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COLLANA DEL
DIPARTIMENTO DI ECONOMIA

SHIFTING THE FOCUS FROM PARADIGMS TO GOALS: A NEW APPROACH TOWARDS DEFINING AND ASSESSING WELLBEING

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Working Paper n° 114, 2010

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Copie della presente pubblicazione possono essere richieste alla Redazione.

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Shifting the Focus from Paradigms to Goals: A New Approach Towards Defining and Assessing Wellbeing

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What we measure affects what we do. If we have the wrong measures, we will strive for the wrong things." J. Stiglitz, Finacial Times 14 September 2009[1]

Abstract

GDP as an indicator is relatively recent. It was introduced seventy years ago and like many other institutions it is an issue of the historical period in which it was created in the years between the Great Depression and World War II. The adoption of the GDP as an indicator is not a neutral choice, but rather the logical consequence of a well-defined theoretical paradigm in which GDP appears the essential tool apt to promote well-being and development. Since then, however, times have changed, new problems have emerged and new theories and approaches have been developed to address them. Starting from these considerations the paper examines the problems connected with adopting an indicator as an absolute measure of progress. Indicators, in fact, are not neutral: they are the result of a specific economic approach; hence they are biased in nature and contribute to define policies that are implemented. After reviewing the main theories and indicators introduced by literature in the last sixty years, we propose to adopt a different approach according to which progress is measured against stated goals and not in absolute terms. Subsequently, we present an example of this approach by introducing a new indicator (ICSES – Index of Competitiveness and Social and Environmental Sustainability) to measure the performance of EU countries vis-à-vis the goals explicitly stated by the European Union.

Sommario

Il PIL è un indicatore relativamente recente. È stato introdotto 70 anni fa e, come molti altri istituti, è la conseguenza diretta degli avvenimenti e del dibattito del periodo storico nel quale fu elaborato, ovvero gli anni tra la grande depressione e la seconda guerra mondiale. L'adozione del PIL come indicatore non rappresenta una scelta neutrale, ma la conseguenza logica di un preciso paradigma teorico nel quale il PIL viene assunto come lo strumento per promuovere benessere e sviluppo. Da allora, tuttavia, i tempi sono cambiati, nuovi problemi sono emersi e sono stati sviluppati nuovi

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We are very grateful to Giorgio Ruffolo for his precious contribute to the birth of this paper that owes much to the discussions we had together and to his sharp insights. We are also grateful to Valeria Costantini, Massimiliano Corradini and Maria Vittoria Tessitore, for helpful discussion and constructive comments. We hope not to have wasted all this help. Naturally, all usual disclaimers apply.

[1] http://www.ft.com/cms/s/0/a157142e-a15c-11de-a88d-00144feabdc0.html

approcci e teorie per affrontarli. Partendo da tali considerazioni il paper esamina i problemi connessi con l'adozione di un indicatore come misura assoluta del progresso. Se gli indicatori non sono neutrali, ma il risultato di un approccio economico preciso, essi sono per loro natura *biased* e contribuiscono a definire le politiche che vengono varate e portate avanti. Dopo aver ripercorso le principali teorie e indicatori proposti dalla letteratura negli ultimi 60 anni, proponiamo di adottare un approccio differente per il quale il progresso viene misurato rispetto ad obiettivi definiti e accettati e non in modo assoluto. Successivamente presentiamo un esempio di tale approccio introducendo un nuovo indicatore (ICSES – Indice di Competitività e Sostenibilità Sociale e Ambientale) per misurare la performance dei paesi dell'Unione Europea rispetto agli obiettivi definiti in sede europea.

Key words: ISES**,** GDP , Sustainability, Human Development, Wellbeing.
JEL classification: I3, J16, J21, O15, R1

1. Foreword

In this paper, may be aiming a bit too high, we propose a different approach towards the definition of what determines wellbeing and consequently the policies to implement and the indicators to use. We dispute the idea that the determinants of wellbeing, i.e. what improves or worsen the life of a given society, should be a matter of economists debating on the role of growth, on that of schooling or any other factor, and therefore propose a different way of approaching the issue. We do this first by examining the relation between indicators, policies, goals and the concept of wellbeing, starting form the classic dispute between growth and development (par. 2). We then focus on the relation between indicators and the theoretical paradigms to which they refer (par. 3). In the subsequent paragraph we highlight the limits of indicators based on these, or other paradigms, and propose instead an up-side down approach in which goals are determined in the context of a political and democratic process and indicators are then elaborated to measure the achievement rate of these goals (par.4). Finally, as a mere example, we highlight some goals that have been defined according to such a process and propose a synthetic indicator to measure the rate of achievement of these goals (par. 5).

2. Wellbeing, growth and development: are they in fact related?

Since its birth, in the 1940s, GDP has been the object both of sharp criticism and of enthusiastic approval and support[2]. Disputes have proliferated among economists, highlighting limits and virtues of what has become probably the most well-known and used economic indicator. Alternative indicators have been proposed, in many cases to be quickly left aside. Except for a couple of them which have gained ground becoming more and more known and used not only among academics, but also among policy-makers and journalists – it is the case of the Measure of Economic Welfare -MEW- (Nordhaus and Tobin, 1972) and, more recently, of the Human Development Index -HDI- (UNDP, 1990).

All through this long lasting controversy theoretical problems as well as methods of measurement

[2] "While the GDP and the rest of the national income accounts may seem to be arcane concepts, they are truly among the great inventions of the twentieth century". Paul A. Samuelson and William D. Nordhaus in "GDP: One of the Great Inventions of the 20th Century." Bureau of Economic Analysis U.S. Department of Commerce, 1999. http://www.bea.gov/scb/account_articles/general/0100od/maintext.htm

have been debated. Ideas flourished, and often clashed, thus contributing to the development of the economic doctrine. For how rich and fulfilling the debate has been, by taking a retrospective view one cannot brush aside the subtle and disturbing feeling that, somehow, sometime, the point has been lost and the perspective that has characterised the debate is not exactly the right one. It might look right at first, but, as in the gallery Francesco Borromini designed for Palazzo Spada in Rome, the impression might be the result of an optical trick: a closer look reveals that things are in reality quite different from what they appear.

GDP, HDI and most other indicators that have progressively been elaborated are indicators of performance. They give us information, raw, approximate, imperfect, but nevertheless information, on how a given community (usually a nation) performs in a given period of time and pursuing a specific goal.

This is the first point that, obvious as it might sound, needs all the same to be highlighted: the soundness of an indicator is directly linked to the given goal. It is from this relation that much of the debate has aroused since the early 1970s, or at least the debate which did not focus on the improvement of GDP as an indicator. For in these years, with the development of the Basic Needs approach, the dispute moved from the indicator to the goals. The problem was not GDP, but growth. It was in these days that the concept of *development* has been enriched and set against that of *growth*. Until then, the two, though distinct, had been pretty much related. It might then be useful to briefly retrace the progressive evolution of the two concepts in order to set the terms for some further considerations.

2.1 Growth and Development

The first analyst to make a distinction between growth and development was Schumpeter (1932). The Austrian economist defined growth as a gradual process of productive expansion, in which several goods of the same kind are produced using the same methods, while he defined development as a more complex phenomenon that leads to a complete transformation of the productive process and the introduction of new goods. Thus, growth might be seen as the evolution of an economy in the short term, while development has to do with the structural evolution or transformation of the economy in the long term. This distinction between short and long term is the one that has since then characterised the debate. In talking about development, marginalist economists focused on accumulation and saving decisions, while Keynes highlighted the role of a progressive increase of the allocation of fixed capital. But the spotlight remained in any case on production and did not move from there until the 1970s. Even the emergence of development economics in the 1950s (Hirschman, A. O.,1981) did not shift the focus: while advocating different mechanisms for developing and developed economies, economists like Lewis (1954), Solow (1956) and Swan (1956) continued to stress growth as the main goal. Not surprisingly, both concepts, growth and development, referred to GDP as their main indicator.

It is only in the 1970s that a new school of economists began to dispute the strict relation between growth and development and proposed new ways of measuring the latter in alternative to GDP[3]. Since then the debate has walked a long way, thanks to the contribution among others of Myrdal (1960), Streeten (1979, 1981), Sen (1979,1982,1985), Cornia, Jolly and Stewart (1987), and the staff of economists that contributed to the first Human Development Report published by UNDP

[3] There have been many attempts prior to the 1970s to warn on the use of GDP, but either they failed to propose effective alternatives or have gone unheard. As reminded Noorbakhsh (1996): "The origin of the critique of the use of GDP per capita for measuring the level of development in different countries can probably be traced back to the pioneering United Nations Reports (United Nations 1954) in which specific recommendation were made against the use of this indicator as "a measure of the level of living".

(1990), further qualifying the distinction between the two concepts and hence the goals to be pursued by policymakers.

2.2 The real issue

We refer more in detail to this evolution of economic thought in the next paragraph. What is interesting here is that much of this evolution and of the ensuing debate among the different approaches has been linked to and determined by the concept of wellbeing. The advocates of growth closely relate the concept of growth to that of wellbeing: the richer the society, the greater the means to improve the life of all its members. To put things in brutal terms: an increase in GDP per capita equals an increase of wellbeing of the individuals. And this notwithstanding the warning made by the creator of GDP, Kuznets, who clearly stated that *"The welfare of a nation can scarcely be inferred from a measurement of National income as defined above"* (Kuznets, 1934)[4].

The strict relation between growth and wellbeing was strongly disputed by the Basic Needs approach and ever since by the advocates of development. Criticism included among others the issues of income distribution and the failure of the trickle down approach (Seers, 1969), satisfaction of basic needs, the role of human capital and education, sustainability and pollution. Thus, development, as a broader and more complex concept than growth, evolved in the capability of ensuring the leading of a full and decent life in a sustainable and durable way, i.e. in stably improving the wellbeing of a society and of most if not all of its members.

At stake in the debate on growth and development then there were not simply different indicators or different goals pursued, but different concepts of wellbeing. The same can be said for all the other main approaches proposed up until today, including the one that focuses on happiness (Easterlin, 2001; Frey, B.S. and Stutzer, A. 2002; Layard, 2005).

It is worth noticing that none of the approaches cited above, nor any others, venture in defining wellbeing. For pretentious as economists can be, only few would venture in such perilous waters and at their own risks. Better, much better, to leave the task to philosophers[5]. An understandable caution as it would be rather difficult to insert wellbeing into an econometric model: what dummy should one use?

All the above approaches, instead, stop a step before, focusing on "what" determines, conditions, and affects wellbeing. Is it the amount of product produced? Is it the level of schooling and sanitary conditions? Is it the capability of accessing means to improve one's life? Once defined the determinants of wellbeing through an apparently solid theoretical apparatus, they become goals for the society to pursue; and the process is monitored through the chosen indicator (Kahneman, D. and Krueger, A.B., 2006; Kahneman, D., Krueger, A.B., Schkade D., Schwarz N., and Stone A., 2004)

If all the above is accepted, different approaches that focus on the same determinants of wellbeing might be grouped together, and it is what we are doing in the next paragraph, arbitrarily giving them the status of "paradigms". But, before, there is another preliminary point which is worth considering What we are saying here is that policies pursued by governments to ensure the wellbeing of their people (a best case scenario) are determined by the goals set, and that the same goals are defined on the basis of a theoretical approach which considers some "determinants of wellbeing" more effective or important than others. And here comes the big question: are we really sure that economist and their theories, – complex, deep and full of insight as they might be – should

[4] Such articulated critics brought Kuznets to end in 1940 his relation with US Department of Commerce that had commissioned the studies which later on led to the GDP definition.

[5] Long have passed the days of Smith and Marx when economist were also philosophers, and viceversa.

really be the ones to decide what increases people's wellbeing? It this really the best way of doing it? We have some doubts and will try to argue this point in the fourth paragraph. First, however, we would like to examine more closely the relation between indicators and their "paradigm".

3. Paradigms evolution and the related indicators

According to Kuhn (1962) "*the development of science is driven, in normal periods of science, by adherence to a paradigm. The function of a paradigm is to supply puzzles for scientists to solve and to provide the tools for their solution. A crisis in science arises when confidence in the ability is lost of the paradigm to solve particularly worrying puzzles called anomalies. The crisis is followed by a scientific revolution if the existing paradigm is superseded by a rival"*. Kuhn claimed that science guided by one paradigm would be '*incommensurable*' with science developed under a different paradigm, meaning that there is no common measure of the different scientific theories. (Stanford Encyclopaedia of Philosophy).

Kuhn's proposition, written to describe the process of development of science, might be well applied to economics, theory and policy. As in the case of science, economic theory has its paradigms, sets of linkages, relations, sometimes laws, that try to explain economic relations and behaviour of human beings, both as individuals and as collective entities. As is the case with science, paradigms are often at odds, even when they coexist; and after a (usually long) period of time, sometimes blend together to form a new paradigm. Each paradigm, or corpus of economic theory, reflects a vision or a point of view on society and on individual, and thus focuses on different aspects. Goals are different, means are different, and so are the indicators that measure the accomplishing or not of the stated goal and the policies that might be put in place to that aim. If to adopt a paradigm is, as stated by Kuhn, "to supply puzzles for scientists to solve and to provide the tools for their solution", by adopting an economic theory, or paradigm, economists and policy-makers also adopt a set of goals, indicators and policies.

Our point here is that indicators are not just technical tools. It is easy to consider them as independent from theoretical disputes, while they are anchored to a certain paradigm and part of it, and therefore play a very strategic role in setting policy. The consequences of this connection between theory/paradigm and indicators has strong implications. When an independent institution like ECB, OECD, WB or IMF decides to measure wellbeing or economic development through an indicator, and not through another, it is implicitly choosing a theoretical approach and consequently the policies to apply.

In this section we present as an example three theoretical paradigms pointing out the related indicators.

i) The first paradigm that we consider is the set of theories that focus on economic growth, namely neoclassical, monetarist, Keynesian and Marxist theories. While extremely different and in many cases at odds one with the other, all of them have growth at their core and as an end in itself, and since its creation, all of them refer to and use GDP as the indicator of how well an economy is doing.

ii) The second paradigm we refer to is the Basic Needs approach that developed in the mid 1970s to "solve the puzzle" of developing economies. Rather than a single indicator, this approach relies on a multiplicity of social indicators that try to capture basic needs for individuals.

iii) The third paradigm that we bring as an example is human development, based on the capabilities approach elaborated by Amartya Sen. The indicator used is the Human

Development Index, that came to light thanks to ul Halq (2003) in May 1990 when the United Nations Development Program (UNDP) published the first Human Development Report .

3.1. Economic growth paradigm and the role of GDP

The Great Depression of 1929 deeply shook economic policy and theory. Suddenly both appeared to be of little use in helping western economies to "solve the puzzle" and sketch a way out from the greatest crash of all. New approaches and policies had to be put in place, a new paradigm was needed. And it came. Architects of this paradigmatic revolution were two major figures of the century: J.M. Keynes and F.D Roosevelt (Galbraith, 1958).

Among other changes, the Great Depression highlighted the lack of data and of indicators functional to analyse and monitor the evolution of an economy leading to the development of national accounts (U.S. Department of Commerce – BEA, 1999). In order to fill this gap the GDP was conceived.[6]. It was constructed on the basis of theories developed by Kuznets (1934), Leontieff (1936), Keynes (1936), Meade (1936), Clark (1937) and Meade and Stone (1941). As recalled by Canoy et al. (2007) "In the 1930s the US Department of Commerce commissioned Simon Kuznets to develop national accounts. These national accounts are by itself a rich source of statistical information with many usages. One of its usages is to calculate GDP by measuring final purchases by households, business, and government by summing consumption, investment, government spending, and net exports".

The link with the Keynesian model is evident. Keynes' income-expenditure model states that real GDP can be broken up into four component parts: consumption, investment, government spending, and net exports (Y = C + I + E + G). GDP is equal to Y and represents a measure of all the goods and services produced domestically[7].

While developed in a Keynesian "environment", GDP soon becomes the indicator used by all economists, be they Keynesian, neoclassical, monetarist or Marxist. This happened because, while their analysis of the functioning of the economy and of the behaviour of single individuals differed, all of these approaches shared a common goal, at least at the macroeconomic level: growth. And GDP, as an indicator that, in spite of all its limits (van Der Berg, 2009; Stiglitz J.E., Sen A., Fitoussi JP., (2009a)), is able to provide a good approximation on the growth trend of an economy, and that on top of it can be used to compare data in different countries, turns out to be the perfect tool. Because of this common goal, aggregate production increase, and within the scope of this paper, we will refer to this set of theories as the "growth paradigm" and to GDP as its indicator.

3.2 Basic Needs approach and the rise of social indicators

[6] In this regard it might interesting to report two quotations:
"One reads with dismay of Presidents Hoover and then Roosevelt designing policies to combat the Great Depression of the 1930's on the basis of such sketchy data as stock price indices, freight car loadings, and incomplete indices of industrial production. The fact was that comprehensive measures of national income and output did not exist at the time. The Depression, and with it the growing role of government in the economy, emphasized the need for such measures and led to the development of a comprehensive set of national income accounts". Richard T. Froyen
"Only those who had a personal share in the economic mobilization for World War I could realize in how many ways and how much estimates of national income covering 20 years and classified in several ways facilitated the World War II effort." Wesley C. Mitchell, Director, National Bureau of Economic Research.
Both quotations are from "GDP: One of the Great Inventions of the 20th Century. "Bureau of Economic analysis U.S. Department of Commerce, 1999. http://www.bea.gov/scb/account_articles/general/0100od/maintext.htm

[7] "Growth economics had arise autonomously from development theory as direct offspring of the Keynes system and of its macroeconomic concept (Hirschman, A. O., 1981).

In the mid 1970s a new theoretical approach began to develop leading to the elaboration of new indicators to measure the progress of a society. The need for a new approach was increasingly felt among many academics and researchers in order to overcome the failure of the "trickle down" effect and the inability of economic growth to solve the problem of income distribution, that is, the puzzle of how to grant progress to everyone when the economy grows and also of how to measure real poverty given the inadequacy of GDP for the purpose.[8]. The Basic Needs approach was the most developed reply in this sense, providing new concepts and tools to define and measure poverty (ILO, 1976; Stewart, 1985; Streeten, 1979,1981). It focused on four aspects, identified as the ones able to promote the development of a nation, and particularly that of the poorest part of its population:

i) increase poorest people's chance to produce income;

ii) strengthen production and distribution of public services, in a way that they can effectively reach the most in need;

iii) improve production of commodities or services able to satisfy the needs of all the members of the "household";

iv) stimulate population participation in the decision process as to the nature of basic needs and the way they can be satisfied.

Such shift of focus, from growth of the aggregate economy to the needs to be satisfied to determine a real development, implied changing methods of measurement. Indicators had to shift from measuring the growth of aggregate production to assessing the satisfaction rate of the identified basic needs. According to this paradigm indicators had to focus on six areas: health, nutrition, environmental health, water supply, housing, education, i.e. the core of "Basic Needs". For each of these areas basic needs scholars tried to define the best indicator able to describe how much the need in question was satisfied.

Among the most frequently used indicators for measuring Basic Needs we can include the following:

- *health*: life expectancy at birth, percentage of doctors or other health care professionals on the population, number of hospital beds and population ratio, share of health costs over the GDP;
- *nutrition*: calorie protein diet;
- *environmental health*: infant mortality rate, proportion of population that has certain levels of services and hygiene equipment;
- *water supply*: infant mortality rate, population regularly supplied with drinking water ratio;
- *Housing*: rooms-people ratio, family housing units possibly integrated with a certain surface-population ratio;
- *education*: literacy rate, schooling rate (5-14 years), same relationship between teachers and the school population, or percentage of expenditure on education of total government expenditure.

Though extremely innovative, and in some ways revolutionary, the Basic Needs approach has never had much success on the ground. There are two main reasons for this: on one side it is too radical,

[8] «...it has become increasingly evident, particularly from the experience of the developing countries, that rapid growth at the national level does not automatically reduce poverty or inequality or provide sufficient productive employment» (World Employment Conference, 1976, p. 15)

implying drastic economic measures and political reforms; on the other side not only is it far from the elegance and the systematisation of the growth paradigm, but it also lacks one single indicator that could be gauged over time and across countries, so as to provide information on how a society is evolving. Comparing the two, GDP turns out to be much more useful and easy to understand than the complex set of indicators proposed by Basic Needs.

However, despite this lack of success in the realm of economic policy, from a theoretical point of view the Basic Needs approach had a substantial impact on the debate on growth and development, setting a new level of discussion and laying the grounds for the work that followed in the 1980s and 1990s, most notably the capability approach. Moreover, it has been thanks to the advent of this approach that economists and international organisations started to systematically collect data for an increasing number of social indicators which eventually provided the hard material for the creation of new indexes and in particular of the Human Development Index discussed in the next paragraph.

3.3. Capability approach, Human development and the HDI

For all its efforts the Basic Needs approach was not able to tackle effectively the problem of addressing poverty, principally because, as Amartya Sen reminds us, if you have goods but you don't have capabilities to use them, the former are of little help and cannot be transformed into function and freedom (Sen, 1999). Thus on the basis of this notion – capability – as worked out by the same Amartya Sen (1971; 1983), a new approach, known as the Human Development Approach, stemmed out in the early Nineties (Fukuda-Parr, 2003). The latter was worked out by the United Nations Development Programme (UNDP) and can be defined as a normative framework for the evaluation of individual wellbeing and social arrangements, and for the design of policies of social improvement (Robeyns, 2005). The main objective of Human Development (Fukuda-Parr, 2003; Fukuda-Parr and Kumar, 2003) is to create an environment enabling people to enjoy long, healthy, and creative lives. It is concerned both with building up human capabilities and with using them fully (ul Haq, 2003). In this context, income and economic growth are both means for / of development, and not an end in itself. The main purpose of the new paradigm is to answer the question of how economic growth transfers, or fails to transfer, into human development. The focus then shifts from economic growth to widening people's choices thanks to the development process. These choices can be infinite and change over time (ul Haq, 2003).

As in the case of Basic Needs the new paradigm implied the adoption of new tools to measure development. The large amount of literature flourished in the Seventies resulted in a systematic collection and publication of data offering an array of socio-economic indicators for a large number of countries. With the availability of cross-national data, a number of attempts were made to construct composite indices which aimed to assess the level of development in a more comprehensive way than GDP *per capita*. The most important attempt is probably the Human Development Index (HDI), proposed by UNDP in its first Human Development Report in 1990 and yearly updated since then. HDI is an index which combines three indicators referring to three major dimensions of human development: longevity, knowledge and access to resources. These are to represent three of the essential choices *"for people to lead a long and healthy life, to acquire knowledge and to have access to resources, needed for a decent standard of living"* (Human Development Report, 1990). The HDI sets a minimum and a maximum for each dimension and then shows where each country stands in relation to a scale expressed as a value between 0 and 1. For each dimensions of development there is an indicator: "a long and healthy life" is measured by life expectancy, "knowledge" by education, and "a decent standard of living" by GDP.[9]

[9] For more details on the calculation of HDI see technical note on United Nations Development Programme (various years) Human Development Report, Oxford University Press, Oxford.

It is worth noticing that, in using income as one of the three indicators, the HDI includes GDP as one of its components. A striking difference with the Basic Needs approach is that, as advocated by Anand and Sen (2000), the Human Development approach considers income as a mean to acquire a "decent life". By considering it a mean, however, this approach sets itself at a distance from the growth paradigm, which sees growth as a goal in itself. Thus, according to the former development is a multidimensional concept with income representing an important aspect of this multidimensionality, but nothing more than that.

Despite the strong differences with the growth paradigm, the inclusion of GDP might have been one of the elements that contributed to the increasing popularity of HDI, even though the main factor of success has been that finally the proposed alternative to GDP was a single indicator that could easily be confronted across countries and over time. Something easy to use and understand, exactly like GDP[10].

4. Who should decide?

While strongly different in scope, as to the phenomena measured and the theoretical approach underlying them, GDP, the indicators proposed by the Basic Needs approach, and HDI, have all one element in common: they are the outcome of a theoretical approach, a paradigm. That is to say that they are the result of academic work and debate, often supported or even initiated by the requests and needs of economic policy. All three of them measure aspects of human life that according to the approach on which they are based, are reputed pivotal to assess the level of wellbeing or development reached by a community of human beings. They measure what is considered by their advocates to be the right thing, the proper thing to look at, in order to really understand how well communities are doing. All of these indicators have limits, and their advocates are ready to recognise them, as they have done in many occasions in the past; but, once stated their singular view-point, that is, the theoretical approach they refer to, the path is traced. Some improvements might ensue, of course, but hardly any dramatic change. Thus, discussion on the value of these indicators can only take place on two different levels: either external, that is, setting the value of one paradigm against the other; or internal, within the theoretical paradigm, evaluating whether the indicator adopted is indeed the best one, or it might be improved or partially changed. Outside these two levels of debate there is no place for discussion, nor, in fact, purpose.

In these terms, all of them have an absolute quality. You might or might not agree with the theory, but if you do, there you have it. If one believes growth is still the key issue for ensuring the wellbeing of fellow human beings, then GDP, amended or not in one of the many ways proposed, is the indicator to consider. If one instead considers that satisfying the so-called basic needs is the preliminary condition for any kind of development, please refer to the set of indicators suggested by theory; if, finally, one thinks that means, without the capabilities of using them, are of little significance, HDI might be the starting point. Otherwise, anyone might provide one's own indicator based on his view of the world, society and human kind.

But this correlation goes also the other way around: by adopting an indicator, or a set of indicators, as pivotal to determine the wellbeing of a society, leaders, policy-makers, academics, politicians also adopt a paradigm. By choosing the indicator, and focusing on improving its value, they also choose, knowingly or not, goals, policies, and instruments. They might discuss which policy might

[10] *"Sen was concerned by the difficulties of capturing the full complexity of human capabilities in a single index. But he was persuaded by Haq's insistence that only a single number could shift the attention of policy-makers from material output to human well-being as a real measure of progress".* (United Nations Development Programme, 1999).

be more appropriate, often bitterly debating as to its effectiveness, but the frame is set.

The thing is that, more often than not, the choice is not made consciously. The indicator, and the paradigm that comes with it, is chosen by default. A bit like the settings of a personal computer: you find them predetermined and just don't bother to go into them. If they are like that there will surely be a reason. Are you a national leader? Everybody looks at the performance of GDP? Then you act to boost it. You work at the UN or at the World Bank? Is HDI the key indicator? Then let's do something about it. At least until the next new device is invented.

If we agree that the adoption of an indicator carries with it the adoption of certain goals instead of others, a question comes up immediately: when has the choice been made? and by whom? Are politicians really pursuing GDP growth, or the improvement of HDI, or of any other indicator because is on that that they have won the elections? because that is the mandate they have received? Have the goals implied by the indicator been discussed?

Since indicators and goals are different faces of the same medal, and since the latter determine economic policy, which in turn affects the lives of the citizens of a state, shouldn't their adoption derive from some sort of public debate or, better, from democratic legitimization? In other words, who should decide what effectively constitutes wellbeing for the people of a nation: academics and technocrats, or the people themselves?

No matter how populist it might seem, we think that the decision should be on the people. Which might be simpler than it sounds at first, notwithstanding the objections that many economists might put forward on the complexity of the issues debated and on the technicalities they involve.

Let's turn the subject inside-out and focus on goals rather than on indicators, as it should be. Does the majority agree that environment is the critical issue? Then we might adopt or create an indicator focusing on variables that measure the erosion of the natural capital - pollution, or other similar aspects. Is growth the issue? Then welcome GDP. Obviously we are not proposing a periodical vote on goals and indicators. Not only would it be problematic, but it will be for certain of no use. These are in fact the kind of issues, and hence of goals, which are often debated during political campaigns for any major, or even minor, election as well as during many international meetings (EU, G-8, G-20, etc..). Here, we are only proposing a logical reverse - discuss the goals, choose among them, and then coherently adopt the appropriate indicator. In this framework the value of an indicator is relative: it is sound and good if responds to the chosen goals, bad if it doesn't. No more good or bad indicators in absolute terms. Less fascinating and more prosaic perhaps, but also more practical and useful.

The world we live in already brings with it an example of the process we advocated above, and not a minor one. Some of the most rich and powerful nations of the world have already favoured and accepted the adoption of such scheme. The democratically elected leaders of EU nations have indeed agreed on a set of goals, some specific, some more general. They regard environment (the "20-20-20" scheme); innovation, technology and education (Lisbon); social cohesion; public finance; equal opportunities; growth. Not only have goals been set, but indicators have also been chosen so as to monitor any improvements recorded in these areas. To complete the process there is a short way to walk, at least conceptually (naturally it might prove much harder from a political point of view). Among the many goals EU leaders should choose the most relevant ones for the wellbeing of their citizens. They should really mean what they do and avoid the aftermath which followed the Lisbon strategy, officially stated but never really pursued. The first test is to be seen with the follow-up of the environmental goals (20-20-20) set after a strong negotiation in December 2008.

Once a limited set of coherent and dominant goals is chosen, an indicator should be created to monitor the progress towards these goals. To give an example of how all this could work, we have given ourselves the fictitious power to select three dominant goals among the ones stated by the EU, and have then produced an indicator which we then have applied to the 27 EU countries plus Norway and Croatia

5. Goal-based indicator: a proposal

In the Lisbon European Council in 2000 the European Union set for the following decade the strategic goal *"of becoming the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion"*. (European Union, 2000)[11]. In 2006 the four following areas were set as the cornerstones of the renewed Lisbon Strategy: (i) investing in knowledge and innovation, (ii) unlocking the business potential, (iii) investing in people and modernising labour markets, (iv) and climate change and energy (European Union 2009). They represent goals that, while derived from economic theories and analyses, have been set by political leaders, democratically elected by their citizen, after negotiations that have gone down to the small prints. While the process is certainly far from being optimal, it still represents a good example of the scheme we sketched in the previous paragraph and a case where it is possible to apply our idea of a goal-based indicator.

In this particular case, on the grounds of the EU goals quoted above, we are proposing a composite indicator made up of three components, each measured by its own index: competitiveness, environment and social cohesion. Blessed with the precious gift of originality we have named this indicator ICSES – Index of Competitiveness and Social and Environmental Sustainability. The variables used are among the ones chosen by Eurostat to monitor the trend of these dimensions (all data come from Eurostat). Below we present the goals set by the EU and the variables we have chosen to monitor how single countries perform in to each given goal.

i. *"The most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs."*. The council set a 3% growth rate and full employment in Europe. To measure the performance of EU countries in this respect we have used the following three variables: real GDP growth rate, labour productivity per person employed, and the share of gross domestic expenditure on R&D.

ii. *"..and respect for the environment"*. In the early 2008 the European Commission put forward a far-reaching package of proposals meant to fight climate change and promote renewable energy up to 2020 and beyond. At the end of 2008 the European Parliament and Council reach an agreement to reduce by 2020 Europe's overall emissions by at least 20% of the level recorded in 1990, and is ready to augment this reduction to as much as 30% under a new global climate change agreement when other developed countries will agree to comparable efforts. The EU has also set itself the target of increasing by 2020 the share of renewable energy up to 20%. Hence, our environmental index is based on two variables - greenhouse gas emissions and electricity generated from renewable sources as % of gross energy consumption.

[11] European Parliament "Lisbon European Council 23 and 24 March 2000 Presidency Conclusions" http://www.europarl.europa.eu/summits/lis1_en.htm

iii. *"..and greater social cohesion".* A distinguishing feature of EU policy objectives is that they place as much emphasis on the achievement of social goals as on economic and political aims. The social cohesion index is composed of: long-term unemployment, regional employment dispersion rates, and existing inequality (the ratio of total income received by the 20 % of the population with the highest income).

As in the case of other and much more famous composite indexes (HDI for instance) we have created an index to measure each of the dimensions cited above. To this aim, we first standardise the relevant variables (for example, in the case of the environment index, greenhouse gas emissions and electricity generated from renewable resources as % of gross energy consumption) with the following formula :

Dimension index = *actual value – minimum value / maximum value – minimum value* (1)

We then create the dimension index by calculating the simple average of the variables used, and we do that for all three indexes. Finally, we calculate the composite ICSES as the simple average of these three indexes: competiveness (COM), social cohesion (SOC), environment (ENV)[12]. The choice of the simple average reflects the idea that each European Union goal is equally relevant. This aggregative method is simple to implement and it has the advantage of being easy to interpret by examining separately the trend of each of the three indexes.

Therefore, the final formulation of the ICSES, ranging from 0 to 10, is the following:

ICSES = *(1/3 (ENV) + 1/3 (SOC) + 1/3 (COM))*10* (2)

In table 1 we summarise the results for 1999 and 2006 the first and last year for which Eurostat provides data. The data for the two years well synthesise the trend for the whole period. The complete data set for the latter (1999-2006) is reported in the annex.

A first distinction that emerges from the elaboration of the ICSES is the one between the EU-15 countries and the Central and East European countries that have joined later the European Union. While the EU-15 countries have accomplished an improvement in the social cohesion dimension (SOC) that explains most of the ICSES growth between 1999 and 2006, Central and East European Countries, with the exception of the small Latvia and Lithuania, reveal a decrease in both their social cohesion (SOC) and environmental (ENV) dimensions, a decrease that has had a relevant impact in the overall performance of these countries.

Taking a closer look we find that Nordic countries show an excellent performance in terms of ICSES: Norway (not a EU country) and Sweden hold respectively first and second place. This outcome is explained mainly by the environment component that in the two countries registers values that are twice the ones observed in other countries. The outstanding outcome of Latvia (3) is explained by the social cohesion and environment components. United Kingdom (5) and Italy (7) show a good performance in terms of ICSES: the former because of the competitiveness dimension (COM), the latter thanks to the social cohesion dimension (SOC). France ranks in the middle (13), mainly because of the poor performance of the social cohesion dimension (due mainly to regional disparities) that offsets the good results of the other two dimensions. Germany's low ranking (24) is

[12] In order to evaluate whether a composite index is a good one, there should be two fundamental conditions: (i) the components should not be highly correlated with each other, and (ii) the index itself should not be highly correlated with any of its single components. If these criteria are satisfied, the composite index is not redundant (Noorbakhsh, 1998). For this purpose, a complex analysis was implemented to test the robustness of the ICSES (see appendix).

determined mainly by the social cohesion component highlighting the problems derived from the re-unification process. Bottom ranks are held by former Central-Oriental European countries such as Bulgaria, Poland and Slovakia, mainly because of social cohesion component (SOC). Which is not surprising if one considers that the economic transformation these countries have undergone has affected the relation among urban centres and the countryside and increased inequality between top and bottom layers of society. At the very bottom we find Cyprus, ranking very poorly in all three dimensions, with the environmental and social dimensions getting even worse than before.

In table 2 we have compared the ICSES ranking with the one based on HDI and GDP. The comparison is recorded for 2006.. It might be worth noticing that Norway, Latvia and Sweden hold a lower position in the ranking based on GDP than in the ones based on ICSES and HDI. Conversely, Croatia (+12) and Hungary (+11) show a good ICSES performance with respect to their GDP ranking - Croatia (another non-EU country) because of the good performance of the environment dimension (ENV), and Hungary because of the social cohesion (SOC).

Table 1. ICSES components, 1999–2006 (range 0-10)

Rank 2006	*COUNTRIES*	ICSES		ENV		SOC		COM.	
		1999	**2006**	**1999**	**2006**	**1999**	**2006**	**1999**	**2006**
1	*Norway*	3,314	**3,845**	0,561	0,561	-0,036	0,045	0,469	0,547
2	*Sweden*	2,913	**3,051**	0,450	0,450	-0,245	-0,202	0,669	0,668
3	*Latvia*	1,627	**2,891**	0,477	0,443	-0,189	0,003	0,200	0,421
4	*Austria*	2,797	**2,712**	0,489	0,429	-0,165	-0,169	0,514	0,554
5	*United Kingdom*	2,476	**2,604**	0,244	0,258	0,012	0,047	0,487	0,476
6	*Lithuania*	1,319	**2,514**	0,320	0,307	-0,052	0,086	0,127	0,362
7	*Italy*	2,160	**2,453**	0,315	0,306	-0,091	0,027	0,424	0,403
8	*Finland*	2,427	**2,424**	0,290	0,265	-0,180	-0,192	0,618	0,655
9	*Denmark*	1,844	**2,189**	0,250	0,301	-0,197	-0,176	0,500	0,532
10	*Spain*	1,837	**2,160**	0,305	0,314	-0,174	-0,092	0,421	0,427
11	*Hungary*	1,745	**2,157**	0,286	0,294	-0,061	0,005	0,298	0,348
12	*Ireland*	2,165	**2,107**	0,165	0,196	-0,119	-0,111	0,603	0,547
13	*France*	2,212	**2,046**	0,317	0,313	-0,203	-0,215	0,549	0,515
14	*Croatia*	2,231	**2,008**	0,458	0,405	-0,014	-0,152	0,225	0,350
15	*Portugal*	2,128	**2,004**	0,345	0,379	-0,016	-0,070	0,309	0,291
16	*Slovenia*	2,004	**1,994**	0,366	0,331	-0,176	-0,186	0,412	0,454
17	*Netherlands*	1,934	**1,871**	0,218	0,245	-0,165	-0,170	0,528	0,486
18	*Greece*	1,512	**1,780**	0,267	0,268	-0,155	-0,116	0,342	0,382
19	*Estonia*	0,849	**1,759**	0,212	0,205	-0,134	-0,130	0,176	0,452
20	*Belgium*	1,676	**1,749**	0,204	0,227	-0,253	-0,232	0,552	0,530
21	*Romania*	1,112	**1,671**	0,428	0,394	-0,194	-0,189	0,100	0,297
22	*Malta*	1,149	**1,651**	0,287	0,281	-0,175	-0,128	0,233	0,342
23	*Luxembourg*	2,120	**1,586**	0,097	0,025	-0,176	-0,229	0,715	0,680
24	*Germany*	1,565	**1,489**	0,240	0,265	-0,285	-0,356	0,515	0,538
25	*Czech Republic*	1,168	**1,410**	0,219	0,212	-0,151	-0,226	0,282	0,438
26	*Slovakia*	0,971	**1,273**	0,318	0,321	-0,233	-0,323	0,206	0,384
27	*Poland*	1,241	**0,952**	0,255	0,257	-0,159	-0,294	0,276	0,323
28	*Bulgaria*	0,348	**0,854**	0,300	0,301	-0,374	-0,303	0,178	0,259
29	*Cyprus*	1,322	**0,799**	0,225	0,214	-0,147	-0,297	0,318	0,323

Source: own elaboration on Eurostat data.

Table 2. Compared ranks for different indices (2006)

	ICSES	HDI	GDP	IScES	ICSES - HDI	ICSES - GDP
COUNTRIES						
Norway	1	1	2	1	0	1
Sweden	2	4	6	2	2	4
Latvia	3	26	24	3	23	21
Austria	4	9	5	4	5	1
United Kingdom	5	14	10	5	9	5
Lithuania	6	25	25	6	19	19
Italy	7	13	13	7	6	6
Finland	8	7	7	8	-1	-1
Denmark	9	8	9	9	-1	0
Spain	10	10	14	10	0	4
Hungary	11	21	22	11	10	11
Ireland	12	2	3	12	-10	-9
France	13	6	12	13	-7	-1
Croatia	14	27	26	14	13	12
Portugal	15	18	20	15	3	5
Slovenia	16	16	17	16	0	1
Netherlands	17	3	4	17	-14	-13
Greece	18	12	15	18	-6	-3
Estonia	19	24	21	19	5	2
Belgium	20	11	11	20	-9	-9
Romania	21	29	28	21	8	7
Malta	22	20	18	22	-2	-4
Luxembourg	23	5	1	23	-18	-22
Germany	24	15	8	24	-9	-16
Czech Republic	25	19	19	25	-6	-6
Slovakia	26	23	23	26	-3	-3
Poland	27	22	27	27	-5	0
Bulgaria	28	28	29	28	0	1
Cyprus	29	17	16	29	-12	-13

Source: own elaboration on Eurostat data.

6. Conclusions

The aim of this paper has been to try to go behind the usual dispute on the soundness of this or that indicator to highlight the fact that until indicators are expression of a theoretical paradigma, while useful, they remain biased. A bias that is transmitted to policy-makers and hence to the policies that they pursue. Referring to an indicator instead of another is anything but a neutral choice. It means choosing a goal, or a set of goals, for a society to aim to. A choice that, because it affects the life of people, its wellbeing, should be the object of public debate and of some sort of democratic legitimization and not derive from the mainstream economic theory of that moment.

It is for this reason that, after having tried to go behind, we also propose to go beyond this kind of dispute. We propose to turn upside down the approach to this issue and focus on the goals a society intends to pursue in a given historical period. Once these goals have been debated and chosen through the democratic and political process, then and only then indicators should become an issue. And the issue would be limited in choosing the best indicator to monitor the rate of achieving of the stated goals. This, obviously, is not to say that economic theory is or should be irrelevant, but only that it should make a step backwards, helping to highlight the implications and consequences of the different choices and providing information on how the economic system works and might evolve and the policies that could be implemented. What is the kind of wellbeing a society should aim to should be a choice of the society itself.

As an example of how the process might work we have referred to the goals stated by the governments of the European Union and have then elaborated a synthetic indicator of how European countries are doing in respect to these goals. It is only an example, and an incomplete one. The next step will be to define benchmarks for each of these goals and then measure how far is each country from them, that is to say of elaborating a goal-accomplishment indicator.

We wish to conclude by citing a contribute that Giorgio Ruffolo has send to us during the elaboration of this paper: "*the incommensurable advantage of a normative and programmatic approach is that it would allow to base political programs, and in more general terms political action and debate, on real and quantifiable criteria, and not on petty words. Indicators would then assume the nature of counter posed political options: of an economy based on political choices and of political choices based on economic quantifications. That is to say of a political economy*".

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ANNEX A

Table A1. ICSES trends 1999-2006

COUNTRIES	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Austria	2,80	2,84	2,57	2,62	2,54	2,62	2,68	2,71
Belgium	1,68	1,84	1,68	1,67	1,64	1,68	1,58	1,75
Bulgaria	0,35	0,52	0,24	0,26	0,47	0,79	0,82	0,85
Croatia	2,23	2,47	2,57	1,86	1,84	2,04	1,96	2,01
Cyprus	1,32	1,33	1,22	0,96	0,71	0,82	0,89	0,80
Czech Republic	1,17	1,22	1,08	1,06	1,14	1,17	1,34	1,41
Denmark	1,84	2,03	1,86	1,92	1,98	2,14	2,20	2,19
Estonia	0,85	1,46	1,27	1,32	1,34	1,54	1,59	1,76
Finland	2,43	2,60	2,36	2,26	2,15	2,38	2,40	2,42
France	2,21	2,26	2,18	2,11	2,01	2,10	2,00	2,05
Germany	1,57	1,66	1,46	1,36	1,33	1,28	1,28	1,49
Greece	1,51	1,52	1,54	1,53	1,79	1,65	1,56	1,78
Hungary	1,74	1,79	1,79	1,84	1,87	1,89	1,94	2,16
Ireland	2,16	2,11	1,87	1,99	1,96	2,01	2,11	2,11
Italy	2,16	2,30	2,25	2,15	2,10	2,40	2,32	2,45
Latvia	1,63	1,98	2,03	1,99	2,05	2,24	2,61	2,89
Lithuania	1,32	1,49	1,55	1,76	2,10	1,97	2,42	2,51
Luxembourg	2,12	2,04	1,52	1,53	1,33	1,39	1,41	1,59
Malta	1,15	1,26	1,27	1,59	1,37	1,51	1,63	1,65
Netherlands	1,93	1,97	1,84	1,71	1,70	1,79	1,78	1,87
Norway	3,31	3,79	3,53	3,58	3,49	3,61	3,89	3,85
Poland	1,24	1,07	0,67	0,38	0,51	0,59	0,76	0,95
Portugal	2,13	2,26	2,24	2,07	2,12	1,97	1,79	2,00
Romania	1,11	1,17	1,42	1,30	1,25	1,51	1,44	1,67
Slovakia	0,97	0,82	0,82	0,82	0,80	0,82	0,98	1,27
Slovenia	2,00	1,85	1,76	1,75	1,56	1,80	1,81	1,99
Spain	1,84	1,92	1,98	1,82	1,93	1,90	2,04	2,16
Sweden	2,91	3,17	2,98	2,87	2,78	2,93	3,01	3,05
United Kingdom	2,48	2,55	2,50	2,54	2,55	2,57	2,62	2,60

Source: own elaboration on Eurostat data.

Table A2. Environment index trends 1999-2006

COUNTRIES	1999	2000	2001	2002	2003	2004	2005	2006
Austria	0,49	0,49	0,47	0,46	0,41	0,43	0,43	0,43
Belgium	0,20	0,20	0,20	0,21	0,21	0,21	0,22	0,23
Bulgaria	0,30	0,30	0,29	0,29	0,29	0,30	0,30	0,30
Croatia	0,46	0,44	0,45	0,41	0,39	0,43	0,41	0,40
Cyprus	0,23	0,22	0,22	0,21	0,21	0,21	0,21	0,21
Czech Republic	0,22	0,21	0,21	0,21	0,21	0,21	0,21	0,21
Denmark	0,25	0,27	0,27	0,28	0,28	0,31	0,32	0,30
Estonia	0,21	0,21	0,21	0,21	0,20	0,19	0,20	0,21
Finland	0,29	0,30	0,28	0,27	0,24	0,28	0,30	0,26
France	0,32	0,31	0,32	0,31	0,31	0,31	0,31	0,31
Germany	0,24	0,24	0,24	0,25	0,25	0,25	0,26	0,26
Greece	0,27	0,26	0,25	0,25	0,26	0,26	0,26	0,27
Hungary	0,29	0,29	0,28	0,29	0,28	0,29	0,30	0,29
Ireland	0,17	0,16	0,16	0,17	0,17	0,18	0,18	0,20
Italy	0,31	0,31	0,31	0,30	0,30	0,31	0,30	0,31
Latvia	0,48	0,49	0,48	0,46	0,44	0,48	0,48	0,44
Lithuania	0,32	0,32	0,32	0,32	0,31	0,31	0,31	0,31
Luxembourg	0,10	0,09	0,08	0,06	0,05	0,01	0,02	0,03
Malta	0,29	0,29	0,29	0,29	0,28	0,28	0,28	0,28
Netherlands	0,22	0,22	0,22	0,22	0,23	0,23	0,24	0,24
Norway	0,56	0,60	0,55	0,59	0,54	0,53	0,59	0,56
Poland	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26
Portugal	0,34	0,38	0,39	0,34	0,40	0,36	0,33	0,38
Romania	0,43	0,40	0,39	0,40	0,37	0,39	0,41	0,39
Slovakia	0,32	0,32	0,32	0,33	0,30	0,31	0,32	0,32
Slovenia	0,37	0,37	0,36	0,34	0,33	0,35	0,33	0,33
Spain	0,30	0,31	0,33	0,30	0,33	0,31	0,30	0,31
Sweden	0,45	0,47	0,46	0,44	0,41	0,44	0,47	0,45
United Kingdom	0,24	0,24	0,24	0,25	0,25	0,25	0,26	0,26

Source: own elaboration on Eurostat data.

Table A3. Social Cohesion index trends 1999-2006

COUNTRIES	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Austria	-0,16	-0,17	-0,17	-0,17	-0,14	-0,17	-0,17	-0,17
Belgium	-0,25	-0,22	-0,22	-0,23	-0,22	-0,24	-0,25	-0,23
Bulgaria	-0,37	-0,38	-0,43	-0,44	-0,38	-0,32	-0,31	-0,30
Croatia	-0,01	-0,01	-0,01	-0,22	-0,20	-0,17	-0,17	-0,15
Cyprus	-0,15	-0,15	-0,17	-0,20	-0,27	-0,28	-0,26	-0,30
Czech Republic	-0,15	-0,17	-0,20	-0,20	-0,21	-0,23	-0,22	-0,23
Denmark	-0,20	-0,19	-0,19	-0,20	-0,18	-0,19	-0,18	-0,18
Estonia	-0,13	-0,13	-0,16	-0,16	-0,14	-0,09	-0,13	-0,13
Finland	-0,18	-0,18	-0,18	-0,18	-0,19	-0,20	-0,20	-0,19
France	-0,20	-0,20	-0,19	-0,19	-0,21	-0,20	-0,22	-0,21
Germany	-0,29	-0,28	-0,30	-0,32	-0,33	-0,37	-0,37	-0,36
Greece	-0,15	-0,17	-0,15	-0,15	-0,12	-0,15	-0,14	-0,12
Hungary	-0,06	-0,08	-0,08	-0,08	-0,06	-0,07	-0,05	0,00
Ireland	-0,12	-0,11	-0,11	-0,11	-0,10	-0,10	-0,10	-0,11
Italy	-0,09	-0,08	-0,07	-0,05	-0,05	0,02	0,02	0,03
Latvia	-0,19	-0,17	-0,17	-0,13	-0,12	-0,13	-0,07	0,00
Lithuania	-0,05	-0,12	-0,16	-0,10	-0,07	-0,07	0,06	0,09
Luxembourg	-0,18	-0,19	-0,20	-0,21	-0,22	-0,22	-0,23	-0,23
Malta	-0,17	-0,15	-0,13	-0,11	-0,11	-0,12	-0,14	-0,13
Netherlands	-0,17	-0,14	-0,13	-0,14	-0,14	-0,16	-0,17	-0,17
Norway	-0,04	0,00	0,01	0,00	0,02	0,01	0,03	0,05
Poland	-0,16	-0,21	-0,27	-0,37	-0,38	-0,39	-0,31	-0,29
Portugal	-0,02	-0,01	0,00	0,02	0,01	-0,03	-0,06	-0,07
Romania	-0,19	-0,21	-0,20	-0,22	-0,22	-0,23	-0,19	-0,19
Slovakia	-0,23	-0,31	-0,35	-0,38	-0,36	-0,37	-0,37	-0,32
Slovenia	-0,18	-0,21	-0,20	-0,21	-0,22	-0,21	-0,20	-0,19
Spain	-0,17	-0,16	-0,13	-0,15	-0,15	-0,15	-0,10	-0,09
Sweden	-0,24	-0,23	-0,21	-0,21	-0,21	-0,22	-0,22	-0,20
United Kingdom	0,01	0,02	0,04	0,05	0,04	0,05	0,07	0,05

Source: own elaboration on Eurostat data.

Table A4. Competitiveness index trends 1999-2006

COUNTRIES	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Austria	0,51	0,53	0,47	0,50	0,49	0,53	0,54	0,55
Belgium	0,55	0,57	0,51	0,52	0,50	0,53	0,51	0,53
Bulgaria	0,18	0,24	0,21	0,22	0,23	0,26	0,25	0,26
Croatia	0,23	0,30	0,33	0,36	0,36	0,35	0,34	0,35
Cyprus	0,32	0,33	0,31	0,28	0,27	0,32	0,32	0,32
Czech Republic	0,28	0,33	0,31	0,30	0,35	0,37	0,41	0,44
Denmark	0,50	0,53	0,48	0,49	0,49	0,52	0,52	0,53
Estonia	0,18	0,36	0,33	0,34	0,34	0,36	0,41	0,45
Finland	0,62	0,66	0,61	0,59	0,59	0,64	0,62	0,65
France	0,55	0,56	0,52	0,51	0,50	0,52	0,51	0,52
Germany	0,51	0,53	0,49	0,47	0,48	0,50	0,49	0,54
Greece	0,34	0,37	0,37	0,36	0,40	0,39	0,35	0,38
Hungary	0,30	0,33	0,33	0,34	0,34	0,35	0,34	0,35
Ireland	0,60	0,58	0,51	0,53	0,51	0,52	0,55	0,55
Italy	0,42	0,46	0,43	0,39	0,38	0,40	0,38	0,40
Latvia	0,20	0,28	0,30	0,28	0,29	0,32	0,38	0,42
Lithuania	0,13	0,25	0,31	0,32	0,39	0,34	0,35	0,36
Luxembourg	0,72	0,71	0,57	0,61	0,57	0,63	0,63	0,68
Malta	0,23	0,23	0,22	0,30	0,24	0,29	0,35	0,34
Netherlands	0,53	0,51	0,47	0,42	0,43	0,47	0,46	0,49
Norway	0,47	0,53	0,50	0,49	0,49	0,55	0,55	0,55
Poland	0,28	0,27	0,21	0,22	0,28	0,31	0,28	0,32
Portugal	0,31	0,31	0,28	0,25	0,22	0,27	0,27	0,29
Romania	0,10	0,16	0,23	0,22	0,22	0,29	0,22	0,30
Slovakia	0,21	0,23	0,28	0,30	0,30	0,31	0,34	0,38
Slovenia	0,41	0,39	0,37	0,40	0,36	0,41	0,41	0,45
Spain	0,42	0,43	0,40	0,39	0,40	0,40	0,41	0,43
Sweden	0,67	0,71	0,64	0,64	0,63	0,66	0,65	0,67
United Kingdom	0,49	0,50	0,47	0,47	0,48	0,47	0,46	0,48

Source: own elaboration on Eurostat data.