

Social Capital and Sustainable Development in the Framework of New Institutional Economics

Pawel Raja

*Department of International Economic Relations, Faculty of Economic Sciences,
Wroclaw University of Economics, st. Komandorska 118/120, 53-345 Wroclaw, Poland*

ABSTRACT

Social capital is the fourth pillar of sustainable development. Whereas natural, physical and human capital constitute the “wealth of the nations”, it is social capital that contributes to harmonious growth. Using the framework of New Institutional Economics, both social capital and sustainable development are explored by their casual impact on informal institutions. Values, habits and beliefs which define social cohesion and impact future generations are the source of continuous development and therefore implicate the egalitarian redistribution of wealth. By taking into consideration the growing number of research in the aforementioned fields of study, this article hopes to introduce a potential research programme where social capital is the main source of sustainable development. The article also seeks to point out the importance of preserving other forms of capital.

Keywords: Human capital, social capital, sustainable development, trust, New Institutional Economics

INTRODUCTION

Social capital is the fourth pillar of sustainable development. Whereas natural, physical and human capital constitute the “wealth of the nations”, it is social capital that contributes to harmonious growth. By accepting the idea of sustainable

development as a process where present needs are satisfied without limiting resources for future generations and their capabilities to maintain a similar of higher level of welfare, I consider social capital a binding link to sustaining intergenerational balance.

While this is a conceptual paper, the main objective is to introduce a potential research programme bringing social capital into the concept of sustainable development. Based on the synthesis of both concepts I strive to encompass the most effective and explanatory common ground.

ARTICLE INFO

Article history:

Received: 15 September 2012

Accepted: 11 October 2013

E-mail address:

pawel.raja@ue.wroc.pl (Pawel Raja)

I argue that sustainability is a process of accepting an egalitarian approach to development. Sustainability as an **opportunity** to share profits with future generations is path-dependent. It is predictable what outcomes of our decisions will have direct impact on the welfare of others. By **limiting** our individual welfare function and seeking trade-offs between needs and desires, we strive for an acceptable form of collective utility function (Moulin, 2003). We constitute our perception and expectations based on social norms and shared values. We reduce transaction costs by enhancing mutual understanding and behave accordingly within the institutional framework. We do seek to function in a structured and hierarchical environment, where our beliefs are accepted and shared. Without coherence, the idea of sustainable development lacks a binding element. While social capital is not a value given in advance to any society, it is the result of interaction among individuals (O'Boyle, 2011). Either positive or negative, it creates a constant tension and drives people to act in certain ways to gain expected results. By considering social capital as a primary component of sustainable development, I claim that by understanding the role of social structure, its cohesion and impact on macroeconomic outcomes, we will be able to accept the need to sustain an egalitarian and morally fair attitude towards future generations.

The rest of the paper is organised as follows. Section 2 briefly reviews some of the related literature on the concept of social

capital. Section 3 describes the notion of sustainable development and its importance in creating long-term development policies. Section 4 describes the idea of social capital. In this section I seek to explore the role of formal and informal institutions in creating and sustaining social capital. Section 5 summarises and indicates a common ground of two concepts and suggests social capital as a complementary aspect to the concept of sustainable development.

PREVIOUS THEORETICAL AND EMPIRICAL CONTRIBUTIONS REGARDING SOCIAL CAPITAL AND SUSTAINABLE DEVELOPMENT

The notion of social capital is a relatively current idea, whereas its importance on common interests was already perceived in Aristotle's time (Bhuijan & Evers, 2005). Common welfare and mutual purpose are still the leading force to distinguish social coherence and create chances for coordinated actions. As the fundamental idea of the concept relies in the assessment that "trust, norms and networks can improve the efficiency of society by facilitating coordinated actions" (Putnam *et al.*, 1993), we can assume that both coordinated individual needs lead to the creation of organisations and codes of conduct lead to morally acceptable economic outcomes.

Employed by Marshall and Hicks, the concept of social capital was used to distinguish the forms of capital into formally separate components of the organisation. While the most prominent element of this division was the unquantifiable sum of trust, norms and "voluntary association", the

division between temporary and permanent stocks of physical capital (Woolcock, 1998) initiated a broader interest among scientists. As stated by Hanifan at the very beginning of the 20th century, social capital can be described in terms of “goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families who make up a social unity, the rural community ... accumulation of social capital, which may immediately satisfy one’s social needs and which may bear a social potentiality sufficient to the substantial improvement of living conditions in the whole society” (Hanifan, 1916). Although the importance of associations and networks in increasing the economic outcomes of a company was recognised by political economists such as Smith and Ricardo, the concept of social capital was deployed by 19th century economists.

The marginalist theory of production and distribution formulated by Clark, the marginal utility theory presented by Sidgwick and Marshall (differently) and the labour theory of value introduced by Marx stand in opposition to the classical view. Associations help to increase efficiency, impel cooperation and seek to define common objectives. However, the review of the assumptions of what social capital is, underlines the importance of community, individuals and informal ways of forming networks, and it is the social point of view. Since norms were perceived as static and rational, their role in the economy was limited. At the micro level, social capital became the subject of studies within the

“new sociology of economic development” (Guillén, 2002), whereas at the macro level it was analysed within comparative institutional studies (Helmke & Levitsky, 2003). The synthesis of both research programmes was proposed by Karl Polanyi, who suggested the idea of embeddedness and was further introduced to sociologists by Granovette, who claimed that “economic behaviour ought to be analysed as embedded in networks of social relations” (Granovetter, 1985). Although Granovette perceived social relations as networks, he argued against the new institutional economists and the underlying idea that the very existence of firms is determined by formal and informal elements (in order to explain the Coase theorem), and the notion that institutions are also “embedded in networks that reflect the perceptions, values, and interests of individuals” (Fine & Lapavistas, 2004).

By the very beginning of the 1980s the concept of social capital as suggested by Bourdieu was taken over by Coleman and the Chicago School. Social capital was perceived as the personal capital enabling individuals to act rationally, therefore initiating social networks, where members [...] trust one another and co-operate in the formation of new groups and associations” (Coleman, 1988). Coordinated actions, connections and networks were again a generous field of research. While the result of social networks and collective repeated actions led to the increase of trust, the existence of norms and cooperation benefitted in notion of reciprocity. Explaining social capital in terms of “trust, norms and

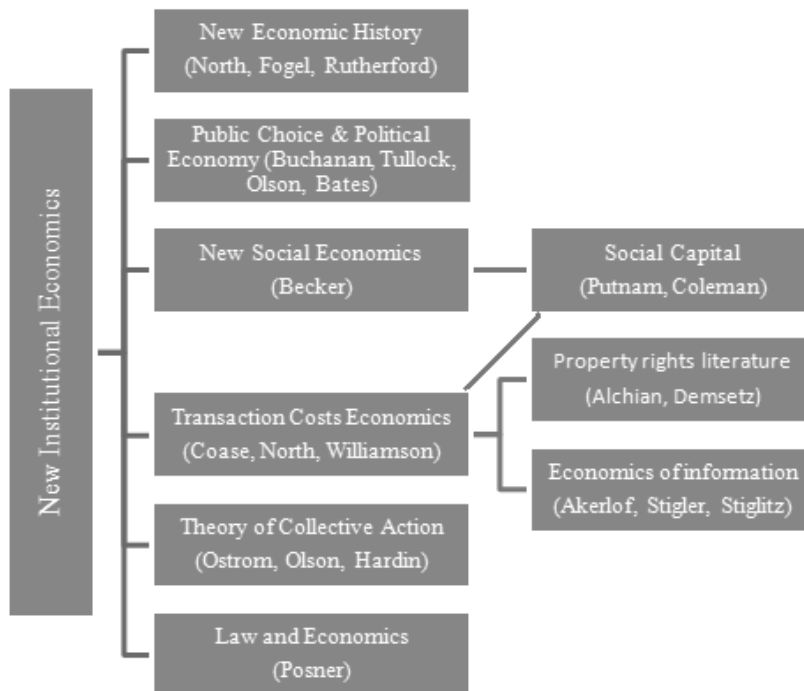
networks that can improve the efficiency of society by facilitating coordinated actions” indicates the role of institutions (Putnam *et al.*, 1993). I claim that within the New Institutional Economics both formal and informal institutions can justifiably define the notion of social capital and analyse it as a binding link connecting social actions and behaviour with the idea of sustainable development.

Initiated by Bourdieu, expanded by Coleman and popularised by Putnam, social capital became a widely used concept in explaining different outcomes. Adopted by the World Bank as “[...] institutions, relationships, and norms that shape the

quality and quantity of a society’s social interaction”, it was promoted as a missing link in the development theories (World Bank, 2003).

SUSTAINABLE DEVELOPMENT AND PRAGMATISM OF THE CONCEPT

The concept of sustainable development emerged in 1987. However, its theoretical foundations had been laid since 1972 and the Conference on the Human Environment organised by the United Nations in Stockholm. While the United Nations released the Brundtland Report in 1987, the most encompassing notion was to “meet the needs of the present without compromising



Source: Kherallah i Kirsten, 2001, The New Institutional Economics: Applications for Agricultural Policy Research in Developing Countries, International Food Policy Research Institute, MSDD Discussion Paper, No. 31, p. 14

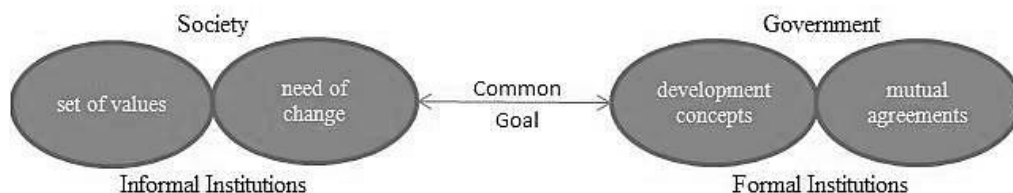
Fig.1: Branches of the New Institutional Economics

the ability of future generations to meet their own needs” (Drexhage & Murphy, 2010). The other two pillars relate to the concept of “needs” and the idea of limitations. Where national attempts to develop complementary strategies to a better quality of life without damage to the environment were forced through national programmes, it was up to the Conference on Environment and Development in Rio de Janeiro in 1992 to fully embody the needs to sustain economic growth and maintain the natural environment at its current level. Despite the on-going debates on how to “maintain or increase all productive capital stocks [...] the maintenance of stocks of human and social capital is equally important” (Goodwin, 2003).

Considering the scope of sustainable development, one has to underline its complexity. Hence, the concept includes the social, cultural, environmental and economic fear about the current models of economic development. It criticises the mainstream economics due to promotion of microeconomic rationality and the understanding of social welfare (Fiedor,

2007). It is, therefore, appropriate to claim that ideas of sustainable development began to shape themselves while realising that growth (in economic terms) based on exploitation of non-renewable energy sources associated with growing and more cumbersome processes of environmental pollution, which even in the short term results in climate change, should not be continued, unless there are real benefits for people and minimal intergenerational loss.

Sustainable development is closely related to the following ideas of human dignity, identity, equality (and its reduction) as well as social justice (in terms of an access to socially desirable basic goods), beyond freedom especially within the meaning of freedom in “production” of wealth and the exploitation of the natural environment. Nowadays, social conflict between wealth and citizenship, between expectations of continuous innovation, ongoing economic development and social justice, the spokesmen of sustainable development seem to take place for social justice (Sadowski, 2007). However, at an explanatory stage one has to consider



Source: Personal work based on Fiedor, B. (2007). *Nowa Ekonomia Instytucjonalna a zrównoważony rozwój* (New Institutional Economics and the Sustainable Development), [in:] Poskrobko, B. (Eds.). *Obszary badań nad trwałym i zrównoważonym rozwojem* (Areas of Research on Sustainable and Balanced Development), Fundacja Ekonomistów Środowiska i Zasobów Naturalnych, Ekonomia i Środowisko, Białystok, Poland, p. 162

Fig.2: Institutional Order

whether the target model of sustainable development should be formed to create a democratic, multi-cultural (and egalitarian), fair or fully balanced society where everyone may find an adequate and right place to live and work.

According to the New Institutional Economics, initial and foremost priority should be given to the differentiation between formal and informal institutions. However, the author is not privileged to discuss the theoretical framework and history of that division. Nevertheless, it should be pointed out that when it comes to sustainable development, informal institutions play the major role. In general, informal institutions consist of: culture, tradition, norms and, as a result, to some extent, attitude. Therefore, any concept of sustainable development depends on a microeconomic set of (economic and non-economic) attitudes. So a long-term development is a subject of the market mechanism and the regulatory intermediation of public opinion. It has been noticed that any structural change is upon the change of both values -- understanding, dedication and trust in society (Fukuyama, 1995). Then there are the formal institutions which govern the process.

The aforementioned are the corresponding sets of rules minimising transaction costs and directing the desirable change which imposes a new institutional order different from postulates proclaimed by German Ordoliberalism. Although one can name theories and schools of thought which at some point connect development with the category of institutions, the author

feels that the most influential components requiring a discussion are those components linked to the following issues:

- Indirect use of environment as a source of ethical needs (stability of informal institutions as culture, religion)
- Intergenerational equity (in terms of transaction costs)
- Legal and administrative pressure on social groups to bound the maiming attitude over the conservation of natural resources (formal institutions)

I perceive that the above components complement each other. Any society should take into account diverse possibilities of substitutions between the forms of capital they use (Borys, 2005). This is done in order to maintain (long-term) sustainable development without lowering either the standard and quality of living or the development rate.

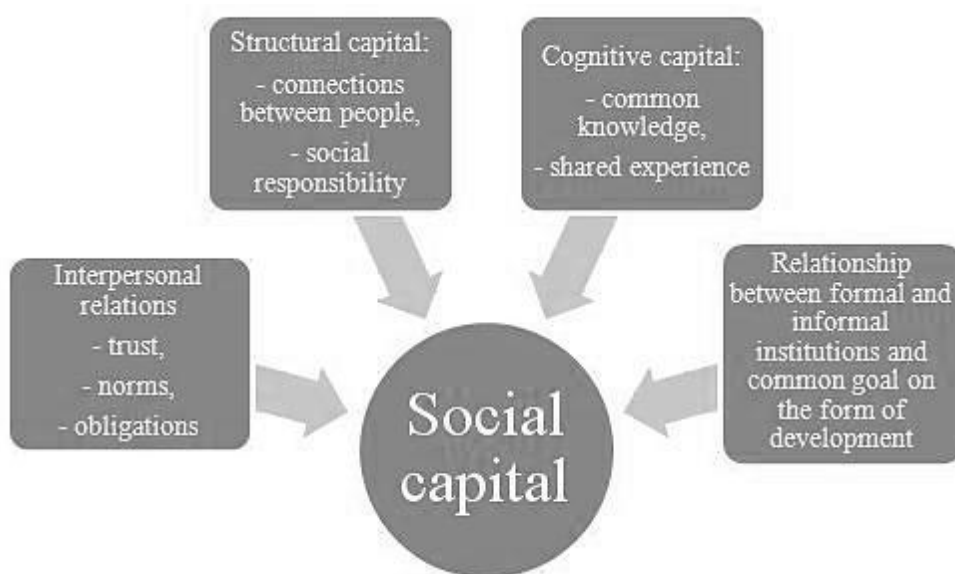
SOCIAL CAPITAL AND ITS COMMON UNDERSTANDING

In "The Theory of Moral Sentiments", Adam Smith touched upon the concept of the selfish (and personal) needs of an individual and its influence on morality in the society. The concern on non-economic sources of economic growth was assigned to the Older Historical School. Further, the analysis of institutional determinants of growth (and development) processes were improved by Institutional Economics, but it was a work of New Institutional Economics to perform research on informal foundations of the development. Therefore,

any social aspect of the economy requires a multi-linked research on religion, culture and politics in the country. It is mostly underlined that any permanent progress depends on the level and complexity of social capital. Through this approach one can settle on competitive and innovative ability on both micro and macroeconomic levels. The common understanding of social capital becomes an important tool to explain differences in the quality of life and wealth of different societies with a similar economic potential. While it can define the positive aspects of development, the level of social capital (and the strength of informal institutions) brings the awareness of the failure of development programmes being implemented on areas both economically

and, to some extent, culturally backward (Pearce, Barbier, & Markandya, 1990). Thus, one has to define the elements of social capital, in regards to see the potential compound of it and possible models of development.

Social capital is a desirable feature of social structure. It is a set of informal institutions affecting the collective and expedient values shared among people. Therefore, social relations stand for the ability of social interaction between people within groups and organisations to achieve common goals. What allow for the increase of the efficiency of any collective actions are mutual obligations, expectations arising from social roles and the legal conditions (of any formal institution).



Source: Personal work based on Bratnicki i Strużyna, 2001. *Przedsiębiorczość i kapitał intelektualny (Entrepreneurship and the Intellectual Capital)*, Wydawnictwo Uczelniane Akademii Ekonomicznej im. K. Adamieckiego w Katowicach, Katowice, Poland, p. 70

Fig.3: Elements of Social Capital

The most important part bonding social relations are shared norms and values which could be understood as a set of patterns of a behaviour (Przygodzki, 2004). Among them are that the value of trust is foremost a chance to build a society (and minimise transactional cost) and its lack brings obstacles to any cooperation. The trust is a fundament of social capital, as it is an essence of any value system or any informal institution. On the micro level individuals and societies will gain a comparative advantage in producing a higher quality of life in regards to a higher level of trust. Trust as a base of social capital:

- Enhances cooperation for mutual benefits
- Solves indecision upon collective action
- Reduces the level of opportunism
- Reduces egoism (Leiknes, 2009)

It is a common summary that no structure can exist without trust and no future perspective stands for weak (or low) social capital (Putnam *et al.*, 1993). To adjust for a low social capital means to raise the transactional costs and reduce in possible (higher) welfare, both economically and mentally. Thus, in the long term it reduces the chances for sustainable development due to the fact that an individual works and lives to satisfy his or her own needs.

This is a great feature of the 21st century that universal, macro-social and comprehensive theories are being reversed into either middle ranged (and short-termed) or just broader generalisations of

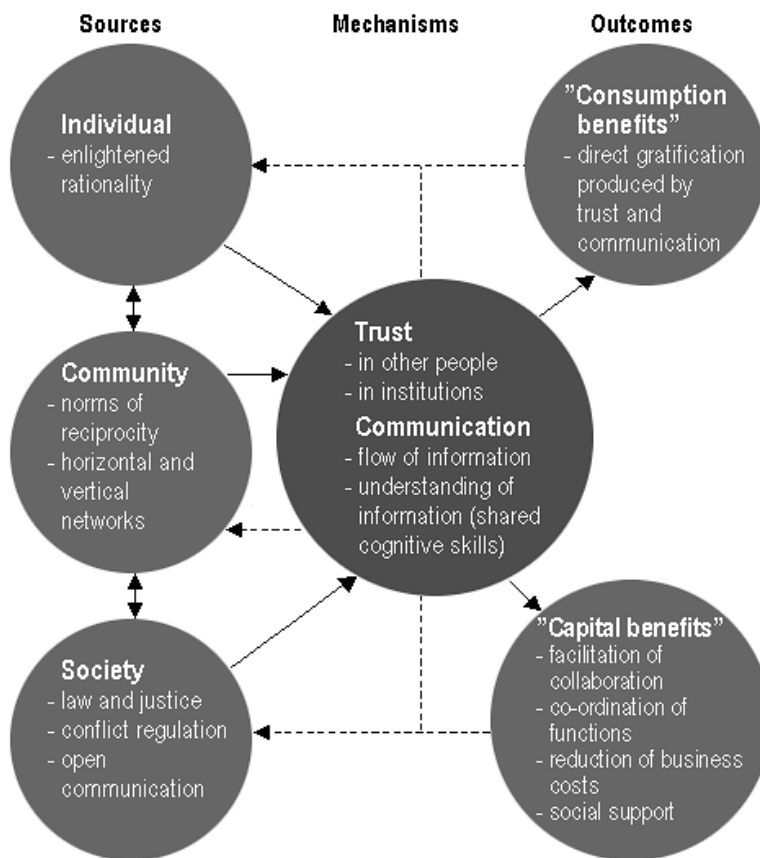
the empirical research (Sadowski, 2007). Further, in social terms the concept and implementation of sustainable development plans has to become attractive as an alternative to the present model of economic activities, in particular, in the way of making decisions. It, therefore, indicates that social capital (and human capital) is not the only requirement of sustainable development. It is a result of thread links which support and condition each other. According to Tisdell, one can point out common aims, which in long-term social capital depends on:

- Maintaining the economic intergenerational prosperity
- Maintaining the productivity of economic systems
- Maintaining evolutionary potential
- Maintaining the flexibility of socioeconomic and natural systems (Tisdell, 1991)

New Institutional Economics has pointed out that any individual functioning without any social context (hence, independently from formal institutions such as government, or informal institutions such as culture), cannot process any concrete, systematic or reasoned model of sustainable development. However, in regards to the theory of chaos, the irrationality either of the system or social groups implies the irrationality of the whole system (Unold, 2003). As one might point out, social capital is strictly connected to environmental issues. It reflects social conditions and changes in behaviour. The concept of social capital is embedded in

the environment and encompassed in the economy (Empacher, 2002). Therefore, social capital is situated on the other level of analysis than the environmental or economic dimension of sustainable development. Since the modern economy is a complex structure of multi-linked activities, (in opposition to neoclassical theories) new models of development should consider other dimensions. After all, it can be stated that socially sustainable development

improves and guarantees availability to current and future generations all the desirable needs on the social, economic and environmental levels. It causes the need for egalitarian intergenerational distribution of resources and the building of a base for continuous development (Ballet, Dubois i Mahieu, 2003). One can say that the former capabilities depend on the current attitude. Any unexpected change in either politics through legal changes impacting



Source: Ruuskanen, 2001. *Sosiaalinen pääoma käsitteet suuntauksat ja mekanismit (Social Capital and the Trend Mechanism)*, VATT tutkimuksia 8, Helsinki, Valtion taloudellinen tutkimuskeskus, Finland

Fig.4: Sources, Mechanisms and Outcomes of Social Capital: Stressing the Importance of Keeping These Dimensions Apart in the Measurement of Social Capital

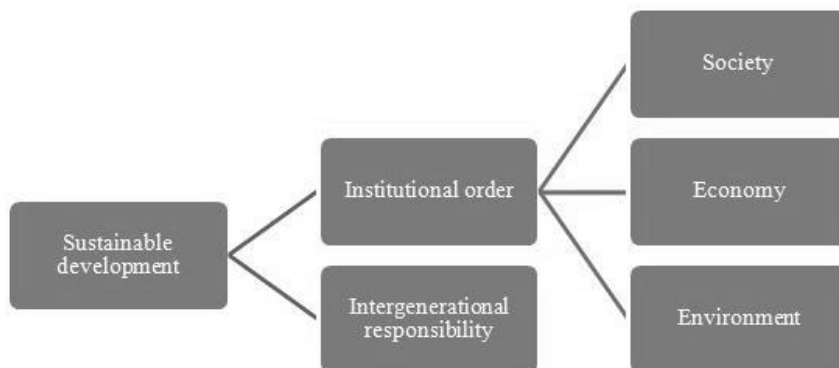
the conditions of work, retirement, saving possibilities or environment in terms of the unreasonable higher usage of natural resources and lower investments on technologies improving the usage of renewable energy sources will impact (and threaten) social cohesion and reduce the possibility of development (Raja, 2010).

In regards to New Institutional Economics based on the criteria of economic rationality and conditioned by methodological individualism, NIE points to a strong relationship between formal and informal institutions. As customs, attitudes and expectations shared among the society suffer interference from interest groups, the path of development is an indirect cause of their pressure and their needs. Therefore, it is for legal institutions to choose to clarify a path of development to comply with the needs of the whole society. Any transactional costs arise because of the mislead between groups of environmental, social or economic interest. Though those areas are the pillars of sustainable development, any institutional

change should be based on a common understanding of these groups and real estimation in achieving institutional order.

IMPLICATIONS

Social capital presupposes trust, shared norms and values, knowledge and collective utility functions. It is the inexhaustible notion of capital influencing the conscious and deliberate usage of other forms of capital. I distinguish between two fundamental compositions of wealth broadly understood in the concept of sustainable development. The first consists of produced assets, human resources (including social capital) and natural capital. While I agree with the notion of strong sustainability, I perceive sustainability as “maintaining different kinds of capital separately” (Serageldin & Grootaert, 2000). The second approach is similar to natural and produced capital, as well as intangible capital which takes into account raw labour, human capital, social capital and quality of the institutions (World Bank, 2006).



Source: Personal work

Fig.5: Simplified Path of the Elements of Sustainable Development

The intriguing idea of social capital as a missing link in the concept of sustainable development has achieved broad theoretical attention. However, the empirical attempts to explain the role of social capital in (economic) development has given rise to some opportunities to analyse the outcomes of either its presence or the lack thereof:

- The Grameen Bank – Set up by the Noble Laureate Muhammad Yunus, Grameen Bank provides rural people in Bangladesh with small credits, that are impossible to receive from standard financial institutions. “Social capital is accumulated along with the accumulation of financial and physical capital associated with the bank credit” (Buckland, 1998)
- Study on Italian regions – Putnam research on economic and political outcomes in Italy, whereas the two opposite “regions”, the South and North, are differentiated by the level of trust; here, social capital is defined by the strength of the informal institutions
- High rates of growth in East Asia – despite the extensive usage of natural resources, the governments of the nations dubbed the Asian Tigers enhance efficiency and cooperation, thereby leading to social cohesion and enabling society to maintain or improve welfare. High growth has led to the reduction of poverty and these nations have gradually progressed in social responsibility
- Integrated perspective – to understand sustainable development as an integrative strategy to improve the well-being of the groups and consider social capital as a main notion for change in the fields of energy, international trades, security and development cooperation (Drexhage & Murphy, 2010)

TABLE 1

Composition of Total Wealth, 2000, \$ per capita and Percentage Shares

Income Group	Natural Capital	Produced Capital	Intangible Capital	Total Wealth	Natural Capital Share (%)	Produced Capital Share (%)	Produced Capital Share (%)
Low-Income countries	1,925	1,174	4,434	7,532	26	16	59
Middle-income countries	3,496	5,347	18,773	27,616	13	19	68
High-income OECD countries	9,531	76,193	353,339	439,063	2	17	80
World	4,011	16,850	74,998	95,860	4	18	78

Source: World Bank, (2006), *Where Is the Wealth of Nations? Measuring Capital for the 21st Century*, World Bank, Washington D.C., p. 24, (Oil states are excluded)

CONCLUSION

As social capital is one of three elements of human capital, it complies with the values of family (and family values), society and, thus, formal institutions which result in searching for the best possible path of development at the current time. However, the difficulty lies in looking at multi-linked areas and, to some extent, submission to the needs of society. The question is about the welfare of any individual, the relationship between them and the priorities of development for intergenerational equity.

This short article has not given any direct response on the right path of development. Thus, it is a simplified and introductory plan of research to enhance the role of social capital as a common (as it should be) need of sustainable development on both individual and social levels. This is, however, a starting point in enhancing the theoretical framework, how New Institutional Economics and its tools can bring awareness and possible answers to local **incomplete models of development**. I have tried in this paper to underline the need for social cohesion, stronger informal institutions and compliance with the formal institutional (legal framework) because sustainable development is based on environmental, economic, cultural and, thus, social needs.

REFERENCES

- Ballet, J., Dubois, J., & Mahieu, F. (2003). Le de'veloppement socialement durable: un moyen d'integrer capacite's et durabilite (Socially Sustainable Development as a Way to Integrate Capacity and Durability). *Presented at the Third Conference on the Capability Approach* (p. 6). University of Pavia.
- Bhuijan, S., & Evers, H. (2005). Social capital and sustainable development: Theories and concept. *ZEF Working Papers*, p. 5.
- Borys, T. (2005). Wąskie i szerokie ujęcie zrównoważonego rozwoju oraz konsekwencje wyboru (The narrow and broad approach to sustainable development and the consequences of choice). W Z. Papuziński, *Zrównoważony rozwój - od utopii do praw człowieka (Sustainable Development - from utopia to the Human Rights)* (pp. 64-75). Bydgoszcz, Poland: Oficyna Wydawnicza Branta.
- Bratnicki, M. i Strużyna, J. (2001). *Przedsiębiorczość i kapitał intelektualny (Entrepreneur and the Intellectual Capital)*. Katowice, Poland: Wydawnictwo Uczelniane Akademii Ekonomicznej im. K. Adamieckiego.
- Buckland, J. (1998). Social capital and sustainability of NGO intermediated development projects in Bangladesh. *Community Development Journal*, 33(3), 243-244.
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-121.
- Drexhage, J., & Murphy, D. (2010). *Sustainable development: From Brundtland to Rio 2012*. Background Paper prepared for consideration by the High Level Panel on Global Sustainability, United Nations, New York.
- Empacher, C. (2002). Die sozialen dimensionen der nachhaltigkeit— Vorschläge zur konkretisierung und operationalisierung (The social dimensions of sustainability – Proposals for concrete and operational) . Koln: Institut fur sozial-ökologische Forschung.
- Fiedor, B. (2007). Nowa Ekonomia Instytucjonalna a zrównoważony rozwój (New institutional

- economics and the idea of sustainable development). W B. Poskróbko, *Obszary badań nad trwałym i zrównoważonym rozwojem (Areas of Research on Sustainable Development)* (str. 158). Białystok, Poland: Fundacja Ekonomistów Środowiska i Zasobów Naturalnych, Ekonomia i Środowisko.
- Fine, B., & Lapavistas, C. (2004). Social capital and capitalist economies. *South Eastern Europe Journal of Economics*, 1, 17-34 (24).
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. New York: New York Free Press.
- Goodwin, N. (2003, September). Five kinds of capital: Useful concepts for sustainable development. *Global Development and Environment Institute Working Paper*, 03-07, pp. 1-13 (1).
- Granovetter, M. (1985, November). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), 481-510.
- Guillén, M. (2002). *The new economic sociology: Developments in an emerging field*. New York: Russell Sage Foundation.
- Hanifan, L. (1916, September). The rural school community centre. *Annals of the American Academy of Political and Social Sciences*, 67, 130-138.
- Helmke, G., & Levitsky, S. (2003, September). Informal institutions and comparative politics: A research agenda. 307.
- Kherallah, M., & Kirsten, J. (2001). *The new institutional economics: Applications for agricultural policy research in developing countries*. Washington: International Food Policy Research Institute (IFPRI).
- Leiknes, T. (2009). *Explaining economic growth: The role of cultural variables*. Bergen: The Norwegian School of Economics and Business.
- Moulin, H. (2003). *Fair division and collective welfare*. Cambridge, Mass.: MIT Press.
- O'Boyle, S. (2011). The acting person: Social capital and sustainable development. *Forum for Social Economics*, 40(1), 79-98.
- Pearce, D., Barbier, E., & Markandya, A. (1990). *Sustainable development, economics and the environment in the Third World*. Aldershot, Hants, England: E. Elgar.
- Przygodzki, Z. (2004). Znaczenie kapitału społecznego w rozwoju (The role of social capital in the development process). W A. Jewtuchowicz, *Wiedza, innowacyjność, przedsiębiorczość a rozwój regionów (Knowledge, Innovation, Entrepreneurship and the Regional Development)* (strony 93-107). Łódź, Poland: University of Łódź.
- Putnam, R., Leonardi, R., & Nanetti, R. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, N.J.: Princeton University Press.
- Raja, P. (2010). Wpływ zmian środowiska naturalnego na stosunki gospodarcze w rejonie Bliskiego Wschodu ze szczególnym uwzględnieniem problemu dostępności zasobów wody (The impact of environmental changes on economic relations in the Middle East region. Water availability). *Ekonomia, Gospodarka a Środowisko (Economics, Economy and Environment)*, pages 134-147.
- Ruuskanen, P. (2001). *Sosiaalinen pääoma käsitteet suuntauksat ja mekanismit (Social Capital and the Trend Mechanism)*. Helsinki: Helsinki: Valtion taloudellinen tutkimuskeskus.
- Sadowski, A. (2007). Rozwój zrównoważony jako proces społeczny (Sustainable development as a social process). W. B. Poskróbko, *Areas of Research on Sustainable Development* (strony 89-90). Białystok: Fundacja Ekonomistów Środowiska i Zasobów Naturalnych, Ekonomia i Środowisko.

- Sadowski, A. (2007). Rozwój zrównoważony jako proces społeczny (Sustainable development as a social process). W. B. Poskróbko, *Obszary badań nad trwałym i zrównoważonym rozwojem (Sustainable Development - Areas of Research)* (str. 90). Białystok: Fundacja Ekonomistów Środowiska i Zasobów Naturalnych.
- Serageldin, I., & Grootaert, C. (2000). Defining social capital: An integrative view. In P. Dasgupta, & I. Serageldin, *Social Capital: A Multifaced Perspective* (p. 42). Washington: World Bank.
- Tisdell, C. (1991). *Economics of environmental conservation* (Second ed.). Cheltenham, UK and Northampton, MA, USA.
- Unold, J. (2003). *Dynamika systemu informacyjnego a racjonalność adaptacyjna. Teoretyczno-metodologiczne podstawy nowego ujęcia racjonalności (The dynamic of an information system and adaptive rationality. Theoretical and methodological foundations of a new approach)*. Wrocław: Wydawnictwo AE.
- Woolcock, M. (1998, April). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2), 151-208.
- World Bank. (2006). *Where is the wealth of nations?: Measuring capital for the 21st Century*. Washington: World Bank.
- World Bank. (n.d.). *The Interdisciplinary Centre for Comparative Research in the Social Sciece*. Retrieved April 21, 2013, from <http://www.iccr-international.org/foresight/docs/monitoring/Social%20Developments/Social%20Capital%20Indicators.pdf>