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# On the Dynamics of Economic Growth: An Expert Survey


Paschalis Arvanitidis
*Department of Economics, University of Thessaly, Volos, Greece*

George Petrakos
*Department of Planning and Regional Development, University of Thessaly, Volos, Greece*

Sotiris Pavleas
*Department of Planning and Regional Development, University of Thessaly, Volos, Greece*

# On the dynamics of economic growth: an expert survey

Paschalis Arvanitidis[a*], George Petrakos[b] and Sotiris Pavleas[b]

*[a]Department of Economics, University of Thessaly; [b]Department of Planning and Regional Development, University of Thessaly, Volos, Greece; [b]Department of Planning and Regional Development, University of Thessaly, Volos, Greece.*

Drawing on various theoretical and methodological approaches, many scholars have over the years investigated the factors underlying economic growth. Yet, findings are often contradictory and inconclusive. The paper sheds light on a number of unsettled questions concerning growth potential, using primary data from an international survey of expert opinion. Issues examined include the significance attached to explanatory factors in terms of their influence to economic performance, the combination of policies expected to advance economic potential and an evaluation of the ability of key theoretical and methodological approaches to explore growth performance. The results have serious implications for theory and policy.

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[*] Corresponding author. Email: parvanit@uth.gr

## 1. Introduction

Over the last decades the issue of economic growth has attracted increasing attention in both theoretical and empirical research. Yet, the overall perception of the processes underlying economic performance and growth is still largely fragmented (Easterly 2001), something, which can be partly attributed to the lack of a unifying economic theory and the reductionistic way conventional economics approach the issue.

Despite the lack of a unifying theory, there are several partial theories that discuss the role of various factors in determining economic performance and growth. Two perspectives have been the most prominent: the neoclassical, made popular by Solow (1956), and the more recent theory of endogenous growth, pioneered by Romer (1986, 1990) and Lucas (1988).

Assuming constant returns to scale, diminishing marginal productivity of capital and exogenous technological change, the neoclassical growth models have established that increase in the capital-to-labour ratio is the key source of economic growth. However, without technological improvements, economies can grow up to a point (steady-state) beyond which capital increases does not cause economic growth. As such, the less advanced economies would grow faster than the more advanced ones (for same steady states) and world economic convergence would be directly achieved.

In contrast to the neoclassical perspective, the endogenous growth theories accept constant or increasing returns to capital (caused by the endogenous character of production technology) to argue that the introduction of new accumulation factors, mainly knowledge (Romer 1990; Grossman and Helpman 1991) and innovation (Aghion and Howitt 1992), will induce self-sustained economic growth and divergent growth patterns across the world[1].

Important insights on economic performance and growth have also been provided by the New Economic Geography (Krugman 1991; Fujita, Krugman, and Venables 1999). Allowing for increasing returns to scale, imperfect competition and non-zero transport costs, this literature has argued that economic activity tends to agglomerate in specific areas. The process is self-reinforcing, due to increased (positive) externalities, backward and forward linkages between firms and scaled economies. Although negative externalities and intensification of competition can give rise to centrifugal effects, these forces are unlikely to induce a balanced pattern of growth. Therefore, economic policy has to come into play to alleviate inequalities.

From a macro perspective, other theoretical approaches have emphasised the significant role non-economic (in the conventional sense) factors play on economic performance, giving rise to a discussion that distinguishes between 'proximate' and 'fundamental' or 'ultimate' sources of growth (see Rodrik 2003; Snowdon 2003; Acemoglu, Johnson, and Robinson 2005). Thus, the New Institutional Economics has underlined the fundamental role of institutions and property rights (Matthews 1986; North 1990; Shirley 2005), economic sociology stressed the importance of socio-cultural factors (Granovetter 1985; Knack and Keefer 1997), political science focused its explanation on political determinants (Lipset 1959; Brunetti 1997) and others shed light on the role played by geography (Ginsburg 1960; Gallup, Sachs, and Mellinger 1999) and demography (Lee 1979).

Theoretical developments have been accompanied by a growing number of empirical studies. Some researchers looked into the issue of economic convergence/divergence, which also worked as a validity test between the two main theories of growth (neoclassical and endogenous growth). Others focused on the factors

determining economic growth. This 'wave' of empirical studies has been facilitated by the development of larger and richer databases (such as the Penn World Tables and the Maddison data set) and more advanced statistical and econometric techniques (mainly cross-sectional and panel-data), which enabled the identification of growth determinants with more precision and confidence. It should be mentioned, however, that due to the lack of a unifying theory on economic growth, most empirical studies have multi-theoretical (or even a-theoretical) bases. This means that they draw on several theoretical frameworks and examine factors highlighted by several sources. As a result they tend to favour various elements as possible determinants of growth performance, providing findings that are often contradictory and inconclusive.

This paper draws on a questionnaire survey addressed to various experts worldwide (regional scientists, policy makers and business people), to explore their views on a number of issues concerning economic performance and growth potential. In particular, the following objectives had been set:

1. to specify the most dynamic (in economic terms) regions in the world,
2. to identify the main determinants of economic dynamism and their strength of influence,
3. to discuss optimum mixes of policy characteristics pertaining to growth,
4. to assess the power of key theoretical perspectives in explaining growth, and
5. to evaluate the suitability of the main research methodologies in identifying the growth determinants.

Such questions have for long troubled scholars; yet, even today, they remain unsettled. Despite the advanced techniques and theories that have been available to researchers, progress on the issues has been moderate and definite answers scarce. We

believe that a survey of expert opinion can shed new light on the above questions, in a manner that previous studies have not. By revealing areas of expert agreement or disagreement such a survey will assist the assessment of our current knowledgebase, identify misconceptions and knowledge gaps and will indicate directions for further research on the issues.

The structure of the paper is as follows. The next section briefly discusses the main determinants of economic growth that have been identified in the growth literature. Then, an overview of the employed research method is provided. The fourth section presents 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. Determinants of economic growth

Many studies have investigated the factors underlying economic performance drawing on various conceptual and methodological frameworks. As such, a wide range of economic, political, socio-cultural, institutional, demographical and geographic factors have been identified and proposed as possible determinants of economic growth.

Investment is regarded as one of the most fundamental causes of growth pointed out by both neoclassical and endogenous growth theories. 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 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, Romer, and Weil 1992; Auerbach, Hassett, and Oliner 1994; Barro and Sala-i-Martin 1995; Sala-i-Martin 1997;

Bond, Hoeffler, and Temple 2001; Podrecca and Carmeci 2001). Nevertheless, findings are not conclusive.

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 theories. The empirical literature examining the impact of FDI on growth has provided more-or-less consistent findings affirming a significant positive link between the two (for example Borensztein, De Gregorio, and Lee 1998; Hermes and Lensink 2000; Lensink and Morrissey 2006).

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 (such as, school-enrolment rates). A large number of studies has found evidence suggesting that educated population is a key determinant of economic growth (see Barro 1991; Mankiw et al. 1992; Barro and Sala-i-Marin 1995; Brunetti, Kisunko, and Weder 1998; Hanushek and Kimko 2000). However, there have been scholars who have questioned these findings and, consequently, the importance of human capital as substantial determinant of economic growth (for example 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, 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 as determinants of economic performance (see Kormendi and Meguire 1985; Grier and Tullock 1989; Barro 1991, 1997; Easterly and Rebelo 1993; Fischer 1993; Barro and Sala-i-Martin 1995), since they set the framework within which economic growth takes place. Economic policies can influence several aspects of an economy through investment in human capital and infrastructure, improvement of political and legal institutions and so on (although there is disagreement in terms of which policies are more conductive to growth). Macroeconomic conditions, in turn, are regarded as necessary but not sufficient conditions for economic growth (Fischer 1993). In general, a stable macroeconomic environment may favour growth, especially, through reduction of uncertainty, whereas macroeconomic instability may have a negative impact on growth through its effects on productivity and investment (for example due to risk increase). Several macroeconomic factors that affect 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 potentially significant determinant of growth performance. There are sound theoretical grounds for arguing that there is a strong and positive link between openness and economic growth. Openness enables the exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure to competition. A large number of studies have confirmed such a positive relation[2] (for example Dollar 1992; Sachs and Warner

1995; Edwards 1998; Dollar and Kraay 2000) but there have been several scholars who have criticized the robustness of these findings especially on methodological and measurement grounds (see Levine and Renelt 1992; Rodriguez and Rodrik 1999; Vamvakidis 2002).

Although the important role institutions[3] play in shaping economic performance has been acknowledged long time ago (for example Lewis 1955; Ayres 1962), it is not until recently that such factors have been examined empirically in a more formal way (see Knack and Keefer 1995; Mauro 1995; Hall and Jones 1999; Acemoglu, Johnson, and Robinson 2002, 2005; Rodrik, Subramanian, and Trebbi 2004). Rodrik (2000) highlights five key institutions (property rights, regulatory institutions, institutions for macroeconomic stabilization, institutions for social insurance and institutions of conflict management), which not only exert direct influence on economic growth, but also affect other determinants of growth such as the physical and human capital, investment, technical changes and the economic growth processes. On these grounds Easterly (2001) argues that none of the traditional factors would have any impact on economic performance if there had not been developed a stable and trustworthy institutional environment.

Interest in the relation between political factors and economic performance was raised by Lipset (1959) triggering the conduction of numerous studies which conclude that the political environment plays an important role in economic growth (Kormendi and Meguire 1985; Scully 1988; Grier and Tullock 1989; Brunetti 1997; Lensink, Bo, and Sterken 1999; Lensink 2001). Researchers usually assess the political environment using variables such as political stability and degree of democracy. At the most basic form, political stability would reduce uncertainty, encouraging investment and

eventually advancing economic growth. The degree of democracy is also associated with economic growth, though the relation is much more complex, since democracy may both retard and enhance economic growth depending on the various channels that it passes through (Alesina, Ozler, Roubini, and Swagel 1996).

Apart from the political factors, various social-cultural factors may also affect growth (Granato, Inglehart, and Leblang 1996; Huntington 1996; Temple and Johnson 1998; Inglehart and Baker 2000; Landes 2000; Zak and Knack 2001; Barro and McCleary 2003). Strong social relations and trust are important such determinants. 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). Several other social-cultural factors have been examined in the literature, such as ethnic composition and fragmentation, language, religion, beliefs, attitudes and social/ethic conflicts, but their relation to economic growth seems to be indirect and unclear[4].

The important role of geography on economic growth has been long recognized. Though, it is not until recently that geographic factors have been formalised and entered into models (Gallup et al. 1999). Researchers have used numerous such variables, including latitude, proportion of land close to coast, average temperatures and rainfall, soil quality and disease ecology (Hall and Jones 1999; Easterly and Levine 2003; Rodrik et al. 2004). 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 (for example Easterly

and Levine 2003; Rodrik et al. 2004) found no effect of geography on growth after controlling for institutions.

The relationship between demography 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, population composition and migration seem to play the major role in economic growth (Kormendi and Meguire 1985; Kelley and Schmidt 1995, 2000; Barro 1997; Bloom and Williamson 1998; Kalemli-Ozcan 2002). 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. Population density, in turn, may be positively linked with economic growth as a result of increased specialization, knowledge diffusion and so on. Findings again are not conclusive since there have been studies reporting no (strong) correlation between economic growth and demographic trends (for example Grier and Tullock 1989; Pritchett 2001).

## 3. Instrument design and survey characteristics

The current research draws on a questionnaire survey conducted for the needs of *DynReg*, an EU funded project (6$^{th}$ Framework Program) aiming to identify dynamic regions in a world-scale and to specify the factors that determine their growth potential. The survey addressed to various experts worldwide (academics, regional scientists, policy makers and business people), to explore their informed opinion on issues related to economic dynamism. Economic dynamism refers to the potential an area has for generating and maintaining high rates of economic performance.

The questionnaire used consists of five parts with a total of seven questions. The first part outlines the objectives of the study and provides definitions and instructions to help respondents understand the concepts and rationale of the research. The second part asks respondents to identify five wider regions in the world (from the 20 specified[5]) that are expected to exhibit economic dynamism in the next 15 years. The third part assesses the determinants of economic dynamism utilising Likert-type questions. In the first two questions of this part, respondents were ask to identify the five most significant factors for growth (advancing and retarding it respectively) from the 19 specified. The third question asked for an evaluation (on a scale ranking form zero to 10) of the 19 factors in terms of their impact to both developed and developing countries. Of particular importance is the fourth question, which attempts to explore which combination of opposite characteristics related to policies promotes economic dynamism. The fourth part of the questionnaire evaluates the available theoretical backgrounds and research methodologies in terms of their ability to adequately discuss economic growth at any spatial level, while the final part gathers socioeconomic information of the respondents, such as age, gender, occupation and education.

Survey questions were pre-tested in a pilot study carried out within the project consortium, enabling fine-tuning of the instrument. Surveys were held from the second half of 2006 onwards. Questionnaires were distributed by each one of the 10 partners of the *DynReg* project[6] to thirty 'knowledgeable' individuals in their country: 10 academics/regional scientists, 10 high ranked officials of the public sector, and 10 high ranked business people. Additional responses were collected from the participants of both the 46th Congress of the European Regional Science Association (ERSA 2006) held in Volos, and the 20th World Congress of Regional Science Association

International (RSAI 2008) held in Sao Paolo, as well as from an e-questionnaire sent electronically to appropriate institutions worldwide (universities, development agencies, relevant NGOs, and so forth). Due to their position, these respondents were able to have an 'informed' opinion on the issues examined, whereas the three-group stratification made possible different viewpoints concerning economic growth to be presented. Responses were collected, double-checked and validated by both the local partners run the surveys and the authors. Then they were coded and analysed using mainly descriptive statistics.

## 4. Results and discussion

### *4.1 Response rate and composition of respondents*

A total of more than 650 questionnaires yielded 472 properly completed responses; a response rate of about 73 per cent. The respondents were mainly males (72%), see Table 1, reaffirming the low penetration women have on high ranked positions (Wirth 2001). As expected, the educational level of the sample was quite high. Most respondents (39%) hold a postgraduate degree, while 35 per cent of them have completed a doctorate. The sample was about evenly divided between those working in the private sector (36%), in the academia (33%) and in the public sector (27%). The average age of the sample was about 38 years old.

Table 1. Profile of respondents

| | |
|---|---|
| *Gender* | |
| Male | 340 |
| Female | 124 |
| N/A | 8 |
| *Education* | |

| | |
|---|---|
| Less than 12 years | 1 |
| High school | 14 |
| University/College | 100 |
| Postgraduate degree | 183 |
| Doctorate | 167 |
| N/A | 7 |
| *Occupation* | |
| Public sector | 129 |
| Private sector | 170 |
| Academia | 155 |
| Not currently employed | 11 |
| N/A | 7 |
| *Average Age* | 38 |

### *4.2 Regions with potential for economic dynamism*

The vast majority of the respondents (88%) opine that China is by far the area with the highest potential for economic growth followed by India (72%) (Table 2). Third score the EU new member states, voted by 45 per cent of the people surveyed. Interestingly, the European core comes seventh, at the middle of the rank and below North America, whereas Middle East and South Africa get a place at the lower end, indicating low prospects for economic growth despite their rich natural resources. As expected, the rest of the African regions score the lowest and are located at the bottom of the rank.

Table 2. Areas of economic dynamism in the next 15 years (% of responders)

| *Rank* | *Countries/ Regions* | *%* |
|---|---|---|
| 1 | China | 87.92 |
| 2 | India | 72.46 |
| 3 | EU New Member States | 45.13 |
| 4 | South-East Asia | 40.89 |
| 5 | Russia | 35.81 |
| 6 | North America | 33.90 |
| 7 | European core | 27.75 |
| 8 | South America | 26.91 |
| 9 | Eastern and South-Eastern Europe | 26.91 |
| 10 | Japan | 14.41 |
| 11 | Central Asia | 8.47 |

| | | |
|---|---|---|
| 12 | Middle East | 7.84 |
| 13 | EU South | 7.63 |
| 14 | South Africa | 7.20 |
| 15 | Central America | 6.57 |
| 16 | Oceania | 5.72 |
| 17 | North Africa | 4.87 |
| 18 | East Africa | 1.91 |
| 19 | West Africa | 1.48 |
| 20 | Central Africa | 1.06 |

The overall picture that Table 2 draws is an interesting one. We see the less developed (in economic terms) areas of the world to get a place either at the top or at the bottom of the rank, whereas the more advanced ones are located in the middle. Therefore, we observe the distinction of two groups of developing areas: one with high-growth potential and auspicious prospects for convergence with the developed world (since the latter is ranked at a lower place), and another group with low-growth potential and a diverging fortune. This finding supports the existence of multiple growth regimes and nonlinearities (or even club-convergence) in economic growth and world convergence, something which have been argued in the recent literature (see for example, Liu and Stengos 1999; Fiaschi and Lavezzi 2003, 2007).

### *4.3 Factors affecting economic dynamism*

According to half of the experts surveyed, two are the most important factors in advancing economic performance and securing sustainable growth: human capital (58%) and high technology, innovation and R&D (50%); a view which is in line with the endogenous growth theory (Table 3). Following these two, the top 10 places in the rank are taken up by: stable political environment (41%), secure formal institutions (legal system, property rights, tax system, finance system) (38%), good infrastructure (36%), high degree of openness to trade (35%), capacity for adjustment (33%),

specialization in knowledge and capital intensive sectors (27%), significant FDI (24%), and free market economy (low state intervention) (22%). Interestingly, natural resources, geography and demography are not qualified in the top 10 factors.

Table 3. Most significant factors advancing economic dynamism (% of responders)

| *Rank* | *Factors* | *%* |
|---|---|---|
| 1 | High quality of human capital | 58.26 |
| 2 | High technology, innovation, R&D | 49.58 |
| 3 | Stable political environment | 41.31 |
| 4 | Secure formal institutions (legal system, property rights, tax system, finance system) | 37.50 |
| 5 | Good infrastructure | 36.44 |
| 6 | High degree of openness to trade (networks, links) | 34.75 |
| 7 | Capacity for adjustment (flexibility) | 33.05 |
| 8 | Specialization in knowledge and capital intensive sectors | 26.91 |
| 9 | Significant Foreign Direct Investment | 23.73 |
| 10 | Free market economy (low state intervention) | 22.46 |
| 11 | Rich natural recourses | 21.61 |
| 12 | Robust macroeconomic management | 21.61 |
| 13 | Low levels of public bureaucracy | 18.01 |
| 14 | Favourable demographic conditions (population size, synthesis and growth) | 16.74 |
| 15 | Favourable geography (location, climate) | 12.50 |
| 16 | Strong informal institutions (culture, social relations, ethics, religion) | 11.02 |
| 17 | Significant urban agglomerations (population and economic activities) | 10.59 |
| 18 | Capacity for collective action (political pluralism and participation, decentralization) | 7.42 |
| 19 | Random factors (e.g. unpredictable shocks) | 5.08 |
| 20 | Others[7] | 2.54 |

In turn, the two main obstacles of economic dynamism, as voted by more than half of the experts surveyed, are related to the unstable political environment (57%) and low quality of human capital (54%) (Table 4). Following them, the rest of the top-10 obstacles are: insecure formal institutions (47%), high levels of public bureaucracy (40%), low technology, innovation and R&D (39%), inadequate infrastructure (38%), low degree of openness to trade (35%), poor macroeconomic management (34%), high degree of state intervention (25%) and low FDI (19%).

Table 4. Most significant factors restraining economic dynamism (% of responders)

| *Rank* | *Obstacles* | *%* |
|---|---|---|
| 1 | Unstable political environment | 56.99 |
| 2 | Low quality of human capital | 54.03 |
| 3 | Insecure formal institutions (legal system, property rights, tax system, finance system) | 47.25 |
| 4 | High levels of public bureaucracy | 39.62 |
| 5 | Low technology, innovation, R&D | 38.98 |
| 6 | Inadequate infrastructure | 37.50 |
| 7 | Low degree of openness to trade (few networks and links) | 34.53 |
| 8 | Poor macroeconomic management | 33.47 |
| 9 | High degree of state intervention | 24.79 |
| 10 | Low Foreign Direct Investment | 19.07 |
| 11 | Rigid formal and informal institutions | 16.31 |
| 12 | Unfavourable geography (location, climate) | 13.35 |
| 13 | Specialization in labour intensive sectors | 12.08 |
| 14 | Lack of natural recourses | 11.44 |
| 15 | Weak informal institutions (culture, social relations, ethics, religion) | 10.81 |
| 16 | Unfavourable demographic conditions (population size, synthesis and growth) | 10.81 |
| 17 | Lack of urban agglomerations (population and economic activities) | 8.90 |
| 18 | Inability for collective action (no political pluralism, centralization) | 8.47 |
| 19 | Random factors (e.g. unpredictable shocks) | 4.87 |
| 20 | Others[8] | 0.64 |

Overall, we see that the key factors determining economic performance and growth potential are primarily related to human capital, high technology and innovation (put up by endogenous growth theories) as well as to institutional (formal and informal) and political aspects (highlighted by institutional economics, economic sociology and political science).

### *4.4 The degree of influence of factors on the economic dynamism*

Experts were also asked to indicate the significance of each factor of economic dynamism for both advanced and less advanced economies. The idea here was to find out whether these determinants might have a different degree of influence on economies, depending on the level of development exhibited.

The factors that are regarded as the most supportive for the developed economies are ranked as follows (Table 5)[9]: high quality of human capital (7.9), high technology, innovation and R&D (7.9), specialization in knowledge and capital intensive sectors (7.3), good infrastructure (7.2), secure formal institutions (7.0), high degree of openness to trade (6.9), capacity for adjustment (6.6), stable political environment (6.5), free market economy (6.3), robust macroeconomic management (6.1), low levels of public bureaucracy (6.1), capacity for collective action (5.6), strong informal (socio-cultural) institutions (5.4), significant urban agglomerations (5.4), significant FDI (5.3), favorable demographic conditions (5.1), rich natural recourses (3,9), favourable geography (3.7), and random factors (such as unpredictable shocks) (3.6).

Table 5. The degree of influence of specific factors on the economic dynamism

| *Factors* | *Developed economies* | *Developing economies* | *Difference* |
|---|---|---|---|
| High quality of human capital | 7.93 | 6.15 | *1.78* |
| High technology, innovation, R&D | 7.91 | 5.42 | *2.49* |
| Specialization in knowledge and capital intensive sectors | 7.34 | 4.90 | *2.44* |
| Good infrastructure | 7.19 | 6.46 | *0.73* |
| Secure formal institutions (legal system, property rights, tax system, finance system) | 6.96 | 6.93 | *0.03* |
| High degree of openness to trade (networks, links) | 6.92 | 6.11 | *0.81* |
| Capacity for adjustment (flexibility) | 6.61 | 6.05 | *0.56* |
| Stable political environment | 6.49 | 7.05 | *-0.56* |
| Free market economy (low state intervention) | 6.33 | 5.50 | *0.83* |
| Robust macroeconomic management | 6.13 | 6.20 | *-0.07* |
| Low levels of public bureaucracy | 6.09 | 6.10 | *-0.01* |
| Capacity for collective action (political pluralism and participation, decentralization) | 5.63 | 5.02 | *0.61* |
| Strong informal institutions (culture, social relations, ethics, religion) | 5.41 | 5.55 | *-0.14* |
| Significant urban agglomerations (population and economic activities) | 5.40 | 5.52 | *-0.12* |
| Significant Foreign Direct Investment | 5.27 | 6.95 | *-1.68* |
| Favourable demographic conditions (population size, synthesis and growth) | 5.11 | 5.78 | *-0.67* |
| Rich natural recourses | 3.85 | 6.35 | *-2.50* |
| Favourable geography (location, climate) | 3.68 | 5.78 | *-2.10* |
| Random factors (e.g. unpredictable shocks) | 3.56 | 4.50 | *-0.94* |

The rank (and significance) of factors changes when the question is directed towards developing economies (see Table 5). For this group, first scores the stable political environment (7.1) followed by: significant FDI (7.0), secure formal institutions (6.9), good infrastructure (6.5), rich natural recourses (6.4), robust macroeconomic management (6.2), high quality of human capital (6.2), high degree of openness (6.1), low levels of public bureaucracy (6.1), capacity for adjustment (6.1), favorable geography (5.8), favorable demographic conditions (5.8), strong informal (socio-cultural) institutions (5.6), significant urban agglomerations (5.5), free market economy (5.5), high technology, innovation and R&D (5.4), capacity for collective action (5.0), specialisation in knowledge and capital intensive sectors (4.9), and random factors (3.7).

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 apparent when we look at the fourth column of Table 5. This column presents the difference in the degree of influence each factor exerts on economic dynamism, depending on whether the economy is developed or developing. A positive value indicates that the specific factor is more important for the developed, as compared to the developing, countries. In turn, negative values point at factors which are deemed to be more influential in developing economies. It becomes evident that the factors which are deemed important for the developed countries do not necessarily coincide with those of the developing countries. In particular, for the former group more influential is the existence of technology, innovation and R&D, specialisation in knowledge and capital intensive sectors and the quality of their human capital. In turn, important determinants of economic dynamism for the developing countries (but less for the developed ones) are those related to the natural resources, geography and FDI.

A similar picture emerges in Table 6, which ranks the 10 most important factors of economic dynamism for the two levels of development. Interestingly, two out of three most important factors for the economic dynamism of developed countries (that is, high technology, innovation, R&D and specialization in knowledge and capital intensive sectors) do not appear in the list of the top-10 factors of the developing economies. There are, however, some elements which are deemed essential independently of the development state achieved. These are marked in italics and are the following: high quality of human capital, good infrastructure, secure formal institutions, high degree of openness, capacity for adjustment, stable political environment, and robust macroeconomic management.

Table 6. Top-ten factors advancing economic dynamism for each state of development

| *rank* | *Developed economies* | *Developing economies* |
|---|---|---|
| 1 | *High quality of human capital (7.93)* | *Stable political environment (7.05)* |
| 2 | High technology, innovation, R&D (7.91) | Significant FDI (6.95) |
| 3 | Specialization in knowledge and capital intensive sectors (7.34) | *Secure formal institutions (6.93)* |
| 4 | *Good infrastructure (7.19)* | *Good infrastructure (6.46)* |
| 5 | *Secure formal institutions (6.96)* | Rich natural recourses (6.35) |
| 6 | *High degree of openness to trade (6.92)* | *Robust macroeconomic management (6.20)* |
| 7 | *Capacity for adjustment (6.61)* | *High quality of human capital (6.15)* |
| 8 | *Stable political environment (6.49)* | *High degree of openness to trade (6.11)* |
| 9 | Free market economy (6.33) | Low levels of public bureaucracy (6.10) |
| 10 | *Robust macroeconomic management (6.13)* | *Capacity for adjustment (6.05)* |

### *4.5 Optimum mix of characteristics pertaining to growth*

This section explores what mixes of policy-driven characteristics experts regard as essential for long-term economic growth. In particular, for 11 specified pairs, respondents were asked to indicate what percentage of each one of the two opposite characteristics is deemed appropriate for economic dynamism to be achieved. These characteristics represent extreme positions related to major controversies in policy and

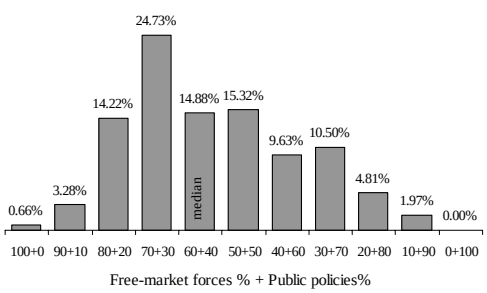
economic theory, such as the debate over the workings of the free-market economy (espoused by the neoclassical perspective), the nature of required institutions (discussed within the strands of institutional economics), or the role of metropolitan agglomerations (explored by the New Economic Geography).

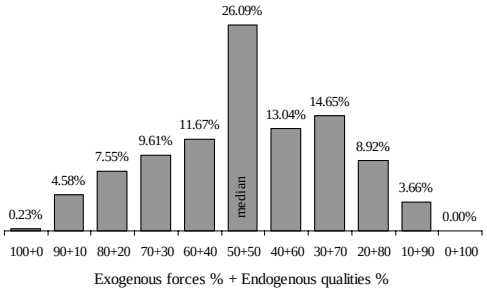
Table 7 and Figure 1 (below) summarise the findings of the survey. Each sell in the table indicates the percentage of respondents who believe that economic dynamism is best promoted with an *x* proportion of characteristic A and a *100-x* proportion of characteristic B.

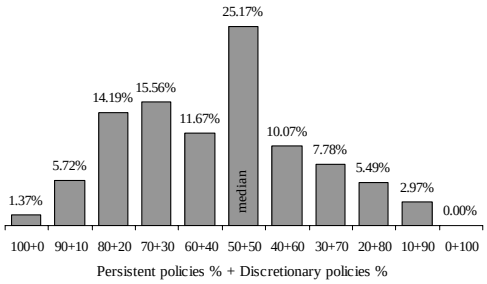
Table 7. Combination of opposite characteristics promoting economic dynamism (% of responders)

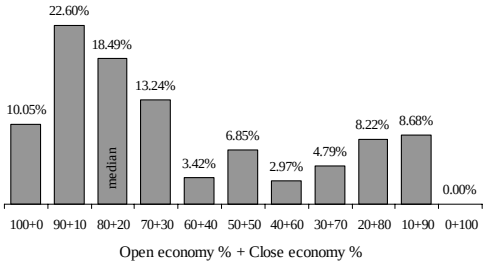
| | 100%+*0%* | 90%+*10%* | 80%+*20%* | 70%+*30%* | 60%+*40%* | 50%+*50%* | 40%+*60%* | 30%+*70%* | 20%+*80%* | 10%+*90%* | 0%+*100%* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Free-market forces | 0.66 | 3.28 | 14.22 | **24.73** | 14.88 | 15.32 | 9.63 | 10.50 | 4.81 | 1.97 | 0.00 | *Public policies* |
| Persistent policies | 1.37 | 5.72 | 14.19 | 15.56 | 11.67 | **25.17** | 10.07 | 7.78 | 5.49 | 2.97 | 0.00 | *Discretionary policies* |
| Cooperation | 1.11 | 5.09 | 7.96 | 9.51 | 11.06 | **27.43** | 11.06 | 14.38 | 9.07 | 3.32 | 0.00 | *Competition* |
| Formal institutions | 1.10 | 5.51 | 12.56 | 13.66 | 14.54 | **20.48** | 9.47 | 9.25 | 8.81 | 4.41 | 0.22 | *Informal arrangements* |
| Specialisation | 0.66 | 3.51 | 9.87 | 14.04 | 12.50 | **27.19** | 8.99 | 13.16 | 8.55 | 1.54 | 0.00 | *Sectoral diversity* |
| Exogenous forces | 0.23 | 4.58 | 7.55 | 9.61 | 11.67 | **26.09** | 13.04 | 14.65 | 8.92 | 3.66 | 0.00 | *Endogenous qualities* |
| Open economy | 10.05 | **22.60** | 18.49 | 13.24 | 3.42 | 6.85 | 2.97 | 4.79 | 8.22 | 8.68 | 0.00 | *Closed economy* |
| Public sector centralisation | 0.44 | 6.59 | 9.67 | 10.55 | 9.01 | **21.98** | 9.01 | 13.41 | 13.41 | 5.27 | 0.66 | *Public sector decentralisation* |
| Stability | 0.65 | 5.23 | 9.15 | 8.06 | 7.63 | **22.44** | 13.94 | 17.65 | 9.59 | 4.36 | 1.31 | *Flexibility* |
| Polycentric urban system | 1.10 | 6.40 | 12.14 | 13.91 | 13.02 | **27.37** | 9.27 | 8.17 | 6.62 | 1.55 | 0.44 | *Metropolitan dominance* |
| Social cohesion | 6.09 | 11.30 | 12.83 | **16.74** | 7.39 | 13.48 | 5.65 | 5.87 | 7.39 | 6.74 | 6.52 | *Social inequality* |

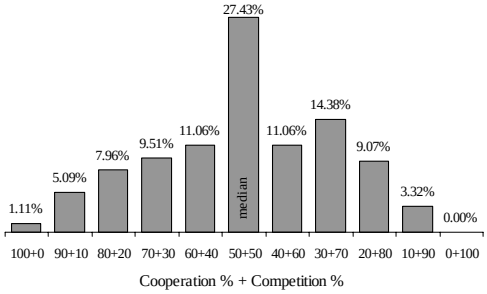
Figure 1. Combination of opposite characteristics promoting economic dynamism

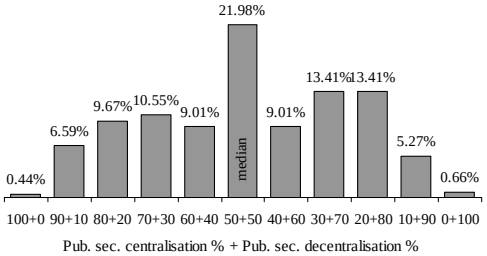


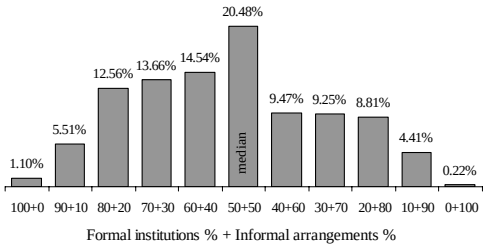



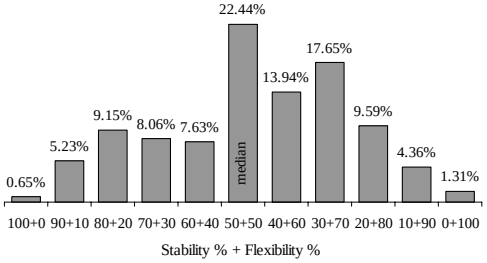



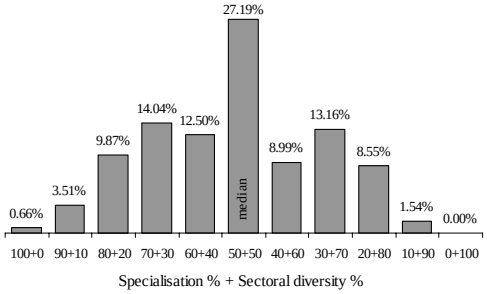



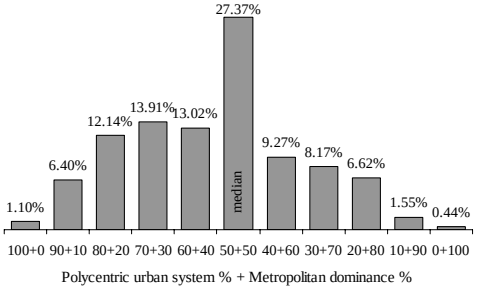



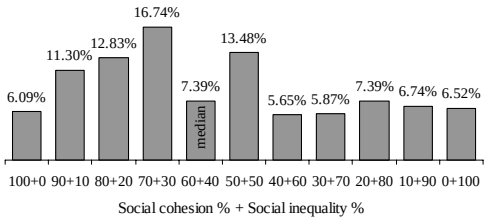




16.74%
13.48%
12.83%
11.30%
7.39%
7.39%
6.74%
6.52%
6.09%
5.65%
5.87%
median
100+0 90+10 80+20 70+30 60+40 50+50 40+60 30+70 20+80 10+90 0+100
Social cohesion % + Social inequality %

As regards the debate over free-market forces vs. public policies, the majority of respondents argued for a mix of 70 per cent of the former and 30 per cent of the latter, whereas the median showed again a preference of 60 per cent and 40 per cent in favour of market forces. This result was indifferent of the respondent's occupation (public or private sector). However, academics were more polarised between the two extremes.

Between persistent and discretionary policies the sample showed no clear preference arguing for an equal mix. Again, employment did not seem to affect peoples' opinion. Exactly the same was the case for the sets of cooperation-competition, formal-informal institutions, and specialisation-diversity. A similar picture was apparent in the mix of endogenous qualities and exogenous forces, though the majority of the people who vote in favour of the former work in the public sector.

A polarised distribution was apparent when the question turned to open vs. close economy. Nevertheless, most respondents (23%) seems to opt for a 90%-10% mix in favour of openness (the median was favoured openness at an 80%-20% balance). As expected, people from the private sector were more supportive of an open economy, compared to those working in the public sector. Academics were again spread all over the spectrum, though they favoured the open economy option. The same picture was evident in the debate over public sector centralisation vs. decentralisation. Again, the majority of private sector employees (21%) opt for a combination of more decentralisation and less centralisation (80% and 20% respectively).

As regards the mix of stability and flexibility, the median was set at the 50%-50% point with the distribution of the responses being a bit skewed in favour of flexibility. Clearly respondents of the private sectors were more incline towards the latter. There was no clear preference between metropolitan dominance and a balanced urban system,

since the median was stabilised at 50%-50%. However, the distribution of both public and private sector employees was showed a slight inclination towards polycentricity. Finally, as regards the combination of social cohesion and social inequality, the majority of respondents argued for a mix of 70 per cent of the former and 30 per cent of the latter.

The overall picture that emerges from the above exposition is that although opinions vary, most experts choose moderate combinations of policies to advance growth, rejecting extreme positions which favour only one characteristic. This indicates that, in all pairs examined, elements of both opposite characteristics are required (though in different proportions) for economic dynamism to be achieved. In other words, and contrary to that implied by most theories, there is no single, unilateral policy, or one-sided approach which can secure long-term economic growth. In turn, and given the relation between policy and theory, no theory receives absolute support on the basis of the policies it puts forward, or, to state it differently, there is partial backing to all theories. Certainly, reality is more complex that theories suppose, requiring pragmatic approaches and integrated strategies for economic development to be accomplished.

### *4.6 Theories and methodologies discussing economic dynamism*

Economists from different schools of thought have over the years devoted much effort to producing theories and mapping out the determinants of economic growth. Yet, the debate over which theory explains best growth performance, or which methodology is most suitable in specifying the sources of growth, remains unsettled today. In an attempt to shed light on such questions and evaluate the strength of most celebrated growth theories and methodologies, expert opinion was sought. In particular, experts were

asked to rank seven specified theoretical backgrounds and three specified methodologies in terms of their ability to explain better economic dynamism and to adequately specify the determinants of economic growth, respectively.

As concerns the first question, it was found that the endogenous growth models followed by New Economic Geography and (new) institutional economics are the theoretical perspectives most capable in explaining economic growth and dynamism (see Table 8)[x]. Conventional theorisation, that is mainly neoclassical and supply-side theories, achieved a place at the bottom of the scale, whereas 'soft' theories of path dependence and cumulative causation scored last.

Table 8. Theoretical perspectives explaining better economic dynamism

| *Rank* | *Theoretical perspectives* | *Average rank* | *1st choice (%)* |
|---|---|---|---|
| 1 | Endogenous growth theories | 3.03 | 24.32 |
| 2 | New Economic Geography (new trade theories) | 3.13 | 22.33 |
| 3 | (New) Institutional Economics | 3.87 | 14.89 |
| 4 | Demand management models (Keynesian, neo-Keynesian) | 4.06 | 11.91 |
| 5 | Supply-side theories | 4.08 | 6.70 |
| 6 | Neoclassical models | 4.34 | 9.93 |
| 7 | Path dependence / cumulative causation | 4.73 | 7.69 |

On the basis of the above two points can be drawn. First, it seems that modern theories are preferred to older ones (endogenous growth and new economic geography theories are products of the 1990s, whereas neoclassical models and cumulative causation theories have been developed in the 1950s). In fact, the older the theory the lower its rank is. Whether this is indicative of the supremacy and robustness of the most recent perspectives, suggesting, perhaps, a 'paradigm shift', or it is simply a transient phenomenon and reflects a tendency to opt for trendy (but promising) theories, is a matter that requires further investigation.

Second, it appears that respondents show a preference towards those theories that favour active policy interventions. This implies that, on average, experts are sceptical on whether economic growth and world convergence can be secured, if market forces alone are left at work. In other words, economic policy and interventions by national and supranational sources are deemed necessary to bring down world income inequalities.

As regards which methodology is most appropriate in exploring the growth determinants of places, experts pointed out the need for in-depth case studies (Table 9)[8]. This is, perhaps, because it provides a thorough understanding of the characteristics and peculiarities of the places under focus, something which most respondents deem necessary for an effective policy-making and the reduction of income disparities. However, experts do not disregard the merits of both the econometric modelling and the historical analysis. Actually, all methodologies get very close grades, indicating that they are all important and perhaps complementary in the analysis and understanding of the factors underlying growth potential.

Table 9. Methods to explore determinants of economic dynamism

| *Rank* | *Methods* | *Average rank* | *1st choice (%)* |
|---|---|---|---|
| 1 | In-depth case studies | 1.83 | 42.79 |
| 2 | Formalism/modelling | 2.08 | 31.97 |
| 3 | Historical analysis | 2.08 | 24.04 |

## 5. Conclusions

Many studies over the years have investigated the process and determinants of economic growth. Yet, findings are often contradictory and inconclusive. Using primary data from an international survey of expert opinion, this paper attempted to shed light

on a few unsettled questions concerning growth potential. A number of conclusions have been drawn.

First, the areas that experts expect to exhibit the greatest economic dynamism in the near future are China and India, followed by EU new member states. The developed world (EU core, North America, Japan, and so forth) or areas with rich natural resources (such as Middle East), received a much lower score. The last positions in the rank are occupied by African regions, indicating that these countries will probably continue to experience low economic growth requiring strong policy interventions.

Second, the less developed areas of the world seems to be divided into two groups: one with high-growth potential and increased prospects for convergence with the developed world, and another with low-growth potential and a diverging fortune. This finding corroborates the existence of multiple growth regimes and nonlinearities (or even club-convergence) in economic growth and world convergence.

Third, the survey identified a number of important determinants of economic dynamism at the global scale. These determinants are consistent with the conventional economic literature highlighting the need for increased human capital, innovation, openness, investment and infrastructure, but also with the heterodox economic theories, pointing out the increasing importance of institutional, legal and political factors. These latter aspects need to be seriously taken into account when formulating subsequent policies.

Fourth, it was found that the determinants of economic dynamism do not have the same influence in the advanced and the less advanced economies. 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 human capital, innovation, knowledge and technology seems to be much more important, whereas for the latter, aspects that are deemed paramount are related to the socio-political framework, the institutional (legal) environment and the amount of FDI attracted. It is worth noticing that a high degree of openness, a capacity for flexible adjustment and the quality of infrastructure are some fundamental preconditions for economic dynamism independent of the level of development an area exhibits.

Fifth, the prevailing mix of opposite characteristics that is considered to best promote economic dynamism indicates that a number of perceived determinants and popular policies are effective only within a limited scope. In other words, there seems to be a need for a course of action that incorporates a fusion of (allegedly) opposite policies if growth is to be sustained, for example combine open-market principles with public intervention in specific areas, seek for competition but in cooperation with others, and so forth. This also raises a question for the validity of the conventionally linear models of growth, in which relations and impacts are either positive or negative.

Sixth, when the question comes to which conceptual framework is most capable in explaining economic growth, the theories of endogenous growth and New Economic Geography seems to prevail. Mainstream (neoclassical) theories find little support, raising questions with regard to their suitability in discussing contemporary economic growth issues. Overall, there is evident a tendency of experts to espouse theories which are modern and favour active policy interventions.

Finally, with regard to the most appropriate methodology in exploring growth determinants, experts favoured the in-depth case studies. Yet, both econometric and historical analyses scored very high, highlighting the importance of combining

methodologies (in a triangulation fashion) in order to acquire a better understanding of the process and sources of economic growth.

Acknowledgement

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**Notes**

1. As a result, and in contrast to the neoclassical counterpart, policies are deemed to play a substantial role in advancing growth on a long-run basis.
2. Openness is usually measured by the ratio of exports to GDP.
3. According to North (1990) the term 'institutions' refers to the formal rules, informal constraints and their enforcement characteristics that together shape human interaction.
4. For instance cultural diversity may have a negative impact on growth due to emergence of social uncertainty or even of social conflicts, or a positive effect since it may give rise to a pluralistic environment where cooperation can flourish.
5. 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.
6. These are the following institutions: University of Cambridge (United Kingdom), London School of Economics (United Kingdom), The Economic and Social Research Institute (Ireland), University of Bonn (Germany), University of Thessaly (Greece), Free University Amsterdam (The Netherlands), Free University Brussels (Belgium), University of

Economics and Business Administration (Austria), University "Luigi Bocconi" (Italy) and University of Ljubljana (Slovenia).

7. It is worth mentioning that 10 respondents have chosen this option. The factors that they specified as significant are: low labour costs (six people), military power, sustainable use of resources, high exports, and strong links with advanced economies.
8. Three respondents that have chosen this option specifying that high labour costs, lack of military power and unsustainable resource usage are the factors hindering economic dynamism.
9. The numbers in the parentheses specify their average score in a scale ranking from zero to 10. Zero indicates a factor with no influence and 10 one with very strong effects.
10. The second column of the Table provides the averages of the rank given by the experts, whereas the third column indicates the percentage of respondents ranked first the specific choice.

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