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Human Capital: an Institutional Economics point of view

by

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ABSTRACT

The concept of “human capital” is as old as economic theory. It was mainly considered as “The aggregation of investments, such as education and on the job training that improves the individual’s productivity in the labour market”.

The initial definition did not take into account some central aspects of “human capital”, owing to a supposed analogy with physical capital. But even though, from an economic point of view, there are some similarities, human beings are more complex than automatic machines.

More recently, it has been attempted to articulate a more extensive definition of “human capital” by considering all the attributes embodied in individuals relevant to economic activity”.

Nevertheless, the evolution of human capital definition is in some way restricted to its economic meaning, neglecting the intrinsic complexity of the concept that demands an in-depth re-examination of its social and cultural value.

In order to achieve deeper understanding of the multiplicity of aspects making up human capital, we are going to make use of the main concepts of institutional and evolutionary economics.

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1 INTRODUCTION

It seems constructive for deeper analysis and understanding of the notion of human capital to begin thinking about three starting points: the nature and the meaning of human capital as a collective/public good, the rationality of individuals, and policies to foster its growth and improvement.

The concept of “human capital” is as old as economic theory. It was used to be considered mainly as “The aggregation of investments, such as education and on the job training, that improve the individual’s productivity in the labour market”.

Owing to a supposed analogy with physical capital, this initial definition failed to take account of some central aspects of “human capital”. Even though, from an economic point of view, there are some similarities between them, human beings are more complex than automatic machines.

More recently, an attempt has been made to articulate a more extensive definition of “human capital” by considering all the attributes embodied in individuals that are relevant to economic activity” (OECD, 1998).

Nevertheless, the evolution of the definition of human capital has in some way been restricted to its economic meaning, neglecting the intrinsic complexity of the concept, which requires an in-depth re-examination of its social and cultural value.

In order to achieve deeper understanding of the multiplicity of aspects making up human capital, we are going to make use of the main concepts of institutional and evolutionary economics.

2 THE TRADITIONAL DEFINITION OF HUMAN CAPITAL

“Human capital” has been defined as the capacity of human beings to produce an income. In other words, it is the stock of ability and productive knowledge embodied in individuals.

Adam Smith was the first economist to mention human capital. He did so in his famous book “The Wealth of the Nations”, where he identified the improvement of workers’ abilities as a fundamental source of economic progress and of the welfare growth. He also argued that investments in human capital affect personal incomes and the structure of wages.

Alfred Marshall emphasised the “long-period” nature of human capital investments and the family’s role in determining them. In his opinion, decisions

concerning investments in human capital are probably taken considering monetary and non-monetary factors, because of *workers' dual nature as production factors and consumers of their working environment* (The new Palgrave: a Dictionary of Economics, 1987).

After the Second World War, economists concentrated on the nature and sources of economic growth. They benefited from an abundance of available data, and they observed empirically that economic growth was not completely explained by the growth of capital and labour inputs. The statistical residue left was initially identified with technical progress.

In the 1950s and 1960s most economists regarded technical progress as an exogenous variable (Stern 1991). For instance, Solow (1956) built a model based on a neoclassical standard production function characterised by decreasing returns to scale to of the capital and in which he considered the saving rate, population growth and technical progress to be exogenous variables. Solow came to two simple conclusions: the higher the saving rate, the richer the country analysed; and conversely, the higher the population growth rate, the poorer the country. However, although Solow correctly forecasted the effects of saving rate and population growth, he did not correctly estimate their levels. In fact, empirical estimations of the Solow model (Mankiw et al. 1992) have shown that he overestimated the saving rate and population growth because he had omitted the variable 'human capital'. By including the accumulation of physical and human capital in the model, a more satisfactory result was reached.

Barro's (2001) empirical work refined Mankiw et al.'s (1992) approach in order to produce an extended neoclassical model. But by perceiving that endogenous growth theory was also significant, Barro summed up the contributions of the two perspectives.

Hendricks (2002) criticized the original Mankiw et al. (1992) approach from a new perspective. Using the Mincer equation, he observed that immigrants moving to the U.S. earned more than they did in their countries of origin. He verified that the cause was not the per capita physical capital at the immigrants' disposal and thus concluded that differences in technology across countries were very large: in other words, "idea gaps" were much more important than "capital gaps".

In the 1960s there was a flourishing of studies on "human capital" (Schultz, 1961; Becker, 1964; Kiker, 1966), and it was mainly defined as: "The aggregation of investments, such as education and on the job training, that improves the individual's productivity in the labour market".

Yoram (1967) concentrated on lifetime human capital accumulation and came to the conclusion that human capital aggregate accumulation is one of the

factors producing aggregate economic growth, whilst individual accumulation is the process that produces individual economic growth.

Since factors different from accumulated capital may affect the income profile, the validity of the traditional human capital model must be verified empirically.

To date, growth theory has focused on two determinants: the accumulation of physical and human capital, and technical progress. Discussion on technological progress centres on whether it is incorporated in the stock of capital – and is therefore linked to its qualitative improvements – or whether it is not incorporated and is therefore independent from the investment rate. In the literature on the measurement of “qualitative changes”, the incorporated technical progress has been considered to be an important element of the prices of investment goods. This approach can be applied to human capital as well. Most of the analysis have generally underlined the scant importance of the incorporated technological progress hypothesis, thereby rendering empirical efforts to introduce “qualitative changes” useless. By contrast, numerous studies have shown that incorporated technological progress is an important component of investment goods prices (Milana 1991).

There are other factors crucial for economic growth – for instance, management and organization in firms, infrastructures, and social infrastructures – and their contribution should be examined empirically (Stern 1991).

Human capital has also become fundamental in the economic growth literature to explain the different degrees of development achieved by countries. The 1980s saw renewed interest in growth theory, mainly to criticize certain assumptions of the conventional models based on the traditional incorporated technological progress function:

$$Y=F(K, L) \tag{3}$$

Romer (1986) criticized this approach on the grounds that the investment rate and the capital return rate can increase in the presence of increasing capital stock. This is due neither to technological change nor to the different factors’ endowment, but rather to the accumulation of knowledge. As a consequence, the per-capita GDP levels of different countries will not necessarily converge.

Economists initially encountered conceptual difficulties in building general equilibrium models with perfect competition, increasing returns to scale and externalities. Then many authors, following Smith, Marshall and Young, justified the existence of increasing returns to scale with specialization and labour division. The issue was set aside for a certain period until Arrow (1962) contributed to reopening the debate with his “learning by doing” thesis. Leaving

out specialization and labour division, he argued that the increasing returns to scale exist because of the accumulation of scientific-technical knowledge. In other words, the GDP growth rate increases because workers become more expert in their tasks, but not in an explosive way.

Romer's model (1986) was an equilibrium model with endogenous technological change in which long-period growth was driven mainly by knowledge accumulation. Knowledge has an increasing marginal product and represents the output of technological research characterised by decreasing returns to scale. As a consequence, the growth rate will increase, but not exponentially, because of the decreasing returns to scale of technological research. However, the creation of new knowledge by a firm has a positive external effect on other firms because information cannot always be patented or kept secret. The production function, $Y=Y(x)$, where x represents knowledge, will therefore have increasing returns to scale in relation to the input knowledge, when the other inputs are constant.

Although Romer (1986) was a pioneer in endogenous growth theory, the new approach was most powerfully developed by Lucas (1988), who argued that human capital externalities are the key to analysis of international growth rate patterns.

Drazen and Azariadis (1990) brought the same criticisms as Romer against the conventional models. However, as the fundamental factor of economic growth, they chose investment in human capital rather than general knowledge¹. They demonstrated the non-convergence of countries growth rates empirically, and they refuted the theory according to which countries grow more quickly in the initial phase of capital accumulation. They introduced the concept of "technological externalities" into the neoclassic model in order to highlight the non-convergence of the growth rates of countries with similar technologies. Among the various types of externalities, they considered those deriving from both the physical and human capital stock. Economies that begin with a capital stock below a "critical level"² will converge to a steady state where capital, consumption and per-capita income remain at relatively low levels. In the absence of external incentives or direct government intervention, the initial capital is the only factor affecting the economic growth path. On the other hand, economies that have an initial capital above a "critical level" are those that invest hugely in human capital; in other words, *ceteris paribus*, economies with a highly skilled labour force should grow more quickly than those with less

¹ Their measure of human capital investment was the fraction of the working age population enrolled in secondary school (Klenow and Rodriguez-Clare, 1997) added primary and tertiary enrolment, and found that this reduced the fraction of income differences that could be explained using MRW analysis from about 80% to 40%. This left 60% to be explained by differences between countries in "efficiency".

² This level is deducted from statistical cross-country calculations.

skilled workers. This also explains why countries with similar technologies exhibit different growth rates. Nevertheless, the benefits deriving from a skilled labour force are a necessary but not a sufficient condition for growth. Wrong policies, wars and other political upheavals may also delay the development even in a promising environment.

It is not possible to review the huge literature on human capital in its entirety. But we may conclude that there is no generally shared answer to the question concerning the extent to which human capital affects economic growth. On the other hand, we cannot ignore the large number of studies showing that the *stock* of human capital has a positive impact on growth and operates primarily via technology adoption and innovation³.

3 HUMAN CAPITAL IN AN INSTITUTIONAL ECONOMICS PERSPECTIVE

Every society seeks to have a more highly-educated population, given the positive externalities that this brings about. The core premise of the reasoning is that “*The structures of physical, human and social capital constrain future production and wealth is always and everywhere a “residuum of past activities”*” (Mises L., 1996).

The Old Institutional Economics⁴ at first rejected the use of the term ‘capital’, with the meaning of stock, wealth and goods, and then its association with “social terms”⁵.

The use of the term ‘capital’ in economic thought has been misleading because it has been referred to different concepts: physical assets, financial assets, specific social relations, or non-monetary entities. This use has been

³ Adoption should be most important in poor countries and innovation most important in rich countries.

⁴ The Old Institutional Economics, with its roots in the philosophical school of pragmatism, originated in the late nineteenth century with Charles Pierce, William James and John Dewey. *Pragmatists* consider practical consequences or real effects to be vital components of both meaning and truth (Wikipedia, <http://en.wikipedia.org/wiki/Pragmatism>).

⁵ Despite criticisms, ‘capital’ has today become a very popular noun among social scientists, especially when promiscuously combined with other adjectives. Theorists from various perspectives – including sociologists keen to emulate economics – have discovered ‘personal capital’ (Dei Ottati, 1994; Becker, 1996), ‘linguistic and cultural capital’ (Bourdieu, 1977), ‘symbolic capital’ (Bourdieu, 1990), ‘political, social and cultural capital’ (Mouzelis, 1995), ‘organizational capital’ (Tomer, 1987), ‘cognitive capital’ (Rescher, 1989), ‘environmental capital’ (Hartwick, 1991) and even ‘self-command capital’ (Lindenberg, 1993).

disputed by those who emphasize the importance of historical and institutional features for economic subjects (Hodgson, 2001).

During the 1960s and 1970s, a debate was conducted on the meaning of the word “capital” (Harcourt, 1982). In that context, Joan Robinson (1979) cited Veblen’s (1919) distinction between financial and capital goods. On that view, production was the outcome not only of capital and labour, as owned factors of production, but also of “*accumulated, habitual knowledge developed and transmitted in social groups*”. This simple practice can be observed among human beings since prehistoric times (Veblen, 1919).

Many others have recognized the historical character of the concept of ‘capital’. For example, Werner Sombart (1902), a representative of the German historical school, maintained that capital is a phenomenon found in specific historical epochs and defined it as *the sum of exchange value which serves as the working basis of a capitalist enterprise*. Schumpeter (1954) rejected the use of terms such as “human capital” and insisted that the word “capital” should be applied exclusively to financial assets.

Notwithstanding the huge debate, to date ‘capital’ has been used to denote the stock or reserve of both social and economic elements. Probably, in spite of capital’s initial definition as the accumulation of financial assets, the enlargement of its meaning has been due to the economic-driven thought that even social or cultural problems may be resolved and explained by market forces, valued and exchanged in monetary terms, and invested like financial capital (Hodgson, 2001).

Ayres (1962), too, expressed strong opposition against the conventional economic tendency to explain the notion of value in terms of price system, equilibrium and “utility”. He introduced the idea of “social medium”, by which was meant the environment in which an individual lives and his/her utility is determined. According to Ayres (1962), the evolutionary process of human beings was driven by two main forces: *...one, progressive, dynamic, productive of cumulative change; the other counter-progressive, static, inhibitory of change*. In *Toward a Reasonable Society* (1961) he explained the coexistence of scientific (objective) knowledge and socially accepted values rooted in traditions, beliefs, and customs. He considered technology to be a progressive force which induces human beings to use new instruments. Ceremonial institutions are antagonistic to technological change and protect themselves by social stratification, conventions or customs and ideology (Ayres, 1962). The accumulation of knowledge is therefore important not only for individuals but for the society as a whole because it nourishes progressive forces.

Commons (1913) described labour as the major wealth of a nation. He warned that human beings, and not money or commodities, are the real measure of prosperity. *What is the part, that industrial education should perform*

in preventing vagrancy, irregular employment, and pauperism? Before we can answer the question we need to know what kind of industrial education we mean, and what kind of industry it is that needs this education (Commons J. R., 1913). In his opinion, the separation between the brain and hands of low-skilled workers has been created by firms, so that the workers' need of education has to be inquired out of the firms. At the beginning of the industrial revolution workmen were not educated. Consequently, Commons' (1913) inquired, what kind of education (academic or practical) is necessary to educate workmen? His answer was that society requires *universal* education in order that "every boy and girl become a business man... an intelligent worker... a citizen... and must protect his health. All these requirements are common to all occupations, yet no occupation of modern industry teaches them". He emphasised the importance of education in preventing mental degradation, irregular work, underpaid work or pauperism, and in creating autonomous people. On inspection of the facts – that is, the situation of the labour market in Wisconsin at the beginning of the twentieth century – he anticipated the concept and underlined the importance of education externalities for social and economic progress, rather than for increasing wages. Commons (1913) instead observed that low-skilled workers could obtain a greater wage through "learning by doing", constantly changing jobs, with no need for general education.

Besides the discussion on the meaning of "capital" in economics, "human capital", as later conceived, is not the main and direct topic of Institutional Economics. According to the traditional division into two branches, New Institutional Economics is mainly concerned with how human capital may reduce transaction costs and problems linked with bounded rationality⁶, whilst Old Institutional Economics focuses on the importance of knowledge as a progressive force⁷.

Reasoning on the shortcomings of the traditional orthodox literature, we may suggest a more clear expression to denote "human capital", that is namely "labour quality". The concept of quality has an intrinsically historical nature,

⁶ Masten, Meehan and Snyder (1991) found that specific human capital investments appear to reduce internal governance costs more than they increase market governance costs. However, a general theory of how relationship-specific assets might reduce the costs of internal organization does not yet exist. By contrast, the underinvestment problem associated with specific assets and market governance is fairly well understood.

⁷ The OEI is more interested in the definition of social capital rather than human capital. In general, it is recognised that social capital is more heavily pervaded by immeasurable externalities than are other forms of capital. As a consequence, even if it is extremely difficult, the measurement of a nation's social capital stock should take these externalities into account. For example, trust can be thought of as a type of positive externality because it is a benefit that accrues to the group independently of the collective action that the group formally seeks to achieve. A sect that encourages its members to be honest and reliable will foster better business relationships, when its members deal with each other economically, in addition to the sect's religious objectives (Fukuyama F., 1999).

because it changes over time according to the needs of societies. In fact, the term “human capital”, in analogy with physical capital, arose from an idea of stock allowing to receive a flow of incomes. This was conceptually as the interest earned by investing in physical capital. The more one invests, the more one should earn, in theory. However, this statement is not always empirically observed. Moreover, in order to enlarge the meaning of human capital to encompass all the personal and contextual attributes embodied in individuals, the notion of labour quality seems more fitting⁸.

The process that leads to a high or low labour quality concerns not only investment by individuals but also that by society as a whole. Quality labour price derives from a complex compromise which involves the economic evaluation of both institutions and individuals.

The difficult empirical task remains of measuring labour and institutional quality. This would be a worthwhile exercise, because the GDP growth rate is not the only parameter measuring the development of a country⁹. In fact, it measures only the growth of commodities. It would be helpful to evaluate the quality of institutions in order to ascertain a country’s degree of development¹⁰. In this framework, a high-quality labour force could be the result of high-quality formal and informal institutions, and the flow of incomes would represent the economic value given to it. Nobody can disagree with the fact that a high-quality labour force produces positive externalities for society as a whole¹¹.

⁸ According to the *Encyclopaedia Britannica*, the quality of the labour force depends on education <http://www.britannica.com/eb/topic?idxStructId=179408&typeld=13>, training, <http://www.britannica.com/eb/topic?idxStructId=553976&typeld=13> physique and health.

⁹ There is by now a large body of literature on the statistical and economic limitations of the GDP growth rate.

¹⁰ In light of Sen’s capability approach, the quality of institutions becomes even more important.

¹¹ Wolfe and Haveman (2001) surveyed a large number of studies dealing with the impact of the parents’ education on their offspring’s success in school and neighbourhood effects. Their survey helped clarify the distinction between the market and non-market *effects* (externalities) of human capital. For example, greater schooling is associated with better health, greater longevity, and a reduced probability of teenage pregnancy both in microdata and in cross-country comparisons. Wolfe and Haveman (2001) concluded that the non-market benefits of education have the same weight as its market benefits. Several studies have also shown that the more educated are less likely to rely on public transfers, even when they are eligible for benefits (Kiefer, 1985). McMahon (1999) examined the benefits of education on a number of variables: population growth, fertility, income inequality, human rights, voting rights (“democratization”), political stability, rural poverty, infant mortality, life expectancy, deforestation, and crime.

4 A NEW WAY TO ADDRESS AN ECONOMIC PROBLEM

The mainstream economic literature hardly ever questions the macroeconomic and microeconomic models and their premises with regard to both individual human capital investment and economic development. Probably because that literature does not utilize the inductive methodology but the marginalists' deductive one (Parada J. J., 2001).

In any case, it is generally admitted, even by orthodox economists, that:

- decisions concerning investments in human capital are probably taken considering monetary and non-monetary factors (Alfred Marshall);
- not only accumulated human capital but also other factors affect the wage profile (this requires empirical verification);
- physical and intellectual abilities differ across individuals;
- the benefits deriving from a quality labour force are a necessary but not sufficient condition for growth. Wrong policies, wars and other political upheavals delay development even in a promising environment (Drazen and Azariadis, 1990).

We are going to reanalyse human capital notion taking into account Institutional Economics concepts and the following premises:

- a) Individuals are not completely rational.
- b) Individuals do not maximise utility functions either in the private or the public dimensions; they aim to satisfy a number of historical, context-induced and biological needs (in short "institutional needs").
- c) The "invisible hand" does not always function; hence public intervention is desirable to remedy market failures.
- d) Paraphrasing Commons (1934), the economic system can be seen as a set of transactions where collective action controls individual action but at the same time allows its liberation and expansion.
- e) The results of policy action depend upon the institutions, which in their turn depend on historical patterns. A change in institutions is possible if necessitated by changes in the environment.

As a consequence, when policy action is being planned, it would be better to start with a pre-examination of the context and of both formal and informal institutions.

On these premises, the work of researchers becomes more difficult because they must analyse all the variables concerned in a given context – even those traditionally considered to be exogenous – if they are to obtain good results. For example, the premise is not that an increase in public expenditure

improves the quality of public services; but rather that, given a particular context, an increase in public expenditure may or may not improve the quality of public services according to formal and informal institutions.

Therefore, whilst the orthodoxy is committed to empirical verification of the equations set that stands for its taught, we should be concerned to find the equation best suited to the context. In accordance with the dictates of pragmatism, *we ought to face the facts*.

If public expenditure is very high, but the quality of public services and the growth rate are very low, or if there is both high inflation and a high unemployment rate, there are problems to be solved. Traditional economic modelling often does not help in understanding them. In fact, numerous explanations ought to be found in Institutional Economics, such as the quality of the economic institutions, bureaucracy, corruption, education system. It is not sufficient to insert those variables into classical functions; rather, a radical change should be made to the way in which the analysis is conducted by starting from the facts. We should turn our attention to the best way to measure the quality and the historical evolution of institutions, looking at the facts.

4.1 The limits of “rationality” in “human capital” investment decisions

The discussion now concentrates on the decision process followed to invest in education, which is the usual proxy utilised for human capital.

The decision to invest in education may not be completely rational¹². Probably, the notion of rationality can be better applied to on-the-job training and training¹³. By contrast, education has a cultural, social and historical value. Therefore, individuals make decisions about the proper investment to make in education not only by considering the marginal costs and future benefits of that investment but also according to the institutional context.

Simon (1986), the ‘father’ of bounded rationality, wrote: “What chiefly distinguishes the empirical research on decision making and problem solving from the prescriptive approaches derived from the theory of subjective expected utility (SEU) is the attention that the former gives to the limits on human rationality. These limits are imposed by the complexity of the world in which we live, the incompleteness and inadequacy of human knowledge, the

¹² Rational agents do not have an unlimited ranges of choices; their ends could be limited because they are socially conditioned.

¹³ According to Becker (1975), investment in on-the-job training has a large monetary component, whereas other “human capital” investments - such as in health - have a large psychic component.

inconsistencies of individual preference and belief, the conflicts of value among people and groups of people...”

Firstly, in regard to the education investment decision-making mechanism, it is interesting to consider who decides and how – that is, the ‘decision agent’. The decision to invest in education may be taken by agents other than the individuals involved, such as, for example, parents or firms. As a consequence, not only the level but also the kind of the parents’ education affects that of the children.

Researchers who make use of “overlapping generation models” concentrate mainly on the link between the “human capital” stock of the parents and the “human capital” stock of their offspring. They overlook the decision process in itself. The education of the parents is undoubtedly a variable influencing that of their offspring: in fact, parents make decisions about the time that their children must devote to study, and on the quality of the education system through voting procedures (Glomm and Ravikumar, 1992)¹⁴.

It would be worthwhile, however, to investigate more on the decision process implemented by the agent-student more closely, because if agents other than him/her take decisions about education investment, then the decision process may prove less effective in terms of preference expression, and it may create a conflict of values between the student and the other agents. Moreover, parents take decisions on the basis of their system of values, their opinions and their information, and all these may be obsolete¹⁵. Decision-makers usually refer to past experience; only if they are faced by a new situation do they begin a problem-solving procedure (Simon and March, 1993). If parents take education investment decisions, they may do so by considering the easiest way for their children to find jobs, for example by choosing the same profession. If parents are lawyers, it is cheaper for their children to become lawyers, because they can avoid the costs of the initial investment¹⁶. As a consequence, a “generation lag” may be observed in the investment decision about the quantity and quality of education.

Checchi, Ichino, Rustichini (1999) show that students choose the level and the kind of education not only in relation to their previous curricula but also according to the level and the kind of education of their parents. Here the so-

¹⁴ It is possible to construct a “human capital” production function depending on the parents’ bequest to the offspring, private or public education expenditures, time allocated by parents to the rearing of children, and the innate capacity of the young (Ciriani, 2001).

¹⁵ Fiori S. (2005) reviews the bounded rationality literature and emphasises that individuals represent the real world subjectively in the form of symbols. These are the bases for intellectual capacity and the knowledge of mind.

¹⁶ This may create a conflict between individual interests and collective interests. In other words, it may create a mismatch between the kind of education needed by employers and the kind of education supplied by job-seekers.

called peer effect operates: the social environment encourages education commitment, which in turn is correlated to family education¹⁷. This occurs especially if everybody enters the education and training system without barriers.

The Optimization Theory is based on the identification of the agent and his/her aims. It is not possible to analyze purposes separated by agents, because every rational purpose gives rise to a specific behaviour according to the individual concerned. Without this premise, it is preferable to avoid making assumptions about aims.

Moreover, it is misleading to link rationality to economic behaviour. Rational behaviour, together with instrumental ends such as utility, profit or wealth, may include social ends. In other words, action is rational if it aims “*not only at economic goals but also at sociability, approval, status and powers*” (Granovetter, 1985). In the case of education investment, sociability, approval, status and powers may be relevant. In any society, but especially in post-industrial revolution ones, social status assumes a valuable role.

Furthermore, whatever the decision agent may be, and whatever the goals, it is impossible to possess all the useful information, even if today the tools with which to acquire such information are more advanced than in the past. The most important element cited in favour of Simon’s “bounded rationality” is the lack of information in the decision mechanism. For example, when a person decides the level of investment to make in education, s/he cannot know for certain what its return will be if the labour market is not perfectly competitive.

Finally, the level of investment in education may be affected not only by the expected flow of wages but also by the probability of finding a job. Available in Italy, for example, is a database, called Excelsior, on the education and training characteristics of labour demand¹⁸. The SEU theory partly explains why, in Italy, firms demand certain skills and people do not perfectly match this demand. As a consequence, there could be a mismatch between demand and supply of workers with some specific level of education and training¹⁹. The possible reasons for this are “bounded rationality”, the generation lag in the “decision process”, and the environment that involves numerous variables

¹⁷ Peer effects exist when a person’s behavior is affected by his or her interaction with one or more other people. And those people have to be peers – “equals.” Hence in higher education, peer effects result from interactions between students (Winston – Zimmerman, 2003).

¹⁸ The *Sistema informativo Excelsior*, by Unioncamere e Ministero del lavoro, periodically furnishes information on labour demand regarding education, training and professions? needed by firms at local and central level. It explains which professions? are difficult to find and the reasons. For further details see www.exceslior.net.

¹⁹ For further details see G. Bottone, “I fabbisogni formativi delle imprese”, *Rivista di Politica Economica*, giugno 2000.

(status symbol, parents' values system and their ability to help their children in their careers, the society's system of values, institutions, infrastructures). Besides the lack of information, in Italy there may be substantial transactional costs²⁰ due to the disharmony between formal and informal institutions, corruption, lobbying and rent seeking, which may cause the mismatch between labour demand and supply.

In short, empirical observation may find an increase in the general level of education without an increase in wage differentials and employment, and vice versa.

5 LABOUR QUALITY AND POLICY IMPLICATIONS

Studies on human capital have taken Becker's theoretical approach for granted, and the discussion has moved on Mincer (1974) empirical applications (Skalli, 2004).

The standard Mincerian approach estimates the rate of return to schooling. The empirical results, however, are controversial for many reasons. One of them is that they do not capture the quality of human capital. Moreover, cross-country differences can be observed in the quality of schooling, probably due to the level of development (Manuelli R. E. and Ananth Seshadri, 2005).

In regard to the labour market, we may use the term "labour quality" instead of human capital, which is misleading as explained above.

Gregory Clark (2006) implicitly defines "labour quality" as discipline and attitudes toward work shaped by social beliefs and institutions. In other words, historical and cultural patterns are the ground where formal and informal educational efforts, helping in the quality of labour, may develop in effective manner or may not.

Labour quality is a more comprehensive definition including education, capabilities, health, longevity, psychological conditions, psychomotor-based skills, cognitive capabilities, and social capital (David, 2001).

Public education policies, moreover, should aim at creating not only a productive worker (Commons, 1913) but a "quality citizen", that is, a citizen who participates actively in social, political and economic life. The European Commission is well aware of the concept and states that: *In a knowledge society education and training rank among the highest political priorities.*

²⁰ Pitelis (1996) broaden the concept of transaction costs by encompassing all the costs arising from the relations among human beings.

Acquiring and continuously updating and upgrading a high level of knowledge, skills and competencies is considered a prerequisite for the personal development of all citizens and for participation in all aspects of society from active citizenship through to labour market integration (European Commission, 2002).

In other words, as Commons (1913) anticipated, an effective educational model develops the individual capabilities necessary to participate in all aspects of society. Spending public resources for specific educational purposes, such as the improvement of computer skills, may be a waste. An individual whose capabilities are well developed will more probably be an individual able to resolve many kinds of problems, even that of finding a job.

Important help for policy makers shaping the educational system comes from Dewey (1916), the founder of Pragmatism, who analysed social processes and revealed that when institutions become obsolete, they prevent evolutionary push and provoke social necrosis. He explained the difference between formal and informal education and the importance of the social environment²¹.

The Dewey's (1916) analysis furnishes important suggestions for the devising of policies aimed at improving the educational system. In particular, he refers to what the European Commission (2002) means by the expression "lifelong learning": *Lifelong learning is an overarching strategy of European co-operation in education and training policies and for the individual. The lifelong learning approach is an essential policy strategy for the development of citizenship, social cohesion, employment and for individual fulfilment.*

The European Commission has articulated some proposals for the implementation of the lifelong learning approach. It promotes a partnership among European countries to identify the needs of learners and society as a whole, as well as resources to sustain education and training system. It also promotes the evaluation of formal and informal education.

²¹ It seems useful to quote some important passages from *Democracy and Education* (1916):

Informal education is important but incidental...Formal education allows to transmit from generation to generation all the resources and achievements of a complex society. Hence one of the weightiest problems with which the philosophy of education has to cope is the method of keeping a proper balance between the informal and the formal, the incidental and the intentional, modes of education...

When we have the outcome of the process in mind, we speak of education as shaping, forming, moulding activity, that is, a shaping into the standard form of social activity. Just because life signifies not bare passive existence (supposing there is such a thing), but a way of acting, environment or medium signifies what enters into this activity as a sustaining or frustrating condition. A being whose activities are associated with others has a social environment. What he does and what he can do depend upon the expectations, demands, approvals, and condemnations of others....

For it assumed that the aim of education is to enable individuals to continue their education or that the object and reward of learning is continued capacity for growth. Now this idea cannot be applied to all the members of a society except where intercourse of man with man is mutual, and except where there is adequate provision for the reconstruction of social habits and institutions by means of wide stimulation arising from equitably distributed interests. And this means a democratic society...

6 EMPIRICAL VERIFICATION OF LABOUR AND INSTITUTIONAL QUALITY

Aside from the terminology, even if important, the theoretical point is that both the quantity and quality of “education and training” depend upon institutions, understood with the largest meaning of the evolutionary approach. In this way, the importance of intervention policies is not denied; rather, their role becomes more difficult.

There is a lack of empirical research on the quality of labour and institutions²². In particular, the quality of institutions has long been debated in economic theory, but empirical contributions have been insufficient and complex.

The present study investigates the relation between lifelong learning and the quality of institutions. Lifelong learning is also an indicator of the states’ commitment addressed to educational and training system, in order to create “quality citizenship” as described above.

The quality of the educational system in general is also important. The literature on the topic comprises two ways to evaluate education: measuring schooling inputs (such as expenditure or teacher salaries) or directly measuring the cognitive skills of individuals. Employing the latter approach has the additional advantage that it appraises quality differences arising from informal education (Hanushek, Eric A. and Kim, Dongwook, 1995).²³

The main difficulty in measuring institutional quality arises from the composite definition of institutions, which has a variety of dimensions: *the set of formal (rules, laws, constitutions) and informal (norms of behaviour, conventions, self-imposed codes of conduct) rules and their enforcement mechanisms, governing and shaping the behaviour of individuals and organizations in society* (Straub S., 2000). Synthetically, North (1994) considers institutions to be “the incentive structure of a society”.

Economists have concentrated especially on the relation between institutional quality and economic performance (Knack and Keefer, 1995; Kaufmann *et al.*, 1999). The most widely used indicators of institutional quality are law and the political system, corruption, property rights’ distribution, and red tape. La Porta *et al.* (1998) measure government performance by means of proxies for interventionism, public sector efficiency, the quality of public goods

²² For labour quality estimates in the euro area see: Guido Schwerdt and Jarkko Turunen, Growth in euro area labour quality, *ECB wp* n. 575, January 2006.

²³ Hanushek and Kimko (2000) find that measures of labour force quality derived from international science and mathematics tests of school aged children appear to be strongly associated with average growth rates.

provision, government size, and political freedom. They relate these measures to religious, legal and ethno-linguistic characteristics.

In an attempt to explain institutional quality, Straub (2000) distinguishes four major groups: historical or control variables, political incentive variables, rent variables²⁴ and bureaucratic incentive variables.²⁵ She finds that the most significant institutional quality indicators are bureaucracy incentives and sanctions. Moreover, better institutions are likely to be found in systems with stronger checks and balances between the executive, legislative and judicial powers, and wherever politicians must reach arrangements among party interests.

Finally, in addition to these four groups of variables, some other factors are systematically adopted as control variables – the level of development, expressed by per capita GDP, or the level of education and health, among others – all of which are considered endogenously related to institutional quality.

It is also advocated that account should be taken of the arguable indicators demonstrating the degree of price control in the economy and the size of the black market.

The foregoing description does not exhaust the possible ways to measure institutional quality, given that the concept is to a certain degree historical and then subjective. However, there are some characteristics around which there may be general consensus, according to each historical period.

²⁴ The existence and size of rents in the economy may be an important causal factor of the quality of governance. Straub (2000) considers two types of rents: endogenous and exogenous. Exogenous rents are those linked to a country's natural factor endowment or geographical conditions, which by their nature are not likely to be modified in the short term by policy makers. Endogenous rents stem from the particular economic organization that generates monopolistic power in some sectors and/or leads public officials and politicians to manage or regulate rents. To give only one example, an excessive use of licenses and permits may give rise to the corruption of bureaucrats..

²⁵ Bureaucratic incentives are the natural complements to rent. Theoretical models have sought to define the incentive structure: wage, stability on the job, possibility of being promoted, risk of being caught, severity of sanctions, and size of the rents possibly captured. The incentive structure generates the opportunity cost of choices such as behaving efficiently or being corrupt.

7 DATA DESCRIPTION

In order to verify the relation between lifelong learning and institutional quality in ten European countries (Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom) used here are two datasets. Data on lifelong learning come from Eurostat and are available on the relative website. Data on institutional quality come from Kaufmann et al. (2007), who give a detailed explanation of their construction.

In order to describe institutional quality, Kaufmann et al. (2007) choose five variables, defined as follows:

Regulatory quality: measuring the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

Control of corruption: measuring the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests.

Rule of law: measuring the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, the police and the courts, as well as the likelihood of crime and violence.

Political stability and absence of violence: measuring perception of likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism.

Voice and Accountability: measuring the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression and association and free media.

Government effectiveness: measuring the quality of public services, the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

Lifelong learning is defined as adult participation in education and training, and it is measured by the percentage of the population aged 25-64 participating in education and training over the four weeks prior to the survey. The period covered was from 1996 to 2006.

First of all, Kaufmann et al.'s (2007) data are exhibited graphically (see Appendix Graph) in order to illustrate Italy's position immediately.

Inspection of Graph 1 shows that Italy achieves the worst performance, whereas Sweden and Denmark achieve the best ones.

In general, Scandinavian countries (Graphs 1-7) exhibit a good performance for all the institutional quality indicators, whereas Italy always ranks lowest²⁶.

Second, it is calculated the correlation coefficients between lifelong learning and institutional quality indicators for the ten countries as a whole, in order to verify the effective relation between these two variables (Table 1).

Tab 1 **Correlation coefficients between lifelong learning and institutional quality indicators for all countries (1996-2006)**

	1996	1998	2000	2002	2003	2004	2005	2006
Regulatory quality	0.59	0.51	0.61	0.78	0.75	0.83	0.73	0.76
Rule of law	0.71	0.69	0.70	0.75	0.73	0.68	0.70	0.68
Political stability	0.67	0.67	0.66	0.53	0.68	0.58	0.50	0.53
Government effectiveness	0.65	0.68	0.60	0.71	0.76	0.76	0.71	0.80
Voice and accountability	0.73	0.81	0.75	0.69	0.65	0.77	0.57	0.60
Control of corruption	0.72	0.71	0.79	0.80	0.71	0.69	0.66	0.71

In general, considering all the countries, there is a significant positive correlation between the variables considered, even if to different degrees. As to be expected, government effectiveness and the control of corruption are the institutional characteristics most powerfully and permanently correlated to lifelong learning.

We may conclude with the simple descriptive statement that there is indeed a positive relation between lifelong learning and Kaufman's (2007) institutional quality indicators. Moreover, Italy seems to have low percentages of people engaged in lifelong learning and a low-quality institutional system. The reasons are probably historical and cultural and should be investigated more deeply.

²⁶ As Kaufmann et al. (2007b) warn, it is not so interesting simply to make a classification of the worse and best countries. However, we controlled the governance variables' marginal errors (given by the authors) for the countries examined. These were so low as to justify a classification. Furthermore, besides classification, we were mostly interested in the link between labour and institutional quality.

8 CONCLUSION

The present paper is intended to be a first step in investigating the link between labour and institutional quality. Further steps are necessary in order to:

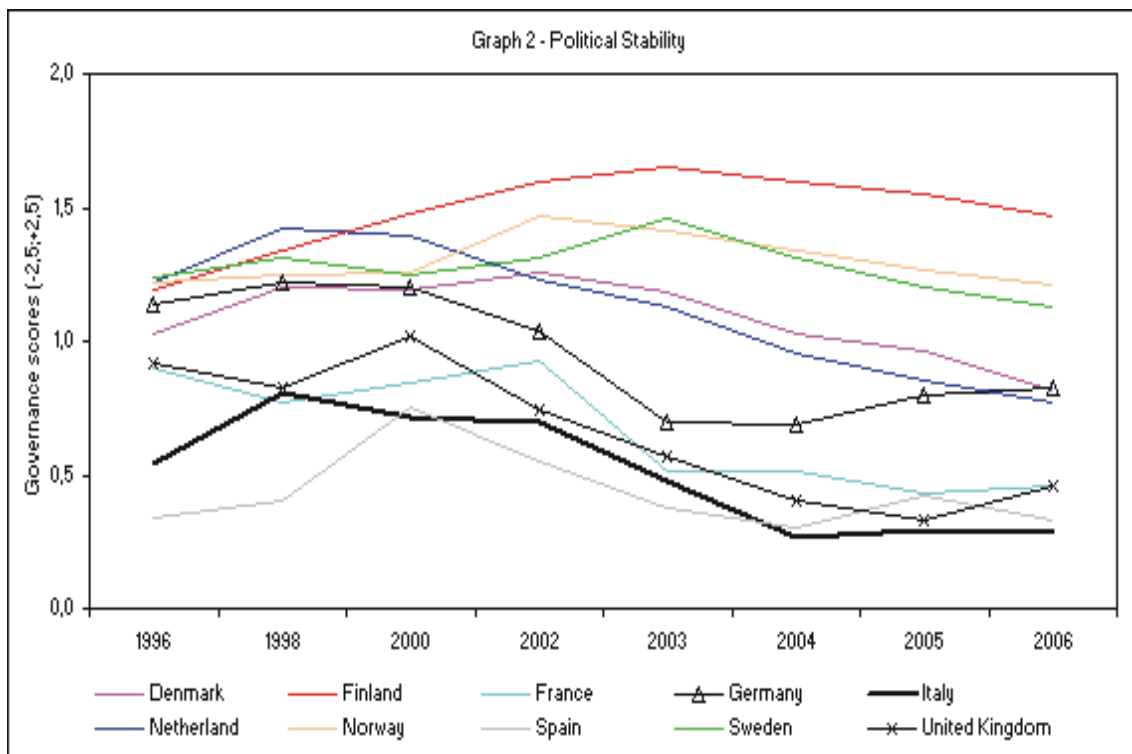
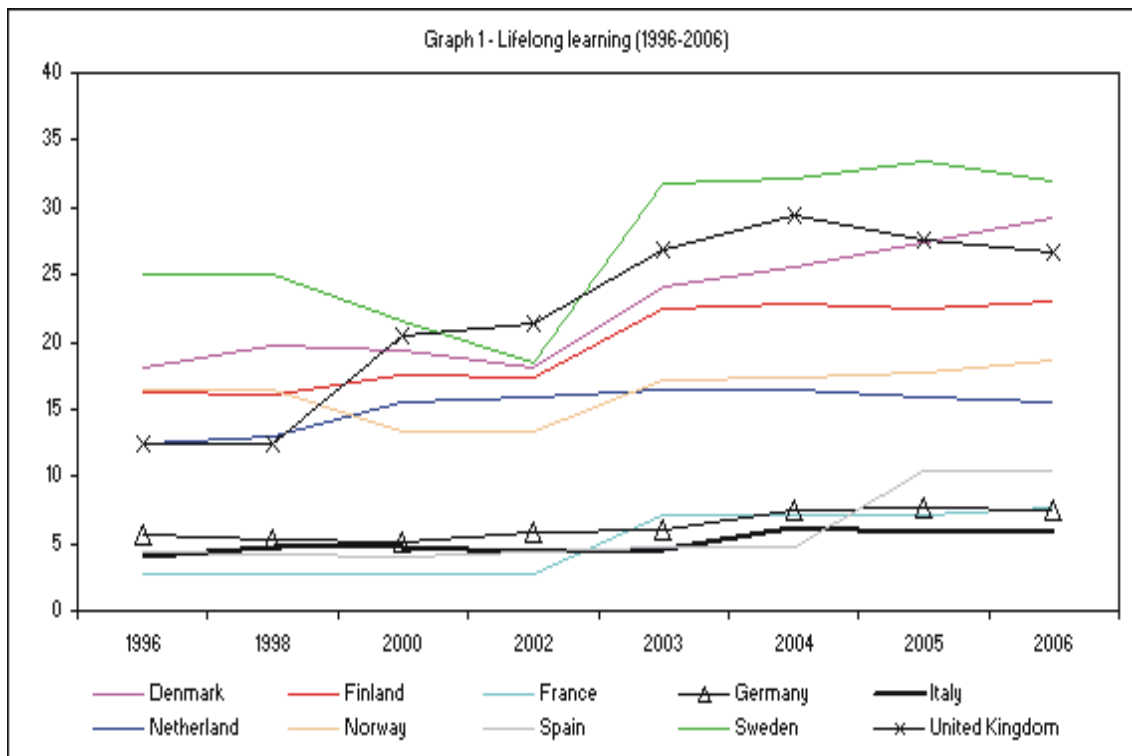
- measure labour and institutional quality more accurately;
- implement cross sectional analyses in order to highlight differences in labour and institutional quality among countries, and moreover the reasons for these differences.

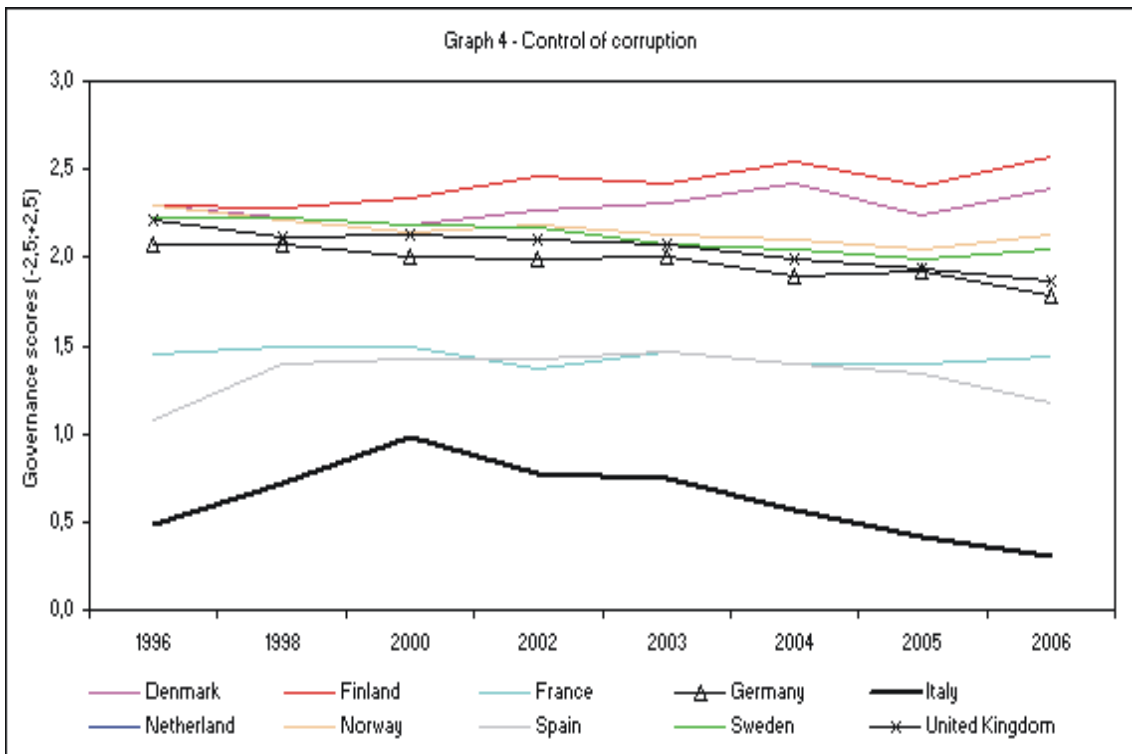
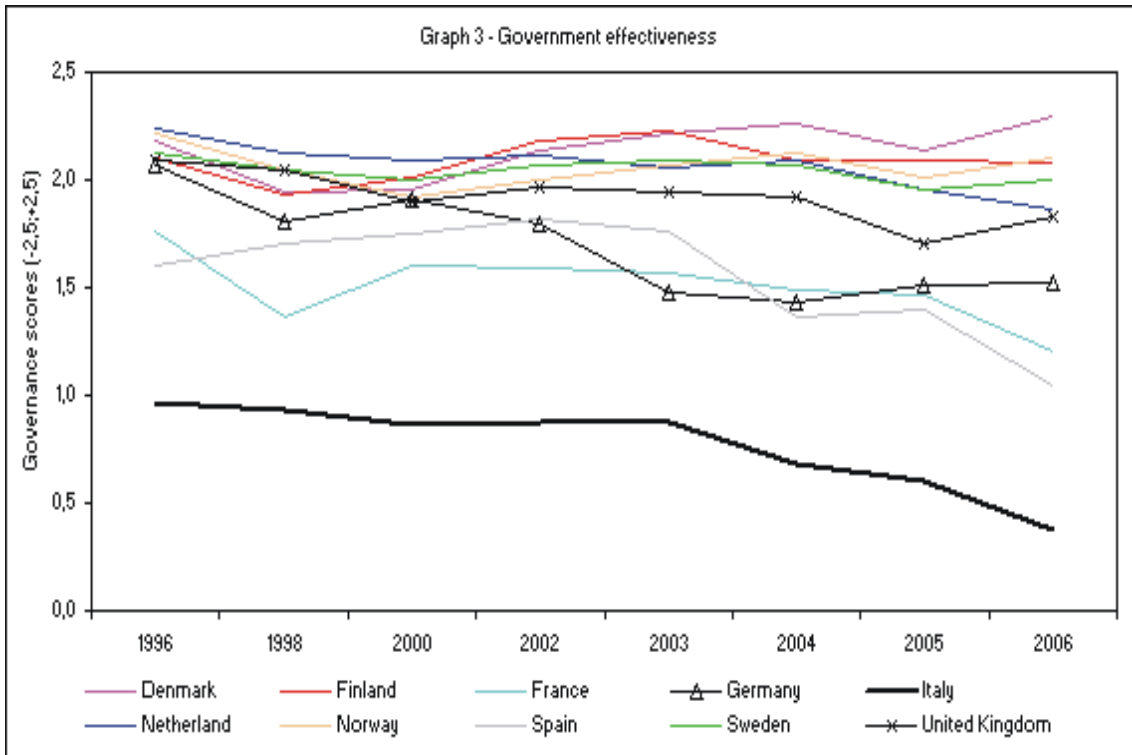
This is an ambitious but not impossible research programme.

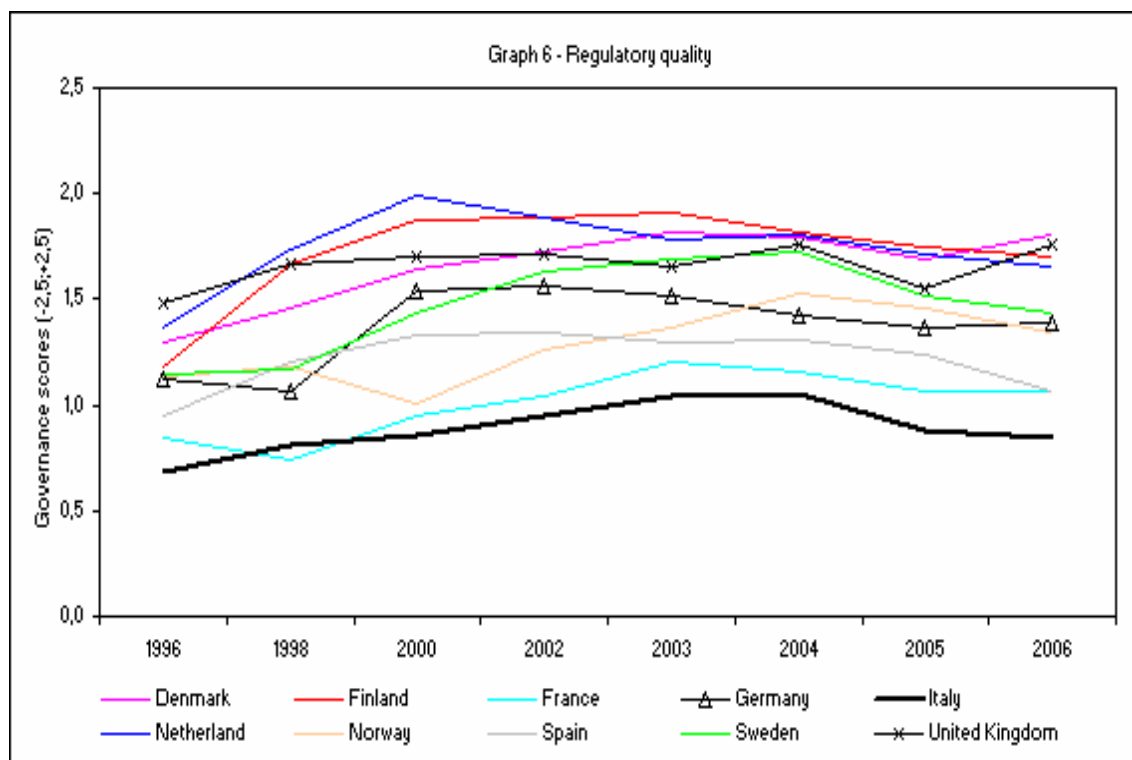
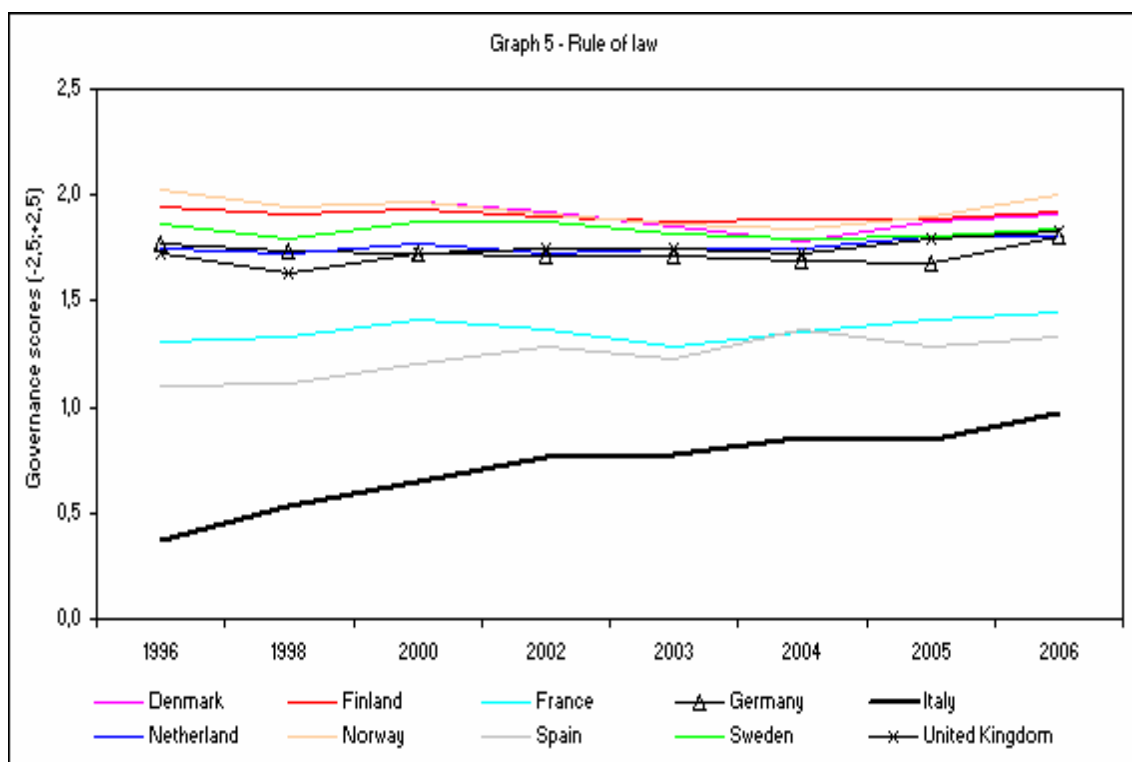
In order to provide a dataset of governance indicators, Kaufmann et al.'s (2007) have aggregated 31 different data sources from 25 different organizations. They have synthesised the quality of governance perceptions expressed by a huge group of stakeholders in various countries²⁷. It is particularly difficult to measure the complex dimensions of labour and government quality, but it would be worthwhile for professionals in the field and for policymakers to move in this direction, starting from Kaufmann et al.'s (2007) effort.

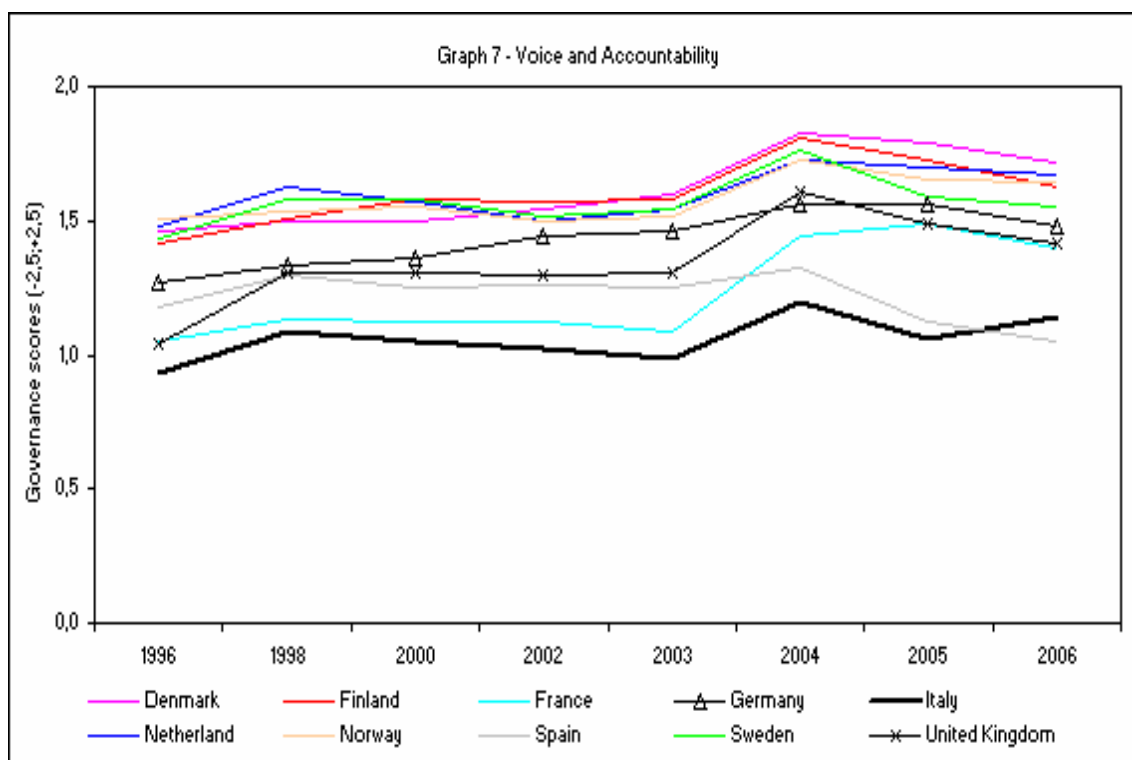
²⁷ Criticisms have been made of Kaufmann et al. (2007). To know more about the debate between the authors and the critics see Kaufmann et al. (2007b).

APPENDIX









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