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SOCIAL CAPITAL
AND ECONOMIC
GROWTH
REVISITED*

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Abstract: Social capital facilitates cooperation in the society. High level of social capital promotes economic efficiency by lowering transaction costs. Trust towards strangers and low level of corruption are examples of high level of social capital. The concept of social capital is already an old one, but interest in studying its role and effects has increased notably during the past ten years or so.

Review of the literature concerning the connection of economic growth and social capital shows that many studies have found strong positive correlation between the two. This does not, however, establish a causal relationship between them. In addition, defining and measuring social capital unequivocally has proven difficult. The concept has both a structural (whether people participate in group activities) and a cognitive dimension (norms, attitudes). The paper also deals with problems of formation of social capital and the possibilities to tackle the measurement problems.

Key words: social capital, economic growth, trust, social norms, cooperation

HJERPPE REINO: SOCIAL CAPITAL AND ECONOMIC GROWTH REVISITED. Helsinki, VATT, Valtion taloudellinen tutkimuskeskus, Government Institute for Economic Research, 2003, (C, ISSN 0788-5016, No 307). ISBN 951-561-452-X.

Tiivistelmä: Sosiaalinen pääoma edistää yhteisön tai yhteiskunnan yhteistoimintakykyä. Korkea sosiaalisen pääoman taso luo talouteen tehokkuutta alentaessaan liiketoimikustannuksia. Luottamus vieraisiin kanssaihmiin ja korruption vähäisyys ovat esimerkkejä korkeasta sosiaalisen pääomasta. Sosiaalisen pääoman käsite on jo vanha, mutta kiinnostus sen tutkimiseen on kasvanut voimakkaasti vasta viimeksi kuluneen kymmenvuotiskauden aikana.

Katsaus taloudellisen kasvun ja erilaisten sosiaalista pääomaa kuvaavien indikaattoreiden välisiä yhteyksiä kartoittaviin tutkimuksiin osoittaa, että niiden välillä on selkeä ja vahva positiivinen korrelaatio. Tämä ei kuitenkaan ole vielä välttämättä todiste siitä, että sosiaalinen pääoma myös kausaalisesti aiheuttaa talouskasvua. Sekä sosiaalisen pääoman käsitteen täsmällinen määrittely että sen mittaaminen ovat pulmallisia. Sosiaalisen pääoman käsitteellä on sekä rakenteellinen ulottuvuus (esim. kuinka paljon ihmiset osallistuvat yhdistystoimintaan) että kognitiivinen ulottuvuus (yhteistoimintaan liittyvien normien selkeys ja asenteet). Tutkimuksessa tarkastellaan sosiaalisen pääoman muodistumisen mekanismeja (mm. erityyppisiä ryhmiä) ja käsitteen mittaamiseen liittyvien ongelmien ratkaisumahdollisuuksia.

Asiasanat: sosiaalinen pääoma, taloudellinen kasvu, luottamus, sosiaaliset normit, yhteistoiminta

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1. The growth puzzle

Economic growth creates new opportunities for expanding human well-being. One of the major puzzles of the studies of economic growth is why both the level of GDP and the rate of growth differ so much between countries. Since growth is so essential in our thinking about welfare, we should know what forces underline the growth process.

After decades of studies of economic growth it is somewhat disturbing to read the conclusions of one of the leading experts in one of the most up-to date studies of economics growth (Easterly and Levine 2001). Something of the order of 40-60 per cent of economic growth is left unexplained by changes of the so called 'factors of growth'. The rest is what we are used to call total factor productivity, but there is still quite a lot of uncertainty about what factors play a key role in the formation of this total factor productivity.

What is also puzzling is the fact that the range of income differences in the world seems to be increasing. The poorest of the poor remain where they have always been, while the richest get richer. That does not mean, however, that the world income distribution as measured by e.g. Gini-coefficient is also increasing. It may well go down even though the absolute difference between the richest and poorest person is widening. It is also well documented e.g. in the World Bank publications that some of the central indicators of the living standard (e.g. expected life time and child mortality) of the world are on the average actually improving. In any case, some of the countries of the world are stagnated close to zero growth, while the best growth figures often approach to ten per cent annually.

Since technology is commonly available all over the world the question is, why are all countries not able to benefit from this more equally than what is the case at the moment.

During the past ten years or so more and more researchers have accepted the idea that institutional factors may be one of the major reasons for these differences. This point has been emphasised in the sphere of new institutional economics, especially by the Nobel price winner Douglas North. North (1990) argued that formal and informal institutions (the legal structures and normative 'rules of the game') are crucial to understanding economic performance. One of the most interesting concepts in this context is social capital, its definition and role for economic performance on nations, regions, communities and even companies.

For a long time the dominant basic tools for economic analysis have been the Walrasian model of economic equilibrium and in the growth context, the neo-classical Solow growth model. Walrasian model puts the emphasis on the infor-

mation carried by prices in economy. Arrow-Debreau model is silent on institutional matters. In the Solow model the economic progress comes through technological change. But in this model technological change is received as manna from heaven and its sources are left unexplained.

As powerful as these models have been in the economic analysis they have been proved inadequate in giving adequate explanation for economic development problems. Why, in the first place, the economic growth started at all, when obviously during tens of thousands years of human history there was no long term economic growth at all? One answer for this is that something in the economic institutions must have changed in order to start the sustained economic growth. But recent studies have shown, that institutions are not relevant only for economic history and economic development but they obviously have an important role to play in the success of the contemporary developed countries.

One way to structure the discussion about growth is to speak about *proximate* and *fundamental* causes of growth. The proximate causes relate to the accumulation of factor inputs such as capital and labour and the factors that influence the productivity of these inputs, such as scale economics and technological change. This is much what neoclassical, neo-keynesian and endogenous growth theories concentrate upon. The fundamental sources of growth relate to those variables, which have an important influence on a country's ability and capacity to accumulate factors of production and invest in the production of knowledge. For example Temple (1999) considers the following 'wider' influences on growth: population growth, the influence of the financial sector, the general macroeconomic environment, trade regimes, the size of government, income distribution and the political and social environment. To this one may add the often neglected 'geography' factor (e.g. 'distance from the equator').

Moving from the proximate to fundamental causes of growth also shifts the focus of attention to the institutional framework of an economy, to its 'social capability' (Abramovitz 1986)¹ and Rodrik (2003). I think the discussion on social capital can be related to this latter approach, the discussion about fundamental or *ultimate* sources of growth (see also Maddison 1995).

In this paper I will concisely review some of the most important recent studies concerning the role of social capital in economic growth. In ten years the literature on this subject has vastly expanded. More and more evidence is gathered about the role of social capital in the growth process. This in spite of the fact that

¹ See: Should We Be Globophobic About Globalisation? (2002).

the whole concept has many different definitions and there are prominent scientists who are not convinced about its usefulness.²

² The prominent critics are – perhaps not so surprisingly – Arrow (2000) and Solow (2000). Solow is especially doubtful about the usefulness of the concept of social capital because of major conceptual and measurement problems. He thinks that problems under study are important though, and suggests a term ‘behaviour patterns’ instead of social capital. Arrow – who is among the first to emphasise the importance of trust on the efficiency of economic transactions – would seem to prefer terms networks or social interactions instead of social capital.

2. The concept of social capital

The concept of social capital, according to Woolcock (2001) goes back to Hanifan (1916). It became known later by the work of Coleman (1988) and especially by Putnam (1993). One of the modern definitions is Robert Putnam's 'norms, networks and communications between people' (Putnam 1993).

After ten years of intensive research on the issue, it clearly appears that there are a number of ways to define the concept of social capital. There is no consensus about the exact definition. But one way to sum up the contents of different definitions is to define social capital broadly as *the institutions, relationships, attitudes, and values that govern interactions among people and contribute to economic and social development* (Grootaert and van Bastelaert 2002b).

Essential in this definition is that we are focusing on the *relationships* between people. Typically in economic models we start from the individual who maximises his/her utility in a profit maximising firm. Relationships are usually not explicitly modelled. Now the relationships between agents are in focus.

A rather comprehensive discussion on social capital can be found in a symposium publication of the OECD (2001a). In this publication five different stocks of assets are specified: (1) produced or physical capital (including buildings, equipment and other hardware, software and the stock of accumulated knowledge), (2) natural capital, (3) human capital embodied in individuals (including accumulated learning and health), (4) social capital (comprising of the norms and networks that facilitate joint and other collaborative actions)³ and (5) a final composite category containing public and private institutions and social arrangements (including the political and legal systems in all their detail). See also OECD (2001b).

The OECD publication (2001a) emphasises, that each of these categories is, or could easily be, described as a stock or as a capital stock, to emphasise that it takes time and effort to build and maintain them, and that they can contribute directly or indirectly, or both, to economic growth and well-being.

When measuring social capital the recent research project by the World Bank has ended up in describing three aspects of social capital. First aspect divides the concept into two forms: structural and cognitive. The *structural social capital* refers to objective and externally observable social structures, such as networks, associations, and institutions and the rules and procedures they embody (Uphoff 2000). Athletic and musical groups and neighbourhood associations are examples

³This *norms and networks* is what authors call as a 'lean and mean' definition of social capital.

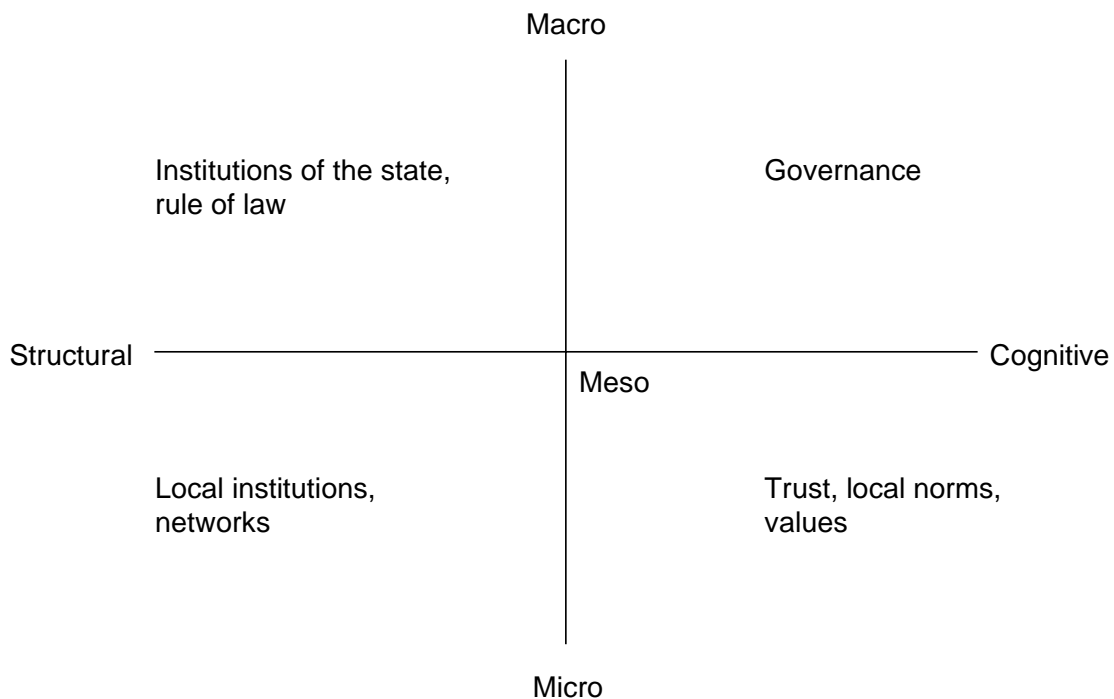
of this. It is, in principle, easily observed if people participate in these networks. This is the ‘network’ part of the OECD ‘lean and mean’ definition.

The second form is ‘*cognitive social capital*’ and it comprises more subjective and intangible elements such as generally accepted attitudes and norms of behaviour, shared values, reciprocity and trust. This division between structural and cognitive aspects of the concept clarifies some of the nature of the concept and is helpful especially in the measurement of the social capital concept. This is the ‘norm’ part of the OECD definition referred to above.

The second important distinction in the measurement of social capital is between *micro*, *meso* and *macro*. In microeconomic setting we are looking at relationships between individuals and households. At the macroeconomic level one can focus on the forms of institutional and political environment. The elements of this environment are e.g. the rule of law, the judicial system, the quality of contract enforcement, all the aspects which have been studied under the label of institutional economics. At the meso level we may think about regions, communities and even clusters of companies.

On this two-dimensional dichotomy the World Bank project ends up in describing the forms of social capital in the two-dimensional setting in figure 1.

Figure 1. *The Forms and Scope of Social Capital*



Source: Grootaert and van Bastelaert (2000b).

The third way used to measure social capital is to look at and observe *the outputs of collective action*. Societies with more collective activities are assumed to have more social capital.

In addition to the concept of social capital there are a number of related or similar concepts which have been used in various studies. These include concepts like *social capability* (Abramovits 1986), *social infrastructure* (Hall and Jones 1999), *social cohesion* (Ritzen 2001). One of the most recent applications of social capital is in the context of innovations studies (see Lundvall 2002, in the context of the national innovation system).

3. Cross-country growth studies

3.1 General overview

There are now quite a number of growth studies where the concept of social capital has been employed. They utilise either cross-country data sets or macro-economic panels of data from different countries. But the effects of social capital have also been studied in several other areas. There are empirical studies on the influence of social capital on health, education, crime, and various microeconomic projects, especially in developing countries. Studies cross over different disciplines: economics, sociology, social psychology and political science. Major current source of the empirical studies concerning the impact of social capital are the results of the World Bank Social Capital Initiative, which are summarised in Grootaert and van Bastelaer (2002a). These studies include many microlevel studies where new ways to measure social capital have been developed. The initial interest was much on the side of sociology and political science, economists are rather latecomers in the field.

The growth effect of social capital in the context of cross-country growth studies have recently been reviewed by Stephen Knack (2002). The following summary will draw heavily on his excellent review. Earlier survey of the growth effects of social capital has been done by Jonathan Temple (Temple 2001).

There is also an interesting and important recent discussion in the *Economic Journal* vol. 112 no 483 in 2002. I shall refer to that publication also, especially to the critique of the cross-country regression studies.

In growth studies the most popular variable which has been used to measure social capital is trust, based on the World Value Survey (WVS). There are now four data sets from this survey.⁴

In several studies *trust* appears as a key variable in explaining economic growth (Knack 2002). I have personally also conducted a cross-country analysis and found trust to be a statistically significant variable in growth regression which covers the years and 28 countries from which the WVS trust variable was available (Hjerpe 1998).

⁴ The survey is organised by an American sociologist Ronald Inglehart. The first survey in 1981 covers 24 countries, most of them advanced industrial economies. The second survey in 1990–1991 added 21 new countries, most of them from formerly socialist economies and middle-income developing countries. A third round conducted in 1995–1996 covered 42 countries, including more than twenty which were not represented in the first two rounds. The fourth round conducted in 2000–2001 is adding several developing countries. The survey includes data on memberships in various groups, attitudes towards socially cooperative behaviour, level of trust in other people and tolerance towards alternative values and lifestyles.

Trust in this context has to be understood as ‘generalised-trust’ (Fukuyama 1995). There is usually a high level of trust inside families in all societies. But the key difference between various societies is to what extent there exists trust towards strangers. This is called generalised trust. Fukuyama stresses that when trust does not extend beyond the family, the supply of capital and of qualified managers is limited, constraining the scale of private firms. Based on qualitative and impressionistic evidence Fukuyama classifies the United States, Japan and Germany as high trust societies which have been able to develop large enterprises, not based on family ties only. By contrast he classifies France, Italy, China, the Republic of Korea, Hong Kong and Taiwan as low-trust societies, where enterprises are mostly organised around families and clans.

3.2 Government social capital

Some institutional variables, whose growth effects have been studied, have concentrated on the effects of government social capital. This variable is measured by e.g. *civil liberties, political freedom, frequency of political violence or subjective ratings of political risks*. The first study to explore the relation between government social capital and economic performance using a cross-country statistical approach is Kormendi and Meguire (1985). They use the so called Gastil index for civil liberties (Gastil 1990).⁵ When they classify countries with score 1 and 2 as high civil liberty countries, this dummy variable has a positive and marginally significant impact in the growth regression. The effect is almost entirely attributable to the effect of civil liberties on investment rates: when investment to GDP ratio is added to the growth regression, civil liberties no longer has any independent effect. In the regression with the investment to GDP ratio as the dependent variable, civil liberties is by far the most powerful explanatory factor. High civil liberties is associated with a 5 percentage point increase in investment’s share of GDP, which on average is 20 per cent.

In a similar study Grier and Tullock (1989) find that *political repression* is associated with a significant reduction in annual growth rates of about 1.5 percentage points in Latin America and Africa but that repression has no effect in Asia (no OECD country was classified as repressive). Even casual observations point to the fact, that political turmoil is detrimental to growth. Barro (1991) uses as indicators of political stability the *average annual number of revolutions or coups* and *average number of political assassinations*. These indicators are significantly and negatively related to growth rates and private investment’s share of GDP

⁵ The Gastil index has values from 1 to 7, with lower scores indicating greater civil liberties. The survey covers 170 countries and territories. It has fourteen measures of civil liberty and eleven measures of political freedom. The criteria include such measures as the existence of an independent judiciary, free trade unions and religious institutions, multiple political parties and the absence of political censorship and military or foreign control.

between 1960 and 1985. In a more recent study by Barro (2001) the indicator of *law and order* is positively related to growth.

There are also a number of studies dealing with the connection of subjective ratings of political risks and economic growth. These ratings services include the International Country Risk Guide (ICRG), Business Environmental Risk Intelligence (BERI), and Business International (BI)⁶.

Knack and Keefer (1995) have constructed an index on the basis of ICRG data, which is considered to be most relevant as to the security of private property and enforceability of contracts. For this the authors use indicators of *corruption in government, the rule of law, risk of expropriation, repudiation of contracts by government, and quality of bureaucracy*. They also construct similar index on the basis of the BERI data.

Both indexes produce significant statistical parameters in the Barro-type growth regressions. Because of their wider coverage of countries the ICRG indicators have become widely used in the cross-country empirical literature on economic performance.

Brunetti, Kisunko and Weder (1997) construct a country-level *credibility of rule index* from a survey data of entrepreneurs in 41 countries. The scale of the index is from one to six, and after controlling for initial income level and educational attainment, each one level improvement in the index is associated with a 3.7 percentage point increase in investment's share of GDP and a 1.5 percentage point increase in annual average income growth. These are quite large effects.

Even though Brunetti, Kisunko and Weder produce a more direct and relevant measure of the quality of government than those provided by political risk evaluators such as ICRG, BERI and BI ratings, there are, however, some problems and limitations in their data, too (Knack 2002, p. 53).

In response to the perceived shortcomings of subjective measures Clague, Keefer, Knack and Olson (1999) have used a measure which they call '*contract-intensive money*'. It is a proportion of M2 which is not constituted by currency outside of banks. The logic behind this measure is that economic agents will keep the larger portion of their money in the form of currency the less reliable the banking system is. This variable is objective and it is easily measured and in many countries long-time series exists of it.

Researchers find that contract intensive money is significantly and positively correlated with growth rates. Even stronger correlation appears with investment's share of GDP over the 1970-92 period. Each one standard deviation increase in

⁶ See Knack 2002, for more details on different indicators of business confidence and investment climate.

contract-intensive money (about 0.14) is associated with a 0.6 percentage point increase in growth and a 2.5 percentage point increase in the investment's share of GDP in Barro-type regression.⁷

3.3 Civil social capital

Government social capital intends to measure values of the rule of law at the national level. Civil social capital consists of *co-operative norms*, *interpersonal trust* and *social ties* which generate them. Important issues are involved when aggregating these survey-based measures to assign values to countries. Strong intrafamily or intraethnic trust does not create a '*high-trust society*' according to Fukuyama (1995). For this one needs 'generalised trust' which is measured by asking how much people trust strangers in general.

High trust has economic value because it increases economic efficiency by reducing transaction costs, costs in negotiating contracts, and cost in enforcing the contract in the event of dispute and fraud.

La Porta et al. (1997), Knack and Keefer (1997) and Zak and Knack (2001) provide the most extensive cross-country tests so far of the relation between trust in people and economic performance.

In Knack and Keefer each 12 percentage point increase in trust is associated with an increase in annual income growth of about 1 percentage point.

La Porta et al. find that trust in people is positively associated with growth (significant at the 10 percent level) over the 1970–1993 period, controlling for 1970 per capita income only. Gratano, Inglehart and Leblang (1996a) test trust and five other 'cultural' variables in growth regression for the 1980–1989 period. Controlling for per capita income levels and primary education enrolment in 1980 they find that trust is positively and significantly related to growth.

Zak and Knack add twelve countries to the twenty-nine country sample used by Knack and Keefer (1997), using data from a third round of World Value Surveys conducted in 1995–6. Their findings strengthen earlier findings: trust is significantly related to growth even for longer periods, such as 1970–1992, and the estimated impact of trust on growth is less sensitive to model specification than in Knack and Keefer (1997).

⁷ Despite the virtues of the contract-intensive money it has a weakness in only partially capturing variations in institutional environment. Ideally the measure should include gold, foreign currencies and other assets which are held as a substitute for money. These components are relatively larger in environments where contracts are poorly enforced.

Hjerppe (1998) finds that in a sample of 28 countries and using WVS data on trust ten percentage point increase in the trust indicator is associated with an increase in growth by 0.46 percentage point in 1980-92. Also the investment's share to GDP has statistically strongly significant association with growth in this study. Initial value of GDP has negative but insignificant sign on growth (consistent with the conditional growth convergence hypothesis). Education (share of the tertiary education in the respective age group) and openness (exports/GDP) of the economy are not statistically significant.

3.4 Cultural explanations

The famous century old thesis of Max Weber refers to the *protestantic ethic* as a source for economic success. As an example of studies exploring this hypothesis, Gratano et al. (1996) presumes that norms encourage social mobility and the accumulation of human and physical capital in some societies but discourage them in others. They have constructed the achievement motivation index from responses about traits children should be encouraged to acquire. Index values in each country equal the percentage of population that cites 'thrift' or 'determination' minus the percentage that cites 'obedience' or 'religious faith'. They find that this index (based on WVS data) is positively and significantly related to growth in a Barro-type model.

It has also been argued that if '*communitarian*' or '*social corporatist*' values predominate in society they are less prone to social conflicts. This is in line with Olson's theory of 'encompassing interests'. Swank (1996) studies social corporatist states such as Austria, Denmark, Finland, Norway, and Sweden and 'confucian statist' polities such as China, Japan and the Republic of Korea. Swank study shows that growth rates are significantly higher in those societies and once these variables are added achievement motivation variables are no more significant.

3.5 Poverty, income distribution and social capital

There now exists also quite large literature about how poverty and income distribution are related to social capital. Village level studies in developing countries show that poor people may benefit from trust and co-operation. However, government's social capital, which promotes secure property rights are sometimes seen as pro rich, since rich has more property to lose. But in contrast to this view, de Soto (1989) argues that fair and transparent procedures for property, contracts, and government regulation of business facilities help poor invest in human capital and allow small firms to enter from informal to formal sector in developing countries. Olson (1994) goes quite far in arguing, that much of the poverty in the

developing world is the product of institutions chosen by politically connected individuals and groups in their own interests.

As to the income distribution, the most recent evidence seems to point out that very unequal distribution is detrimental to growth. Equal distributions promote solidarity and tend to reduce potential for social conflicts. This is good for growth. However, in very equal countries there are worries about work incentives.

3.6 The level of GDP and social capital

All the studies referred above examine the relationship between growth and social capital. Since social capital can be stable or only slowly changing entity, one may easily think that it may affect more the level of the GDP rather than its growth.

In fact the study of Hall and Jones (1999) concentrates on explaining the differences in the level of GDP in different countries. They also find that differences in physical capital and educational attainment can only partially explain the variation in output per worker. They document, that differences in capital accumulation and productivity are driven by differences in institutions and government policies, which they call social infrastructure. They form a measure of social infrastructure by combining two indexes. The first is an index of government anti-diversion policies (GADP) created from data assembled by a firm that specialises in providing assessment of risk to international investors, Political Risk Service (ICGR data which was mentioned above). It covers 130 countries.⁸ The second element in Hall-Jones index captures the extent to which a country is open to international trade.

Hall and Jones find that differences in social infrastructure cause large differences in capital accumulation, educational attainment and productivity and therefore in income across countries. The extent to which different countries have adopted different social infrastructures is partially related to the extent to which they have been influenced by Western Europe. Using distance from the equator and language data, authors conclude that their finding about differences in social infrastructure causing large differences in income, is robust to measurement error and endogeneity concerns.

⁸ Hall and Jones use the following indicators: law and order, bureaucratic quality, corruption, risk of expropriation and government repudiation of contracts.

4. The formation of social capital

4.1 The role of groups and participation

Group behaviour is one essential aspect of the discussion of social capital effects. The nature and role of groups differ in Putnam (1993), Fukuyama (1995) (who speaks mostly about family) and Olson (1982).

In Barro-type regressions it is found that group memberships are unrelated to growth and negatively related to investment rates (Knack 2002, p. 60). One possibility is that groups are ‘Olson-type’ i.e. he emphasises the growth impairing, rent-seeking role of various types of interest groups (Olson 1982). This is in contrast with the so called ‘Putnam-groups’, groups that seem to have primarily social goals and which tend to enhance prerequisites for economic performance. These groups (like football associations, women’s clubs, various types of business associations) facilitate communication between their members and make them more familiar to each others so that also outside of these associations co-operation between the members becomes easier and more straightforward. These aspects help to increase mutual trust and lower transaction costs in economic life.

Hjerpe (1998) also examines the role of participation in economic growth. Using the WVS data he finds that there is no statistically significant association between growth and participation in the previously mentioned sample of 28 countries. However, participation is found to be an important variable which helps to explain good performance in studies concerning various microeconomic projects in developing countries (Narayan and Prichett 1999).

The problem may also be how to define and measure the nature of the group. Putnam argues that associations ‘instil in their members habits of co-operation, solidarity, and public-spiritedness’ (Putnam 1992, pp. 89–90). This is very much in contrast of the Olson-type groups, which are formed for the purely rent-seeking purposes, and are therefore detrimental for growth.

Groups may also create strong internal solidarity and trust. This may be called as bonding social capital (Granovetter 1985). This type of group behaviour may be socially harmful, based on class, occupation or ethnicity. Ethnic diversity is one of the aspects which has been object in several studies. Even criminal groups, like mafia, may create strong internal social capital which may be harmful in its effects for the whole society.

Bridging social capital creates trust and communication between the horizontal groups (Granovetter 1985). A priori this type of bridging social capital should be socially beneficial. This is related to the concept of generalised trust by Fukuyama. In addition to the *bridging* (cross-cutting ties) and *bonding* (intra-group

ties) also *linking* ties can be defined which are vertical – links between state and various social groups (Woolcock 2000). Putnam thinks that horizontal groups are better from the point of view of formation of social capital than vertical, linking groups, because horizontal communication is easier and there are no subordinate relationships.

Strong group formation may also be harmful to economic growth if groups prevent innovation and flexibility. There is for example a long debate about the role of trade unions in growth. In Finland there is an argument that co-operatively behaving trade unions moderate the wage increase, and have therefore been acting positively on the economic development. Based much on the Swedish experience, Calmfors and Driffill (1988) argue that centralised wage bargaining leads to less inflationary wage agreements than the decentralised union bargaining. Lundvall (2002) emphasises the benefits on national innovations of consensus type behaviour of different organisations in another Nordic country, Denmark. On the other hand one may refer to the battle against trade unions in Britain under the Thatcher government. At that time the argument was that trade unions had become too inflexible and their behaviour too erratic for the economic growth.

Omori (2001) also describes the well-functioning co-operation between government (MITI) and private sector in the early Japanese successes story. The problem may be that the role and behaviour of different types of interest groups may change in time. So the behaviour pattern which was positive at some point in history may become negative later if the behaviour of interest groups becomes more inflexible and hostile to innovations. This is an important aspect where we need more information. The behaviour of the interest groups may also be very much nationally determined, also historically path-dependent, and therefore it might be anyway difficult to make any strong generalisations about this.

4.2 How to create social capital?

One of the key questions is to model the formation of social capital. If trust is one of the key variables which has important economic effects in the group behaviour we want to know what is the process which creates trust and what are the mechanisms which destroy it. Especially interesting is the question how generalised trust is created. What are the key elements which allow to depart from the tight intra group trust behaviour to economically perhaps more efficient inter-group trust? What are the mechanisms which promote governmental social capital vis a vis civil social capital? How much they are connected?

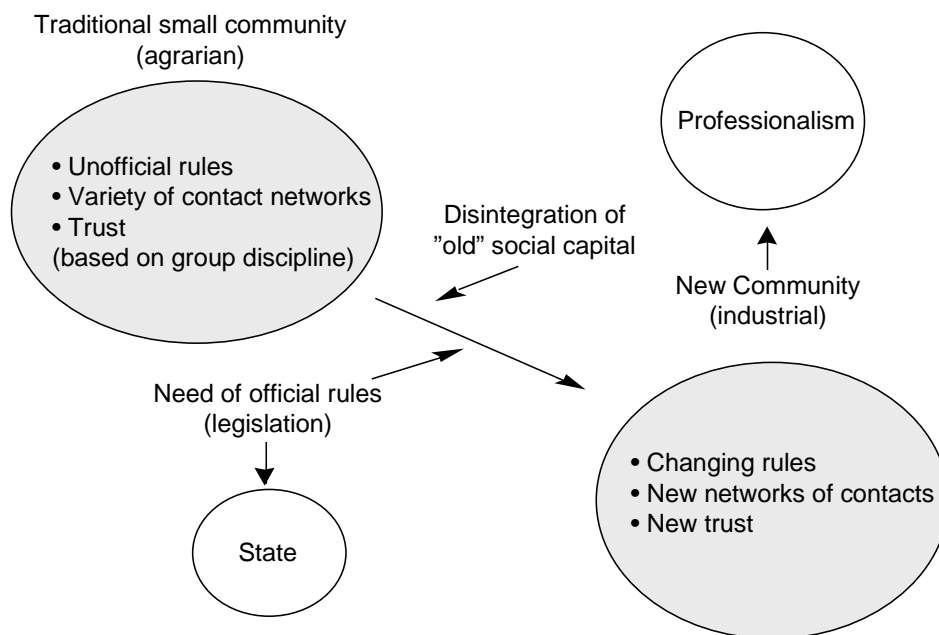
It appears that the creation of trust needs as a basis some sociopsychological theories. The experiment which was mentioned above by Durlauf is illustrative on this. It appears that a group affects strongly the behaviour of an individual – a

fact that has consistently been denied in the neo-classical economic theory. This has, however, been explored now more seriously in experimental economics.

Social capital may remain quite stable in stable societies. It can be thought that norms and networks are well established in a traditional society where change does not occur. Then there is a change (like industrialisation in the formerly agricultural society). This brings need to change the attitudes and behaviour patterns. These changes may be in conflict with the established rules. This kind of change is illustrated in figure 2. For example, the move from agrarian to industrial society requires changes in the common norms, rules of the game. The need for formal rules (legislation) may increase. This will also create a need for new professional groups (e.g. lawyers). The success of the economy may depend on how well it can adjust its rules of games. There is need for flexibility, because the environment has fundamentally changed. Societies have to be flexible enough in changing their social capital. Or it may be that strong social capital can help in the change. We do not know. However, this is quite relevant today for many economies with current economic problems, because globalisation continuously changes the economic environment.

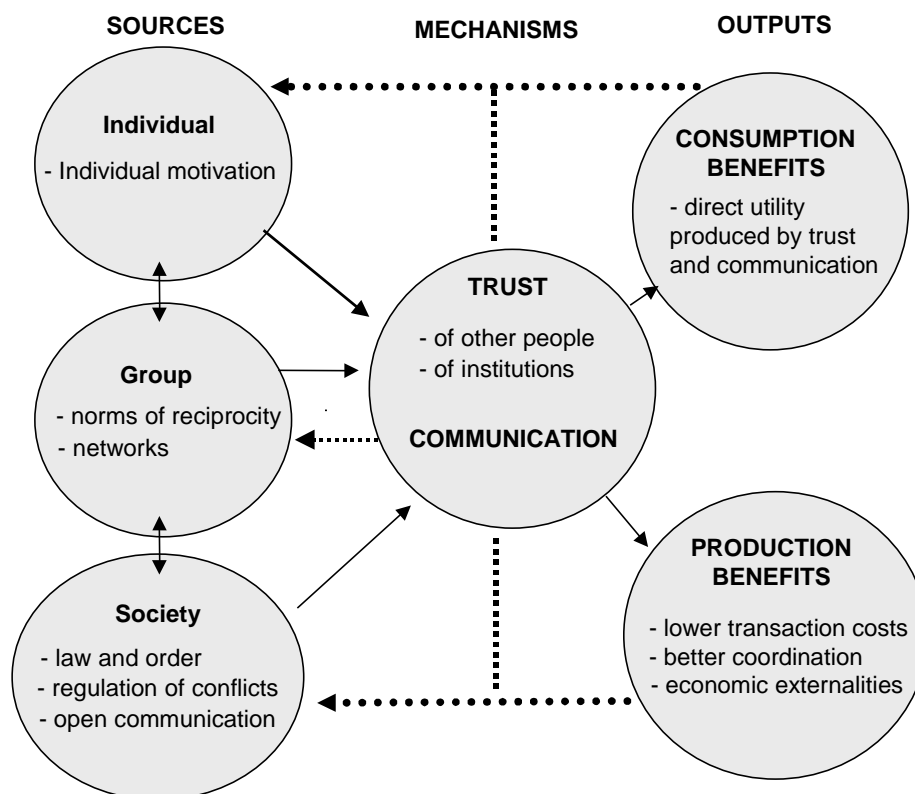
One may even think that modern, complex, knowledge-based society needs especially social capital for efficiency, since it is even more difficult than earlier to write out the specific rules of behaviour. Therefore, in principle, in a complex society, the role of social capital grows.

Figure 2. Illustration of Social Capital



Source: Hjerppe (1998).

Figure 3. Sources and Outputs of Social Capital



Source: Ruuskanen (2001).

In figure 3 I illustrate what are the basic ingredients of the social capital and what are the mechanisms by which it has some effects. Third, the figure tries to illustrate the outcomes of social capital. It has both productive outcomes (e.g. lowers the transaction costs) and direct consumption benefits (it is more pleasant to live with people whom you can trust than untrustworthy people).

4.3 Universal or national social capital?

One key question is to what extent the social capital is universal or applicable in all countries and to what extent it is tied to national features or specific cultural heritage of a country? In cultural matters there is a danger for 'cultural imperialism' which assumes that one can promote westerns values, attitudes and cultures to non-westerns countries. Even among the developed countries there seems to be important institutional differences which may mean that one cannot transplant good practices from one country to another.

In the context of innovations Bengt-Åke Lundvall (2002) and others have developed a concept of national innovation system. National innovation system consists of the institutions which are relevant in a country for creation of

innovations. Lundvall believes that successful innovations can be created in very different national circumstances, and it may one may commit a big error if one wants to improve economic performance by 'benchmarking'. In a bad benchmarking exercise one emphasises some individual features in comparing different countries and at the same time one may lose from sight that these features may be part of the national systems where the role of a specific feature may be quite different in different countries. One may for example think about the role of foreign direct investment in different countries.

The role of FDI's, for example, are very different in different economies. In spite of the globalisation the need for national solutions to national economic problems remains. Some benchmarked 'best practice' idea, transplanted from one country to another may not fit at all to a living economic organism of the receiving country.

Rodrik has also argued that economic development problems should be addressed taking into account specific national circumstances. He warns against taking 'cookbook' recipes for development which do not respect particular national institutions and attitudes.

5. Methodological problems in social capital research

5.1 The problem of measurement of social capital

In his critique of social capital Solow (2000) makes an argument that in order to be empirically relevant, the effects of social capital should show up in total productivity in growth accounting exercises. It is not, however, statistically observed in these types of studies.

Dasgupta (2000) constructs, however, an example which shows that one cannot necessarily observe social capital in growth accounting even if it is present and affects the growth performance of countries. If initially one country has larger social capital than another, we may also assume that it also has higher per capita output. If both accumulate labour and physical capital at the same rate, the difference between total factor productivity, due to the different social capital, remains the same. When we later observe the mean incomes in these countries the level of income is higher in a country where social capital is higher. This in spite of the fact that time series measure on changes in social capital (total factor productivity) is nil in both countries (because the level of social capital did not change). This is not unreasonable assumption even in the long-run, since there are reasons to argue that social capital may change very slowly or may really remain practically constant in time (Putnam, 1993).

Perhaps one should not be overly pessimistic about measurement problems. By looking at the final reports of the World Bank project on social capital, it seems that during this project quite a lot of progress has already been made in measuring social capital in practical terms, mostly at the micro level (households and villages).

Also Dasgupta does not seem to worry much about the difficulties to measure social capital. He says 'I do not believe we lose anything of significance in not being able to arrive at an estimate of social capital in a country, a region, a city, or whatever. The concept of social capital is useful insofar it draws our attention to those particular institutions serving economic life that might otherwise go un-noted. Once attention is drawn to them, we need to try to understand them and find ways of improving them or building around them. But this is the very stuff of economics. Not having an estimate of social capital is not an impediment to such exercises.'

There are also constructive suggestions by Durlauf to which I turn next.

5.2 The problem of endogeneity and identification in cross-country regressions

The statistical problems related to the empirical studies have been recently emphasised by S. N. Durlauf (2002). He points to the problems of identification and endogeneity (causality).

In many of the analyses the direction of causality is a problem. We can take as an example political stability and growth. As noted several studies show that political stability is related to economic growth and the level of investment as measured in relation to GDP. But it may also be that bad economic performance leads to political instability. This is a problem of endogeneity. Even though one may plausibly believe that the causation is from stability to growth one needs more tests about the direction of causality.

Durlauf criticises heavily the major empirical works on social capital. First he points out the vagueness of the concept in different studies. Data collection in different countries may also involve problems of data quality. Then he points out that the often cited Knack and Keefer (1997) study suffers from many of the problems that have plagued cross-country regression in general. Without going to the details of Durlauf's arguments, which would take too much space here, he refers to the paper by Durlauf and Quah (1999) who point out that nearly a 100 different variables have been used in cross-country growth regressions in order to capture different growth theories. While some progress has been made on variable selection in these contexts the appropriate specification of cross-country regressions is still very much an open question. Durlauf argues that while Knack and Keefer do explore some aspects of model robustness, they do not establish that their findings of social capital effects may not be resulting from omitted variables that both causally affect growth and are correlated with the social capital measures. Durlauf therefore concludes that one cannot interpret empirical findings as saying something about common socio-economic structure across countries. However, there are different opinions concerning what one can learn from macroeconomic cross-section or panel analyses from different countries.

Anyway, the state of art seems to be that also the problem of causality remains very much an open question. In defence of Knack and Keefer one may, however, point out that they are not speaking about causality but associations. This is a general problem of interpreting correlation in statistical analysis.

5.3 What is to be done?

Even though Durlauf's criticism seems to be devastating as to the established importance of social capital, he however, points out some ways which to him seem as most promising.

The first path would be to develop *experimental data* which would illustrate the formation of social capital. He refers to the examples from social psychological experiments, notably the so called Robbers Cave experiment, which has been called ‘the most successful field experiment ever conducted on inter group conflict’ (Sherif *et al.* 1961). This random experiment of the behaviour of teenage boys has illustrated how easy it is for group identification to influence behaviour and trust.⁹

Another promising alley which Durlauf is proposing consists of a collection of adequate *survey data*. Survey data can facilitate the study of social capital mechanisms and is a natural area for exploration given the links that exist between social capital ideas and social structure. In this context Durlauf refers to a Project on Human Development in Chicago Neighbourhoods. This project is planned to produce a rich data set on attitudes among Chicago residents on a wide range of issues. In 1995 over 800 individuals were surveyed across over 300 neighbourhood clusters. The critical aspect in this study is that it allows for the integration of information about individual characteristics with information on individual attitudes in order to study how these relate to communities, i.e. the social environment.

This type of data collection has several advantages. First the data allows much richer controls for individual homogeneity than are typically available. Second, the detailed attitudinal measurements in the study extend social capital analyses in directions that are far more conducive to the description of causal mechanisms by which social capital is created. This type of data allows to explore the role of community networks in influencing group outcomes much better than a cross-country regression. Third, the detailed nature of the study may provide ways to characterise the endogenous formation of social capital, something that is critical for establishing identification of social capital effects (Durlauf 2002).

⁹ A group of teenage boys were brought to an isolated retreat located in Robbers Cave State Park in Oklahoma. Prior screening on the basis of family background allowed researchers to put together a homogeneous group of boys. The boys were broken into two groups who initially were not aware of the existence of one another. After a week, the groups were asked to assume names and chose Rattlers and Eagles respectively. A set of competitive activities was initiated between two groups. The behaviour of the two groups were carefully documented in detail. The groups developed strong senses of group identity as well as differing internal behaviour norms. Further, each group exhibited great animosity toward the other, animosity that carried over beyond the competitive activities. It became commonplace for the boys to attribute negative stereotypes to the other group; overt hostility even bordering on violence emerged. (Durlauf 2002 p. F475).

6. Conclusions

The expansion of research in social capital has been explosive during the past ten years. The time seems to have been ripe for this. From the point of view of economics this phenomenon is related to the revival of new growth theory and the new institutional economics. In the background there are big questions like why some countries produce so much more output than others. The discussion is dealing with the so called fundamental or ultimate sources of economic growth. The same type of question can be extended to regions and to even different firms. Social capital and institutional theories promise to give some answers to this, therefore they are very exciting.

So far the empirical correlation between economic success and social capital indicators is striking. It is so overwhelming that one is tempted to think that it cannot all be 'spurious'. But as Durlauf warns us, we may still be far away from real causal analysis. One should be aware about pitfalls in order to avoid giving completely wrong answers to extremely important questions.

Empirical studies show that various dimensions of social capital are strongly correlated with economic growth. Since evidence seems to be quite ample it does not seem wrong to assume that these phenomena are related. The results, so far, are not however, of such a kind, that we could tell that social capital also causes economic success. In many ways the causality may run the other way round: good economic performance enhances social capital. Not understanding the ultimate causality may not be that harmful, after all. If we succeed in improving some dimensions of social capital like increasing trust or reducing corruption we may feel rather comfortable, that we have at least not impeded economic progress.

First empirical results of tests of the influence and role of social capital have certainly raised important issues on the table. But of course they leave much to be desired. This is very understandable because of the youth of this research tradition. There is shortage of appropriate data sets. The generation of sufficient data sets is slow and has just been started some years ago. But already now the research seems to have progressed quite a bit.

Much remain to be done in the clarifying of the concept itself. But one should perhaps not to be too worried about unspecified nature of the concept. We still do not know how to measure ability or intelligence or human capital even though these concepts have been around already for some time and they have been fruitfully applied both in theory and practical applications.

Dasgupta (2000) notes that in measuring physical, human and environmental capital we have some prices which can be weighted together into an aggregate.

This is not the case in social capital which is designed to measure those cases where prices are totally absent.

This, however, should not be a pessimistic conclusion. Dasgupta points out: *'I do not believe we lose anything of significance in not being able to arrive at an estimate of social capital in a country, a region, a city, or whatever. The concept of social capital is useful insofar it draws our attention to those particular institutions serving economic life that might otherwise go unnoted. Once attention is drawn to them, we need to try to understand them and find ways of improving them or building around them. But this is the very stuff of economics. Not having an estimate of social capital is not an impediment to such exercises.'*

More puzzling from the policy point of view is, that we have no firm ideas about how to create or increase social capital. But even in this respect social capital research has already helped to structure the institutional factors, which are relevant in the growth context and have helped to think about these matters more systematically than perhaps has earlier been the case. Even this can be very helpful in thinking about economic policy.

References

- Abramovitz, M.* (1986): Catching Up, Forging Ahead, and Falling Behind. *Journal of Economic History*. June.
- Arrow, Kenneth J.* (2000): Observations on Social Capital. In P. Dasgupta and I. Serageldin (eds.): *Social Capital: A Multifaceted Perspective*. Washington, D.C: World Bank.
- Barro, R.* (1991): Economic Growth in a Cross-Section of Countries. *Quarterly Journal of Economics* 106(2): 407–433.
- Barro, R.* (2001): Education and Economic Growth. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrhc-drhc.gc.ca/arb>
- Brunetti, A. – Kisunko, G. – Weder, B.* (1997): Credibility of Rules and Economic Growth. *Policy Research Working paper 1760*. World Bank.
- Calmfors, J. – Driffil, J.* (1988): Centralisation of Wage Bargaining and Macroeconomic Performance. *Economic Policy*, no. 6:13–61.
- Clague, C. – Keefer, P. – Knack, S. – Olson, M.* (1999): Contract-Intensive Money. *Journal of Economic Growth*. 4(2): 185–211.
- Coleman, J.* (1988): Social Capital in the Creation of Human Capital. *American Journal of Sociology* 94 (Suppl): S95–S120.
- Dasgupta, P.* (2000): Economic progress and the idea of social capital. In P. Dasgupta and I. Serageldin eds.: *Social Capital: A Multifaceted Perspective*. Washington, D.C. World Bank.
- De Soto, H.* (1989): *The Other Path: The Invisible Revolution in the Third World*. New York: Harpe & Row.
- Durlauf, S. N.* (2002): On the Empirics of Social Capital. *The Economic Journal*, vol. 112 no. 483.
- Durlauf, S. and Quah, D.* (1999): The new empirics of economic growth. In J. Taylor and M. Woodford, eds.: *Handbook of Macroeconomics*, 235–310, Amsterdam, North Holland.
- Easterly, W. – Levine, R.* (2001): It's not Factor Accumulation: Stylized Facts and Growth Models, *The World Bank Economic Review*, 2001/2.
- Fukuyama, F.* (1995): *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.

- Granovetter, M.* (1985): Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology* 91(3): 481–510.
- Gratano, J. – Inglehart, R. – Leblang, D.* (1996): Cultural Values, Stable Democracy, and Economic Development: Theory, Hypotheses, and Some Empirical Tests. *American Journal of Political Science* 40(3): 607–631.
- Grier, K. B. – Tullock, G.* (1989): An Empirical Analysis of Cross-National Economic Growth, 1951–80. *Journal of Monetary Economics* 24(2): 259–276.
- Grootaert, C. – van Bastelaert, T.* (eds) (2002a): *The Role of Social Capital in Development. An Empirical Assessment.* Cambridge University Press.
- Grootaert, C. – van Bastelaert, T.* (eds) (2002b): *Understanding and measuring Social Capital. A Multidisciplinary Tool for Practitioners.* The World Bank.
- Hanifan, L. J.* (1916): The Rural School Community Center. *Annals of the American Academy of Political and Social Sciences* 67: 130–138.
- Hall, R. – Jones, C.* (1999): Why Do Some Countries Produce So Much More Output per Worker Than Others ? *Quarterly Journal of Economics* 114(1): 83–116.
- Hjerpppe, R.* (1998). Social capital and economic growth. VATT Discussion Papers 185. Government Institute for Economic Research.
- Knack, S.* (2002). Social capital, growth and poverty: a survey of cross-country evidence. In *Grootaert, C. – van Bastelaert T.* (eds) (2002a): *The Role of Social Capital in Development. An Empirical Assessment.* Cambridge University Press.
- Knack, S. – Keefer, P.* (1995): Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics and Politics* 7 (November): 207–227.
- Knack, S. – Keefer, P.* (1997): Does Social Capital Have an Economic payoff ? A Cross-Country Investigation. *Quarterly Journal of Economics* 112(4): 1251–1288.
- Kormendi, R. C. – Meguire, P. G.* (1985): Macroeconomic Determinants of Growth. *Journal of Monetary Economics* 16(1): 141–163.
- La Porta, R. – Lopez-de-Silanes, F. – Schleifer, A. – Vishny, R.W.* (1997): Trust in Large Organizations. *American Economic Review Papers and Proceedings* 87(2): 333–338.
- Lundvall, B-Å.* (2002): *Innovation, Growth and Social Cohesion. The Danish Model.* Edward Elgar.
- Maddison, A.* (1995): Ultimate and Proximate Growth Causality: A Critique of Mancur Olson on the Rise and Decline of Nations. In *Maddison, A.*

- Explaining the Economic Performance of Nations. Edward Elgar publishing company.
- Narayan, D. – Pritchett, L.* (1999): Cents and Sociability: Household Income and Social capital in Rural Tanzania. *Economic Development and Cultural Change* 47(4): 871–897.
- North, D.* (1990): *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- OECD* (2001a): *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrdc-drhc.gc.ca/arb>
- OECD* (2001b). *The Well-being of Nations. The Role of Human and Social Capital*. Centre for Educational Research and Innovation.
- Olson, M.* (1982): *The Rise and Decline of Nations*. New Haven, CT: Yale University Press.
- Olson, M.* (1994): *Who Gains From Policies that Increase Poverty*. IRIS Center Working Paper 137. Center for Institutional Reform and the Informal Sector. University of Maryland. College Park.
- Omori, T.* (2001): *Balancing Economic Growth with Well-Being – Implications of the Japanese Experience*. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrdc-drhc.gc.ca/arb>
- Putnam, R. D. – Leonardi, R. – Nanetti, R.* (1993): *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, N.J.: Princeton University Press.
- Ritzen, J.* (2001): *Social Cohesion, Public Policy and Economic Growth – Implications for OECD Countries*. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrdc-drhc.gc.ca/arb>
- Rodrik, D. ed.* (2003): *In Search of Prosperity: Analytic Narratives on Economic Growth*, Princeton: Princeton University Press.
- Ruuskanen, P.* (2001): *Sosiaalinen pääoma – käsitteet, suuntaukset ja mekanismit VATT-tutkimuksia 81*. Valtion taloudellinen tutkimuskeskus.
- Should We Be Globaphonic About Globalisation?* (2002): Dani Rodrik on the economic and political implications of increasing international economic

- integration. An interview with introduction by Brian Snowdon. *World Economics* 3(4). October-December 2002.
- Swank, D.* (1996): Culture, Institutions, and Economic Growth. *American Journal of Political Science* 40(3): 660–679.
- Sherif, M. – Harvey, O. – White, B. – Sherif, C.* (1961): *Intergroup Conflict and Cooperation: The Robbers Cave Experiment*, Norman: Institute of Group Relations, University of Oklahoma, reprinted by Wesleyan University Press, 1988.
- Solow R. M.* (2000): Notes on Social Capital and Economic Performance. In P. Dasgupta and I. Serageldin (eds.): *Social Capital: A Multifaceted Perspective*. Washington, D.C: World Bank.
- Temple, J.* (1999): The New Growth Evidence, *Journal of Economic Literature*, March.
- Temple, J.* (2001): Growth Effects of Education and Social Capital in the OECD Countries. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrdc-drhc.gc.ca/arb>
- Uphoff, N.* (2000): Understanding Social Capital: Learning from the Analysis and Experience of Participation. In P. Dasgupta and I. Serageldin eds., *Social Capital: A Multifaceted Perspective*. Washington, D.C.: World Bank.
- Woolcock, M.* (2000): Managing Risk and Opportunity in Developing Countries: The Role of Social Capital, in G. Ranis (ed.), *The Dimensions of Development*. New Haven, CT: Center for International and Area Studies, Yale University.
- Woolcock, M.* (2001): The place of Social Capital in Understanding Social and Economic Outcomes. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. International Symposium Report. Edited by John F. Helliwell with the assistance of Aneta Bonikowska. OECD and Human Resources Development, Canada. <http://www.hrdc-drhc.gc.ca/arb>
- Zak, P. J. – Knack, S.* (2001): Trust and Growth. *Economic Journal*, 111:295–321.

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