

THE QUEST FOR GROWTH: THEORETICAL AND EMPIRICAL FINDINGS AND THE RISE OF A BOTTOM-UP APPROACH TO SUSTAINABLE DEVELOPMENT*

1. INTRODUCTION: WHY FOCUS ON ECONOMIC GROWTH?

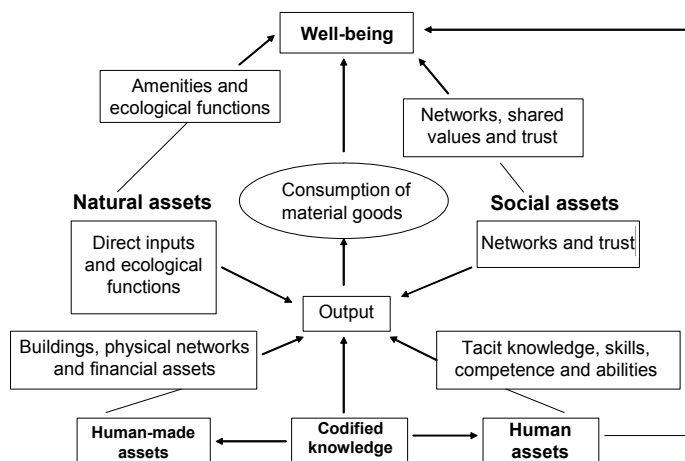
At first glance the focus of economists on growth, may not be easy to understand for those outside the profession. From many directions it is advocated, not without justification, that this target does not exactly coincide with broader and more generally accepted definitions of human wellbeing, such as those implied by various socioeconomic development indicators and, ultimately, with individual happiness, given that the latter depends not just on monetary, but also on non-monetary components such as the direct fruition of human, social and environmental resources (Frey and Stutzer, 2000). In support of this hypothesis empirical evidence on the determinants of self reported happiness shows that its main determinants are, together with (relative more than absolute) income, health, education and the quality of relational goods, while

* The ideas developed in this paper have greatly benefited from several presentations of research papers in the fields of economic growth, microfinance and consumer social responsibility. Among them we recall in particular those held at the 2005 European Economic Association in Amsterdam, at the 2005 Annual meeting of the EARIE in Porto and at the 2005 Meeting of the European Center for Studies on Income Inequality (ECINEQ) in Palma de Majorca and at seminars held at SOAS in London and at the Universities of Catania, Copenhagen, Macerata, Milano Bicocca and Verona. On the first issue (growth) we specially thank Michele Bagella, Riccardo Faini, Iftekhhar Hasan, Jim Lothian, Fabrizio Mattesini, Ned Phelps, Gustavo Piga, Neri Salvadori, Jonathan Temple, Paul Wachtel and Clas Whilborg. On the second (microfinance) Jonathan Conning, Robert Lensink, Shubashis Gangopadhjay, Jonathan Morduch, Pasquale Scaramozzino. On the third (fair trade) Fabrizio Adriani, Simon Anderson, Luigino Bruni, Roberto Cellini, Luca Debeneditis, Luca Lambertini, Federico Perali, Robert Sugden, Luca Zarri and Stefano Zamagni. Even though the paper is fruit of a common work sections 2.5, 3 and 3.2 have been written by Leonardo Becchetti, while sections 2, 2.1, 2.2, 2.3, 2.4 and 3.1 by Giuseppe Mastromatteo. Introduction and conclusions have been jointly written. The usual disclaimer applies.

adverse aggregate shocks such as inflation and unemployment are demonstrated to have a significant and negative impact on it (see, among others, Alesina *et al.*, 2001; Easterlin, 2001 and Easterlin *et al.*, 2004; Frey and Stutzer, 2000; Di Tella *et al.*, 2001). In spite of the inevitable cultural and interview biases which must be taken into account when dealing with self reported happiness, medical studies document the strong and significant link between such variables and personal health, supporting the hypothesis that information on self reported happiness is reliable (Pavot, 1991; Ekman *et al.*, 1990; Shedler *et al.*, 1993; Koivumaa-Honkanen *et al.*, 2001). Suggestions stemming from the empirical happiness literature are that economic growth is a fundamental intermediate target, but that maximization of individual wellbeing should be pursued by looking at broader goals which include non-monetary variables whose significant and positive relationship with self reported happiness has been documented.

In more recent times suggestions from the happiness literature seem to have been partially incorporated into the goals of political economy since this focus on broader targets is becoming common in reports of international institutions. To illustrate this we show a simple scheme, included in the 2003 World Bank Development report, where the traditional consumption-output channel fuelling individual welfare is complemented by other channels in which the direct enjoyment of human, social and environmental resources is independent from productive considerations (Figure 1).

FIGURE 1 - *How society's assets enhance human well-being*



Source: World Bank, World Development Report 2003: Sustainable Development in Dynamic World.

However, a deeper inspection of the close relationships between these non immediately productive dimensions of individual flourishing and personal income clearly reveals that economic growth, or the creation of economic value at the aggregate level, provides resources needed to invest in education, health, leisure and preservation of environmental goods. Hence, economic growth remains a crucial factor also for the development of the other non-monetary dimensions of individual happiness.

This is why research into the drivers of economic growth is one of the most important fields through which economists may provide their contribution to the pursuit of the desirable goals of poverty eradication and life satisfaction.

In what follows we try to illustrate the new advancements in the growth literature and in the final sections of the paper we outline some new perspectives which implicitly integrate into it the attention to broader indicators of human wellbeing.

2. THREE FUNDAMENTAL SOURCES OF VALUE CREATION: LABOUR AND PHYSICAL AND HUMAN CAPITAL

The stylized model adopted by economists to analyze economic growth is based on a (production) function which maps contribution of inputs into physical production. In reality, what matters for value creation in a given country is the volume of goods and services sold (not just produced!) in a given time interval (what we call gross domestic product). Hence, a first critical point is that creation of value entails a matching between decisions over physical production and consumer tastes. As soon as we examine contributions of different inputs to economic growth we realize that this is a nontrivial issue.

The first critical input in the production function is labour. This is something different from active (conventionally aged 15-65) population. Only a share of the active population is willing to participate to the labour market and this share is highly variable (and far below 100 percent), especially when we look at married women. Moreover, since aggregate and individual working time are highly variable, the labour input is not just represented by active workers but by the total number of hours worked.

In the first simple and standard neoclassical growth model (Solow, 1956) the labour input is combined with a second critical input (physical capital) and with a labour augmenting residual component

which captures all additional factors moving up the production frontier. The model explains that, in equilibrium, per capita GDP growth may be generated only from the growth of this residual component.

In this perspective, divides among countries are therefore bound to persist only in case of enduring structural differences on physical capital accumulation, tax systems, population growth and rates of growth of the residual component. If this is not the case, a general process of convergence in per capita GDP is expected to occur.

Even from this simple model we may extract the two-word concept which is crucial in all the growth literature: *conditional convergence*. The term convergence illustrates that countries which lag behind in economic development may catch up by growing at a rate which is higher than that of the more industrialized countries. The conditionality in convergence illustrates that this can occur only if such countries satisfy some side conditions, i.e. if they level out differences in terms of endowment of crucial factors, such as physical capital and all other determinants, affecting the residual which augments the productivity of labour.

In the post-Solow growth literature most if not all intellectual energies have been dedicated to the investigation of what is inside the “residual blackbox”, or what are the additional factors determining economic growth.

A first fundamental contribution is the discovery of the relevance of human capital, i.e. the investment in education of workers, which increases their working skills and their productivity, thereby shifting upward the production function for a given number of worked hours (Lucas, 1988; Romer, 1990). Education is modeled as a capital input in which the stock of accumulated knowledge in a given period depends on inflows (investment) and outflows (depreciation). The significant impact of education on GDP growth is supported by abundant empirical evidence at micro level. Such evidence documents the existence of returns to schooling, i.e. significant increases in the wage earned on average for any additional year of education achieved, after controlling for the effects of all other determinants¹. Since wages roughly correspond to individual productivity, such evidence does not reject the hypothesis that education raises productivity and, therefore, the contribution of the labour input to production.

¹ Microeconomic empirical research suggests that one additional year of schooling is associated with significantly higher earnings (between 5 and 15 per cent) in a wide range of countries (Card, 1999; Psacharopoulos, 1994).

In the case of education, the correspondence between the intermediate goal of economic growth and the broader one of human development and individual happiness is clear cut. A more educated workforce spurs economic growth. At the same time more educated individuals enjoy a higher level of human assets which may increase their capabilities and functionalities (i.e. through a higher capacity to appreciate and enjoy cultural goods), thereby directly contributing to human flourishing without passing through the output channel (see Figure 1).

A fascinating historical perspective on the increasing role of human capital on growth and on its consequences in terms of the relationship between growth and inequality is provided by Galor and Moav (2004). The two authors argue that the process of economic development may be divided in two stages. In the first stage in which physical capital accumulation is predominant, inequality is beneficial for growth since accumulation is possible only due to the high saving rates of the rich. In the second stage, in which we live, physical capital and financial assets needed to finance investment are abundant at world level. The crucial factor which can spur creation of value is country capacity of developing the potential of each individual by investing on his education and by easing access to financial resources needed for investment. Hence, a more equal distribution of income turns out to be beneficial for growth, since it ensures equal opportunities and reduces financial constraints to human and physical capital investment.

The role of education creates a first important challenge to the standard textbook (Solow type) models of economic growth. The existence of a strong negative relationship between female education and fertility is an empirically established stylized fact (Barro and Becker, 1989; Becker *et al.*, 1990)². More educated women invest more of their time in themselves and in their career and therefore tend to have fewer children. This is a problem for the standard Solow model since it is evident that the growth of the labour force cannot

² Female education is expected to reduce the desired family size for a series of reasons. First, educated women may have higher aspirations for their children and this may reduce their desired family size, given the quantity-quality trade-off between the number of children and the time available for each child. Second, female education raises the opportunity cost of women time and is positively related to the use of contraception and to the adoption of less pro fertility social norms. In a similar, but slightly different perspective, the higher initial stock of human capital may lead to lower fertility rates because people shift from saving in the form of children to saving in the form of physical and human capital (Barro and Becker, 1989; Becker, *et al.*, 1990).

be taken anymore as exogenous when an input of the production function (human capital) significantly affects the dynamics of another input (labour). A first important consequence of the human capital augmented growth models in terms of policy advice is that promoting education, and especially women's, has two positive effects on per capita GDP by increasing the nominator and reducing the denominator of this ratio. This explains the strong emphasis of international institutions and of the Millennium Goals on this point. As a partial limit to the enthusiasm for the contribution of human capital to economic growth we must consider that education requires complementary factors in order to increase workers' productivity. Two of them are adequate training and the willingness to translate higher human capital into entrepreneurial ideas. In this direction a very interesting contribution of Murphy *et al.* (1991) conveniently argues that social rewards may play a crucial role in affecting the direction in which talents are invested. The authors use this argument to explain why the industrial revolution did not occur in China centuries before its actual realization in England, even in presence of institutional stability, a large market and the scientific knowledge necessary to realize the required technological innovations. They explain the puzzle by arguing that in Chinese society the highest social praise was not for entrepreneurship but for rent seeking professions. When this is the case, nowadays as in the old China, it is highly likely that talents and human capital are not addressed to the creation of wealth and therefore their contribution to economic growth is reduced.

2.1 Other Determinants of Growth and Conditional Convergence: Institutions and Cultural and Religious Backgrounds

If we would look at variations in the ranking of the determinants of growth, in terms of their importance for the current economic literature, we would definitely consider the quality of institutions as first. In increasingly integrated labour, product and financial markets, production inputs are always more mobile and abundant at world level. As a consequence, the link between creation of domestic value and domestic inputs is always weaker. This means that domestic economic growth depends increasingly less on domestic labour force, domestic savings³ or domestic human capital. The higher

³ On this point see the seminal contribution of Feldstein and Horioka (1980).

mobility of production inputs is such that, if a country creates local conditions which attract them from other countries, it can prosper even in absence of a relative strength in their domestic ones. United States are a perfect example to illustrate this point. They worked for creating the best local environment for attracting financial resources, most promising students and high skilled workers, and, also in this way, they got a leadership in economic growth, even in presence of the current negative saving rates of their citizens.

The increasing importance of creating a “friendly” environment for attracting production inputs from all over the world leads us to consider the prominence of the role of the quality of institutions.

For quality of institutions we mean a wide range of possible modalities where the lowest grade is that of civil war, and, next to the lowest, linguistic ethno-fractionalization leading to social unrest and corruption. By gradually moving up in such modalities we arrive to the plus side where, borrowing from the classification of the Economic Freedom of the World index⁴, we find i) the quality of the legal system (*judiciary independent and not subject to interference by the government or parties in disputes. Impartial court with a trusted legal framework for private businesses to challenge the legality of government actions or regulation; Protection of intellectual property; overall Integrity of the legal system*), ii) adequate monetary policies which promote price stability through independence of central banks with anti-inflationary targets and iii) proper regulation in credit (*competitive banking system, high percentage of credit extended to private sector*), labour (*no inflationary system of collective bargaining and unemployment benefit systems which preserve incentive to work*) and business (*limits in price control, reduction of bureaucratic delays in starting and managing a business, limits of trade and exchange rate controls*).

In a direct comparison of the relative significance of different factors at empirical level, Sala-i-Martin (2002) finds that institutional quality is one of the most robust. The impact of institutions on growth, with specific reference to transition countries, is tested, among others, by De Melo *et al.* (1996) and Fischer *et al.* (1996).

The prominent role of rules and institutions (Rodrik, 2000; Barro and Sala-i-Martin, 1992), or, more specifically, financial institutions

⁴ Economic Freedom of the World: 2003 Annual Report (<http://www.freetheworld.com>).

(Pagano, 1993; King and Levine, 1993) is widely acknowledged in the recent literature. Among other specific facets of the institutional quality the focus has been on the role of the government sector (Hall and Jones, 1997), social and political stability (Alesina and Perotti, 1994) and corruption (Mauro, 1995).

With regard to the wide range of theoretical and empirical contributions explaining the role of institutional quality on growth, we briefly remember some of the most important and representative ones: Rodrik (1999, 2002) and Frankel (2002) argue that market based economies, to be successful, crucially need good institutions and, more specifically, institutions to protect property rights, to fight corruption, to support macroeconomic stabilization and to promote social cohesion. Klein and Luu (2003) find that technical efficiency is positively related to policies supporting *laissez-faire* and political structures that promote policy stability. Esfahani and Ramírez (2003) find that good institutions support the creation of the infrastructure needed to promote growth.

But, if institutions crucially affect economic growth, what determines institutional quality? The focus on institutions brings into the forefront also the role of cultural and religious backgrounds, thereby leading to the fascinating investigation on the relationship between economic growth and “deep fundamentals”.

“Deep fundamentals”, such as cultural *ethos* or religious beliefs, have an impact on growth not only directly, but also by shaping and ordering the set of values which crucially influence institution building and individual behaviours and, through them, the “wealth of nations”.

The synthesis of this literature is that one of the deepest roots of success or failure in economic growth relies on the matching between the system of cultural values, promoted by a given religious (Muslim, Confucianist, Christian catholic or protestant) background, on the one side, and the shaping of quality institutions and economic growth, on the other side.

It is important to remember that such a relationship does not require a high share of active religious participation today to hold. What matters is the role of religion in shaping the cultural background in the past and that this cultural background is still persistent.

A well known starting point of this literature is the Weberian hypothesis on the positive relationship between Protestantism and economic growth. Delacroix (1993) resumes Weber’s argument by saying that “the worldview propagated by protestantism broke with traditional psychological orientations through its emphasis on

personal diligence, frugality and thrift, on individual responsibility, and through the moral approval it granted to risk-taking and to financial self-improvement”⁵.

This position has been widely criticized at least when the comparison is taken with Catholics. More recent investigations show that prosperity and accumulation started in Italian catholic councils (such as Florence) well before the protestant reform and that the leadership in economic growth passed to the protestant countries such as the Netherlands only after the increased tax pressure associated to the reaction to the protestant reform (*Controriforma*) led many merchants living in Italian councils to shift the basis of their economic activity in the Flanders (Trevor-Roper, 1969).

More recently, a few empirical papers follow this path by focusing on specific facets of the religious culture-institution-growth nexus. Stultz and Williamson (2001) follow this new direction of research by investigating whether religious beliefs significantly affect financial institutions, net of the effect of language, trade openness and the origin of the country’s legal system. The authors find that creditors’ rights are significantly less protected in catholic than in protestant countries.

Becchetti and Caiazza (2006) show that the cultural background generated by the “prohibition of the payment or receipt of any predetermined, guaranteed rate of return (*riba*)”⁶ – which closes

⁵ The existence of a link between capitalism and protestant Reformation is also implicitly advocated by the *Encyclopedia Britannica* which gives the following explanation to the voice *Capitalism*. “*CAPITALISM: also called free market economy, or free enterprise economy. Economic system, dominant in the Western world since the breakup of feudalism, in which most of the means of production are privately owned and production is guided and income distributed largely through the operation of markets. Although the continuous development of capitalism as a system dates only from the 16th century, antecedents of capitalist institutions existed in the ancient world, and flourishing pockets of capitalism were present during the later European Middle Ages. The development of capitalism was spearheaded by the growth of the English cloth industry during the 16th, 17th, and 18th centuries. The feature of this development that distinguished capitalism from previous systems was the use of the excess of production over consumption to enlarge productive capacity rather than to invest in economically unproductive enterprises, such as pyramids and cathedrals. This characteristic was encouraged by several historical events. In the ethic encouraged by the protestant Reformation of the 16th century, traditional disdain for acquisitive effort was diminished, while hard work and frugality were given a stronger religious sanction. Economic inequality was justified on the grounds that the wealthy were also the virtuous.*”

⁶ Sura II, 279.

the door to the concept of interest and precludes the use of debt-based instruments” (Iqbal, 2001) – is associated to weaker financial institutions in Muslim countries.

2.2 Regional Integration as an Effective Policy Device to Improve Quality of Institutions

If institutions are so important for economic growth we may wonder what are the most effective policies to strengthen their quality. In the experience of many countries, even though the recipe of building good institutions and creating the best local conditions for attracting inputs from all over the world is known, it may be hard to put it into practice because of limits in domestic capacity of creating consensus on reforms (i.e. for the lobbying activity of rent seekers against reforms). In such cases what may help is an external anchor (or constraint) removing obstacles to domestic consensus on the path of institutional reforms. One of the most valuable devices for triggering institutional reform may be the desire to enter a club of wealthier countries, or to create with some of them a closer level of integration.

Recent empirical evidence strongly supports this hypothesis. It shows that the desire to be admitted to negotiations for admission to the EU stimulated institutional change with positive effects on growth for transition candidates (Becchetti *et al.*, 2006; De Grauwe and Schnabl, 2004). It also documents that the process of convergence toward the European Monetary Union significantly improved institutional quality and reduced real effective exchange rate volatility in Eurozone countries, with positive effects on growth (Bagella *et al.*, 2005). These findings highlight a potential path for LDCs and suggest that the policy of EU integration with Turkey and South Mediterranean countries might have significant effects on the development of Middle East and North Africa.

2.3 Do Scientific Knowledge and Technological Innovation Matter? The New Framework Created by the ICT Revolution and the Digital Divide

A recent and interesting new strand of the literature on the determinants of economic growth tries to answer the question of the impact of technological innovation and, more specifically, of the ICT revolution on economic growth.

From a general point of view, if discoveries and technological innovation rapidly become public knowledge, they can be equally adopted by everyone and therefore should not matter in explaining differences in levels and growth of GDP across countries. On the other hand, though, access to innovation (and also the capacity of exploiting the existing knowledge) is not the same everywhere. Therefore it is inappropriate to neglect the problem by capturing the effect of innovation in a common constant factor, such as in Mankiw *et al.* (1992), or in a country specific, but time invariant, fixed effect component as in Islam (2003).

With this respect, the occurrence of the ICT revolution is both a challenge and an opportunity which may help to identify the country specific time varying effects of access to knowledge on economic growth. The difficulty in evaluating ICT effects stems from the complexity of this factor which includes, on the one side, high quality physical capital (such as computers) and, on the other side, telecommunication infrastructure which dramatically reduces transportation costs of weightless products and eases access to information and knowledge, but also new ways of storing and reproducing such knowledge (software, databases). These three ICT components are strictly connected because high quality physical capital (hardware) is the instrument which exploits the telecommunication infrastructure using software and databases to process and transfer voice, images and data.

Which are the channels through which ICT affects growth?

As mentioned above, part of ICT is made by weightless, expansible and infinitely reproducible *knowledge products* (software, databases) which create value, by increasing productivity of labour or by adding value to traditional physical products and services. Knowledge products are almost public goods. Expansibility and infinite reproducibility make them non-rivalrous, and copyright (instead of patent) protection makes them much less excludable than other types of innovation such as new drugs (Quah, 1999).

Hence, if ICT consisted only of knowledge products, it would be almost immediately available everywhere, no matter the country in which it has been created. This does not occur though since the immediate diffusion and availability of knowledge products is prevented by some “bottlenecks”. These “bottlenecks” are: i) the capacity of the network to carry the largest amount of knowledge products in the shortest time, ii) the access of individuals to the network in which knowledge products are immaterially transported

and exchanged and iii) the power and availability of terminals which process, implement and exchange knowledge products over the internet (Adriani and Becchetti, 2004; Becchetti and Di Giacomo, 2007).

These bottlenecks are responsible for the so called “digital divide” which becomes, in the era of ICT revolution, an additional factor conditioning convergence of per capita GDP.

Even though the role of ICT on growth seems clear in the theoretical perspective, the first vintage of empirical research documents controversial results on it. In the 1980s and in the early 1990s, empirical research hardly finds any relevant productivity gains associated with ICT investment (Bender, 1986; Roach, 1989; Strassmann, 1990). This research shows that there was no statistically significant association between ICT investment and productivity at any chosen level of analysis.

More recently, with the availability of new data and the application of new methodologies, empirical investigations have found evidence that in the second part of the 1990s, ICT investment was associated with improvements in productivity, in intermediate measures and in economic growth (Oliner and Sichel, 2000; Brynjolfsson and Hitt, 1996 and 2000; Sichel, 1997; Lehr and Lichtenberg, 1999; Jorgenson and Stiroh, 2000). Oliner and Sichel (2002) and Jorgenson *et al.* (2002) find similar evidence in 2001, despite the 2001 downward revision of the US GDP and software investment and the recession beginning in March 2001.

A typical interpretation of the different results of these two vintages of empirical studies relies on David’s (1990) argument – based on his studies on the effects of the invention of electricity on growth – that any breakthrough innovation requires some time and reorganization of the productive process to deploy its productivity effects.

Brynjolfsson and Hitt (2000) shed further lights on the complex pattern of effects of ICT on productivity by arguing that ICT is “only a small fraction of a much larger complementary system of tangible and intangible assets”. In the authors’ perspective potential contribution of ICT to productivity, to be fully exploited, requires a thorough reorganization of the firm; conditions easing or hindering such reorganization are crucial for ICT effects on productivity and growth.

The problem is that such phenomenon is much easier to investigate at firm than at aggregate level, as Brynjolfsson himself recognizes. From all the analysis of Brynjolfsson’s argument it appears that conditions easing firm restructuring include flexibility in

the creation and destruction of jobs and business and an institutional system which properly rewards human capital⁷.

2.4 The Role of Geography and Natural Resources

Many more factors have been found affecting conditional convergence in empirical estimates in addition to those discussed above. In a comprehensive survey of the empirical work done in the last decades Durlauf and Quah (1998) list something like 87 different potential determinants whose impact on growth has been tested by previous research. Among them we find, somewhat surprisingly, that latitude (measured as the distance from Equator) is strongly significant in growth estimates after controlling for the impact of more traditional regressors such as human and physical capital, quality of institutions and technological innovation.

This finding is puzzling and brings back to the old and undemonstrated “climate theories” of ancient Greek philosophers such as Polibius. Even innovations which are expected to reduce the impact of climate on productivity, such as air conditioning, do not seem to have weakened so far the geography-growth link. A more recent intriguing historical explanation of the geographical puzzle comes from Acemoglu *et al.* (2001) who reasonably argue that the climate effect is in reality determined by colonizers choices to settle down (and therefore invest in local infrastructure) only in colonies with temperate climate, while simply extracting resources and importing raw materials from tropical or subtropical colonies.

This interpretation helps us to understand another apparently surprising result in the growth literature: the so called “curse of natural resources” (Sachs and Warner, 2001). One would be naturally led to think that countries richer in natural resources should be leading the development race. What happened in the world history is exactly the contrary since what mattered so far was not having basic resources needed to start production, but controlling the process of value creation.

⁷ This is very well expressed by the authors when illustrating the “Macromed” case study where “eventually the management concluded that the best approach was to introduce the new equipment in a ‘greenfield’ site with a handpicked set of young employees who were relatively unencumbered by knowledge of the old practices” given that old “line workers still retained many elements of the now obsolete old work practices”.

What has historically occurred is that (corporations from) countries relatively more scarce in natural resources happened to have more political and military (market) power and therefore took control of the international process of value creation in many industries in which final products are created and manufactured by using imported raw materials. In parallel to this, the abundance of natural resources revealed to be a magnet attracting (because of internal and external forces) corruption, civil unrest and inefficient governments thereby explaining how, *coeteris paribus*, having more natural resources has historically affected negatively and not positively economic growth.

2.5 Theoretical and Empirical Frontiers in the Research Agenda

The achievements in the field of the economic growth literature synthetically summarized above are still subject to deeper investigation and scrutiny, in the attempt to overcome many methodological weaknesses, which almost inevitably arise when measuring determinants of economic growth. We will briefly mention only the most important of them, avoiding excessive technical details which may bother the reader.

A first general problem which needs to be tackled is that of endogeneity and *reverse causation*. A careful reader would easily argue that almost all the factors described in the previous sections are both causes and consequences of economic growth. The more educated workforce is more productive but, at the same time, higher per capita income positively affects investment in education. Corruption may hinder economic growth but, at the same time, low per capita income, and poorly paid government officials, may be more prone to corruption. These two-way links make it very hard to disentangle causes and effects, in order to go beyond simple correlations between economic growth and its determinants. Solutions to this problem are inevitably partial and imperfect and are represented by instrumental variable techniques and their more sophisticated versions of first differenced or system GMM estimates (Blundell and Bond, 1998; Bond *et al.*, 2001). What researchers basically try to do with these techniques is identify lagged factors, correlated with the more recent determinants of economic growth under investigation (and under risk of endogeneity and reverse causation), which cannot be caused by current growth itself, either for their intrinsic characteristics or because they are sufficiently distant in time. The research of these instruments starts from the simple recipe of adopting lagged values

of the regressors up to the use of different “exogenous” factors strictly correlated with them. The research of proper instruments is arduous given that per capita GDP is highly persistent and exhibits significant autocorrelation even at distant lags. Consequently, it is always possible that economic development in the past (which is strictly correlated with current economic development) is the cause and not the consequence of the determinants of growth that we observe.

The general conclusion of the researchers on this issue is that it is highly likely that, for many variables, the causality nexus is relevant in both directions. This implies that the impact of the above described growth determinants exists, but may be overstated if we do not disentangle direct from reverse causation.

Another important issue in the research agenda is the exploration of the consequences of nonlinearities and heterogeneity in the relationship between growth and its determinants. The mainstream approach usually starts from the restrictive assumption that the sensitivity of economic growth to a given factor is the same, whatever the level of that factor and the country considered. This would imply, however, that, for instance, the effect of an additional year of schooling on growth is the same in Ghana and in the United States. Attempts to overcome the untenable consequences stemming from this assumption are those of semi-parametric mixture models (the model estimated is the same not for all countries, but for a subset of countries which are found to have homogeneous characteristics) and of the identification of threshold effects (the impact of a variable is significant only after it reaches a given threshold) (Durlauf and Johnson, 1995; Masanjala and Papageorgiou, 2004).

With this respect, the semi-parametric mixture approach has the advantage of being very parsimonious since, after estimating a general model valid for all countries, it identifies a finite number of random components, on a chosen set of model coefficients, which identify homogeneous subgroups in which the impact of regressors on the dependent variable is significantly different from that of the general model. The random component has the advantage of capturing the effects of all latent variables which cannot be measured (or are purposely not included in the estimate) by the researcher. Recent empirical work in this literature outlines that subgroup deviations from average human capital and labour augmenting component coefficients are well explained by latent factors such as quality of institutions, geography and culture (Liu and Stengos, 1999; Kalaitzidakis *et al.*, 2001; Masanjala and Papageorgiou, 2004). A final

promising innovation in the empirical research is the one incorporating in growth models the effects of geographical externalities. Recent empirical work on this field shows that geographical externalities are significant and, if not considered, risk to produce biased impacts of traditional variables on conditional convergence and growth leading to incorrect policy suggestions (Anselin, 1998; Fingleton, 2000 and 2001).

To sum up, the most recent advancements in empirical techniques for estimating the determinants of growth and conditional convergence have led to identify strict correlations among the most important determinants of growth and relevant threshold effects, outlining the existence of poverty traps and convergence clubs. In other terms, threshold effects, geographical externalities and the need of a coordinated improvement on many growth determinants are ultimately responsible for the clustering of world countries in different clubs in which within group differences tend to decrease, while between group ones tend to persist in time. The main challenge for the future is therefore the definition of comprehensive and coordinated development strategies aimed to break these poverty traps.

3. WHY RECIPES OF CONDITIONAL CONVERGENCE, IF THEY ARE KNOWN, ARE NOT APPLIED? THE GOVERNANCE PROBLEM AND THE PROMISING PATH OF BOTTOM-UP SOCIALLY RESPONSIBLE ACTION

Although methodological problems described in the previous section make it difficult to calculate with precision the magnitude of the causal link between economic growth and each of its potential determinants, it is quite clear that we broadly know which are the policies to adopt in order to enhance world economic development and prosperity. At the same time it is quite clear, at this stage of economic development in which equal opportunities are beneficial for growth (Galor and Moav, 2004), that the fight to poverty is one of the fundamental goals which deserve to be pursued, not only *per se*, but also for the purpose of fostering overall economic development.

The question is therefore why, if recipes are broadly known, they are so difficult to apply. The easy answer is that the willingness to apply them is deficient. Or, in the language of economists, neither a “global planner” with full power and with the goal of fostering of economic development at world level (hopefully), nor proper institutions created to this purpose exist or, when they do, are capable of doing the job. This is because globalization has been more rapid than our capacity to create global rules to govern it and because the

various existing domestic and international institutions having the mission of fostering economic development are riddled with conflicts of interest, or with differences between the goal or mission of the institution itself and the personal ones of its representatives and of the related bureaucracies.

In this framework what is emerging as an interesting complementary action and as an element of stimulus is the capacity of the society and of the private sector of filling some of these governance gaps with their bottom-up initiative. It is very important to interpret such action not as a demonstration of the uselessness of governance and rules, but as a subsidiary and vicarious action which creates awareness and international policy consensus for the creation of more equitable rules.

Two of the most promising examples in this field are microfinance and fair trade.

3.1 Bottom-Up Action and Financial Markets: The Growing Role of Microfinance

Considerations stemming from the recent literature on the relationship between growth and inequality (Aghion *et al.*, 1999), and the conclusions of the previously mentioned Galor and Moav (2004) model, clearly show that access to education and credit are two fundamental channels through which a society may create equal opportunities and the potential for social and economic development for all individuals, in spite of their dramatically unequal economic endowments.

Equal opportunities have never been so relevant for sustainable development as they are today in the globalised socioeconomic environment in which we all live. The integration of labour, product and financial markets has significantly increased returns to talents and education and economic activities are becoming increasingly human capital and knowledge intensive. In this framework the socioeconomic potential of each country is given by the sum of the talents and skills that may be developed by its members during their lives. This is the reason why access to credit and education are so fundamental and equal opportunities and sustainable development go hand in hand.

In this framework microfinance plays the crucial role of easing access to credit to uncollateralized borrowers which cannot obtain loans from the traditional banking system.

The diffusion and coverage of microfinance in the world is impressive and growing. A recent World Bank report estimates that in Asia 30% of the poor have now access to credit thanks to microfinance institutions and that, overall, more than 2,500 microfinance programs in the world reach more than 67 millions borrowers (41 millions below the absolute poverty threshold) according to end 2004 data. Among the poorest borrowers about 50% are women.

The key issue that microfinance has to solve is how lending to uncollateralized borrowers in presence of moral hazard, adverse selection and risk of strategic default (due to *ex post* hidden information) without endangering bank survival. Microfinance institutions have generally provided successful answers to this question through i) dynamic incentives of progressive loans, ii) group lending schemes with or without joint liability and iii) ability and costly investment in monitoring borrowers.

Among these determinants, group lending has been acknowledged to be an optimal feature of lending contracts when informational asymmetry is more severe between lenders and borrowers, than among borrowers themselves (Morduch, 1999; Ghatak and Guinnane, 1999).

As in any industry not all experiences have been successful and reasons for the heterogeneous performance of microfinance institutions around the world have been identified in: i) the heterogeneous capacity of local microfinance institutions in monitoring groups of lenders, ii) differences in competitive and geographic scenarios which may affect alternative credit choices and the incentive to repay (Buckley, 1996), iii) different levels of “peer pressure” and “social capital” which fix the amount of social sanctions and the level of deterrence for borrowers violating their debt obligations (Aghion, 1999; Ghatak and Guinnane, 1999).

The most recent literature and empirical evidence on microfinance experiences around the world shows that some crucial issues need to be tackled for a further development of this initiative. Microfinance schemes are particularly vulnerable to aggregate shocks which reduce diversification gains from group lending. Joint liability has the advantage of reducing significantly insolvency risk for banks (when group mate projects are negatively correlated and diversification gains exist) at the cost of reducing borrowers' welfare with respect to individual lending (group lending poses an extra burden on the borrower represented by his obligation to repay for the insolvent group mate even when he is solvent). Furthermore, administrative

costs for monitoring small loans are extremely high and often lead to exorbitant real interest rates. Several recent innovating loan schemes are trying to cope with these problems. The same microfinance pioneer, the Grameen Bank, is going beyond group lending showing that it is possible to maintain the incentive to repay with a progressive loan scheme where group mates are not made liable for insolvent group mates (Armendariz de Aghion and Morduch, 2005). Original individual lending schemes are being devised in which the absence of collateral with market value is compensated by “notional collateral”, made by assets which are worthless on the market, but retain high value for the borrower. High administrative costs are being circumvented in some innovative schemes developed in India in which borrowers are given credit lines and credit cards (Kisan credit card) which allow them to choose when and what amount to borrow up to a given threshold without additional transaction costs. Self Help Groups (SHG) have been created in which women borrowers, which also become shareholders of the bank with a limited amount of forced savings, are made responsible for preparing loan applications which are finally supervised by the bank.

The above mentioned solutions show that microfinance innovation develops around two crucial points: i) replacement of the standard collateral of the individual borrower with new forms of collateral (joint liability, borrowers monitoring, notional collateral, dynamic incentives in a progressive loan scheme) and ii) reduction of fixed administrative costs which may sometimes be exorbitant given the small scale of loans and the absence of standard guarantees.

Another crucial issue in the discussion about credit conditions in microfinance is about the use of subsidies. Armendariz de Aghion and Morduch (2005) argument that most of the discussion on the role of subsidies is based on static cost-benefit analyses which miss the dynamic contribution that subsidies may provide to borrowers' capacity building and its relevant consequences on economic development. The two authors conclude that the evaluation of the welfare effects of microfinance subsidies depends on a few crucial model assumptions. More specifically, theoretical models generally find that subsidies are beneficial when assuming a non flat distribution of social weights, a demand of credit which is elastic to interest rates, adverse selection effects or a non positive impact of interest rates on project returns and, finally, positive spillovers of microfinance credit on other lenders. If we interpret all these features on the reverse side, we find rationales against subsidies, which add up to the most traditional one which is based on the “infant industry” critique, or on

the weakening effect of subsidies on the efficiency of microfinance institutions.

These recent advancements in microfinance studies show that the bottom-up action of the society can successfully promote equal opportunities, thereby increasing potential for economic growth and individual happiness.

3.2 Bottom-Up Action and Trade: The Stimulus of Fair Trade and the Role of Corporate Social Responsibility

Fair trade is another promising direction of bottom-up action and of grass root welfare initiatives which focus on socially responsible (or socially concerned) saving and consumption and, through it, try to create important processes of inclusion and development (Becchetti and Rosati, 2007).

Fair trade is a product chain created by zero profit importers, distributors and retailers of food and textile products which have been partially or wholly manufactured by poor rural communities in developing countries under specific social and environmental criteria⁸.

The criteria are the following: i) definition of a “fair price”, which is higher than the market price paid on primary products by local intermediaries or transnationals in the food industry. This criterion does not necessarily represent a violation of market principles for two reasons. First, buyers of primary products are usually highly concentrated and exploit their market power to conclude transactions at prices which are far below the value of primary producers’ marginal product⁹. Second, fair trade products can be more properly considered as a new variety of product which is a bundle of traditional characteristics and SR features, and therefore cannot be compared with standard non SR products. From this point of view, the introduction of FT products may be seen as reducing market incompleteness and increasing welfare of consumers with social

⁸ For the theoretical debate of the role and impact of Fair Trade at micro and aggregate level see Maseland and De Vaal (2002), Moore (2004), Hayes (2004) and Leclair (2002).

⁹ Support for the existence of monopsonistic labour markets for unskilled workers, not just in LDCs but also in developed countries, is provided by several authors (Manning, 2003; Card and Krueger, 2000).

preferences (or inequity aversion) which did not have the opportunity of buying such products before; ii) provision of pre-financing opportunities through which FTs may compete with monopolistic local moneylenders and reduce the impact of credit rationing which severely affects small uncollateralized producers; iii) price stabilization mechanisms (countercyclical mark-ups on commodity market prices) which insulate risk averse primary product producers from the high volatility of such prices; iv) intervention to improve working conditions and to remove factors leading to child labour, not through a ban on products incorporating child labour, but through a monetary integration of their poor household income¹⁰; v) preferential inclusion in the fair trade distribution chain of projects reinvesting in the provision of local public goods (health, education, job training) part of the surplus arising from the fair price; vi) attention to the environmental sustainability of production processes; vii) full information on how the price is determined through the different passages in the value chain; viii) creation of long run relationships between importers and producers and provision of export services to the latter (i.e. information about consumers tastes in foreign markets, non-tariff trade barriers, import regulations, etc.) which are essential for the penetration of fair trade products in foreign markets.

A final “hidden effect” of FT is its capacity of fostering imitation in social responsibility from traditional producers. Becchetti and Solferino (2003) and Becchetti *et al.* (2005) demonstrate that the entry of a FT producer triggers SR imitation in the incumbent under reasonable parametric conditions on consumers social preferences, in static and dynamic horizontal differentiation duopolies in which competition is played on prices and social responsibility. SR imitation from the non SR incumbent is only partial, but higher in dynamic frameworks in which the incumbent goal is that of reducing the formation of socially responsible consumer habits (Becchetti and Caiazza, 2006).

Consistently with predictions from theoretical models quoted above, the diffusion of forms of socially responsible consumption such as fair trade is accompanied by a wide range of imitation

¹⁰ The child labour literature clearly evidences that the most effective strategy for reducing child labour is represented by raising poor household income. Several empirical studies demonstrate that the decision to send children to school is taken when household income passes a given threshold (luxury axiom) (Basu, 1999; Basu and Van, 1998).

strategies enacted by traditional producers. Many more companies¹¹ are starting advertising not only price and quality, but also their socially responsible actions¹². KPMG (2005) reports that in the year 2005 52 percent of the largest corporations published a CSR report. Social labeling and corporate responsibility is gradually becoming an important competitive feature in real and financial markets.

If we consider that FT today reaches around 1,500,000 poor families with an average market share which is 20-30 times below its potential one¹³ (not to consider strong indirect effects on traditional producers which might be risen by the increase in FT's own market share), we are led to suggest that it could be potentially beneficial that international institutions act as catalysts, with low costs, in the promotion of FT products in view of their diffusion in traditional outlets and supermarkets. Supporting and monitoring these bottom-

¹¹ On October the 7th, 2000 the BBC announces that "Nestlé announced has launched a fair trade instant coffee as it looks to tap into growing demand among consumers". The BBC comments the news saying that "Ethical shopping is an increasing trend in the UK, as consumers pay more to ensure poor farmers get a better deal" and reports the comment of Fiona Kendrick, Nestlé's UK head of beverages arguing that "specifically in terms of coffee, fair trade is 3% of the instant market and has been growing at good double-digit growth and continues to grow". Before Nestlé move on 2003 one of the world's biggest players in the coffee market, the US consumer good company Procter & Gamble, announced it would begin offering Fair Trade certified coffee through one of its specialty brands. Following Procter & Gamble's decision to start selling a Fair Trade coffee, also Kraft Foods, another coffee giant, committed itself to purchasing sustainably grown coffee. Furthermore, Kraft will buy 5m pounds of Rainforest Alliance certified coffee in the first year, according to an agreement between Kraft Foods and the Rainforest Alliance (EFTA Advocacy Newsletter n° 9). In Italy, the Fair Trade certification brand TransFair Italy certifies specific fair trade products sold by consumers good distribution companies and multinationals such as Coop, Carrefour, Sma, Pam, Gs, Conad (http://www.macfrut.com/ita/conv_2003/relazioni/162benvenuti_f2.pdf).

¹² Corporate perception by consumers (90 percent of respondents) is by far the most selected item (against ethical values of managers, tax incentives and relationship with stakeholders) when a sample of interviewed socially responsible companies is asked about reasons for their socially responsible behaviour in the "2003 Corporate social responsibility monitor" (<http://www.bsddglobal.com/issues/sr.asp>). This finding is consistent with our hypothesis that ethical imitation is today a relevant competitive feature in product markets.

¹³ Empirical research on the willingness to pay for social and environmental features of products shows that in many different countries the share of positive responses is between 20 and 30 percent after correcting for typical distortions of these types of studies.

up initiatives may be an economically efficient application of the subsidiarity principle and an example of the potential synergies arising from cooperation between international institutions and the civil society in the pursuit of sustainable development.

4. CONCLUSIONS

The traditional theoretical and empirical growth literature has done a tremendous job in identifying the most important factors which have a significant impact on economic growth and conditional convergence on aggregate. Recent refinements and developments on the empirical side are contributing to incorporate into standard conditional convergence analyses the effect of geographical externalities, the presence of threshold effects and the heterogeneity of the impact of standard variables on growth for different subgroups of countries. At the same time a new consensus is emerging on the crucial role of institutional quality and of access to education, credit and new ICT technologies, which is crucial to transform talents into economic outcomes in spite of the inequality of their initial endowments.

In this new framework, it is becoming progressively clear that, in order to avoid the paradox of generating “frustrated achievers”, economic growth has to be considered as an intermediate target which has to be placed into a broader framework of socioeconomic wellbeing oriented to the final ambitious target of promoting individual happiness.

Along this path a growing role is being played by bottom-up initiatives (microfinance, socially responsible consumption) with which society promotes inclusion of the poor and removes barriers to credit, promoting corporate social responsibility and complementing the action of institutions toward the goal of sustainable development and individual happiness.

Beyond their current coverage and success, these bottom-up policies for economic development signal a fundamental and promising principle for the future evolution of economic systems.

They illustrate that the fight against poverty, economic growth and development and human flourishing are goals whose achievement cannot be entirely delegated to the action of global planners and international institutions. Such targets become much easier to achieve when (developed countries) society with socially responsible consumption and saving actions acts in cooperation and accordance

with the society of less developed countries and complements the effort of governments and international institutions in creating new rules for global governance.

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REFERENCES

- Acemoglu, D., S. Johnson and J.A. Robinson (2001), "The Colonial Origins of Comparative Development: an Empirical Investigation", *American Economic Review*, 91(5), 1369-1401.
- Adriani, F. and L. Becchetti (2004), "ICT Bottlenecks and the Wealth of Nations: a Contribution to the Empirics of Economic Growth", *Economics of Innovation and New Technology*, 14(6), 435-453.
- Aghion, P., E. Caroli and C. Garcia-Peñalosa (1999), "Inequality and Economic Growth: The Perspective of the New Growth Theories", *Journal of Economic Literature*, American Economic Association, 37(4), 1615-1660.
- Alesina, A. and R. Perotti (1994), "The Political Economy of Growth: a Critical Survey of the Recent Literature", *World Bank Economic Review*, 8(3), 351-71.
- Alesina, A., R. Di Tella and R. MacCulloch (2001), "Inequality and Happiness: Are Europeans and Americans Different?", NBER Working Paper No. 8198, Cambridge, MA: National Bureau of Economic Research.
- Anselin, L. (1998), *Spatial Econometrics: Methods and Models*, Kluwer Academic Publishers.
- Armendariz de Aghion, B. and J. Morduch (2005), *The Economics of Microfinance*, MIT Press, Cambridge, MA.
- Bagella, M., L. Becchetti and I. Hasan (2005), "The Anticipated and Concurring Effects of a Currency Union: Real Effective Exchange Rate, Convergence and Growth for the Eurozone Countries", *Journal of International Money and Finance*, 23(7-8), 1053-1080.
- Barro, R.J. and G.S. Becker (1989), "Fertility Choice in a Model of Economic Growth", *Econometrica, Econometric Society of America*, 57(2), 481-501.

- Barro, R.J. and X. Sala-i-Martin (1992), "Convergence", *Journal of Political Economy*, 100(2), 223-251.
- Basu, K. (1999), "Child Labor, Cause, Consequence and Cure, with Remarks on International Labor Standards", *Journal of Economic Literature*, 37(3), 1083-1119.
- Basu, K. and P.H. Van (1998), "The Economics of Child Labor", *American Economic Review*, 88(3), 412-427.
- Becchetti, L. and N. Solferino (2003), "On Ethical Product Differentiation", CEIS Working Paper No. 188.
- Becchetti, L., L. Giallardo and M.E. Tessitore (2005), "Corporate Social Responsibility and Profit Maximizing Behaviour", CEIS Working Paper No. 219.
- Becchetti, L. and S. Caiazza (2006), *Religious culture, institutions and growth in Economic Growth and Distribution: On the Nature and Causes of the Wealth of Nations*, N. Salvadori (Ed.), Elgar Publishing: London, 350-375.
- Becchetti, L., I. Hasan and P. Wachtel (2006), "The Anticipated Effects of EU Enlargement: Exchange Rate Volatility, Institutions and Conditional Convergence", CEIS Working Paper No. 205.
- Becchetti, L. and S. Di Giacomo (2007), "Taking ICT seriously. Two Dimensions of Time Varying, country Specific Contribution of ICT to Levels and Growth of per capita GDP", *Metroeconomica*, (forth.).
- Becchetti, L. and F. Rosati (2007), "Globalisation and the Death of Distance in Social Preferences and Inequity Aversion: Empirical Evidence from a Pilot Study on Fair Trade Consumers", *The World Economy* (forth.).
- Becker, G., K.M. Murphy and R. Tamura (1990), "Human Capital, Fertility, and Economic Growth", *Journal of Political Economy*, 98(5), S12-S37.
- Bender, D.H. (1986), "Financial Impact of Information Processing", *Journal of Management Information Systems*, 3(2), 22-32.
- Blundell, R. and S. Bond (1998), "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, 87(1), 115-143.
- Bond, S., A. Hoeffler and J. Temple (2001), "GMM Estimation of Empirical Growth Models, University of Bristol", Discussion Paper 01/525.
- Brynjolfsson, E. and L. Hitt (1996), "Paradox Lost? Firm-Level Evidence on the Returns to Information Systems Spending", *Management Science*, 42(4), 541-558.
- Brynjolfsson, E. and L. Hitt (2000), "Beyond Computation: Information Technology, Organizational Transformation, and Business Performance", *Journal of Economic Perspectives*, 14(4), 23-48.
- Buckley, G. (1996), *Rural and Agricultural Credit in Malawi: a Study of the Malawi Mudzi Fund and the Smallholder Agricultural Credit Administration*, in Hulme and Mosley, "Finance Against Poverty Volume 2", Routledge: London.

- Card, D. (1999), *The causal effects of schooling on earnings*, in O. Ashenfelter and D. Card (Eds.), *Handbook of Labor Economics*, Amsterdam, North Holland.
- Card, D. and A.B. Krueger (2000), "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in West Virginia and in Pennsylvania", *American Economic Review*, 90(5), 1397-1420.
- Corporate Social Responsibility Monitor 2003 <<http://www.bsdglobal.com/issues/sr.asp>>
- David, P.A. (1990), "The Dynamo and the Computer: An Historical Perspective of the Modern Productivity Paradox", *American Economic Review Papers and Proceedings*, 80(2), 355-361.
- De Grauwe, P. and G. Schnabl (2004), "Exchange Rate Regimes and Macroeconomic Stability in Central and Eastern Europe", Cesifo Working Paper No. 1182.
- De Melo, M., C. Denizer and A. Gelb (1996), "From Plan to Market: Patterns of Transition", *World Bank Economic Review*, 10(3), 397-424.
- Delacroix, J. (1993), "Religion and Economic Action: the Protestant Ethics, the Rise of Capitalism and the Abuses of Scholarship", *Journal for the Scientific Study of Religion*, 34(1), 126-127.
- Di Tella, R., R. MacCulloch and A.J. Oswald (2001), "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness", *American Economic Review*, 91(1), 335-341.
- Durlauf, S.N. and P.A. Johnson (1995), "Multiple Regimes and Cross-Country Growth Behaviour", *Journal of Applied Econometrics*, 10(4), 365-384.
- Durlauf, S.N. and D.T. Quah (1998), "The New Empirics of Economic Growth", Center for Economic Performance Discussion Paper No. 384.
- Easterlin, R.A. (2001), "Income and Happiness: Towards a Unified Theory", *The Economic Journal*, 111(473), 465-484.
- Easterlin, R.A., L. Bruni and P.L. Porta (2004), *Per una migliore teoria del benessere*, (Eds.), Guerini Associati, Milano.
- Economic Freedom of the World: 2003 Annual Report <<http://www.freetheworld.com>>.
- Ekman, P., R. Davidson and W. Friesen (1990), "The Duchenne smile: emotional expression and brain physiology II", *Journal of Personality and Social Psychology*, 58, 342-353.
- Esfahani, H.S. and M.T. Ramirez (2003), "Institutions, Infrastructure, and Economic Growth", *Journal of Development Economics*, 70(2), 443-477.
- Feldstein M. and C. Horioka (1980), "Domestic Saving and International Capital Flows", *Economic Journal*, 90(358), 314-329.
- Fingleton, B. (2000), "Convergence: International Comparisons Based on a Simultaneous Equation Model with Regional Effects", *International Review of Applied Economics*, 14(3), 285-305.

- Fingleton, B. (2001), "Equilibrium and Economic Growth: Spatial Econometric Models and Simulations", *Journal of Regional Science*, 41(1), 117-147.
- Fischer, S., R. Sahay and C.A. Vegh (1996), "Economies in Transition: The Beginnings of Growth", *American Economic Review*, Papers and Proceedings, 86(2), 229-233.
- Frankel, J.A. (2002), "Promoting Better National Institutions: The Role of the IMF," presented at the Third Annual IMF Research Conference, Washington, November 7-8.
- Frey, B.S. and A. Stutzer (2000), "Happiness, Economy and Institutions", *Economic Journal*, 110(466), 918-938.
- Galor, O. and O. Moav (2004), "From Physical to Human Capital Accumulation: Inequality in the Process of Development", *Review of Economic Studies*, 71(4), 1001-1026.
- Ghatak, M. and T.W. Guinnane (1999), "The Economics of Lending with Joint Liability: Theory and Practice", *Journal of Development Economics*, 60(1), 195-228.
- Hall, R.E. and C.I. Jones (1997), "Levels of Economic Activities Across Countries", *American Economic Review*, 87(2), 173-77.
- Hayes, M. (2004), "Strategic Management Implication of the Ethical Consumer", <<http://www.fairtraderesearch.org>>.
- Iqbal, M. (2001), "Islamic and Conventional Banking in the Nineties: A Comparative Study", *Islamic Economic Studies*, 8(2), 1-27.
- Islam, N. (2003), "What have We Learnt from the Convergence Debate?", *Journal of Economic Surveys*, 17(3), 309-362.
- Jorgenson, D.W. and K.J. Stiroh (2000), "Raising the Speed Limit: U.S. Economic Growth in the Information Age", *Brookings Papers on Economic Activity*, 1, 125-235.
- Jorgenson, D.W., M.S. Ho and K.J. Stiroh (2002), "Projecting Productivity Growth: Lessons from the U.S. Growth Resurgence", *Federal Reserve Bank of Atlanta Economic Review*, 87(3), 1-13.
- Kalaitzidakis, P., T.A. Mamuneas, A. Savvides and T. Stengos (2001), "Measures of Human Capital and Nonlinearities in Economic Growth", *Journal of Economic Growth*, 6(3), 229-254.
- King, R.G. and R. Levine (1993), "Finance and Growth: Schumpeter Might be Right", *The Quarterly Journal of Economics*, 108(3), 717-737.
- Klein, P.G. and H. Luu (2003), "Politics and Productivity", *Economic Inquiry*, 41(3), 433-447.
- Koivumaa-Honkanen, H., R. Honkanen, H. Viinamäki, K. Heikkilä, J. Kaprio and M. Koskenvuo (2001), "Self-reported Life Satisfaction and 20-Year Mortality in Healthy Finnish Adults", *American Journal of Epidemiology*, 152(10), 983-991.

- KPMG International Survey of Corporate Responsibility Reporting 2005, <www.kpmg.com/Rut2000_prod/Documents/9/Survey2005.pdf>
- Leclair, M.S. (2002), "Fighting the Tide: Alternative Trade Organizations in the Era of Global Free Trade", *World Development*, 30(6), 949-958.
- Lehr, B. and F. Lichtenberg (1999), "Information Technology and its Impact on Productivity: Firm-Level Evidence from Government and Private Data Sources, 1977-1993", *Canadian Journal of Economics*, 32(2), 335-362.
- Liu, Z. and T. Stengos (1999), "Nonlinearities in Cross-Country Growth Regressions: A Semiparametric Approach", *Journal of Applied Econometrics*, 14(5), 527-538.
- Lucas, R.E. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22(1), 3-42.
- Mankiw, N.G., D. Romer and D.N. Weil (1992), "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of Economics*, 107(2), 407-437.
- Manning, A. (2003), "The Real Thin Theory: Monopsony in Modern Labour Markets", *Labour Economics*, 10(2), 105-131.
- Masanjala, W.H. and C. Papageorgiou (2004), "The Solow Model with CES Technology: Nonlinearities and Parameter Heterogeneity", *Journal of Applied Econometrics*, 19(2), 171-201.
- Maseland, R. and A. De Vaal (2002), "How Fair is Fair Trade?", *De Economist*, 150, 251-272.
- Mauro, P. (1995), "Corruption and Growth", *Quarterly Journal of Economics*, 110(3), 681-712.
- Moore, G. (2004), "The Fair Trade Movement: Parameters, Issues and Future Research", *Journal of Business Ethics*, 53(1-2), 73-86.
- Morduch, J. (1999), "The Microfinance Promise", *Journal of Economic Literature*, 37(4), 1569-1614.
- Murphy, K.M., A. Shleifer and R.W. Vishny (1991), "The Allocation of Talent: The Implications For Growth", *Quarterly Journal of Economics*, 106(2), 503-530.
- Oliner, S.D. and D.E. Sichel (2000), "The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?", *Journal of Economic Perspectives*, 14(4), 3-22.
- Oliner, S.D. and D.E. Sichel (2002), "Information Technology and Productivity: Where Are We Now and Where Are We Going?", *Federal Reserve Bank of Atlanta Economic Review*, 87(3), 15-44.
- Pagano, M. (1993), "Financial Markets and Growth: An Overview", *European Economic Review*, 37, 613-622.
- Pavot, W. (1991), "Further Validation of the Satisfaction With Life Scale: Evidence for the Cross-Method Convergence of Well-Being Measures", *Journal of Personality Assessment*, 57(1), 149-161.

- Psacharopoulos, G. (1994), "Returns to Investment in Education: A Global Update", *World Development*, 22(9), 1325-1343.
- Quah, D. (1999), "Technology and Growth, the Weightless Economy in Economic Development", LSE Discussion Paper No. 417.
- Roach, Stephen S. (1989), "America's White-Collar Productivity Dilemma", *Manufacturing Engineering*, 104.
- Rodrik, D. (1999), "Where Did All the Growth Go? External Shocks, Social Conflict, and Growth Collapses", *Journal of Economic Growth*, 4(4), 385-412.
- Rodrik, D. (2000), "Institutions for High-Quality Growth: What They Are and How to Acquire Them", NBER Working Papers No. 7540.
- Rodrik, D. (2002), *Trade Policy Reform as Institutional Reform*, in B.M. Hokeman, P. English, and A. Mattoo (Eds.), *Development, Trade, and the WTO: A Handbook*, World Bank: Washington, DC.
- Romer, P.M. (1990), "Endogenous Technological Change", *Journal of Political Economy*, 98(5), Part 2, S71-S102.
- Sachs, J.D. and A.M. Warner (2001), "Natural Resources and Economic Development. The Curse of Natural Resources", *European Economic Review*, 45(4-6), 827-838.
- Sala-i-Martin, X. (2002), "15 Years of New Growth Economics: What Have We Learnt?", Working Papers Central Bank of Chile No. 172.
- Shedler, J., M. Mayman and M. Manis (1993), "The Illusion of Mental Health", *American Psychologist*, 48(11), 1117-1131.
- Sichel, A. (1997), *The Computer Revolution: An Economic Perspective*, Brookings Institution Press: Washington, DC.
- Solow, R.M. (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, 70(1), 65-94.
- Strassmann, P.A. (1990), *The Business Value of Computers: An Executive's Guide*, New Canaan, ICT, Information Economics Press.
- Stultz, R.M. and R. Williamson (2001), "Culture, Openness and Finance", NBER Working Paper No. 8222.
- Trevor-Roper, H.R. (1969), "Religion, the Reformation and Social Change", in H.R. Trevor-Roper (Ed.), *The European Witch-Craze of the Sixteenth and Seventeenth Centuries and Other Essays*, 1-45, Harper & Row: New York.
- World Bank, World Development Report (2003), "Sustainable Development in a Dynamic World".

ABSTRACT

Economic growth remains a fundamental component of broader socioeconomic development indicators, which are increasingly taken as a reference target by domestic policymakers and international institutions. The recent theoretical and empirical literature emphasizes how institutional quality, access to education, new ICT technologies and credit are fundamental determinants of growth, given their crucial role in transforming talents into socioeconomic outcomes in spite of the inequality in initial conditions and the existence of individual financial resource constraints.

In this framework a novel and promising field of research on growth determinants is that of the microeconomic actions (microfinance, socially responsible consumption) which promote inclusion of the poor and remove barriers to access to credit. Such actions, by involving directly the civil society as a new fundamental actor of economic development, also represent a step forward in economic participation and democracy, in which society stimulates corporate social responsibility and complements the action of institutions and corporations toward the goal of sustainable development.

JEL: 043, 047

Keywords: Growth, Social Responsibility, Sustainable Development

RIASSUNTO

L'obiettivo della crescita: risultati teorici ed empirici e la nascita di un approccio bottom-up allo sviluppo sostenibile

La crescita economica rimane una componente fondamentale di indicatori di sviluppo socioeconomico più ampi, i quali sono sempre più spesso presi come target di riferimento dai politici locali e dalle istituzioni internazionali. La letteratura recente, sia quella teorica che quella empirica, enfatizza come la qualità delle istituzioni, l'accesso all'istruzione, le nuove tecnologie della comunicazione e il credito rappresentino determinanti fondamentali per la crescita, dato il loro ruolo cruciale nella trasformazione dei talenti in risultati socioeconomici, a dispetto della disuguaglianza delle condizioni iniziali e dell'esistenza di ristrettezze finanziarie individuali.

In questo contesto un campo di ricerca inedito e promettente sui determinanti della crescita è quello delle azioni microeconomiche (microfinanza, consumo socialmente responsabile) che promuovono il coinvolgimento dei poveri e rimuovono le barriere di accesso al credito. Queste azioni, coinvolgendo direttamente la società civile quale nuovo attore fondamentale dello sviluppo economico, rappresentano anche un passo in avanti verso la partecipazione economica e la democrazia, dove la società stimola la responsabilità di classe e completa l'azione delle istituzioni e associazioni verso l'obiettivo dello sviluppo sostenibile.