Determinants of Economic Growth

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Summary: Over the last two to three decades a wide range of studies has investigated the determinants of economic growth. Using differing conceptual and methodological approaches, these studies have placed emphasis on a number of explanatory parameters and offered various insights to the process of economic growth. The current paper draws on a questionnaire survey addressed to various experts (academics, policy makers and business people), to identify the factors that either support or inhibit growth potential and to assess their degree of significance. A number of points emerge. First, that alongside conventional determinants, it is also the political and institutional aspects of an economy that play an important role in advancing growth dynamics. Second, determinants influence at a different degree each economy depending on the level of development achieved. As such, there are clear indications that policy priorities should be different between developed and developing countries. Third, despite the previous point, there are some basic elements which are deemed important for economic growth independent of the level of development an area exhibits.

Key words: economic growth, economic dynamism, determinants, survey, experts' views

1. Introduction

Over the last two decades the determinants of economic growth have attracted increasing attention in both theoretical and applied research. Yet, the process underlying economic performance is inadequately conceptualised and poorly understood, something, which can be partly attributed to the lack of a generalised or unifying theory, and the myopic way conventional economics approach the issue (Artelaris *et al*, 2007).

Despite the lack of a unifying theory, there are several partial theories that discuss the role of various factors in determining economic growth. For instance, the neoclassical perspective, which is based on Solow's growth model, has emphasised the importance of investment and, the more recent, theory of endogenous growth developed by Romer and Lucas has drawn attention to human capital and innovation capacity. Furthermore, important contributions on economic development have been provided by Myrdal's cumulative causation theory, and by the New Economic Geography school. In addition, other explanations have highlighted the

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significant role non-economic (in the conventional sense) factors play on economic performance. These developments gave rise to a discussion that distinguishes between 'proximate' and 'fundamental' (or 'ultimate') sources of growth. The former takes into account issues such as accumulation of capital, labour and technology while the latter places emphasis on institutional structures, legal and political systems, socio-cultural factors, and so on.

Theoretical developments have been accompanied by a growing number of empirical studies. Initially, research focused on the issue of economic convergence/divergence, since this could provide a test of validity between the main growth theories (i.e. the neoclassical and the endogenous growth theory). Eventually, focus shifted to factors determining economic growth. Seminal studies in this field include those conducted by Kormendi and Meguire (1985), Grier and Tullock (1989) and, especially, Barro (1991). This second 'wave' of empirical studies has been facilitated by the development of larger and richer databases (such as the Penn World Tables - PWT) and more advanced statistical and econometric techniques (mainly cross-sectional and panel-data ones), which have enabled the identification of determinants of economic growth with higher precision and confidence. Finally, it is worth emphasising that due to the lack of a unifying theory on economic growth, a substantial volume of empirical research has multi-theoretical bases. This means that studies draw on several theoretical frameworks and examine factors highlighted by many paradigms. As a result findings are often contradictory and far from conclusive.

This paper draws on a questionnaire survey addressed to various experts worldwide (academics, policy makers and business people), to explore their views on the factors underlying economic dynamism. Economic dynamics refers to the potential an area has for generating and

maintaining high rates of economic performance. In particular the research has set the following objectives:

1. to identify dynamic regions in a global scale,
2. to identify the key factors advancing economic dynamism,
3. to identify the main factors that hinder the development process, and, overall,
4. to assess the degree of influence of the various determinants that have been discussed in the literature.

The results of this research are expected to assist assessment of our current knowledgebase, to identify misconceptions and knowledge gaps and to indicate direction for further research on the issue of economic growth and development.

The structure of the paper is as follows. The next section briefly presents the main economic growth theories and summarizes the most important determinants of economic growth that have been identified in the literature. Then, an overview of the employed research method is provided, following a short presentation of the research project that the paper draws on. The fourth section discusses the results of the survey providing answers to the research questions set above, and the final section concludes the paper summarising the key findings.

2. Main theories and determinants of economic growth

2.1 Theoretical perspectives

The starting point of conventional economic growth theorisation is the neoclassical model of Solow (1956). The basic assumptions of the model are: constant returns to scale, diminishing marginal productivity of capital, exogenously determined technical progress and substitutability between capital and labour. As

a result the model highlights the savings or investment ratio as important determinant of short-run economic growth. Technological progress, though important in the long-run, is regarded as exogenous to the economic system and therefore it is not adequately explored by this model. Turning to the issue of convergence/divergence, the model predicts convergence in growth rates on the basis that poor economies will grow faster compared to rich ones.

The role of technological progress as a key driver of long–run economic growth has been put in scrutiny by more recent studies, which accept constant and increasing returns to capital. These theories, known as endogenous growth theories, propose that the introduction of new accumulation factors, such as knowledge, innovation, and the like, will induce self-maintained economic growth. Triggered by Romer's (1986) and Lucas's (1988) seminal studies[1], work within this framework highlighted three significant sources of growth: new knowledge (Romer, 1990, Grossman and Helpman, 1991), innovation (Aghion and Howitt, 1992) and public infrastructure (Barro, 1990)[2]. As a result, and in contrast to the neoclassic counterpart, policies are deemed to play a substantial role in advancing growth on a long-run basis. Turning to the convergence/divergence debate, the endogenous growth models suggest that convergence would not occur at all - mainly due to the fact that there are increasing returns to scale.

Another strand of literature, perhaps less influential, is the growth theory of cumulative causation developed by Myrdal (1957) and Kaldor (1970). Essential to this theory is the argument of 'cumulative causation' in which initial conditions determine economic growth of places in a self-sustained and incremental way. As a result, the emergence of economic inequalities in space is the most possible outcome. Although there are centrifugal effects (positive spillovers) spreading growth from the more to the less advanced economies, they are incapable of bringing the system into a state of balance if market forces alone are left at work. In other words, economic policy has to come into play to correct those imbalances. In contrast to theories mentioned above, theories of cumulative causation have a medium term view and often described as "soft" development theories due to a lack of mathematical rigour (Plummer and Taylor, 2001). However, certain similarities are evident between the cumulative causation approach and the theory of endogenous growth.

Similarly to the cumulative causation theory, the New Economic Geography (NEG) asserts that economic growth tends to be an unbalance process favouring the initially advantaged economies (Krugman, 1991; Fujita et al, 1999). However, in contrast to the former, this strand of literature develops a formalised system of explanations which places explicit emphasis on the compound effects of increasing returns to scale, imperfect competition and non-zero transportation costs. Central to this theory is the view that economic activity tends to agglomerate in specific places and to choose locations with a large local demand resulting in a self-reinforcing growth process. The spatial distribution of economic activity can be explained by agglomeration (or centripetal) forces and dispersion (or centrifugal) forces. The former include backward and forward linkages of firms, externalities and scaled economies while the

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[1] Romer (1986) presented a formal model that yields positive, long-run growth rates on the basis of technological progress driven by the role of externalities, arising from learning by doing and knowledge spillover. Lucas (1988) introduced a model in which human capital plays a fundamental role in perpetuating economic growth and preventing diminishing returns to physical capital accumulation.
[2] It is important to note that these factors have already been identified in the literature before, but it is the first time that they are formalised and modelled.

latter include negative externalities, transport costs and intensification of competition. Consequently, NEG is mainly concerned with the location of economic activity, agglomeration and specialization rather than with economic growth *per se*. However, regional growth outcomes can be inferred from its models.

From a more macro perspective, other theoretical approaches have emphasised the significant role non-economic factors (at least in the conventional sense) play on economic performance. Thus, institutional economics has underlined the substantial role of institutions (Matthews, 1986; North, 1990; Jutting, 2003), economic sociology has stressed the importance of socio-cultural factors (Granovetter, 1985; Knack and Keefer, 1997), political science has focused its explanation on political determinants (Lipset, 1959; Brunetti, 1997) and others have placed emphasis on role played by geography (Gallup *et al*, 1999) and demographic characteristics (Brander and Dowrick, 1994; Kalemli-Ozcan, 2002).

2.2 Determinants of economic performance

A wide range of studies has investigated the factors underlying economic growth. Using differing conceptual and methodological viewpoints, these studies have placed emphasis on a different set of explanatory parameters and offered various insights to the sources of economic growth.

Investment is the most fundamental determinant of economic growth identified by both neoclassical and endogenous growth models. However, in the neoclassical model investment has impact on the transitional period, while the endogenous growth models argue for more permanent effects. The importance attached to investment by these theories has led to an enormous amount of empirical studies examining the relationship between investment and economic growth (see

for instance, Kormendi and Meguire, 1985; De Long and Summers, 1991; Levine and Renelt, 1992; Mankiw, 1992; Auerbach *et al*, 1994; Barro and Sala-i-Martin, 1995; Sala-i-Martin, 1997; Easterly, 1997; Bond *et al*, 2001; Podrecca and Carmeci, 2001). Nevertheless, findings are not conclusive.

Human capital is the main source of growth in several endogenous growth models as well as one of the key extensions of the neoclassical model. Since the term 'human capital' refers principally to workers' acquisition of skills and know-how through education and training, the majority of studies have measured the quality of human capital using proxies related to education (e.g. school-enrolment rates, tests of mathematics and scientific skills, etc.). On these grounds, a large number of studies has found evidence that an educated labour force is a key determinant of economic growth (see Barro, 1991; Mankiw *et al*, 1992; Barro and Sala-i-Marin, 1995; Brunetti *et al*, 1998, Hanushek and Kimko, 2000). However, there have been other scholars who have questioned these findings and, consequently, the importance of human capital as substantial determinant of economic growth (e.g. Levine and Renelt, 1992; Benhabib and Spiegel, 1994; Topel, 1999; Krueger and Lindahl, 2001; Pritchett, 2001).

Innovation and R&D activities can play a major role in economic progress increasing productivity and growth. This is due to increasing use of technology that enables introduction of new and superior processes and products. This role has been stressed by various endogenous growth models, and the strong relation between innovation and/or R&D and economic growth has been empirically affirmed by many studies (see Fagerberg, 1987; Lichtenberg, 1992; Ulku, 2004).

Economic policies and macroeconomic conditions have, also, attracted much attention in terms of

its role to economic performance (see Kormendi and Meguire, 1985; Grierand and Tullock, 1989; Barro, 1991, 1997; Fischer, 1993; Easterly and Rebelo, 1993; Barro and Sala-i-Martin, 1995) since they set the framework within which economic growth occurs. The literature has examined a number of economic policies that may affect economic performance, including investments in human capital and infrastructure, improvement of political and legal institutions and so on; however there is no consensus within the scientific community with regard to which policies are more conductive to growth. In turn, sound macroeconomic conditions are seen as necessary, though not sufficient, conditions for economic growth (Fischer, 1993). In particular, a stable macroeconomic environment may favour growth through reduction of uncertainty, whereas macroeconomic instability may have a negative impact on growth through its effects on productivity and investment (i.e. higher risk). Several macroeconomic factors with impact on growth have been identified in the literature, but considerable attention has been placed on inflation, fiscal policy, budget deficits and tax burdens.

Openness to trade is another important determinant of economic performance. There are sound theoretical reasons for arguing that there is a strong and positive link between openness and economic growth: openness facilitates the transfer of technology and the diffusion of knowledge, and, by increasing exposure to competition, contributes to exploitation of comparative advantage. In turn, there is a sizeable and growing empirical literature that has explored this relationship in practice[3]. Findings, however, are inconclusive. On the one hand, there are many researchers who have found that economies which are open to both trade and capital flows exhibit higher GDP per capita and they grow faster (Dollar, 1992, Sachs and Warner, 1995, Edwards, 1998, Dollar and Kraay, 2000). On the other hand, others have disputed these findings raising concerns about the robustness of the developed models and highlighting the methodological and measurement problems they encounter (see for example, Levine and Renelt, 1992; Rodriguez and Rodrik, 1999; Vamvakidis, 2002).

Foreign Direct Investment (FDI) has recently played a crucial role of internationalising economic activity and it is a primary source of technology transfer and economic growth. This major role is stressed in several models of endogenous growth theory. The empirical literature that examined the impact of FDI on growth has provided more-or-less consistent findings affirming a significant positive link between the two (e.g. Borensztein *et al*, 1998; Hermes and Lensink, 2000; Lensink and Morrissey, 2006).

Another important source of growth highlighted in the literature is the institutional framework. Although the important role institutions[4] play in shaping economic performance has been acknowledged long time ago (Lewis, 1955, Ayres, 1962), it is not until recently that such factors have been examined empirically in a more consistent way (see Knack and Keefer, 1995; Mauro, 1995; Hall and Jones, 1999; Rodrik, 1999; Acemoglu *et al*, 2002). Rodrik (2000) highlights five key institutional structures (property rights, regulatory institutions, institutions for

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[3] Openness is usually measured by the ratio of exports to GDP. However, another measure, maybe more appropriate, is proposed by Sachs and Warner (1995). According to this, an economy is considered to be quite open if it satisfies the following five criteria: (a) average quota and licensing coverage of imports are less than 40 %, (b) average tariff rates are below 40 %, (c) the black market premium is less than 20 %, (d) no extreme controls are imposed on exports, and (e) the country is not under a socialist regime.

[4] According to North (1990) the term 'institutions' refers to the formal rules, informal constraints and their enforcement characteristics that together shape human interaction.

macroeconomic stabilization, institutions for social insurance and institutions of conflict management), which, he argues, not only exert direct influence on economic growth, but also affect other determinants of growth such as the physical and human capital, the investment decisions and technological developments. It is on these grounds that Easterly (2001) argued that none of the traditional factors would have an impact on economic performance if there were no stable and trustworthy institutional environment to sustain the economy. Measures of institutional quality frequently used in the empirical literature include property rights and contract security, risk of expropriation, level of corruption, legal certainty and level of bureaucracy (Knack and Keefer, 1995).

The relation between political factors and economic growth has come to the fore by the work of Lipset (1959) who examined how economic development affects the political regime. Since then, research on these issues has proliferated making clear that political issues affect to a great extent the economy and its potential for growth (Kormendi and Meguire, 1985; Scully, 1988; Grier and Tullock, 1989; Lensink *et al*, 1999; Lensink, 2001). For example, a highly unstable political regime brings on uncertainty, discouraging investment and, consequently, hindering economic potential. But it is not only the stability of the regime that influences growth dynamics; it is also its type. For instance, the level of democracy is found to be associated with economic growth; though this relation is much more complex. Democracy may both retard and enhance economic growth depending on the various channels that it passes through (Alesina *et al*, 1994). Over the years, there had been employed a number of variables in an effort to measure the quality of the political environment. In turn, Brunetti (1997) has put forward five categories of relevant variables that comprehensively describe the political environment: democracy, government stability,

political violence, political volatility and subjective perception of politics.

Recently there has been a growing interest in how various social-cultural factors may affect growth (see Granato *et al*, 1996; Huntington, 1996; Temple and Johnson, 1998; Landes, 2000; Inglehart and Baker, 2000; Zak and Knack, 2001; Barro and McCleary, 2003). Trust is an important variable that belongs in this category. Trusting economies are expected to have stronger incentives to innovate, to accumulate physical capital and to exhibit richer human resources, all of which are conductive to economic growth (Knack and Keefer, 1997). Ethnic diversity, in turn, may have a negative impact on growth by reducing trust, increasing polarization and promoting the adoption of policies that have neutral or even negative effects in terms of growth (Easterly and Levine, 1997). Several other social-cultural factors have been examined in the literature, such as ethnic composition and fragmentation, diversity in language or in religion, beliefs, attitudes and the like, but their relation to economic growth seems to be indirect and unclear. For instance cultural diversity may have either a negative impact on growth due to emergence of social uncertainty or even to social conflicts, or a positive effect since it may give rise to a pluralistic environment where cooperation can flourish.

The important role of geography on economic growth has been long recognized. Though, over the last years there has been an increased interest on these factors since they have been properly formalised and entered into models (Gallup *et al*, 1999). Researchers have used numerous variables as proxies for geography including absolute values of latitude, distances from the equator, proportion of land within certain distance from the coast, average temperatures and average rainfall, soil quality and disease ecology (Hall and Jones, 1999, Rodrik *et al*, 2002, Easterly and Levine, 2003). There have

been a number of recent empirical studies (Sachs and Warner, 1997, Bloom and Sachs, 1998; Masters and McMillan, 2001; Armstrong and Read, 2004) affirming that natural resources, climate, topography and 'landlockedness' have a direct impact on economic growth affecting (agricultural) productivity, economic structure, transport costs and competitiveness. However, others (e.g. Rodrik *et al*, 2002; Easterly and Levine, 2003) found no effect of geography on growth after controlling for institutions.

The relationship between demographic trends and economic growth has attracted a lot of interest particularly over the last years, yet many demographic aspects remain today unexplored. Of those examined, population growth, population density, migration and age distribution, seem to play the major role in economic growth (Kormendi and Meguire, 1985; Dowrick, 1994; Kelley and Schmidt, 1995; Barro, 1997; Bloom and Williamson, 1998; Kelley and Schimdt, 2000). High population growth, for example, could have a negative impact on economic growth influencing the dependency ratio, investment and saving behaviour and quality of human capital. The composition of the population has also important implications for growth. Large working-age populations are deemed to be conductive to growth, in contrast to populations with many young and elderly dependents. Population density, in turn, may be positively linked with economic growth as a result of increased specialization, knowledge diffusion and so on. Despite these growing findings, however, conclusions are not definite, since there have been studies reporting no (strong) correlation between economic growth and demographic variables (e.g. Grierand and Tullock, 1989; Pritchett, 2001).

3. Instrument design and survey characteristics

3.1 The DynReg project

The research from which this paper emanates is part of a wider research project funded by the Sixth Framework Programme set up by the European Union. The project is known with the acronym *DYNREG*[5] and its aim is to identify economically dynamic regions in a worldscale and to specify the factors that determine growth potential. The *DYNREG* project brings together ten academic institutions from nine countries. These are: the Economic and Social Research Institute (Ireland), the Free University of Amsterdam (The Netherlands), the Free University of Brussels (Belgium), the London School of Economics (UK), the "Luigi Bocconi" University (Italy), the University of Bonn (Germany), the University of Cambridge (UK), the University of Economics and Business Administration (Austria), the University of Ljubljana (Slovenia), and the University of Thessaly (Greece).

3.2 The survey structure

The current paper draws on a questionnaire survey addressed to various experts worldwide (academics, policy makers and business people), to explore their views on the factors underlying economic dynamism. Economic dynamics refers to the potential an area has for generating and maintaining high rates of economic performance.

Survey questions were pre-tested in a pilot study conducted in the University of Thessaly, Department of Planning and Regional Development, enabling fine-tuning of the instrument. The final questionnaire consists of five parts. The first part provides instructions

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[5] Its full title is 'Dynamic Regions in a Knowledge – Driven Global Economy: Lessons and Policy Implications for the E.U.

and definitions; while the second part asks respondents to identify five wider regions in the world (from the twenty specified[6]) that are expected to exhibit economic dynamism in the next fifteen years. The third part assesses which factors are regarded as important for economic dynamism utilising Likert type questions. Of particular importance is the last of four questions, which attempts to explore, which combination of opposite characteristics promotes economic dynamism. The fourth part evaluates the available theoretical backgrounds and research methods in terms of their ability to adequately explain economic dynamism at any spatial level, while the final part of the questionnaire gathers socioeconomic information of the respondents, such as age, gender, education and country of residence.

Surveys were held during the second half of 2006. Questionnaires were distributed by each *DYNREG* project partner to 30 'knowledgeable' individuals in their country, 10 academics, 10 highly ranked officials of the public sector, and 10 highly ranked business people. Due to their position, these individuals were able to have an 'informed' perspective or to represent different viewpoints concerning regional economic dynamism. Moreoever, additional questionnaires were collected from the participants of the 46-th Congress of the European Regional Science Association (ERSA) held in Volos between 30 August and 3 September 2006. All responses were validated and double-checked by both the *DYNREG* project partners and the authors. Then they were coded and analysed using mainly descriptive statistics.

Table 1: Sample characteristics

Average Age	39
Gender	
Male	226
Female	81
N/A	6
Education	
Less than 12 years	1
High school	12
University/College	71
Postgraduate degree	109
Doctorate	115
N/A	5
Occupation	
Public sector	91
Private sector	104
Academia	104
N/A	14

[6] These are: North America, Central America, South America, European core, European Union South, European Union New Member States, Eastern and South-Eastern Europe, Russia, North Africa, West Africa, Central Africa, East Africa, South Africa, Middle East, Central Asia, India, China, Japan, South-East Asia and Oceania.

4. Analysis and findings

4.1 Response rate and composition of respondents

A total of more than 500 distributed questionnaires yielded 313 properly completed responses; a response rate of about 63 %. The respondents were mainly males (72 %), reaffirming the low penetration women have on highly ranked positions (see Table 1). The average age of the sample was about 39 years old. Most respondents (37 %) have completed a doctorate, while 35 % hold a postgraduate degree. The sample was about evenly divided between those working in the academia, (33 %), in the private sector (33 %) and in the public sector (30 %).

4.2 Regions with potential for economic dynamism

The vast majority of the respondents (86 %) opine that China is by far the place with the highest potential for economic growth in the next fifteen years, followed by India (71 %). Third comes the EU New Member States voted by only 49 % of the people surveyed. Interestingly the European Core comes seventh in the rank whereas the South EU countries are ranked thirteenth just above Central America and below the Middle East area. As expected, African countries are at the bottom of the rank (Table 2).

Table 2: Areas expected to exhibit economic dynamism (next 15 year)

Rank	Countries/ Regions	%
1	China	86.26
2	India	71.25
3	European Union New Member States	48.56
4	South-East Asia	37.06
5	North America	36.42
6	Russia	35.14
7	European Core	31.63
8	Eastern and South-Eastern Europe	28.75
9	South America	22.04
10	Japan	15.65
11	Middle East	8.63
12	Central Asia	8.31
13	European Union South	7.03
14	Central America	6.71
15	South Africa	6.07
16	North Africa	5.11
17	Oceania	4.79
18	East Africa	2.24
19	West Africa	1.28
20	Central Africa	0.96

4.3 Factors affecting economic dynamism

The two factors that people regarded as the most important in terms of their role to economic growth are high quality of human capital (54 % of respondents) and high technology, innovation and R&D (50 % of respondents). Following these two, the top ten places, out of the twenty specified factors in the questionnaire, are taken up by the following: stable political environment (41 %), high degree of openness (39 %), secure formal institutions (legal system, property rights, tax system, finance system) (37 %), good infrastructure (33 %), capacity for adjustment (32 %), specialization in knowledge and capital intensive sectors (30 %), significant FDI (23 %), and free market economy (i.e. low state intervention) (22 %). Interestingly, natural resources, geography, demography and urbanisation are not qualified in the top-ten factors (Table 3).

Similarly, the two main obstacles to economic dynamism, as voted by more than half of the people surveyed, are unstable political environment (57 %) and the low quality of human capital (51 %) (Table 4). Following them, the rest of the top-ten factors viewed as obstacles are: insecure formal institutions (i.e. legal system, property rights, tax system, finance system) (48 %), high levels of public bureaucracy (42 %), low technology, innovation, R&D (38 %), low degree of openness (36 %), inadequate infrastructure (35 %), poor macroeconomic management (31 %), high degree of state intervention (24 %), and low FDI (18 %).

Table 3: Factors advancing economic dynamism

Rank	Factors	%
1	High quality of human capital	53.67
2	High technology, innovation, R&D	50.16
3	Stable political environment	40.58
4	High degree of openness (networks, links)	38.98
5	Secure formal institutions (legal system, property rights, tax system, finance system)	36.74
6	Good infrastructure	32.91
7	Capacity for adjustment (flexibility)	31.63
8	Specialization in knowledge and capital intensive sectors	29.71
9	Significant Foreign Direct Investment	23.32
10	Free market economy (low state intervention)	22.36
11	Rich natural recourses	22.04
12	Robust macroeconomic management	21.73
13	Low levels of public bureaucracy	18.21
14	Favourable demographic conditions (population size, synthesis and growth)	18.21
15	Favourable geography (location, climate)	13.10
16	Strong informal institutions (culture, social relations, ethics, religion)	12.46
17	Significant urban agglomerations (population and economic activities)	11.82
18	Capacity for collective action (political pluralism and participation, decentralization)	8.31
19	Random factors (unpredictable shocks)	4.79
20	Others	2.56

Table 4: Factors hindering economic dynamism

Rank	Factors	%
1	Unstable political environment	57.19
2	Low quality of human capital	51.12
3	Insecure formal institutions (legal system, property rights, tax system, finance system)	48.24
4	High levels of public bureaucracy	42.49
5	Low technology, innovation, R&D	37.70
6	Low degree of openness (fewer networks and links)	35.78
7	Inadequate infrastructure	34.82
8	Poor macroeconomic management	30.99
9	High degree of state intervention	23.96
10	Low Foreign Direct Investment	17.57
11	Rigid formal and informal institutions	16.61
12	Unfavourable geography (location, climate)	14.70
13	Specialization in labour intensive sectors	12.46
14	Lack of natural recourses	12.14
15	Weak informal institutions (culture, social relations, ethics, religion)	11.50
16	Unfavourable demographic conditions (population size, synthesis and growth)	10.22
17	Lack of urban agglomerations (population and economic activities)	9.90
18	Inability for collective action (no political pluralism, centralization)	9.27
19	Random factors (unpredictable shocks)	5.75
20	Others	0.64

Table 5: Factors advancing economic dynamism in China

Rank	Factors	%
1	High quality of human capital	54.95
2	High technology, innovation, R&D	49.82
3	Stable political environment	41.39
4	Secure formal institutions (legal system, property rights, tax system, finance system)	39.19
5	High degree of openness (networks, links)	38.10

Table 6: Factors hindering economic dynamism in China

Rank	Factors	%
1	Unstable political environment	58.24
2	Low quality of human capital	54.21
3	Insecure formal institutions (legal system, property rights, tax system, finance system)	49.45
4	High levels of public bureaucracy	42.49
5	Low technology, innovation, R&D	37.36

Table 7: *Factors advancing economic dynamism in the European Core*

Rank	Factors	%
1	High technology, innovation, R&D	58.76
2	High quality of human capital	57.73
3	High degree of openness (networks, links)	43.30
4	Secure formal institutions (legal system, property rights, tax system, finance system)	40.21
5	Specialization in knowledge and capital intensive sectors	38.14

Table 8: *Factors hindering economic dynamism in the European Core*

Rank	Factors	%
1	Insecure formal institutions (legal system. property rights. tax system. finance system)	56.70
2	Unstable political environment	54.64
3	Low quality of human capital	51.55
4	High levels of public bureaucracy	45.36
5	Low technology, innovation, R&D	43.30

Table 9: *The degree of influence of each specific factor on the economic dynamism*

	Developed countries	Developing countries
Factors	Average Score	
Favourable geography (location. climate)	4.00	6.07
Rich natural recourses	4.13	6.52
Robust macroeconomic management	6.22	6.06
High degree of openness (networks, links)	7.09	6.31
Specialization in knowledge and capital intensive sectors	7.37	4.81
Free market economy (low state intervention)	6.38	5.42
Low levels of public bureaucracy	6.12	5.96
Stable political environment	6.61	7.02
Capacity for collective action (political pluralism, participation, decentralization)	5.71	5.12
High quality of human capital	7.78	5.91
Good infrastructure	7.13	6.28
Significant Foreign Direct Investment	5.28	6.90
Secure formal institutions (legal system, property rights, tax and finance systems)	6.97	6.71
Strong informal institutions (culture, social relations, ethics, religion)	5.47	5.58
Capacity for adjustment (flexibility)	6.70	5.98
Significant urban agglomerations (population and economic activities)	5.71	5.77
Favourable demographic conditions (population size, synthesis and growth)	5.35	5.93
High technology, innovation, R&D	7.89	5.31
Random factors (unpredictable shocks)	3.80	4.75

The respondents who selected China as the most dynamic region worldwide, deemed that the five most important factors which would support its potential are: high quality human capital, high technology, innovation and R&D, stable political environment, secure formal institutions, and high degree of openness (see Table 5). In turn those factors that could hinder its dynamism are regarded to be instability in the political environment, inadequate quality of human capital, insecure formal institutions, high levels of public bureaucracy and low innovation capacity (see Table 6).

In turn, conductive factors for economic dynamism in the European Core region are regarded to be (see Table 7): high technology, innovation and R&D, high quality human capital, high degrees of openness, secure formal institutions, and specialization in knowledge and capital intensive sectors. Factors that may retard growth in this area are related to insecure (formal) institutions, unstable political environment, decreased quality of human capital, increased public bureaucracy and low levels of technology, innovation and R&D (Table 8).

4.4 The degree of influence of specific factors on the economic dynamism of regions

Respondents deemed that each factor influences at a different degree the economic dynamism of places depending on whether they belong to the developed or the developing group of countries. The factors that are regarded as the most influential for the developed countries are ranked as follows[7] (see Table 9): high technology, innovation and R&D (7.9), high quality of human capital (7.8), specialization in knowledge and capital intensive sectors (7,4), good infrastructure (7,1), high degree of openness (7.1), secure formal institutions (i.e. legal system, property rights, tax system, finance system) (7.0), capacity for adjustment (6.7), stable political environment (6.6), free market economy (i.e. low state intervention) (6.4), robust macroeconomic management (6.2), low levels of public bureaucracy (6.1), capacity for collective action (5.7), significant urban agglomerations (5.7), strong informal (i.e. socio-cultural) institutions (5.5), favourable demographic conditions (5.3), significant FDI (5.3), rich natural recourses (4.1), favourable geography (4.0), and random factors such as unpredictable shocks (3.8).

In turn, the factors that are regarded as the most influential for the developing countries are ranked as follows: stable political environment (7.0), significant FDI (6.9), secure formal institutions (such as legal system, property rights, etc.) (6.7), rich natural recourses (6.5), high degree of openness (6.3), good infrastructure (6.3), favourable geography (6.1), robust macroeconomic management (6.1), capacity for adjustment (6.0), low levels of public bureaucracy (6.0), favourable demographic conditions (5.9), high quality of human capital (5.9), significant urban agglomerations (5.8), strong informal (socio-cultural) institutions (5.6), free market economy (5.4), high technology, innovation and R&D (5.3), capacity for collective action (5.1), specialisation in knowledge and capital intensive sectors (4.8), and random factors (i.e. unpredictable shocks) (4.8) (Table 9).

What becomes apparent from the above exposition is that each factor affects economies to a different degree depending on the level of economic development achieved. This becomes clear in Tables 10 and 11 below. In particular the fourth column in Table 10 presents the difference in the degree of influence each factor exerts on economic dynamism (depending on whether the country is developed or developing).

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[7] The numbers in the parentheses indicate their score out of ten maximum.

Table 10: Factors affecting economic dynamism and the state of economic development

	Developed countries	Developing countries	
Factors	Average Score		Difference
High technology. innovation. R&D	7.89	5.31	2.58
High quality of human capital	7.78	5.91	1.87
Specialization in knowledge and capital intensive sectors	7.37	4.81	2.56
Good infrastructure	7.13	6.28	0.85
High degree of openness	7.09	6.31	0.78
Secure formal institutions	6.97	6.71	0.26
Capacity for adjustment	6.70	5.98	0.72
Stable political environment	6.61	7.02	-0.41
Free market economy	6.38	5.42	0.96
Robust macroeconomic management	6.22	6.06	0.16
Low levels of public bureaucracy	6.12	5.96	0.16
Significant urban agglomerations	5.71	5.77	-0.06
Capacity for collective action	5.71	5.12	0.59
Strong informal institutions	5.47	5.58	-0.11
Favourable demographic conditions	5.35	5.93	-0.58
Significant Foreign Direct Investment	5.28	6.90	-1.62
Rich natural recourses	4.13	6.52	-2.39
Favourable geography	4.00	6.07	-2.07
Random factors	3.80	4.75	-0.95

Table 11: Top-ten factors advancing economic dynamism for each state of development

rank	Developed Countries	score	Developing Countries	score
1	High technology. innovation. R&D	7.89	Stable political environment	7.02
2	High quality of human capital	7.78	Significant Foreign Direct Investment	6.90
3	Specialization in knowledge and capital intensive sectors	7.37	Secure formal institutions	6.71
4	Good infrastructure	7.13	Rich natural recourses	6.52
5	High degree of openness	7.09	High degree of openness	6.31
6	Secure formal institutions	6.97	Good infrastructure	6.28
7	Capacity for adjustment	6.70	Favourable geography	6.07
8	Stable political environment	6.61	Robust macroeconomic management	6.06
9	Free market economy	6.38	Capacity for adjustment	5.98
10	Robust macroeconomic management	6.22	Low levels of public bureaucracy	5.96

A positive value indicates that the specific factor is more important for developed countries than for developing. In turn, negative values point at factors which are deemed to be more influential in developing economies. Thus, it becomes evident that the factors which are deemed important for the economic dynamism of developed countries do not coincide with those of the developing countries. In particular for the former group of countries most significant elements are those related to high technology, innovation and R&D, to specialization in knowledge and capital intensive sectors and to the quality of their human capital. In turn, important determinants of economic dynamism for the developing countries are those related to their natural resources and their geography.

A similar picture emerges in Table 11, which ranks the ten most important factors of economic dynamism for the two levels of development. Interestingly, the three most important factors for the economic dynamism of developed countries do not appear in the list of the top-ten factors advancing economic dynamism in the developing countries. There are however, some elements which are deemed important independently of the development state of the country. These are marked in bold letters and are the following: good infrastructure, high degree of openness, secure formal institutions, stable political environment, capacity for adjustment and robust macroeconomic management.

5. Conclusions

This paper draws on a questionnaire survey to explore experts' views on the factors underlying economic growth. The results of the survey provide empirical support to a number of important research hypotheses, contributing in this way to existing literature. Three particular points need to be emphasized.

First, the areas that experts expect to exhibit the greatest economic dynamism in the near future are China and India, followed by European Union new member states. The rest of the Europe, as well as some highly developed countries (such as Japan) or areas with rich natural resources (such as Middle East), receive a much lower score. As expected, the last positions in the rank are occupied by Africa, indicating that these countries will probably continue to experience low economic performance in the near future.

Second, the survey identified a number of important determinants of economic dynamism at the global scale. These determinants are consistent with the relevant mainstream literature (human capital, innovation, openness, FDI, infrastructure), but also with its most recent developments, highlighting the increasing importance of political and institutional factors.

1. Third, it was found that the determinants of economic dynamism do not have the same influence in the advanced and the less advanced countries (or regions). Therefore, there are clear indications that the priorities in terms of policies for economic dynamism should be quite different between countries of different state of development. For the former group, aspects related to innovation, knowledge, technology and human capital seems to be much more important, whereas for the less developed countries, aspects that are deemed paramount are related to the socio-political framework, the institutional environment and the amount of foreign direct investments. It is worth noticing that a high degree of openness, capacity for flexible adjustment and the quality of provided infrastructure are some basic preconditions for economic dynamism independent of the level of development an area exhibits.

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