock (1998, p. 189). For relevant definitions in the field of social capital and growth, see Durlauf and Fafchamps (2005).

offers the possibility of embedding the extremely individualistic *homo oeconomicus*, who acts solely out of the motive to maximize his utility function, in his environment, thereby creating a relationship between the action of an actor and the action of his environment. The actor acts according to the social norms and rules he has learned from his environment (see also Sen, 1977). Coleman regards the socialization paradigm as a crucial explanation for actions, but he misses the importance of the actor's initiative. As this he understands the Rational-Choice paradigm of utility maximization (Coleman, 1988, p. 95). Coleman intends to introduce a new form of capital, alongside the existing forms of capital, such as physical and human capital, in the process of building scientific theories. Just as physical capital is created by changes in materials to create tools that facilitate production, and human capital is created by changes in people that bring skills and capabilities that allow them to act in new ways, social capital is generated through changes in the relations among people that facilitate action. Social capital facilitates productive activity just as much as physical and human capital (Coleman, 1988, pp. 100–101).

Unlike other forms of capital, social capital seems to be embedded in the relationship between two or more people. But what exactly characterizes this relationship, which creates social capital? Coleman names three forms of relationships involving social capital: 1) obligations, expectations, and trustworthiness of structures (the less the exchange of interactions between actors A and B is accounted for in the short run, the more social capital is produced in the relationship between the actors), 2) information channels, and 3) norms and sanctions. Coleman considers the trustworthiness of the social environment as the most important form of social capital (Coleman, 1990 in Whiteley, 2000, p. 448).

4.2 Putnam's Definition of Social Capital

Putnam is one of the first authors to apply the term social capital, which is used by Coleman and Bourdieu at the micro-level, as a concept for the meso-level. Social capital in Putnam's work refers to stocks of social capital that are available to a region (state) (for the change of level within the paradigm of social capital, see Portes, 2000). High stocks of social capital promote the economic development of a region and support state administration (Putnam, 1993, p. 176). Putnam associates certain features of social organizations, such as networks, norms, and trust, with social capital (Putnam, 1993, p. 167). He relates the term social capital automatically with the concept of civic engagement and the existence of a strong civil society. This is also emphasized in his later definition of social capital, in which he links social capital with the concept of civic virtues (Putnam, 2000).

The inclusion of psychological factors (trust and norms) and behavioral structures (networks) into one definition has been criticized. Newton (1997) argues that from an empirical point of view, the concept of social capital should be separated into its component parts. Whether civic engagement and trust are associated must be tested empirically before they can be combined into a common definition. Other

researchers also distance themselves from combining all three indicators in one definition. Knack and Keefer (1997) identify social inequality as a more important determinant of trust than civic engagement, whereas other lines of research focus on the performance of the welfare state as a producer of trust and norms (van Oorschot & Arts, 2005). Therefore, it seems appropriate for future empirical research to examine the individual components of social capital separately, given the number of researchers who attach great importance to the dimension of trust in the context of social capital (Newton, 1997; Fukuyama, 1996; Uslaner, 1999; Tonkiss, 2000; Zak & Knack, 2001; Roth, 2007, 2009). This view is also salient in microeconomics research dealing exclusively with trust and norms (Ostrom, 1998). Even Putnam attaches a high priority to the dimension of trust when he writes that norms and networks are the prerequisites for trust. Thus, trust can be seen as the output of the two other dimensions of social capital. The next section focuses on the paradigm of trust and the relationship between trust and growth.

5 Interpersonal Trust

Luhmann (2000, p. 1) states that “*trust, in the broadest sense of trusting one’s own expectations, is an elementary fact of social life*” [English translation]. It is “*the generalized expectation that the other will manage his freedom, the uncanny potential of his possibilities of action, in the sense of his personality – or, more precisely, in the sense of the personality he has presented as his and made socially visible*” [English translation] Luhmann (2000, p. 48). Fukuyama describes trust as the “*expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms*” (Fukuyama, 1996, p. 26). Although there is a variety of definitions of trust (Dasgupta, 1999, p. 5 in Ostrom, 1998, p. 12; Misztal, 1996, p. 16; Delhey & Newton, 2005, p. 311), the current research distinguishes between three different forms: interpersonal or generalized trust, thick trust, and systemic or institutional trust (Putnam, 2000, p. 137; Newton, 1997, p. 558 ff.; Luhmann, 2000).

Newton (1997) and Williams (1988) categorize trust that is generated by family networks as “thick trust”.⁵ In contrast, generalized or interpersonal trust is defined as trust that is generated by looser, secondary relations in modern societies, based on everyday interaction between people who do not otherwise know each other. Most scientists rely on generalized trust when examining the relationship between economic growth and trust, as it should facilitate cooperation and reduce transaction costs in economic systems. Economic systems are characterized by a substantial degree of differentiation, and exchange activity frequently depends upon trust

⁵Thick trust is usually measured by asking whether the respondent trusts his or her own family members. This question is asked, for example, in the second wave of the World Value Survey (1990–93).

between strangers. The third category of trust, systemic or institutional trust, refers to the respondent population's trust in certain institutions. These include, for example, trust in parliament, the police, the army, and large corporations. When trust is referred to in this study, interpersonal trust is meant.

6 Positive Correlation between Social Capital, Trust, and Growth

Arrow (1972, p. 345) argues that the presence of virtues such as trust plays a significant role in the operation of economic systems. These virtues represent the basis for or at least facilitate the process of exchange, which is essential for any economy. For Fukuyama (1996), trust is an essential factor of economic performance. A nation's well-being and its ability to compete depend upon the level of trust within the society (Ibid, 7). This argument arises from his general assumption that economic activity is part of the social life and constitutes itself according to the norms, rules, and moral obligations of a society. Sen states that the "development and use of trust in one another's words and promises can be a very important ingredient of market success" (Sen, 1999, p. 262) and that "no society would be viable without some norms and rules of conduct" (Sen, 1977, p. 332). Robert Putnam concludes that "norms and networks have fostered economic growth, not inhibited it" (Putnam, 1993, p. 176).

The foregoing authors argue for a positive relationship between trust and economic benefit. But how is trust related to growth?

Whiteley (2000, p. 451) distinguishes three direct and indirect channels through which interpersonal trust might stimulate economic growth.

First, trust has a direct effect on economic performance through reducing transaction costs. These are defined as costs incurred in the economic processes of exchange and specialization and are typically associated with banking, insurance, finance, wholesale, and retail trade or securing professional services from lawyers and accountants, etc. (North, 1990, p. 28). North therefore advocates the development of a new production function that takes transaction costs into account. In high-trust societies, transaction costs should be lower. Fewer lawyers, fewer police to enforce property rights, and fewer insurance policies to protect against possible risks are needed.

Second, high levels of trust enable actors to solve collective action problems (or "prisoner's dilemma"). Putnam (1995) puts forward four arguments why social capital, including interpersonal trust, has a positive effect on the economy: 1) it facilitates coordination and cooperation, 2) it allows dilemmas of collective action to be resolved and reduced, 3) it reduces incentives for opportunism, and 4) it reduces human egoism. "Making the I into the we" is the technical term in the language of "rational choice" theorists. In high-trust societies, it should theoretically be easier to cope with such problems. Hardin (1982) cites problems that can arise, for example,

with smog and CO₂ emissions, and Ostrom, as well, cites the problem of overfishing (Ostrom, 1990).

The third direct effect is that principal-agent problems might be much less significant in high-trust societies than in low-trust societies. Entrepreneurs who devote more time to monitoring employees, suppliers, and trading partners have less time to devote to innovation in new products or processes. In addition, they might rely on simpler contractual arrangements to retain their managers and specialists. Entrepreneurs with high levels of trust therefore theoretically pay fewer costs to monitor production.

Whiteley (2000) identifies three indirect channels. Trust affects economic growth through its interactions with 1) physical investment, 2) human capital, and 3) conditional convergence. In high-trust societies, on the one hand, the risk appetite of entrepreneurs should be greater to invest in physical capital (see also Keynes, 2000, p. 125); whereas on the other hand, the risk appetite of employees to invest in human capital should be greater. Finally, the diffusion of innovations and the implementation of new technologies should be greater.

It has been argued thus far that trust and the facilitation of collective action have a positive impact on economic growth. But is this necessarily or always the case? The following section presents counter-arguments to this thesis.

7 Negative Relationship Between Social Capital, Trust, and Growth

7.1 *Mancur Olson*

Let us first consider the argumentation of the American economist and political scientist Mancur Olson (1982). Although his analysis deals primarily with the dimension of networks within the concept of social capital, it is nevertheless appropriate for the present purposes. Olson analyses the relationship between collective action and economic growth in quite a different way from Putnam, arguing in fact that collective action can undermine the state's power to implement necessary reforms aimed at maintaining high economic growth rates. Olson argues that stable societies in highly developed states are in danger of encouraging the formation of cartels and collective action organizations over time. Organizations that function as special-interest groups harm economic growth by reducing economic efficiency, by aggregating income in the societies in which they operate, and by making political life more divisive. Putnam's approach thus seems to be limited.

A high level of solidarity, i.e., high stocks of interpersonal trust, need not automatically promote economic performance if the collective action is aimed at blocking government reform policies and thereby harming the economy. To give one example: If a state desires to implement labor market reform in which employee rights are reduced, a low-wage sector is implemented, working hours are extended,

and social spending on unemployment benefits and support is decreased to reduce the costs of the labor factor, a trusting and solidaristic society would more likely oppose the state's efforts at reform. In response, the mobilization of collective action would stop the reform agenda, thereby limiting the potential of higher economic growth rates. This argument is built upon Putnam's findings that a strong civil society is crucial for high levels of trust to emerge. In fact, it could be civil society actors, such as church groups, professional groups, and social movements organizations (SMOs), that oppose the state's will to implement reforms. Similarly, the number of workers who are (voluntary) labor union members may be a critical factor for the existence of high levels of trust. Thus, higher levels of trust do not necessarily lead to more economic growth.

A synthesis of both Putnam and Olson's approaches seems the most plausible. In low-trust societies, an increase in trust should theoretically have a positive effect on economic performance, given that a certain level of trust is essential for an economic system to function smoothly. A further increase above a certain level of trust, however, might have a negative impact on economic performance, which could subsequently be used to fuel opposition to a government's efforts at reform. Thus, the relationship between trust and economic growth can be expected to be curvilinear (inverted U-shaped).

This relationship should apply both within a country and in a cross-country comparative study design. In Scandinavian states, which are prototypes of highly developed economies with high levels of trust, a decrease in the level of trust should lead to an increase in growth, according to the arguments above. These states already have large stocks of interpersonal trust and actors of collective action. From the point of view of promoting growth, these countries would theoretically have to reduce parts of their solidarity levels. In contrast, in Latin American countries, such as Brazil, where interpersonal trust levels are very low, an increase in trust levels should support economic development. The same applies to Mediterranean countries, such as Turkey, where very low-trust levels are observed. This assumption of a curvilinear relationship between trust and growth is confirmed by the empirical results between democracy and economic growth. Barro and Sala-i-Martin (2004) determine a curvilinear relationship between democracy and growth, i.e. in states with weak democratic structures, democratization appears to enhance growth; but in countries with a highly developed level of democracy, the relationship is reversed and an increase in democracy retards growth.

7.2 Mistrust, Fear, and Economic Growth

The second explanation could be that mistrust or even fear is a key explanatory variable for productivity. A society with high levels of fear will less easily oppose state reform processes. Let us consider an example from organizational theory. It may be part of a company's strategy to create an atmosphere of fear among its employees. This non-solidaristic working atmosphere mobilizes the employees to

monitor themselves, to work harder, and to increase the overall productivity of the company. Another example of the positive relationship between fear and productivity is a high national unemployment rate and the associated fear of losing one's job. Employees who fear losing their jobs work harder, attach less importance to their legal employment rights, take less sick leave, and are less demanding overall. This fear also affects the actions of trade unions. Employers' associations have more leverage to push through wage reductions and extend working hours if trade unions give top priority to the preservation of jobs. The extension of working hours, in turn, has a direct positive impact on economic growth.

8 Operationalization of Social Capital

Based on Putnam's theoretical work, most empirical work in the area of social capital has relied on the three dimensions: trust, norms of reciprocity, and networks. But how can these three dimensions be measured, i.e., operationalized?

1. Interpersonal trust is measured by means of survey respondents' replies to the question: "*Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?*" The respondent has the option to answer with "*Most people can be trusted,*" "*[One] can't be too careful in dealing with people,*" and third "*Don't know.*" To capture the aggregate trust level of a society, the total valid responses of the surveyed population are first calibrated by removing the "*Don't know*" responses. In the next step, the "*Most people can be trusted*" responses are aggregated.⁶ These steps yield trust levels ranging between 2.8% (28 out of 1,000 respondents answering "*Most people can be trusted*") in Brazil (WVS 1995–97⁷) and 66.5% (665 out of 1,000 respondents answering "*Most people can be trusted*") in Denmark (WVS 1999–2002).

But what is the validity of such a measurement? The informative value of trust levels is widely recognized among researchers (see Knack & Keefer, 1997; Paxton, 1999; Whiteley, 2000; Alesina et al., 2000; Gabriel et al., 2002; Delhey & Newton, 2005; van Oorschot & Arts, 2005). Most notable is the dispersion of the aggregate variable, the discrepancy between Scandinavian countries, which have very high-trust levels, in contrast to countries in Latin America such as Colombia, Brazil, and Peru. But there are also large differences within OECD countries. Countries in Southern Europe and the Mediterranean (for the country

⁶The aggregation of interpersonal trust has been criticized from several sides. Portes (2000), Sobel (2002), Durlauf and Fafchamps (2005) advise working with the concept of trust on the micro-level. Work on the aggregate level would have no theoretical social science foundation (Durlauf & Fafchamps, 2005) or should at least be scaled back from the macro-level (nation) to the meso-level (state, region, or federal state).

⁷WVS refers to the World Value Survey. For a description, see: <https://www.worldvaluessurvey.org/wvs.jsp>.

typology “Mediterranean-,” “coordinated-,” and “liberal-” countries, see Hall & Soskice, 2001), such as Portugal, France, and Turkey, are endowed with lower trust levels than countries with coordinated market economies, liberal market economies, and Scandinavian countries.

In addition to interpersonal trust, systemic trust is measured by means of the following question: “I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: Is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?” For example, the WVS 1999–2002 lists 15 organizations (4 of the 15 have already been mentioned as examples in Section 5 of this contribution). The answers are first processed by removing the “Don’t know” answers, and then recoded and aggregated. This results in values of 1–4 for each individual organization, with high values representing high systemic trust. It is now worth considering whether an index construction of the individual institutions is appropriate.

Figure 8.1 shows an example of the trust levels of the countries of the former 15 EU member states⁸ and the two largest economies, Japan and the US, in a cross-section of countries (WVS 1999–2002). The three Scandinavian countries and the Netherlands have very high-trust levels of over 55%. The countries Great Britain and Japan have average trust levels between 29.7% and 43.1%. The three Mediterranean countries Portugal, France, and Greece have levels between 10% and 23.7%. If countries from Latin America, such as Brazil with a trust level of 2.8% (WVS 1995–97), were now added to the country sample, the range of variance would increase further. But even without the addition of countries

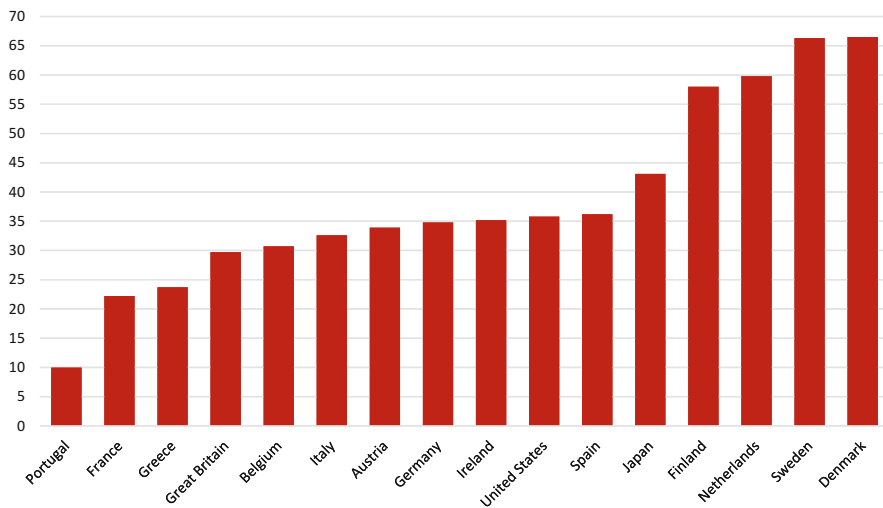


Fig. 8.1 Trust levels in selected countries (in %)

⁸No data were available for Luxembourg.

outside the EU-15, the discrepancy between Portugal with 10% and Denmark with 66.5% is very large.

2. Reciprocity norms are operationalized using questions from the “norms item battery” from the World Value Survey (WVS). The introductory question reads: *“Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between.”* The respondent has the option to answer using a Likert scale ranging from 1 to 10 with 1 representing *“Never justified”* and 10 representing *“Always justified.”* In the WVS 1999–2002, the item battery consists of 24 individual items. In the panel design, it is possible to rely on four items: *“Claiming government benefits which you are not entitled to,” “Cheating on taxes,” “Someone accepting a bribe in the course of their duties,”* and *“Avoiding a fare on public transport”*. (For the cross-sectional procedure, see Knack & Keefer, 1997. The authors use five items of the item battery). The items are aggregated by their mean value and recorded. The result is a reciprocity norm index, which theoretically takes values between 4 and 40 (in Knack & Keefer, 1997, 5–50), where high values mean that there is a high stock of norms in society and low values mean that there are few reciprocity norms. While the measurement of interpersonal trust is very common, the construction of the norm index is less widespread (while Knack & Keefer, 1997 still worked with this index, Zak & Knack, 2001 were already working with only aggregated trust). One reason for this is that the dispersion of the index does not have the same variance as the aggregated variable trust. Furthermore, the validity of the index is more questionable than that of the trust variable. Further research would be needed to examine the variable in more detail. Knack and Keefer (1997) point to a high correlation between trust stocks and norm stocks.
3. The operationalization of networks has not yet been fully clarified theoretically. It remains worth discussing which types of civic engagement should be included as a basis for social capital. For example, unlike Putnam, Minkoff (1997) argues for including social movement organizations in a conceptualization of social capital. Most common is the measurement of associations using the following item from the WVS: *“Please look carefully at the following list of voluntary organizations and activities and say a) which, if any, do you belong to, and b) for which, if any, you are currently doing unpaid voluntary work?”* Respondents are asked about the following organizations; (1) *groups for social welfare services for elderly, handicapped, or deprived people*, (2) *religious or church organizations*, (3) *education, arts, music, or cultural activity groups*, (4) *labor unions*, (5) *political parties or groups*, (6) *local community action groups on issues like poverty, employment, housing, or racial equality*, (7) *third-world development or human rights advocacy groups*, (8) *environmental groups*, (9) *professional associations*, (10) *youth work groups*, (11) *sports or recreation associations*, (12) *women’s groups*, (13) *peace movement*, (14) *voluntary organizations concerned with health*, (15) *Other groups*, and (16) *None*. The *“Not-mentioned”* are removed and the answers *“Belong”* and *“Do voluntary work”* are aggregated and added together.

4. As discussed earlier, current social capital research does not agree on whether or not dimensions of social capital should be summarized as an index. Putnam's approaches, for example, are mostly driven by indexing. In his book *Making Democracy Work* (Putnam, 1993), he works with a civic index; in his paper *Economic Growth and Social Capital in Italy*, he works with an index measuring civic engagement, one measuring institutional performance, and one measuring citizen satisfaction. In the empirical section of his book *Bowling Alone* (Putnam, 2000), Putnam works with a social capital index that consists of five dimensions with 14 individual items. These items are indicators of civic engagement, but also of voting behavior and interpersonal trust. Pamela Paxton, for example, works with a social capital index consisting of 14 items (Paxton, 1999) and a social capital index consisting of two dimensions associations and trust (Paxton, 2002).

9 Social Capital, Trust, and Economic Growth: Empirical Findings

Most economists addressing the relationship between social capital and economic growth refer to the concept of trust (Knack & Keefer, 1997; La Porta et al., 1999; Whiteley, 2000; Zak & Knack, 2001; Beugelsdijk et al., 2004; Berggren et al., 2008; Roth, 2007, 2009). The paper in this area that has received the most attention is probably the 1997 article *Does social capital have a payoff?* by authors Knack and Keefer, whose article takes Robert Solow's (1995) harsh critique of Fukuyama's book *Trust - The social virtues and the creation of prosperity* as a starting point for an empirical examination of Fukuyama and Putnam's theses. Thus, in his book review *But Verify?*, Solow writes: if trust really is to be an important indicator of a nation's economic development, then trust should be able to explain some of the residual growth that remains unexplained, after previously controlling for the factors of labor, share of investment rate in GDP, and human capital. He writes:

A standard exercise in economics is to decompose the observed growth of a national economy into its sources. How much can be attributed to the growth of the labour force? How much to the improved quality of labour? How much to the accumulation of the capital in the form of factories, machines, computers and so on? After all this is done, almost always there is a "residual" left over, some part of observed growth that cannot be credited to a measured factor of production. One would expect the contribution of "trust" or the perceived growth of "social capital" to be captured in this residual. If Fukuyama is right, they should be an important contribution to it (1995, p. 37).

Knack and Keefer examine the relationship between social capital and economic growth in a cross-country comparative research design considering 29 market economies. They use the common method of empirical growth regressions. Relying on Barro's (1991) results, Knack and Keefer apply a widely used production function that includes the basic factors of natural logarithm of initial per capita income (to test for conditional convergence), stock of human capital (primary and secondary

education levels), and initial price level for investment, as well as the dimensions of social capital. The authors examine as the dependent variable the growth of per capita income between 1980 and 1992. They did not include the classic “Solow” variable, i.e. the share of investment in GNP, in their production model because they assume that trust stimulates growth via the impact on investment. The social capital variable is operationalized by the authors into the dimensions of trust, norms of reciprocity, and membership in voluntary associations, as described above. The dimensions of social capital are measured using 21 observations from the first wave of the WVS (1981–84) and 8 observations from the second wave of the WVS (1990–93). The authors conclude that trust and norms of reciprocity have a positive effect on long-term economic growth, but civic associations do not. The authors interpret their results as follows: 1) a 10% rise in trust is associated with an increase in growth of 0.8% and 2) each four-point rise in the reciprocity norms index targeted at a maximum of 50 points is associated with an increase in growth of more than 1% point. To check the robustness of their results, the authors use instrumental variables for trust, include additional regressors in their production function, and examine their results for potential outliers. The significant positive relationship between trust and growth is robust to all these specification changes. It should be noted with respect to the authors’ approach that they base their results on the analysis of only 29 cases. Similarly, it is difficult to test for causality because they work with a cross-sectional design and with “flow variables” instead of “stock variables” at the beginning of the growth period to be explained. Data from 1990 to 1993 are used to explain growth in the 1980–1992 period. The authors are themselves aware of the endogeneity problem at hand and argue as follows: Since the trust scores of the first and second waves of the WVS are highly correlated, trust is interpreted as a constant cultural factor of a nation that does not change over time. Therefore, it is possible for the authors to use 1990–1993 trust scores as a proxy for 1980 trust scores. The authors’ case selection is based on the assumption that social capital operates only in market economies. Therefore, the authors do not include transition countries or China in their country sample. The latter case, however, is particularly interesting because China, as a socialist and totalitarian state, registers not low but high-trust scores associated with high growth.

Building upon this article, Zak and Knack (2001) examine solely the relationship between trust and economic growth. The authors expand the country sample by nine developing countries and three OECD countries, to reach a total of 41 market economies, taking observations from the third wave of the WVS and including data from the Eurobarometer and an independent survey for the case of New Zealand. The values of the underlying data range from 5.5% for Peru to 61.2% for Norway. Their dependent variable is the average growth in per capita income between 1970 and 1992. The endogeneity problem is more prevalent in this study than in Knack and Keefer’s study. The authors use trust variables from 1995 to 1997 to explain growth between 1970 and 1992. The independent variable trust is even lagged behind the dependent variable (growth 1970–1992). The authors are aware of this fact and rely on Knack and Keefer’s argument that trust levels behave consistently over time and trust values from 1996 can be used as a proxy for trust

values around 1970. The authors again use a growth model with the control variables price level of investment, human capital, and initial national income. The authors concluded that a positive and significant relationship exists between trust and economic growth. They determined that growth rises by nearly one percentage point on average for every 15% point increase in trust.

Beugelsdijk et al. (2004) reevaluate the results of Knack and Keefer and Zak and Knack using robust regression techniques. They analyzed the results of the two studies along four dimensions of robustness: 1) statistical significance, 2) the influence of changing sets of conditioning variables on the estimated effect of trust, 3) the sensitivity of the results for using different proxies or specifications for basic variables like human capital, and 4) the effects on the significance and size when expanding the country sample to 41 countries. The authors conclude that their study provides further empirical evidence of an important relationship between trust and economic growth.

Whiteley (2000) examined the relationship between trust and growth in the framework of a modified neoclassical model of economic growth. He uses a 34-country sample with growth in per capita income between 1970 and 1992 as the dependent variable. As a social capital variable, he uses a trust index consisting of three different items (trust in one's own family, trust in one's own compatriots, and interpersonal trust) from the WVS 1990–1993. He concludes that the trust index of the three indicators has a positive effect on economic growth, with an impact as great as the variable conditional convergence and human capital. His results support the idea that attitudinal values are indispensable for the correct specification of growth regressions.

La Porta et al. (1999) work with trust data from the second wave of the WVS. They operate on a 39-country sample with the dependent variable growth in per capita income between 1970 and 1993, generated from World Development Report data. A 10% rise in trust is associated with a 0.3% rise in per capita income. They concluded that trust enhances economic performance and is remarkably robust in the cross-section country design.

In contrast to these results, Heliwell (1996) found a negative relationship between trust and productivity growth and between associations and economic productivity growth, in a sample of 17 OECD countries. He works with the dependent variable productivity growth between 1960 and 1992. His negative result in the cross-section country design is the only one known to the present author.

Except for Heliwell's negative result in 1996, all empirical studies conducted to date have found a positive relationship between trust and economic growth. Many social scientists who study the concept rely on the positive research results and mostly associate social capital with a positive relationship between social capital and economic growth. Social capital therefore enjoys a positive image.

Recent research has questioned the significant positive relationship between trust and economic growth. Berggren et al. (2008) test the robustness of the results of Knack and Keefer (1997), Zak and Knack (2001), and Beugelsdijk et al. (2004). They expand the country sample to 63 countries using data from the fourth wave of the WVS and from the Latinobarómetro. They investigated whether previous studies

on the relationship between trust and growth, which produced significant results between 1970 and 1992, also hold for the 1990–2000 period. They learned that when outliers are removed, specifically in China, the relationship between trust and growth is only statistically significant (with significance level of 5%) in 10% of the cases out of 1140 regressions. The authors emphasize that their results “show that the trust-growth relationship is less robust than claimed earlier” (Berggren et al., 2008, 252).

Roth (2007, 2009) even finds a significant negative correlation between trust and economic growth. His research also points to the downside of the social capital paradigm. Willingness to cooperate and high levels of interpersonal trust within a society can, in Olson’s sense, turn against state reform processes. Unlike the studies mentioned so far, he works with a panel design. Roth assumes that trust cannot be readily understood as a constant cultural variable and points out that especially countries with a liberal-country regime, such as the US, the UK, Ireland, Canada, and Australia, have experienced strong declines in trust over time. For example, the trust level of the US dropped from 50% to 35.6% between 1990 and 1995. The UK’s trust level dropped from 43.6% to 31% between 1990 and 1998. Even though the correlation of all countries between the periods is high, a loss of trust by the world’s largest economy, the US, of almost one-third of its trust stocks in a period of only five years, is enough to question the constancy of interpersonal trust.

To Roth, it therefore seems reasonable to examine what impact this loss of trust has on economic performance. The assessment that trust should not be treated as a constant variable is based, among other things, on studies by Inglehart (Inglehart, 1997, 224; Inglehart, 1999, 95) and Noelle (2005). Using Germany as a case study, Noelle shows that interpersonal trust in Germany increased from 15% to 45% between 1950 and 2005. Inglehart (1999) and Uslaner (1999) use the US as a case study to demonstrate that interpersonal trust fell from 58% in 1960 to 36% in 1994. Roth’s study (Roth, 2009) examines 41 countries with 129 observation points over the period 1980–2004. The dependent variable is the growth rate of per capita income for the five growth periods 1980–1984, 1985–1989, 1990–1994, 1995–1999, and 2000–2004. Trust data are generated from all four waves of the WVS 1981–1984, 1990–1993, 1995–1997, and 1999–2002, as well as one wave of the Eurobarometer (Eurobarometer 25 from 1986). To avoid endogeneity problems, trust as a stock variable is used as a lagged variable vis-à-vis the growth periods to be explained. The study uses the same growth model as used in the studies by Knack and Keefer (1997), Zak and Knack (2001), Beugelsdijk et al. (2004), and Berggren et al. (2008) for better comparability of results. Using this research design and a fixed-effects model, Roth (2009) finds a significant negative relationship between interpersonal trust and economic growth. A decrease in the level of interpersonal trust within a country is associated with an increase in the growth rate. This negative relationship is at odds with a positive relationship in the cross-section of countries.

10 Concluding Remarks

The finding that interpersonal trust has a positive effect on economic growth has matured into a certainty in the international scientific community in recent years. This positive result is most often associated with the academic work of Knack and Keefer (1997) and Zak and Knack (2001). In particular, the Knack and Keefer article is used to paraphrase the relationship between trust and economic development. More recent research challenges the significant positive relationship found by Knack and Keefer and Zak and Knack (Berggren et al., 2008) and even finds a significant negative relationship between trust and growth (Roth, 2007, 2009). Further research, as well as networking efforts among scientists currently researching the relationship between trust and growth, are necessary. It should be noted that research on the relationship between trust and economic growth remains relevant, as the market-economy based production process embedded in democratic structures depends on a basic level of social trust.

References

- Alesina, A., et al. (2000). *The determinants of trust, NBER working paper 7621, National Bureau of economic research*. MA.
- Arrow, K. (1972). Gifts and exchanges. *Philosophy and Public Affairs*, 1, 343–362.
- Arrow, K. (1999). Observations on social capital. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 3–5). World Bank.
- Barro, R. (1991). Economic growth in a cross-section of countries. *Quarterly Journal of Economics*, 106, 407–443.
- Barro, R., & Sala-i-Martin, X. (2004). *Economic growth*. MIT Press.
- Berggren, N., Elinder, M., & Jordahl, H. (2008). Trust and growth: A shaky relationship. *Empirical Economics*, 35, 251–274.
- Beugelsdijk, S., de Groot, H. L. F., & van Schaik, A. B. T. M. (2004). Trust and economic growth: A robustness analysis. *Oxford Economic Papers*, 56, 118–134.
- Bourdieu, P. (1983). Ökonomisches, kulturelles und soziales Kapital. In: K. Reinhard (Hrsg.), *Soziale Ungleichheiten (Soziale Welt: Sonderband 2)* (pp. 183–198).
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95–120.
- Coleman, J. (1990). *Foundations of social theory*. Harvard University Press.
- Dasgupta, P. (1999). Economic progress and the idea of social capital. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 325–424). World Bank.
- Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review*, 21(4), 311–327.
- Durlauf, S. N., & Fafchamps, M. (2005). Social capital. In P. Aghion & S. Durlauf (Eds.), *Handbook of economic growth* (pp. 1639–1699). North Holland.
- Esser, H. (2000). *Soziologie: Spezielle Grundlagen Band 4: Opportunitäten und Restriktionen*. Campus Verlag.
- Fukuyama, F. (1996). *Trust*. The Free Press.
- Gabriel, O. W., Kunz, V., Roßteuscher, S., & Van Deth, J. W. (2002). *Sozialkapital und Demokratie—Zivilgesellschaftliche Ressourcen im Vergleich*. WUV-Universitäts-Verlag.

- Habisch, A. (1999). Sozialkapital. In K. Wilhelm et al. (Hrsg.) *Handbuch der Wirtschaftsethik, Band 4. Ausgewählte Handlungsfelder* (pp. 472–509). Gütersloh.
- Hall, P., & Soskice, D. (2001). *Varieties of capitalism*. Oxford University Press.
- Hardin, R. (1982). *Collective action*. Johns Hopkins University Press.
- Heliwell, J. (1996). *Economic growth and social capital in Asia, NBER working paper 5470*. National Bureau of Economic Research.
- Inglehart, R. (1990). *Culture shift*. Princeton University Press.
- Inglehart, R. (1997). *Modernization and postmodernization—Cultural, economic and political change in 43 societies*. Princeton University Press.
- Inglehart, R. (1999). Trust, well-being and democracy. In M. E. Warren (Ed.), *Democracy and trust* (pp. 88–120). Cambridge University Press.
- Keynes, J. M. (2000). *Allgemeine Theorie der Beschäftigung, des Zinses und des Geldes*. Duncker & Humblot GmbH.
- Knack, S., & Keefer, P. (1997). Does social capital have a payoff? A cross-country investigation. *Quarterly Journal of Economics*, 112, 1251–1288.
- La Porta, R., et al. (1999). Trust in large organizations. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 310–324). World Bank.
- Luhmann, N. (2000). *Vertrauen*. Lucius & Lucius Verlagsgesellschaft mbH.
- Mankiw, G., Romer, D., & Weil, D. (1992). A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*, 107, 407–437.
- Minkoff, D. (1997). Producing social capital. *The American Behavioral Scientist*, 40, 606–619.
- Misztal, B. (1996). *Trust in modern societies--The search for the bases of social order*. Polity Press.
- Newton, K. (1997). Social capital and democracy. *American Behavioral Scientist*, 40, 575–586.
- Noelle, E. (2005). Vertrauen ist besser. *Frankfurter Allgemeine Zeitung*, 166, 5.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
- OECD. (2001). *The well-being of nations—The role of human and social capital*. OECD.
- Olson, M. (1982). *The rise and decline of nations: Economic growth, stagflation and social rigidities*. Yale University Press.
- Ostrom, E. (1990). *Governing the commons*. Cambridge University Press.
- Ostrom, E. (1998). A behavioral approach to the rational choice theory of collective action: Presidential address, American Political Science Association, 1997. *The American Political Science Review*, 92, 1–22.
- Ostrom, E. (1999). A fad or a fundamental concept? In P. Dasgupta & I. Serageldin (Eds.), *Social capital—a multifaceted perspective* (pp. 172–214). World Bank.
- Paxton, P. (1999). Is social capital declining in the United States—A multiple indicator assessment? *American Journal of Sociology*, 105, 88–127.
- Paxton, P. (2002). Social capital and democracy: An interdependent relationship. *American Sociological Review*, 67, 254–277.
- Portes, A. (2000). The two meanings of social capital. *Sociological Forum*, 15, 1–11.
- Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6, 65–78.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Putnam, R. D. (2001). *Gesellschaft und Gemeinsinn*. Bertelsmann Stiftung Verlag.
- Putnam, R. D., & Helliwell, J. (1999). Economic growth and social capital in Italy. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 253–268). World Bank.
- Roth, F. (2007). *Social capital, trust and economic growth—A cross-sectional and panel analysis. Dissertation zur Erlangung des wirtschaftswissenschaftlichen Doktorgrades der Wirtschaftswissenschaftlichen Fakultät der Universität Göttingen*. <http://webdoc.sub.gwdg.de/diss/2007/roth/>.

- Roth, F. (2009). Does too much trust hamper economic growth. *Kyklos*, 62, 103–128.
- Sen, A. K. (1977). Rational fools: A critique of the behavioural of economic theory. *Philosophy and Public Affairs*, 6, 317–344.
- Sen, A. K. (1999). *Development as freedom*. Oxford University Press.
- Serageldin, I. (1999). Foreword. In S. Knack (Ed.), *Social capital, growth and poverty: A survey of cross-country evidence, social capital initiative working paper 7, social capital initiative* (p. iii). World Bank.
- Serageldin, I., & Grootaert, C. (1999). Defining social capital: An integrating view. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 40–58). World Bank.
- Sobel, J. (2002). Can we trust social capital? *Journal of Economic Literature*, XL, 139–154.
- Solow, R. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, 70, 65–94.
- Solow, R. (1995). But verify? *The New Republic*, 11, 36–39.
- Solow, R. (1999). Notes on social capital and economic performance. In P. Dasgupta & I. Serageldin (Eds.), *Social capital—A multifaceted perspective* (pp. 6–10). World Bank.
- Tonkiss, F. (2000). Trust, social capital and economy. In F. Tonkiss & A. Passey (Eds.), *Trust and civil society* (pp. 72–89). Macmillan.
- Uslaner, E. M. (1999). Democracy and social capital. In M. E. Warren (Ed.), *Democracy and trust* (pp. 121–150). Cambridge University Press.
- van Oorschot, W., & Arts, W. (2005). The social capital of European welfare states: The crowding out hypothesis revisited. *Journal of European Social Policy*, 15, 5–26.
- Whiteley, P. F. (2000). Economic growth and social capital. *Political Studies*, 48, 443–466.
- Williams, B. (1988). Formal structures and social reality. In D. Gambetta (Ed.), *Trust: Making and breaking cooperative relations*. Oxford University Press.
- Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27, 151–208.
- Zak, P. J., & Knack, S. (2001). Trust and growth. *The Economic Journal*, 111, 295–321.

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