

# **The Role of Human and Social Capital: Extending our Understanding**

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Human capital, institutions and social capital are now all recognized as significant factors of growth. They have largely been studied separately, and although they present sufficient common characteristics to be conceptualized as one main category distinct from physical capital, it may still be more important to focus on the links among their specific subcategories. Direct links with income may be spurious, as there appears to be a “web of associations” between the subcategories, which would benefit from further empirical investigation.

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## 1 Introduction

Classical economics emphasised capital - accumulated physical and financial wealth - as the engine of the economy. It still bears emphasizing that this was a revolutionary thought in a time of the primacy of landed property: politicians took a hundred years to internalise the new thought, to stop thinking of land and natural resources as the assets worth accumulating, worth waging wars for.

Today, however, it is physical capital that has become the subject of conventional thinking, and there is mounting evidence that it is as outdated as the land-based thinking of a century ago. Another asset is now seen as having as much, if not more, significance for economic growth as physical capital: human and social capital, including individual talents, the accumulated knowledge of society, and society's forms of interaction, organisation and culture.

The classical economists had anticipated this thought: expressions can be found in Adam Smith and in Marshall,<sup>1</sup> as well as in the Dictionary of Political Economy, whose definition of capital expressly includes "The Law, the Church, Literature, Art, Education, an Author's Mind".<sup>2</sup> Irving Fisher formulated it in detail in 1906: capital is all-inclusive, and specifically, it includes human capital, specialised human capital and social organisational forms. Joseph Schumpeter and Theodore Schultz demonstrated in the middle of this century that human resources are now a far more important factor of production than natural resources. They also laid the foundations for our understanding of entrepreneurship, the other form of human capital. Gary Becker<sup>3</sup> developed the basic theory of human capital as it is used today in labour economics. Together, they inspired various contributions to the growth literature, ranging from Arrow (1962) to Romer (1986,1990), Lucas (1988), Mankiw, Weil and Romer (1992), and Hanushek and Kim (1995).

What, then, is capital? The basic point of agreement is purely that it produces income, and its simplest definition is that it encompasses the non-consumable, but depreciating, inputs into the production process. Capital

<sup>1</sup>Marshall (1920), p. 570 (quote from Adam Smith) and p. 564.

<sup>2</sup>Quoted in Fisher, p.55. No date is given for the particular edition of the Dictionary, the author's guess is that the reference is to Palgrave's. The date would in any case be around 1900.

<sup>3</sup>See in particular Becker (1975), which is a second edition, with minimal changes, of his seminal work of the same title, first published by NBER in 1964.

needs to be created, then to be maintained by applying human effort, therefore at a cost. This leads us to a better definition of capital: *a productive resource that is the result of investment*. This distinguishes it from “land” and “labour”. Note that, just as investment can be applied to land (irrigation, drainage) thereby creating what is normally accepted as a capital good (“improved land”), so investment is routinely applied to labour (education, health) and to society (institution-building, investment in social capital). This is where we come to human and social capital: productive assets that are also created and maintained at the cost of considerable investment in human time and funds.

It was sometimes found useful to define capital - as Marx did - from another angle, namely as the inputs which share in the residual profit. The concept of residual profit - Roemer (1982) is noteworthy in this regard - is not negligible if one focuses (as modern economics increasingly does) on the *process* towards equilibrium, rather than equilibrium itself; but it is not applicable to all forms of capital. Equity capital would qualify; leased or rented capital assets do not. Human capital is not usually thought of as sharing in residual profits, yet the returns to an entrepreneur are in this category. This definition would be especially problematic for human capital, since it is difficult (and not necessarily useful) to separate returns to “raw” labour from returns to the human capital embodied in the labourer/entrepreneur. (The concept of residual profits is nevertheless a key one for questions of distribution, and it will be mentioned later, in connection with institutions.)

A distinction can be made between the forms of human capital vested in the individual - education, experience, natural talents, including that for entrepreneurship - which are not easily transferable to other individuals, and the forms that have become public property: the stock of knowledge, found in books, media, blueprints and other documents accessible to all (albeit at a cost). These two will be the focus of the next section, which deals with the dimensions of human capital.

A further category are the forms vested in *relationships* between individuals, i.e. social or institutional capital. In a sense, all these are forms of human capital, as the authors quoted above recognized early on, and as this study ultimately recognizes<sup>4</sup> - but they have been singled out individually, over recent decades, and grown into recognized areas of specialization: the new

<sup>4</sup>In philosophy and ethics too, e.g. the modern theories of collective responsibility, the collective tends to be considered as being, in a special sense, a part of the individual.

institutionalist school, headed by Douglass North et al.; and social capital theory, starting with Coleman, Putnam and Fukuyama, and recently taken up empirically by the World Bank. These days, the tendency (e.g. Woolcock (1998); Fedderke, De Kadt and Luiz, (1999)) is to draw them increasingly together.

## 2 Dimensions of human capital

The human resource approach to growth was pioneered by Schumpeter's work on entrepreneurship and worked out in detail by Theodore Schultz, on the basis of empirical observations of the growth of agriculture in the US during the first half of this century. Schultz based his work on the observation that the law of diminishing returns (as applied to the traditional fixed resource, land) was soundly refuted by US agricultural development. He dissected the true but simplistic answer, that the increasing returns are due to technological advance, into a theory of the role of human capital in production. He noted early on, however, that the labour theory of value was insufficient as a basis. Although the latter had been the first major focus on the concept of human capital, and it could explain most of the changes in the supply of labour, it did not explain the demand for the accumulation of human capital and its increasing value.<sup>5</sup> In the 1950's, Schultz estimated that raw materials' contribution to growth had shrunk to 5% (USA) to 25% (developing countries).<sup>6</sup>

A summary of the main approaches to human capital would hinge on four theses.<sup>7</sup>

Firstly, accumulated human knowledge and skills are as important as physical capital in the production process, and they are in fact a form of capital which should be analysed in the same way as it is customary to analyse "traditional" (physical and financial) capital, particularly as regards the implications of investment in human resources.

Physical capital is the form of capital with which the foundational neo-classical conception of growth as formulated in Solow (1956) and Swan (1956) is concerned.<sup>8</sup>

<sup>5</sup>Schultz (1993), p.73.

<sup>6</sup>*Ibid.*, p.114.

<sup>7</sup>This categorization follows closely Schultz (1993),p. 246-7.

<sup>8</sup>Financial capital has often been considered as distinct from physical capital. For example, Tobin (1965, 1967) argued the importance of financial repression, to avoid the

In its simplest form, human capital is the stock of personal skills that economic agents have at their disposal, in addition to physical capital. We shall refer to the skills aspect of human capital - net of the entrepreneurial skills and of the public good dimension of the stock of knowledge, which will be discussed in the paragraphs below - as the human skills dimension of human capital, or *human skills capital* (HSK).

Secondly, following Schumpeter, the human capital school places *economic disequilibria* at the core of the growth process. The process of economic growth is both an outcome of, and a central contributor to, disequilibria, in an ongoing process of “creative destruction” of prevailing states of rest, and of attempts of economic agents to respond to a state of disequilibrium. Thus economies are in a constant process of adjustment. Disequilibria are the result of many factors (e.g. relative price changes, supply shocks, demand shocks, changes in taste); but the fundamental source is generally seen as technological progress, which is itself related to the search for more and improved forms of human capital in the form of scientific and applied research.

Thirdly, it is the *entrepreneurs* who are seen as the equilibrating agents, not only in the role of risk absorption, but also and principally in the role of identifying the possibilities that exist for adjustment. Entrepreneurship thus represents not only a particular human skill, thus a form of human capital (and henceforth we refer to it as such), but in acting as the source of the adjustment from disequilibrium toward equilibrium, it is at the core of the very possibility of economic dynamics, and hence growth. Entrepreneurship is thus fundamentally different from other forms of capital. In effect, while investment in physical capital may be part of the widening production possibilities that growth represents, the act of investment itself, and the activation of the additional production opportunities, are inherently dependent on entrepreneurial recognition of the opportunities that the investment is a response to. In this sense, therefore, entrepreneurship is the key form of human capital and a basic precondition of economic growth.

Fourthly, the notion of a *stock of knowledge* - closely related to the more familiar but less rigorous term *technology*. By stock of knowledge we refer to factors such as the stored expertise that a society has at its disposal in

withdrawal of monetary assets from the savings-investment link; Levhari and Patinkin (1968) argued for financial deepening in developing countries, viewing money as an independent factor of production. Empirical work by Edwards (1993) and Levine and Zervos (1996) favours this argument.

the form of accumulated information in the form of books, computer programmes, libraries, data banks, blue-prints of capital equipment etc. This form of human capital is quite distinct from the human skills capital identified in (1) above. Whereas personal human skills are essentially private goods, stocks of knowledge have strong public good characteristics.

It is worth noting that this conception of the role and impact of human capital, as summarised in the four points above, is better developed in the earlier forms represented by Schumpeter and Schultz, than in the form it has received in most modern endogenous growth theory. Romer (1986, 1990) and Lucas (1988) did discuss human capital in its public good aspects. But the was little elaborated; and more important, the role of creative destruction and entrepreneurship as a specific form of human capital has not received much renewed attention.

The distinction is a fundamental one. In the Romer-Lucas conception, the role of human capital is only to provide a more differentiated depiction of the characteristics of the steady state of the economy. In Schultz, while this dimension is present, there is the powerful additional suggestion that human capital itself (its entrepreneurial aspect) is responsible both for generating disequilibria, and for providing the means by which the economy moves back to steady state. It is thus a more inclusive, dynamic view of the nature and role of human capital, which generates a view of endogenous change, both in income and in technology, that is more extended than that of the Romer-Lucas endogenous growth literature.

To sum up, on the basis of Schumpeter and Schultz's views, we can conceive of three categories of human capital.

## 2.1 Human skills

This is the individual aspect of human knowledge, produced by education, embodied in the human being and needing constant maintenance and renewal in new generations; it will be called human skills capital (HSK). There is evidence that the stock of HSK has tended to increase historically relative to the stock of physical capital. This result is shown by time-series studies of the national income of Western countries, such as Kuznets (1966), where he finds between about 1910 and 1960 the share of national income accruing to labour, i.e. "compensation of employees", rose from about 47% to 70%

in the UK, and 54% to 69% in the USA.<sup>9</sup> Kuznets attributes this increase to the rising “quality of labour”, which is the human capital argument in different words.

HSK is a function of investment in education (as well as health, which will not be analysed here), which is made not only by public and corporate investment (these are easiest to quantify), but by individuals for themselves and by parents for their children, as a part of their household income allocation and their work/leisure tradeoff. A large portion of the true cost (i.e. money cost plus time)<sup>10</sup> of this investment (e.g. time spent with children, the cost of “leisure” activities that have in fact educational aims) is generally classified as consumption investment. Thus, an understanding of HSK leads us to review the classical division of national expenditure into investment and consumption: the latter has in fact also strong elements of investment, with a crucial influence on subsequent production and long-term growth. The organization of the educational system of the economy thus stands to impact directly on the quantity and quality of HSK that will be produced. Empirical studies suggest significantly that the level of investment in human capital carries positive consequences for economic growth; however, they also suggest that the *quality* of the HSK that the investment is aimed at may be considerably more important than the *quantity*, as expressed in years of education. Recent work by the growth group of NBER suggests that if human capital is measured purely in terms of years of schooling, no correlation with growth can be shown;<sup>11</sup> however, this result may be the consequence of measurement error.<sup>12</sup> Hanushek and Kim (1995) show that the return on quality education may be eight times as great as the quantity of education. Bils and Klenow (1998) raise the important point that the causal relationship may be from growth to better schooling, not vice-versa.

The quality of HSK generally enters production functions in the form of “effective labour input”, which incorporates the quantity of labour time, compensated in one way or the other for its quality. Such a tool may however

<sup>9</sup>Kuznets (1966), p. 168-169.

<sup>10</sup>For an analysis of consumption in these terms, see Becker (1971), p.45 ff.

<sup>11</sup>“Lance Pritchett of the World Bank presented cross-sectional evidence that the growth of human capital, as measured by years of education, is completely uncorrelated with the growth of output. This result is surprisingly robust to the use of different datasets.” Report of the economic fluctuations and growth programme, NBER website, [www.nber.org/index.html](http://www.nber.org/index.html), March 1999.

<sup>12</sup>Krueger and Lindahl (1999).

be oversimplified. The impact of HSK on economic activity goes beyond the direct improvement of the productive potential of capital and labour. Its impact is dynamic as well as static, in the sense that the quantity and quality of HSK may prove critical in determining the ability of an economy to absorb technological advance.

This point is all the more important when considering the plight of less wealthy countries, who may not only squeeze so-called private consumption expenditure in order to stimulate classical investment in physical capital, but also often direct educational investment into quantity rather than quality.

Investment in human capital, however, is not made wholly on the basis of cost and future income stream analysis. Firstly, as Becker (1975) points out, it is very difficult to foresee these accurately over the very long future period that is considered when making investments in human capital. Further, the independent utility value of education is widely recognized. Thus, to understand the investment decisions made by individuals in relation to human capital, we have to look further. At least part of the answer, as proposed later in this paper, may lie in an understanding of the dynamics of social capital.

## 2.2 Entrepreneurship

Disequilibria can be the result not only of exogenous shocks, but also be the endogenous outcome of the entrepreneurial activity of agents in the economy. Entrepreneurship has both the function of searching for the new, and hence of disrupting established equilibria, and the function of responding to the disequilibrium when it emerges.

Equilibrating agents need to (a) recognize the disequilibrium, (b) have the knowledge for dealing with it, and (c) be incentivated to do so in the face of the inevitable associated risks. Reallocation of resources in response to economic disequilibria is one of the two basic functions of the human agent, the other being his contribution to the production process itself. Both functions are enhanced by investing in human capital, but the details of the process are still unclear. The “work effect” of education/training is better understood than the “allocative effects”, but there have been a number of studies that have attempted to separate and measure the two effects.<sup>13</sup>

<sup>13</sup>See e.g. Welch, F. (1970): “Education in Production”, *Journal of Political Economy*, Jan - Feb. 1970.

In a near static economy typical of all economies at least in early history, equilibrating behaviour, and the skills needed for it, are not at a high premium and are not consciously addressed. The faster an economy changes and develops, the more potential gains there are in fostering these skills - gains both for the agent and for the economy in general, through faster growth. This is not to say that in a steady-state economy economic agents (say, traditional farmers) do not have a very refined knowledge of the optimum use of existing resources at existing relative prices. In this sense, traditional farming practices usually reflect the optimum use of resources for the given conditions. But when the equilibrium changes - through the introduction of Green Revolution technologies, improved transport opening up distant markets, etc. - then to reach a new, higher-level equilibrium, agents need to recognize alternative technologies and reallocate the resources at their disposal in order to optimize. Economic activity, in short, comes to be characterized by entrepreneurship as defined at the outset of this section's discussion.

Reallocative ability is enhanced by general education (as well as by the quality of information, which is a function of social capital and economic institutions), since its components are the ability to receive information, to recognize its implications and to calculate risks. Education serves to enhance both the equilibrating and disequilibrating effects of entrepreneurship - and indeed, the two processes go hand in hand.<sup>14</sup> And as education increases disequilibrating entrepreneurial activity, so the importance of reallocative activity will increase, as circumstances become inherently more dynamic.

The point that entrepreneurial ability is not wholly innate but is fostered by education, i.e. that it responds to investment, was developed by Schultz, extending the entrepreneurship theory of Joseph Schumpeter. The latter was looking for an endogenous explanation to economic development; but he stopped at a view of the entrepreneur as a visionary creator, whose incentive comes from non-economic factors. Thus the engine for growth remained exogenous. Schultz, on the other hand, was able to endogenize it, by seeing entrepreneurial capacity as a form of human capital and showing that it is influenced by investment in education. (He also used another factor to close the circle: "scientific entrepreneurship", which will be discussed in the next section.)

Two major factors militate to this day against the recognition of the im-

<sup>14</sup>Schumpeter's theory of "creative destruction" refers - see p.3.

portance of entrepreneurship. First, the quasi-impossibility to quantify it. Secondly, the assumption that it is generally in abundant supply, which is in fact a basic assumption of general equilibrium analysis.<sup>15</sup> This assumption may be reasonable for economy such as 19th century England and today's USA, but when focusing on growth and development questions in a wider context, it becomes questionable. In this context, Landes (1998) gives an interesting insight about long-term trends in entrepreneurial skills, by focusing on their increasing opportunity cost as the level of wealth of the society rises. He identifies a number of societies (16th C China, 18th C Netherlands, 20th C England) which, having already accumulated a large stock of wealth from earlier entrepreneurial effort, lower their propensity for accepting new risks; thus entrepreneurial skills are gradually devalued. This runs counter to the conventional thinking that the level of tolerance for risk is positively correlated with income/wealth.

Entrepreneurship, like any other factor, is subject to supply and demand forces. Gary Becker<sup>16</sup> laid the foundations for the analysis of the supply of entrepreneurship, by defining it as “resources supplied by owners of firms that do not have perfect substitutes among hired factors”, and assuming standard U-shaped average and marginal cost curves, due to indivisibilities at low outputs and rising opportunity costs of the owner's time at higher outputs. He assumes that at higher outputs, entrepreneurial input is increasingly replaced by its imperfect substitutes, hired managerial inputs - causing higher costs. It is to be noted that, while this 1971 analysis does not yet expressly acknowledge transaction costs, it implicitly recognizes them in assuming that hired entrepreneurship is an imperfect substitute for the owned factor; and it brings in what would later be recognized as the social capital dimension by giving the example of family ties (specifically, the Rothschild brothers in the 19th century) that can generate a far higher amount of “owned” entrepreneurial capacity since they eliminate the “imperfection” that he associates with hiring entrepreneurial talent.

### 2.3 The stock of knowledge

The stock of knowledge - or technology - available to a society is a particular form of human capital, with strong public goods characteristics. This point

<sup>15</sup>See for example chapter 3 of the widely-used undergraduate economics text book, Case and Fair (1996).

<sup>16</sup>Becker (1971), p. 122 ff.

has recently been brought out by Paul Romer,<sup>17</sup> in the context of his work on the knowledge society, and by J. Stiglitz, in his work on public goods.<sup>18</sup> It has recently been further elaborated in an interesting new context, global public good theory, which extends traditional public goods theory into a global context.<sup>19</sup>

Also, a distinction needs to be made between scientific knowledge and the ability to apply it in productive technology. Romer in his earlier work<sup>20</sup> noted the importance of technology utilization, especially in developing societies, while in more mature societies the rate of technological innovation - an entrepreneurship function - may be more important.

The importance of HSK in enabling an economy to absorb technological change was mentioned under the section on HSK. Becker (1975) already recognizes this link, by hypothesizing that the increased demand for “educated persons” after 1940 in the United States was due to the expansion of R & D and military technology.<sup>21</sup> Jovanovich (1996) emphasizes the distinction between HSK and technology. The work of Abramovitz (1956, 1986, 1993), Nelson and Winter (1982), Nelson and Wright (1992), Cohen (1998) suggests that the ability of societies to make use of the public good characteristics of human capital (i.e. the “stock of knowledge” form as discussed here below), depends critically on their capacity to absorb new technological advances. Such absorptive capacity for technological innovation depends on the quality of the HSK that is available to the economy, which in turn depends on the social capital, the institutional and organizational structures that the society maintains in order to produce the HSK requisite for technology absorption. The difficulty is that different technological advances require different HSK endowments for their efficient absorption, and it is intrinsically difficult for existing institutional structures to plan for these. However, the point that HSK and technology work *in synergy* to affect the production function, is more than plausible.

<sup>17</sup>A full bibliography of his recent work can be found at [www.stanford.edu/~promer/bio.htm](http://www.stanford.edu/~promer/bio.htm).

<sup>18</sup>See e.g. J. Stiglitz: “Knowledge as a public good”, in *Global Public Goods*, ed. I. Kaul, I. Grunberg and M. Stern, UNDP/Oxford University Press (1999).

<sup>19</sup>See the essay by Joseph Stiglitz on “Knowledge as a Global Public Good” and by Debora Spar on “The Public Face of Cyberspace” in Kaul, grunberg and Stein (eds.) (1999)

<sup>20</sup>e.g. Romer, P (1986).

<sup>21</sup>Becker (1975), p. 6.

This point is supported when we consider the changing HSK-producing institutions that have characterized countries at different historical time points in the global process of industrialization. Landes (1998) points out that the process of industrialization in Britain was associated with technological innovation carried out piece-meal and gradually by a decentralized and uncoordinated process led by individuals. The technological background for this early spurt was essentially empirical and technical, with relatively little theoretical scientific background (the salient example being the steam engine). The institutional background in England at the time favoured this kind of technical entrepreneurship; on the other hand, the academic-type scientific institutions were not exceptionally advanced.

By contrast, the later process of industrialization on the continent (with heavy emphasis on electrical energy and the chemical industry) was characterized by deliberate institutionalized human capital production, in the form of the Polytechniques in France, and the Technische Hochschulen and Gewerbeschulen in Germany. “In both chemicals and electricals, learning and competence depended on formal instruction. These phenomena are not apprehensible by sensory perception; the underlying principles are best learned in the classroom and laboratory. Here Continental reliance on schooling paid off.”<sup>22</sup> The process of human capital creation in Germany, accompanied by deliberate additions to the stock of knowledge (witness the chemicals industry) generated far more rapid innovation than the decentralized process that remained the norm in Britain. One should add that the existence of formal knowledge-building institutions is not necessarily a sufficient condition for the build-up and maintenance of the appropriate HSK. Kenneth Arrow (1962) emphasises “learning-by-doing”. Landes gives some examples of instances where the importation of foreign technology failed because of the absence of appropriate HSK, even in the presence of a first-class educational system: for instance, the USA found it necessary to import French technicians as well as the blueprints, to enable the manufacture of French-model field guns during the First World War.

The recent history of the computer industry, from Apple through Microsoft and Java, further illustrates the complexity of this link: while twentieth-century technological advances are generally associated with the “German model” of formal scientific investigation and deliberate HSK formation, the recent developments in the computer industry were based on a hybrid model

<sup>22</sup>Landes (1998), p. 284.

of deliberate HSK formation and the “old English model” of empirical backyard experimentation supported by an entrepreneur-friendly environment.

One last aspect that it is important to emphasize is the link between the stock of knowledge and entrepreneurship. Schultz extends his concept of entrepreneurship to include scientific entrepreneurship, i.e. the reallocative skills (and opportunities open to them in this respect) *related to determining the direction of scientific research*. This form of entrepreneurship leads to the creation of disequilibria as new discoveries are made; but it is thereby that new opportunities for entrepreneurial activity of the traditional kind, are opened up. It is an entrepreneurial function, and it is fulfilled either by scientists, by Government officials, or by chief executives of corporations. Schultz argues that the scientist is likely to be the most efficient at this function, and he underlines the dangers inherent in excessive government control of the scientific research process, given the inherent weakness of government in two crucial aspects - in knowing the status and possibilities of science at any given moment, and in responding to price incentives.

Yet the answer does not necessarily lie in complete laissez-faire approach to scientific activity, either. The State may need to intervene - especially for an economy that is “catching up”, rather than at the cutting edge, as Gerschenkron suggested.<sup>23</sup> Landes (1998) provides an account of the catching-up process of continental Europe at the end of the 19th century, where the role of the State is brought out. See also Nelson & Wright (1992) on the nature of US research post-1945.

The gist is that there needs to be a balance between leaving scientific entrepreneurship to the private sector, where the highest short- and medium-term efficiency can be attained - pharmaceutical, gene technology and other biotechnology companies spring to mind immediately, but all sectors can properly be included - and recognizing the long-term and public good aspects, in which the institutional background may become crucial to break path dependencies, increase incentives, exploit economies to scale and take care of fields where intellectual property rights cannot be claimed, or not to a sufficient extent to make investment worthwhile. Thus the institutionalist perspective of planned investment in scientific research, in addition to the market-led part, may need to be given due importance.

<sup>23</sup>Gerschenkron (1962).

### 3 Dimensions of social capital

In the foregoing discussion of the dimensions of human capital, each section ends with references to the institutions, organisations and social capital that influence the creation and maintenance of the three kinds of human capital (and are in turn influenced by them). It was felt that the terms are familiar enough to use loosely without defining them, since so far they remained on the sidelines of the argument. In the following section, the focus shifts to social capital; in the course of the discussion, the three terms - institutions, organizations, social capital - will be reviewed and clarified, and new ways of relating them to one another will be proposed.

“Institutions” and “social capital” have been the subject of two separate areas of research in social science, and each will first be considered under its own heading.

#### 3.1 The institutionalist approach

No attempt will be made here to summarise all the main aspects of institutional theory, which is a subject more of sociology and political science than economics; only some points relevant to economic theory and to the present discussion will be mentioned.

In economic literature, institutions - meaning formalised sets of rules such as laws, regulations and standards (D. North distinguishes them from “organisations”, such as banks, research institutes and marketing boards)<sup>24</sup> - have typically been treated as entities that strengthen property rights and/or lower transaction costs, with the emphasis either on decreasing risk or improving information.

The first school, originating from Coase (1960), focuses on transaction costs and property rights. The fundamental insight is if there were no transaction costs, property rights would not matter, since as equilibrium is reached, control over resources would pass to those able to draw the highest return from them. The more recent imperfect information school (Akerlof-Stiglitz) provides a more rigorous framework for analysing institutions as substitutes for missing markets in an environment of pervasive risks, incomplete markets, information asymmetry, and moral hazard. Thus a number of seemingly inefficient laws and customs, as well as forms of organisation, can be proved to

<sup>24</sup>North (1990).

be rational under conditions of risk (imperfect information).

A large part of the body of economic literature that deals with institutions, attempts to answer the general question of (a) whether there is any relationship between institutions and economic growth, and (b) if so, what is the direction of causality. Fedderke (1998) gives a useful summary of the debate. The gist is that enough empirical evidence has been accumulated to justify the intuitive reasoning that the quality of institutions has an effect on economic growth, and economic growth in turn, affects the development of institutions; but the relationships are still far from clear. Another noteworthy point in Fedderke (1998) is that there is a lack of clarity on the main categories of institutions. Categories are sometimes very general (“modernization”, “political freedom”); and a wide variety is cited, such as: property rights, financial development, degree of Government intervention, level of technology, credibility of institutions, etc.

While it is not easy to analyse empirically the effect of institutions on economic growth, it is even more difficult to answer the challenge posed by economists such as Bardhan, to do a “rigorous economic analysis of the rationale of the formation of an institution”.<sup>25</sup> To do so may require a model including non-economic as well as path-dependency factors which are so far out of reach. In particular, the typical driving vision of the State elite is still the concept of “national interest”, read cultural self-preservation, which it is not easy for economic theory to capture. Thus economists, including the institutionalist schools, tend to be anti-étatists. The problem with this approach is that under imperfect conditions, the State can be much more efficient in taking the initiative for collective action aiming at a superior equilibrium, as shown e.g. by Gerschenkron in his catch-up theory of development.

One must also distinguish between State power and bureaucratic or special-group rent-seeking, which may be inevitable: as public choice theory has shown, it is inherent to any civil society institutional structure. Strengthening the State, thus restricting the scope of rent-seeking activities, may therefore be crucial to increasing economic efficiency. The international development donors have increasingly recognized this since it was first emphasized in the 1997 World Development Report.

An aspect of institutionalist theory that is useful for economists are theories of institutional change. Institutionalists have gone farther than the

<sup>25</sup>Bardhan (1989).

social capital school (discussed below) in reflecting on this subject.<sup>26</sup> Public choice theory, game theories, theories of path dependency, give a wealth of useful insights. A distinction should be made between theories of the sources of change - much of the work on institutional change is based on analysing the translation of individual choices into public goals - and the mechanisms whereby the desired changes are implemented. With regard to the latter, i.e. to the efficiency aspects of institutional change, Douglass North raises an interesting point when he points out what Schultz would call the entrepreneurial capacity of an institution: North calls it the adaptive efficiency, i.e. institutions' efficiency at learning, innovation, risk, problem-solving etc. This is achieved through institutions that encourage repeated experiment and trials, feedback on failures, competition, etc.; bankruptcy rules (feedback on failures); and for North, this is the factor which shapes the way that the economy will move through time. This insight is closely related to the concept of rationality of social capital, as introduced by Fedderke, De Kadt and Luiz (1999) (see section below).

One essential question for which economics cannot do without institutional theories, is that of income distribution among individuals. The general equilibrium principle, that income accrues equally to all factors of production is inadequate on two levels. Firstly, it deals only with a world at equilibrium, with perfect information and without transaction costs. As J. Roemer<sup>27</sup> argues convincingly, in the presence of transaction costs and imperfect information, it is the institutional capital that determines who has the capacity to be the residual claimant - i.e. who can bear more risks, either because of superior economic strength (or, as Roemer would say, the initial distribution of wealth) or other power factors (political capital). Secondly, the general equilibrium principle limits its focus on allocative distribution, i.e. between the factors of production, but has little to say about individual distribution, other than the patently insufficient argument about free choice of the amount of labour supplied. In addition, in today's world the demand for raw labour input has decreased drastically, and the acquisition of human capital is becoming indispensable for each individual to ensure a minimal standard of living, thus necessitating a complete review of the theories of investment and distribution.

The principle of ensuring a minimum of returns from the economic process

<sup>26</sup>See Schotter (1981) and Sugden (1986).

<sup>27</sup>Roemer (1982).

to all human beings, irrespective of their role as factors of production, derives from sources outside economic theory. The closest economic connections are the recent studies on the negative correlation between inequality and growth;<sup>28</sup> but their results seem so far insufficient to justify this principle in terms of the objective of growth. A new direction may be emerging, advocated among others by Joseph Stiglitz, who has argued on behalf of the World Bank that full employment should become the primary objective of economic policy-making.<sup>29</sup> So far, however, economic theory regards the equity principle largely as exogenous to itself.

### 3.2 The social capital approach

The recognition of the importance of social relations and institutions, led first to focusing on formal institutions, chiefly property rights and institutions affecting information and transactions costs; aspects of this were discussed here above. But inevitably, there came into focus also the uncodified social norms and relationships that influence economic (and other) transactions. The foundations were laid by Coleman (1988) and Putnam et al. (1993).

The categorization of social relations and trust as a form of capital, has been constantly questioned. Most recently, no lesser authors than Kenneth Arrow and Robert Solow<sup>30</sup> have questioned the appropriateness of defining these relationships as a form of capital. Arrow observes that social networks are built mostly for reasons other than their economic value; the gist of Solow's argument is the difficulty of measuring social capital adequately in monetary terms, thus excluding normal forms of cost-benefit analysis. One may respond by restricting the term "social capital" to those forms of human relationships that *are* related to oiling the wheels of economic activity, as indeed the seminal proponent of social capital, R. Coleman, does; as for the very valid problem of measurement, numerous empirical studies are exploring possible, even if partial, solutions. Dasgupta<sup>31</sup> remarks that the same objections can be raised regarding human knowledge and skills, yet the concept of human capital is now widely accepted. Solow himself, notwithstanding his criticism of social capital research, remarks: "It is a dirty job, but someone

<sup>28</sup>E.g. Clarke (1995), Alesina and Perotti (1993), and Persson and Tabellini (1994). Papanek and Kyn (1986), on the other hand, differ.

<sup>29</sup>E.g. Stiglitz's address at the Reserve Bank, Johannesburg, January 1999.

<sup>30</sup>See the introductory chapters of Dasgupta and Serageldin (1999).

<sup>31</sup>Dasgupta and Serageldin, eds. (1999), p. 326.

has to do it; and mainstream economics has puristically shied away from the task.”<sup>32</sup>

### 3.2.1 Defining social capital

Current thinking on social capital is still fragmented, with the only common point being that social capital is the existing stock of social relationships in a society. Seen in these terms, the concept is too vast to be of practical use; however, since it was first coined in the 1980’s,<sup>33</sup> much has been done to sharpen the term for practical application. Some considerations that seem particularly useful, are summarised below.

The original definitions, by Coleman and others, emphasize that social capital is what lies beyond formal organisations and legislation, which were already well analysed and were therefore considered a different category. Coleman (1988)’s three forms of social capital - obligations and expectations, information channels, and social norms - show this trend of thought clearly: formal regulations and organisations are not included. Conservative thinkers such as Fukuyama go as far as seeing social capital as being in opposition to government-related institutions, in the sense that the more of the latter, the less there will be of the former (e.g. the degradation of French civil society since 18th century absolutism; or the collapse of Russian civil society under Communism). On a more nuanced but similar level, UNDP<sup>34</sup> also emphasized the *voluntary* character of social capital institutions, as opposed to social regimentation imposed from above. This implies a coercive view of the State, which may or may not be appropriate. Newer work on social capital - e.g. the approach of the World Bank - sees rather a positive dynamic between the two, assuming that changes in social capital will eventually affect the formal rules and institutions of the society, and vice-versa.

Another important distinction is that between the forces, or character traits of a society that facilitate the cultivation of relations, and the forms that the relationships take - as Woolcock puts it, the distinction between the “sources or the consequences of group membership”.<sup>35</sup> Fukuyama’s definition

<sup>32</sup>Ibid. p. 6.

<sup>33</sup>The earliest detailed expose of the concept in its modern form seems to be Coleman (1988). However, the concept was variously used earlier, explicitly or implicitly - see footnotes 13-15 in Woolcock (1998).

<sup>34</sup>Banuri, T. *et al.* for UNDP (1992).

<sup>35</sup>Woolcock (1998), p. 5.

of high-trust and low-trust societies, focuses on the former; on the other hand, of the World Bank's quantitative analysis of the effects of the higher number of village association memberships on household expenditure in Tanzania,<sup>36</sup> is an example of focusing on the latter.<sup>37</sup> Empirical studies concentrate of course on the latter; yet, the feedback of economic outcomes into the sources of social capital - the "higher plane" of societal values - may need to be taken into account. For example, human rights are clearly being increasingly emphasized as a societal value, in contrast to the older emphasis on property rights. This is shown by a wide trend within legislation and justice over the last hundred years or so, starting with the abolition of slavery and the removal of property qualifications from voting rights. It is reasonable to hypothesize that the source of this trend is to some extent at least, economic in nature, stemming from the increasing importance of human capital over physical capital, in addition to the fact that modern societies depend increasingly on the rationalisation of rules and on factor mobility. Another kind of example, small but quite striking, reported by Landes,<sup>38</sup> is the shortening of the time that the average young Thai spends in spiritual education in a Buddhist monastery - from more than a year a few generations ago, to a few weeks nowadays: this can be seen as the result of the increased economic value of human time (rise in value of human capital).

Three more aspects are worth discussing in some detail. Firstly, the relationship between social capital and rational choice theory, which is the basis of economic theory, must be clearly defined. Coleman (1988) warns explicitly about the potential contradiction between the two, given that social capital is a sociological as much as an economic term, thus influenced by the determinism that tends to characterise sociology in contrast to economic theory. Coleman expressly roots himself in rational choice theory. In his view, social capital can be seen, in the economic context, as an additional tool available to the rational economic agent to increase his present or future production (or, as other theorists show, to decrease his transaction costs). Assuming a low future discount rate,<sup>39</sup> one can thus justify seemingly irrational choices of

<sup>36</sup>The survey results were written up in various states. I used Narayan and Pritchett (1997).

<sup>37</sup>Note that the next such major World Bank study focuses far more upstream. See Ryteran and Murrell (1997).

<sup>38</sup>Landes (1998), P. 517.

<sup>39</sup>This is generally seen as an exogenous cultural factor. Elinor Ostrom (1990) makes the interesting point that a greater sense of security allows the individual to shift his priority

economic agents in the face of social relationships: what seem to be sacrifices may be in fact additions to the stock of social capital.

Secondly - and leading into the next section - there is the point of the homogeneity and inherent social usefulness of social capital. The first writers on the subject - Putnam (1993), Coleman (1988) - tended to assume it, at least implicitly. We are now aware that social capital is neither homogeneous nor invariably a positive factor of production. On the simplest level, if social capital is treated as a factor of production, then it should be assumed to be subject to diminishing marginal productivity like any other factor. As Woolcock points out, too strong a web of relationships can be redundant or even have a stifling effect on economic activity, through the cost involved in maintaining it. It is also recognized that some forms of social capital - either having outlived their economic usefulness or having been created for other objectives - actually inhibit production.

Thirdly, as noted in e.g. Fukuyama (1995), different forms of social capital may not necessarily be inferior or superior in terms of resulting economic outcomes, but simply different: he brings the example of family-based social trust (China, Italy) as against wider community-based trust (Germany, Japan), linking the former with smaller, more flexible industries such as textiles and light industry, and the former with the emergence of large-scale industries such as steel. De Kadt, Fedderke and Luiz's concepts of transparency and rationalisation (discussed below) are helpful in understanding this kind of differentiation.

### 3.2.2 Recent evolution of the concept

Woolcock (1997) is the first to attempt a dissection of the concept of social capital within a unified conceptual framework. He does this by defining four dimensions of social capital, in two pairs of opposing concepts: "embeddedness" and "autonomy", and the macro and the micro level. "Embeddedness", an idea developed by Polanyi and Granovetter,<sup>40</sup> refers to the fact that all forms of exchange are inherently embedded in social relationships, in several possible ways, each with its benefits but also costs. "Autonomy" is the opposite concept to embeddedness, referring to the degree to which agents have access to non-community members and operate by wider values and

in favour of future generations - thus a lower discount rate is a result, to some extent, of the economic process.

<sup>40</sup>References quoted in Woolcock (1997), p.5.

rules than those of the community. The macro and micro levels are self-explanatory. Having focused on the weaknesses of both pairs of concepts when taken separately, he then integrates them into a unified framework. Embeddedness at the micro level (intra-social ties) he calls Integration, at the macro level (State-society relationships) he calls it Synergy; autonomy at the micro level (extra-community links) is termed Linkage, and at the macro level (institutional competence and coherence) it is termed Organisational Integrity. One is thus faced with four separate scales of values, giving 16 social capital profiles if each attribute is rated low/high. Thus different combinations of these four dimensions can account for a range of development outcomes, from “anarchic individualism (the absence of all four dimensions) at one extreme, to beneficent autonomy (the presence of all four) at the other. The same dimension of social capital can thus serve very different developmental purposes when combined with other forms.”<sup>4142</sup>

Woolcock’s paper, together with Fukuyama’s insight on family and community-based social capital, began the trend to characterise social capital in such a way as to allow evaluations of its specific forms and predict their effects, while maintaining a coherent vision of social capital. Parallel to Woolcock, a different dissection of the concept has been proposed by Fedderke, De Kadt and Luiz (1999), providing a promising new concept that merits further study.

They propose to see social capital under two interacting dimensions: “transparency” and “rationalisation”. “Transparency” denotes the transaction-cost-lowering function of social capital; the term is chosen because it refers to the improved information and increased predictability that it generates. “Rationalisation” is the new concept, referring to “the degree to which social capital moves from rules and norms that assume substantive content, to rules and norms that are procedural in character.”<sup>43</sup> This innovative definition is particularly useful because it enables us to focus on the logic behind the rules in any given community, distinguishing between the simpler but less flexible substantive rules such as religious rules on periodic fasting as against modern social norms about healthy eating; or to see the progress involved in moving from detailed laws and regulations, such as those on wages and professional

<sup>41</sup> *Ibid.*, p.9

<sup>42</sup> The embedded and autonomous dimensions tend now to be seen by theorists as separate kinds of social capital, “bonding social capital” and “bridging social capital”. See World Bank social capital website and discussion group.

<sup>43</sup> Fedderke, De Kadt and Luiz (1999), p.9.

fees fixed in Hammurabi's Code,<sup>44</sup> to modern decentralized and market-based regulatory systems. Functionally, the transparency of social capital is seen as an additional factor of production; while the rationalization aspect carries with it the potential of maintaining increasing returns to scale, i.e. delaying the onset of diminishing returns.<sup>45</sup>

There are two points of interest in this interpretation. Firstly, the authors' vision of an endogenous dynamics of social capital formation, deriving from the interaction between the two dimensions. These dynamics stem from the supposition that there are reciprocal limits which the degree of transparency and the degree of rationalisation of a society impose upon each other, thus "there is a bounded region for which the combination is stable, and outside the scope of which either the degree of transparency or the degree of rationalisation.....change".<sup>46</sup> The result is that, as one dimension is deepened, the other dimension will also be affected, creating an inner dynamic of the development of social capital. An additional dimension is then brought in, that of the possible disharmony ("disjuncture") between social capital and State structures, when the latter are changed by exogenous forces such as a colonial power, or modern foreign-influenced development or structural adjustment programmes; such a disharmony can work against the future accumulation process of social capital, or even break down the existing stock.

Secondly, the concept of "rationalization" of social capital. This is a new concept in itself, and it would seem to have a high potential to explain many of the aspects that puzzle researchers itself. By dividing social capital into "low-rationalisation" and "high-rationalisation" forms, rather than the substantive subcategories such as associational life, trust, values etc. that have been generally used so far, one might well discover a different set of links with the other components of human capital, that would throw much additional light on the function of each component. This analysis of social capital may prove particularly useful to explain the traditional/modern, non-specific/specific, informal/formal manifestations that coexist at any point of economic and institutional development.

<sup>44</sup>Hammurabi (1728-1686 B.C.), king of Mesopotamia. His code is the earliest systematic code of laws that has been preserved to our days.

<sup>45</sup>*Ibid.*, p.17.

<sup>46</sup>*Ibid.*, p. 7.

### 3.2.3 Measuring the effects of social capital

Literature on social capital still refers again and again to two major early empirical studies done in this field: Robert Putnam's study of the workings of social capital in northern Italian communities,<sup>47</sup> and the World Bank study on household incomes and social capital in rural Tanzania.

Putnam's study is anchored in political science, not economics: it attempts to explain the regional variations of local Government efficiency in different regions of Italy, concluding that the decisive factors are the quality of civil society and society-State relationships. While actually fairly restricted in the factors analysed, is quite fascinating in its conclusions, e.g. the positive correlation between the likeliness of a region's citizens to join football clubs and choral societies, and the efficiency of the regional government in reimbursing health claims. Though this study did not relate social capital to economic growth, it gave a widely-acclaimed empirical proof of the relationship between institutional efficiency and the more intangible forms of social capital; on a more cautionary note, he also shows how, if social capital is "path-dependent", i.e. ingrained in long history and culture, it can tolerate with indifference a number of degrees and types of State intervention. (Putnam traced the determinants of social capital back hundreds of years.) Woolcock's categories seem particularly useful to understand Putnam's findings, through his concept of high-integration societies with either low or high synergy.

The World Bank's Tanzania social capital study uses data from the 1995 Social Capital and Poverty Survey, made as part of a larger poverty assessment survey, which surveyed about 5,000 rural households on the extent and characteristics of their associational activity and their trust in various institutions and individuals. From their answers, a measure of social capital was constructed, which was matched with data on household expenditures in the same communities, as a proxy for aggregate income. The conclusions are robust, that social capital is indeed related with higher incomes, and that it is social, in that the higher household incomes depend on the village level of social capital, and not on the household's measure of participation. The magnitude is quite impressive: a one standard deviation increase in social capital increases household expenditures per person by 20 to 30%, an impact as large as an equivalent increase in non-farming assets or a tripling of the level of education. The data also shows up some of the channels through which

<sup>47</sup>Putnam (1993)

social capital affects incomes: better public services, greater use of modern agricultural inputs, more community activity, and greater use of credit.

In recent years, a number of empirical studies have explored various additional aspects. Perhaps the most wide-ranging is Knack and Keefer (1997), which shows evidence that the level of trust and civic norms is associated with improved economic performance in 29 market economies over the last 20 years. (It does not find evidence of the role of membership in formal groups.) The World Bank is sponsoring a large number of follow-up studies to the Tanzania one, using developments of the original methodology in different countries. US government authorities, following Putnam's and Coleman's studies, are developing an awareness of social capital and making increased efforts at establishing relevant databases.<sup>48</sup>

#### **4 Towards an integrated human/social capital approach**

Once one arrives at the more advanced definitions of social capital, it seems natural to include in it those social norms and relationships that have become formalised in what we call institutions; one also recognizes the close relationship between social capital and human capital. All three categories fulfill the primary requisite of capital, that of producing income without being consumed by the production process (but being subject to depreciation, thus needing maintenance and eventual replacement). All are created and maintained by people, at a theoretically measurable cost, thus fulfilling the condition that distinguishes capital from natural resources. Both forms of social capital - institutions and informal social capital - are closely connected to, if not actually a form of, human capital, in that they "reside within" human beings - in this case in the relationships between them rather than in the individual minds. In addition, institutions and social capital have important public good characteristics, which are shared by the "stock-of-knowledge" form of human capital.

All forms of human and social capital are difficult to measure. As mentioned earlier, this is brought up as a major objection against informal social capital, which admittedly is the most problematic in this regard. Still, the World Bank Tanzania study, and Knack and Keefer (1997), have shown that it is possible to study these forms of capital empirically and correlate them with measures of well-being.

<sup>48</sup>Woolcock and Narayan (2000).

The links between human capital and economic efficiency are a long-standing object of empirical study. The links between institutions and economic efficiency, have also been studied fairly widely, as mentioned earlier. Recently, robust links have also been made between informal social capital and different measures of well-being. There is little doubt that social capital is an important dimension in the analysis of poverty and growth. Income and poverty analysis that limits itself to individual capital (physical and human) may well be missing a large part of the picture.

Two areas can be singled out as needing further study at this stage.

First, as mentioned earlier, there is a need to address the problem of the “webs of association” between various subcategories of human and social capital and their relationship with growth, as identified by Fedderke and Klitgaard (1998). The priority is to identify the key components and to analyse the interrelationships between them, prior to drawing conclusions about their apparent correlation (or lack of it) with income and growth. For example, Putnam (1993) showed links between organizational efficiency and associational activity, while La Porta et al.<sup>49</sup> and Knack and Keefer (1997) showed that the link may be between organizational efficiency and trust, rather than associational activity. No empirical studies have yet been made, to the author’s knowledge, involving the low-rationalisation and high-rationalisation forms of social capital.

In particular, the link between human capital and informal social capital - which was the focus of Coleman (1988), and developed by Teachman, Paasch and Carver (1996) - would benefit from further work, especially at the developing country level, and with more focus on sub-categories (high-rationalisation/low-rationalisation social capital; human skills capital/entrepreneurial skills). In this respect, two more specific hypotheses are put forward:

- In addition to operating directly, through lowering transaction costs, social capital operates to a significant extent through human skills capital and entrepreneurial skills, contributing to their formation both by stimulating investment in them and by lowering the costs involved in their creation.
- There may be a significant substitution effect between some forms of human and social capital. With the increased importance of human

<sup>49</sup>La Porta and others (1997): “Trust in Large Organisations”, in Dasgupta and Stiglitz, 1999.

capital, human time (the main resource needed for the creation of social capital) becomes more valuable. The well-known lament, “no one has time for socialising any more”, may be a rational reflection of a situation in which people find it less and less rational to invest in the time-intensive task of creating and maintaining certain forms of social capital. In this context, investment in human skills capital or in entrepreneurial skills may be a substitute for investment in some forms of social capital, possibly those defined by Fedderke et al. as “low-rationalisation”; to the author’s knowledge, this effect has not been accounted for so far. Many forms of social capital as they are being analysed in traditional societies may in fact be obsolescent, or may be associated with low-human-capital-value communities.<sup>50</sup>

Secondly, more work needs to be done on the public good characteristics of human and social capital. Two implications arise: first, by definition there will tend to be underinvestment in it on the part of rational actors (although attributing a consumption value to social relationships, which seems to have been absent so far from the body of analysis, may have a role in bridging this gap); second, there may be an exclusionary aspect, if the public good has “club good” characteristics - a situation to which Woolcock’s concept of “autonomy” might apply. The State can not always intervene directly, since social capital is by definition voluntary; but in a society with sufficient synergy, public authorities can and should help create the conditions for increasing social capital, and social capital, in turn, influences the development of formal institutions. However, there is a large potential for harm rather than good in this respect, and studies are only beginning to focus on the costs involved in creating social capital or on useful policy levers available.<sup>51</sup>

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<sup>50</sup>The author is at present investigating these two hypotheses empirically, based on a household survey done in Soweto (South Africa); the results should be available during the second half of 2000.

<sup>51</sup>The World Bank social capital discussion group and website gives information on a number of micro-studies in this area. One, reported by Eva Cox in New South Wales, suggests that public libraries may increase community trust if they are built in a “high-trust” manner, i.e. with fewer visible security measures.

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