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Lessons and Policy Implications for the EU

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Determinants of Economic Growth: The Experts' View

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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 a*l, 2007).

Despite the lack of a unifying theory, there are several partial theories that discuss the role of various factors in determining economic growth. Two main strands can be distinguished: the neoclassical, 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 growth have been provided by Myrdal's cumulative causation theory, and by the New Economic Geography school. In addition, other explanations have highlighted the 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 refers to issues such as accumulation of capital, labour and technology while the latter to institutions, legal and political systems, socio-cultural factors, demography and geography.

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 are 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 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 that are taken from several sources. As a result findings are often contradictory and conclusions far from safe.

This paper draws on a questionnaire survey addressed to various experts worldwide (academics, regional scientists, 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 main determinants of economic dynamism,
3. to identify the strength of influence of determinants,
4. to discuss optimum mix of characteristics pertaining to growth,
5. to discuss theoretical approaches related to economic dynamism, and
6. to evaluate the strengths of different research methodologies identify

The results of this research, which is in progress, 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.

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 examined 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 from 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, etc., will induce self-maintained economic growth. Triggered by Romer's (1986) and Lucas' (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

[1] Romer 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 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.

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 among economies 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 has a medium term view and often described as "soft" development theories due to a lack of applied 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, 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 that economic activity tends to agglomerate in a specific region and choose a location with a large local demand resulting in a self-reinforcing 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 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 that economic growth. However, growth outcomes can be inferred from its models.

From a more macro perspective, other theoretical approached 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 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 role played by geography (Gallup *et al.*, 1999) and demography (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 growth 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.). A large number of studies has found evidence suggesting that educated population is 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 products and processes. 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; Grierand and Tullock, 1989; Barro, 1991, 1997; Fischer, 1993; Easterly and Rebelo, 1993; Barro and Sala-i-Martin, 1995) since they can 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 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 (e.g 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 has been used extensively in the economic growth literature as a major determinant of growth performance. There are sound theoretical reasons for believing that there is a strong and positive link between openness and growth. Openness affects economic growth through several channels such as exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure

to competition. Openness is usually measured by the ratio of exports to GDP[3]. There is a substantial and growing empirical literature investigating the relationship between openness and growth. On the one hand, a large part of the literature has found that economies that are more open to trade and capital flows have higher GDP per capita and grew faster (Dollar, 1992, Sachs and Warner, 1995, Edwards, 1998, Dollar and Kraay, 2000). On the other hand, several scholars have criticized the robustness of these findings especially on methodological and measurement grounds (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 examining 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 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. It is on these grounds that Easterly (2001) argued 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. The most frequently used measures of the quality of

[3] 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.

institutions in the empirical literature include government repudiation of contracts, risk of expropriation, corruption, property rights, the rule of law and bureaucratic quality (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 the issues has proliferated making clear that the political environment plays an important role in economic growth (Kormendi and Meguire, 1985; Scully, 1988; Grier and Tullock, 1989; Lensink et al, 1999; Lensink, 2001). At the most basic form, political instability would increase uncertainty, discouraging investment and eventually hindering 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 et al, 1994). In the recent years a number of researchers have made an effort to measure the quality of the political environment using variables such as political instability, political and civil freedom, and political regimes. Brunetti (1997) distinguishes five categories of relevant political variables: democracy, government stability, political violence, political volatility and subjective perception of politics.

Recently there has been a growing interest in how various social-cultural fac**tors** 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 to 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, language, religion, beliefs, attitudes and social/ethic conflicts, but their relation to economic growth seems to be indirect and unclear. 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.

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 100km of 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. A large working-age population is deemed to be conductive to growth, whereas population with many young and elderly dependents is seen as impediment. Population density, in turn, may be positively linked with economic growth as a result of increased specialization, knowledge diffusion and so on. Migration would affect growth potential of both the sending and receiving countries. Findings again are not conclusive since there have been studies reporting no (strong) correlation between economic growth and demographic trends (e.g. Grierand and Tullock, 1989; Pritchett, 2001).

3. Instrument design and survey characteristics

3.1 The DynReg project

The current research draws on *DynReg*, a European Commission project funded from the Sixth Framework. The project's full title is 'Dynamic Regions in a Knowledge – Driven Global Economy: Lessons and Policy Implications for the E.U.', and it aim is to identify dynamic regions in a worldscale and to specify the factors that determine their growth potential. The partners of the programme 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).

3.2 The survey structure

The current research draws on a questionnaire survey addressed to various experts worldwide (academics, regional scientists, 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 and definitions; while the second part asks respondents to identify five wider regions in the world (from the twenty specified[5]) 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

[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.

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 partner to 30 'knowledgeable' individuals in their country, 10 academics, 10 high ranked officials of local authorities, and 10 high 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. In addition questionnaires were collected from the participants of the 46th Congress of the European Regional Science Association (ERSA) held in Volos between 30 August and 3 September 2006. Responses were collected, validated and double-checked by both the local partners and the authors. Then they were coded and analysed using mainly descriptive statistics.

4. Analysis and discussion

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 high ranked official positions (see Appendix). 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%), the private sector (33%) and in the public sector (30%) (Table 1).

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
Less than 12 years	1
High school	12
Occupation	
Public sector	91
Private sector	104
Academia	104
Unemployed	7
N/A	7

4.2 Regions with potential for economic dynamism

The vast majority of the respondents (86%) opine that China is by far the area with the highest potential for economic growth followed by India (71%). Third score the European Union new member states voted by only 49% of the people surveyed. Interestingly the European core comes seventh in the rank whereas south European Union countries are ranked thirteenth just above Central America. As expected, African countries are at the bottom of the rank (Table 2).

Table 2: Areas expected to exhibit economic dynamism in the 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 advancing or retarding 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 are not qualified in the top ten factors (Table 3).

Similarly the two main obstacles of economic dynamism, as voted by more than half of the people surveyed, are unstable political environment (57%) and low quality of human capital (51%). 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 4).

Table 3: Most significant factors in 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	Other [please specify]:	2,56

Table 4: Most significant obstacles in advancing economic dynamism

Rank	Obstacles	%
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	Other [please specify]:	0,64

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

As concerns EU new member states (Table 7,8) the most supportive factors are deemed to be: high quality human capital, secure formal institutions, stable political environment, high technology, innovation and R&D, and high degrees of openness. Similarly to China obstacles to their dynamism are: unstable political environment, low quality of human capital, insecure formal institutions, high levels of public bureaucracy and inadequate infrastructure.

Table 5: Respondents who selected China: Most significant factors in advancing economic dynamism

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: Respondents who selected China: Most significant obstacles restraining economic dynamism

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: Respondents who selected EU New Member States: Most significant factors in advancing economic dynamism

Rank	Factors	%
1	High quality of human capital	56,13
2	Secure formal institutions (legal system, property rights, tax system, finance system)	45,16
3	Stable political environment	44,52
4	High technology, innovation, R&D	43,23
5	High degree of openness (networks, links)	38,71

Table 8: Respondents who selected EU New Member States: Most significant obstacles restraining economic dynamism

Rank	Factors	%
1	Unstable political environment	58,06
2	Low quality of human capital	56,77
3	Insecure formal institutions (legal system, property rights, tax system, finance system)	53,55
4	High levels of public bureaucracy	42,58
5	Inadequate infrastructure	36,77

Table 9: Respondents who selected European core: Most significant factors in advancing economic dynamism

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 10: Respondents who selected European core: Most significant obstacles restraining economic dynamism

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

Conductive factors for economic dynamism in the European core countries are (Table 9,10): 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, whereas factors that may retard growth are: insecure formal institutions, unstable political environment, low quality of human capital, high levels of public bureaucracy and low technology, innovation and R&D.

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 the ranked as follows (the numbers in the parentheses indicate their score out of ten): 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 institutions (socio-cultural) (5,5), favorable demographic conditions (5,3), significant FDI (5,3), rich natural recourses (4,1), favourable geography (4,0), and random factors (i.e. unpredictable shocks) (3,8) (Table 11).

Table 11: The degree of influence of specific factors on the economic dynamism of countries.

	Developed countries	Countries of Intermediate development	Developing countries
Factors		Average Score	
Favourable geography (location, climate)	4,00	4,96	6,07
Rich natural recourses	4,13	5,38	6,52
Robust macroeconomic management	6,22	6,08	6,06
High degree of openness (networks, links)	7,09	6,67	6,31
Specialization in knowledge and capital intensive sectors	7,37	5,89	4,81
Free market economy (low state intervention)	6,38	5,94	5,42
Low levels of public bureaucracy	6,12	5,93	5,96
Stable political environment	6,61	6,80	7,02
Capacity for collective action (political pluralism and participation, decentralization)	5,71	5,44	5,12
High quality of human capital	7,78	6,73	5,91
Good infrastructure	7,13	6,66	6,28
Significant Foreign Direct Investment	5,28	6,44	6,90
Secure formal institutions (legal system, property rights, tax system, finance system)	6,97	6,77	6,71
Strong informal institutions (culture, social relations, ethics, religion)	5,47	5,38	5,58
Capacity for adjustment (flexibility)	6,70	6,36	5,98
Significant urban agglomerations (population and economic activities)	5,71	5,73	5,77
Favourable demographic conditions (population size, synthesis and growth)	5,35	5,78	5,93
High technology, innovation, R&D	7,89	6,35	5,31
Random factors (unpredictable shocks)	3,80	4,26	4,75

The factors that are regarded as the most influential for the developing countries are the 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), favorable geography (6,1), robust macroeconomic management (6,1), capacity for adjustment (6,0), low levels of public bureaucracy (6,0), favorable 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 11).

Of the specified factors those that are more important for the economic dynamism of developed countries compared to developing ones are: high technology, innovation and R&D followed by specialization in knowledge and capital intensive sectors and high

quality of human capital. In turn those factors that are deemed as more important in developing countries compared to developed ones are: rich natural resources and favourable geography.

Factors that are in the top ten and are independent of the development state of the country are: good infrastructure, high degree of openness, secure formal institutions, stable political environment and capacity for adjustment and robust macroeconomic management.

A clearer comparative picture of the degree of influence on the economic dynamism of countries is presented below (Table 12a and 12b). The different level of importance that is attributed to the specific factors by the respondents, concerning the division of developed and developing countries is firstly highlighted by estimating the difference between the score for every specific factor. The factors in the Table 12a are ranked based to the score resulted for the developed countries. More specifically, two of the highest differences are related with two factors that are located among the three most influential factors for the developed countries, which are High technology, innovation, R&D and Specialization in knowledge and capital intensive sectors. Big differences are also traced on factors that deal with geography, location and rich natural resources. The gravity in terms of the factors on the economic dynamism of developed countries falls mostly on matters that have to do with social and political environment, formal institutions and the capacity to attract foreign direct investment. In general, there is a significant diastasis between parameters that are related with specialised, innovative and more economic characteristics for developed countries and parameters that are related with socio-political environment and legal framework.

Table 12a: The degree of influence of specific factors on the economic dynamism of countries (elaborated).

	Developed countries	Developing countries	Difference
Factors			
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 (networks, links)	7,09	6,31	**0,78**
Secure formal institutions (legal system, property rights, tax system, finance system)	6,97	6,71	**0,26**
Capacity for adjustment (flexibility)	6,70	5,98	**0,72**
Stable political environment	6,61	7,02	**-0,41**
Free market economy (low state intervention)	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 (population and economic activities)	5,71	5,77	**-0,06**
Capacity for collective action (political pluralism and participation, decentralization)	5,71	5,12	**0,59**
Strong informal institutions (culture, social relations, ethics, religion)	5,47	5,58	**-0,11**
Favourable demographic conditions (population size, synthesis and growth)	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 (location, climate)	4,00	6,07	**-2,07**
Random factors (unpredictable shocks)	3,80	4,75	**-0,95**

The diastasis mentioned above can be also expressed through the content of Table 12b. The top 10 scores for the most influential factors for the developed and the developing countries are presented in the two basic columns. In particular, the factors that appear to be common for the two cases are highlighted in a blue colour. Interestingly, the three top 10 factors of influence on the economic dynamism regarding the developed countries do not even appear in the list of the 10 factors concerning the developing countries.

Table 12b: The degree of influence of specific factors on the economic dynamism of countries (elaborated).

	Top 10 Factors – Developed Countries		**Top 10 Factors – Developing Countries**	
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 (legal system, property rights, tax system, finance system)**	**6,71**
4	**Good infrastructure**	**7,13**	Rich natural recourses	6,52
5	**High degree of openness (networks, links)**	**7,09**	**High degree of openness (networks, links)**	**6,31**
6	**Secure formal institutions (legal system, property rights, tax system, finance system)**	**6,97**	**Good infrastructure**	**6,28**
7	**Capacity for adjustment (flexibility)**	**6,70**	Favourable geography (location, climate)	6,07
8	**Stable political environment**	**6,61**	**Robust macroeconomic management**	**6,06**
9	Free market economy (low state intervention)	6,38	**Capacity for adjustment (flexibility)**	**5,98**
10	**Robust macroeconomic management**	**6,22**	Low levels of public bureaucracy	5,96

4.5 Optimum mix of characteristics pertaining to growth

This section (Table 13 and Graphs 1-11) explores what respondents consider being the appropriate mix of characteristics that promotes economic dynamism.

As regards the combination of public policies and market forces, the majority of respondents argued for a mix of 30% of the former and 70% of the latter, whereas the median showed again a preference of 40% and 60% in favour of market forces. This was indifferent of whether respondents were employed in the public or the private sector. However, academics were more polarised between the two extremes.

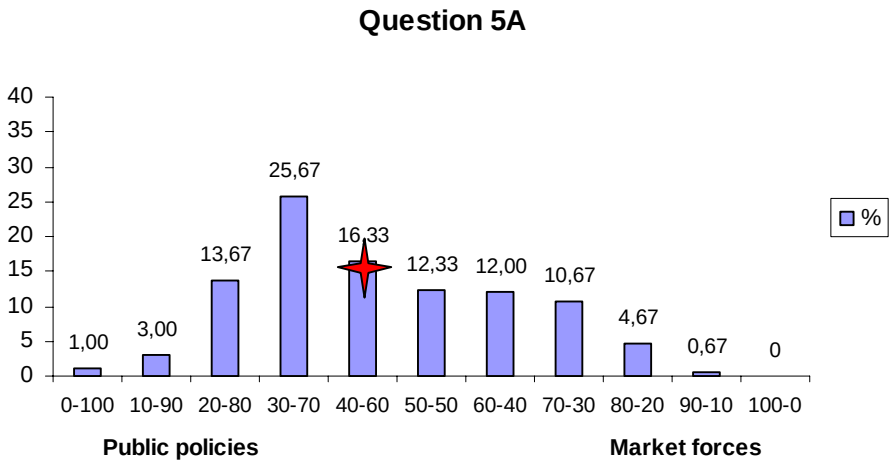
Between discretionary and persistent policies the sample showed no clear preference arguing for a 50-50 mix. Again, employment did not seem to affect peoples' opinion. Exactly the same was the case for the mixes of competition vs. cooperation, informal vs. formal arrangements, and sectoral diversity vs. specialisation. A similar picture was apparent in the mix of endogenous qualities and exogenous forces, though the majority of the people working in the public sector (17%) shown a preference for endogenous qualities.

Table 13: Combination of opposite characteristics promoting economic dynamism.

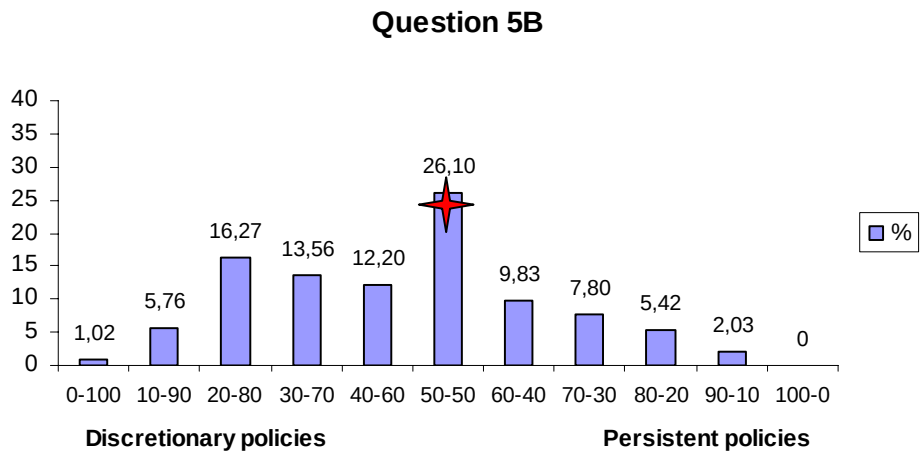
	0% *100%*	10% *90%*	20% *80%*	30% *70%*	40% *60%*	50% *50%*	60% *40%*	70% *30%*	80% *20%*	90% *10%*	100% *0%*	
Public policies	1,00	3,00	13,67	25,67	16,33	12,33	12,00	10,67	4,67	0,67	0,00	*Market forces*
Discretionary policies	1,02	5,76	16,27	13,56	12,20	26,10	9,83	7,80	5,42	2,03	0,00	*Persistent policies*
Closed economy	9,76	24,39	18,82	13,59	2,09	5,23	3,14	5,23	8,71	9,06	0,00	*Open economy*
Endogenous qualities	0,35	6,27	7,32	9,76	12,20	25,78	12,89	12,54	9,06	3,83	0,00	*Exogenous forces*
Competition	1,35	5,74	8,11	10,14	13,51	26,35	9,80	9,80	11,15	4,05	0,00	*Cooperation*
Flexibility	0,99	6,60	8,91	8,91	6,93	20,46	14,85	15,51	10,56	4,62	1,65	*Stability*
Informal arrangements	0,33	5,35	13,04	14,38	14,72	19,06	9,36	9,70	10,70	3,34	0,00	*Formal institutions*
Sectoral diversity	0,66	3,99	10,96	13,29	12,62	25,25	9,97	11,96	9,97	1,33	0,00	*Specialisation*
Public sector decentralisation	0,66	7,64	11,30	9,30	9,30	20,60	9,97	10,96	14,62	4,65	1,00	*Public sector centralisation*
Metropolitan dominance	1,00	6,67	14,00	11,67	12,67	26,33	10,00	7,67	7,00	2,33	0,67	*Polycentric urban system*
Social inequality	6,27	7,26	11,22	14,52	18,81	6,93	10,89	3,63	4,95	8,25	0,00	*Social cohesion*

A polarised distribution was apparent when the question turned to close vs. open economy. However, most respondents (24%) seem to opt for a 10% - 90% mix in favour of openness (the median was favoured openness at 20%-80% 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 mix of public sector decentralisation vs. centralisation. Again, the majority of private sector employees (21%) opt for a combination of more decentralisation and less centralisation (80% and 20% respectively).

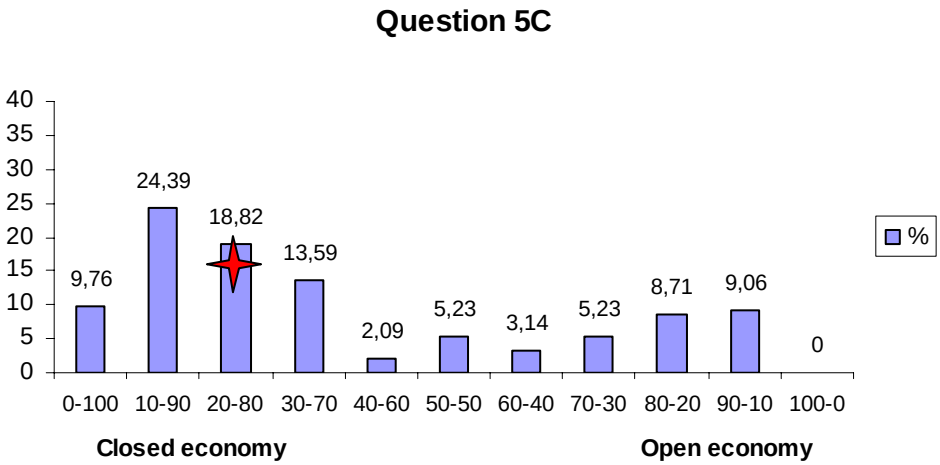
Graph 1



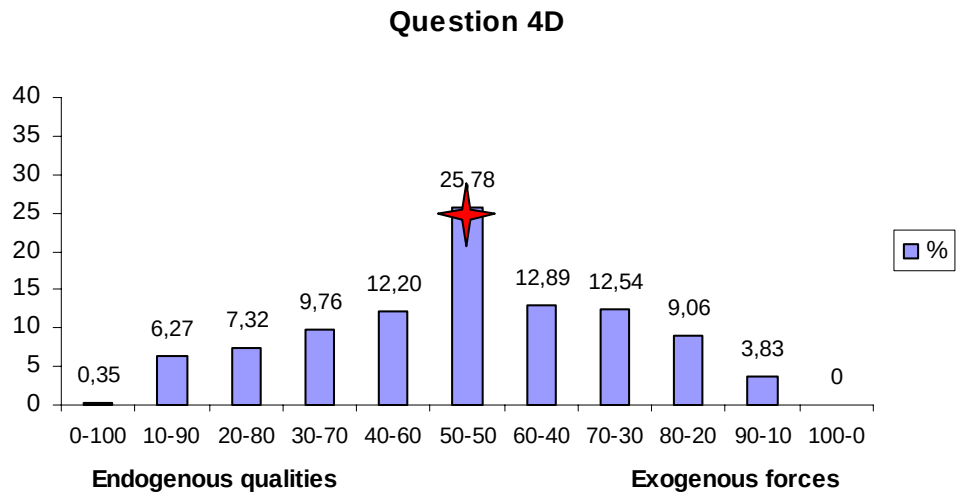
Graph 2



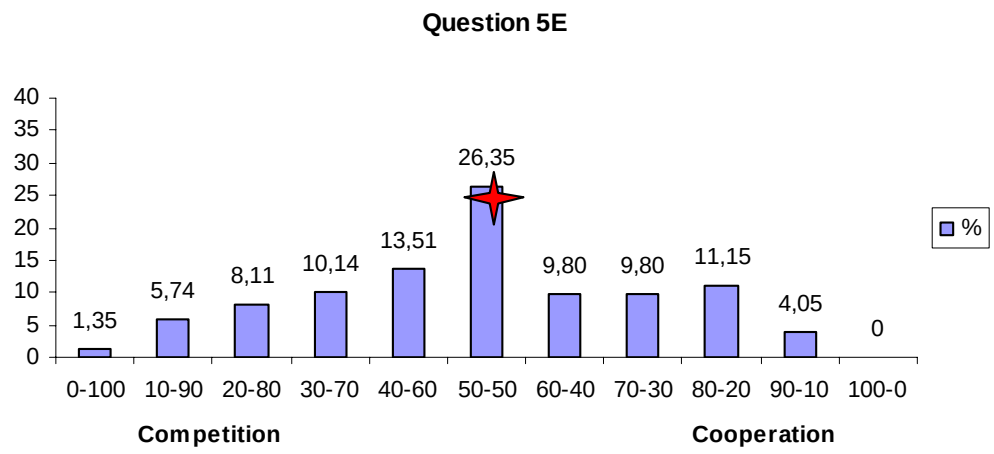
Graph 3



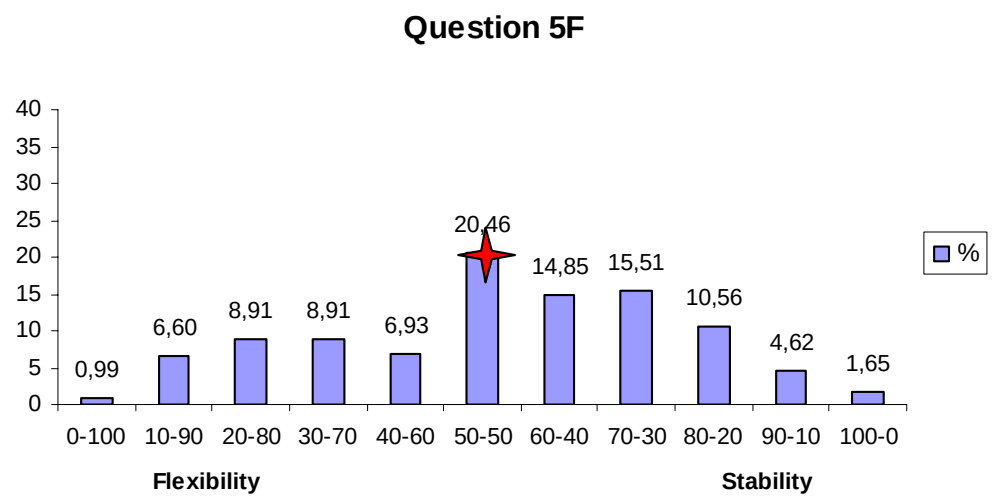
Graph 4



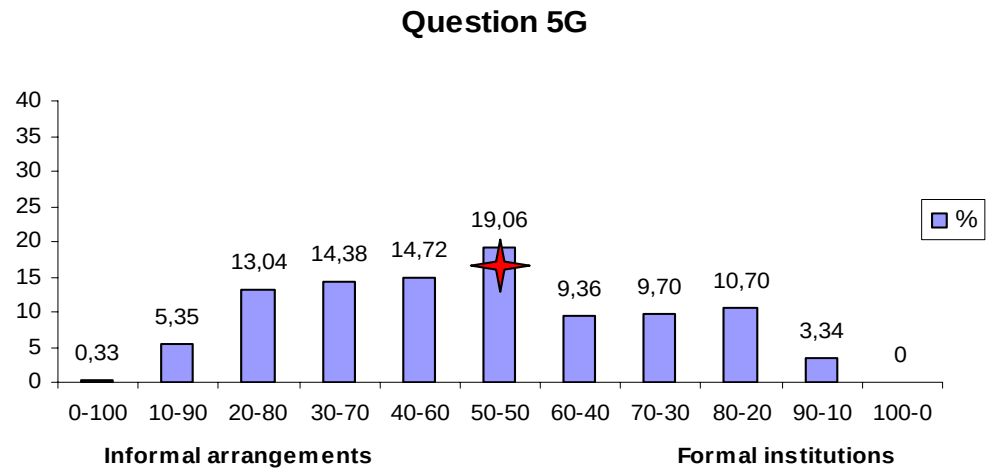
Graph 5



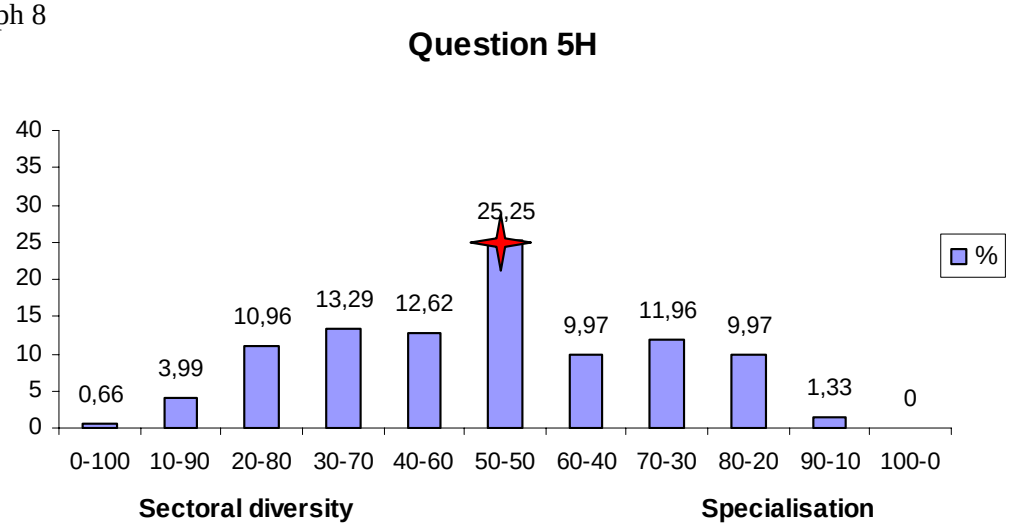
Graph 6



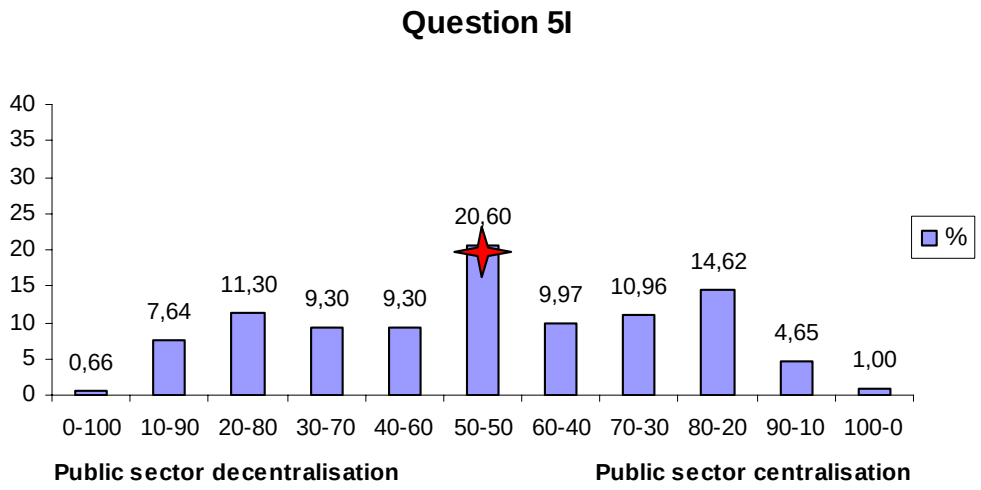
Graph 7



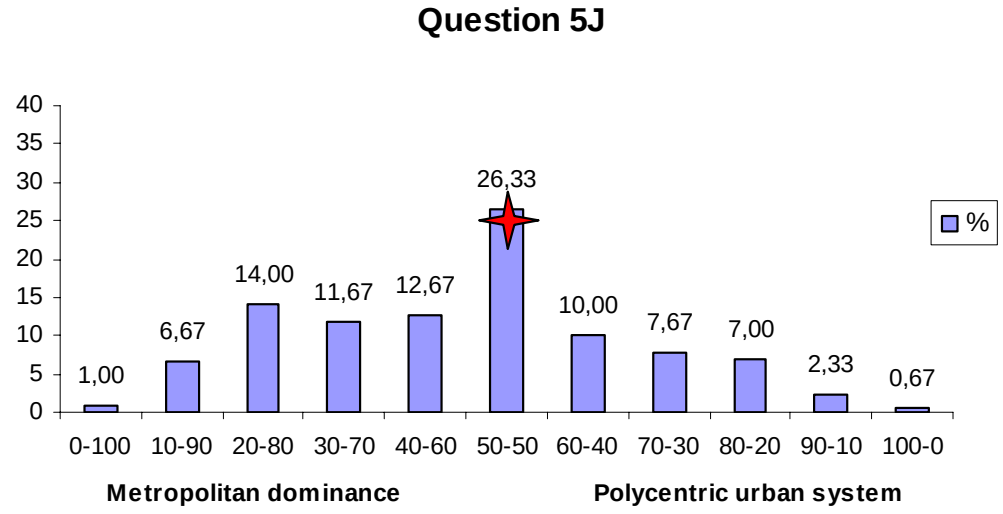
Graph 8



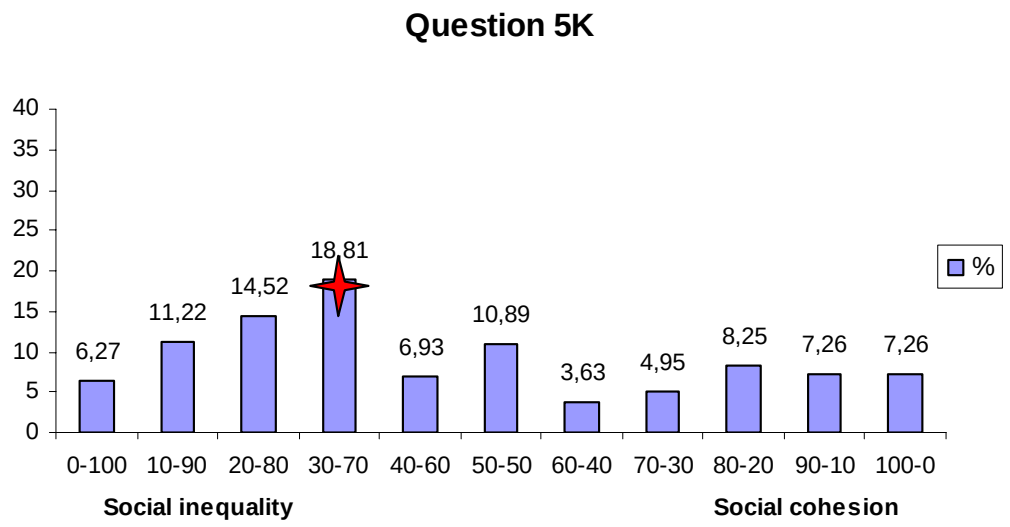
Graph 9



Graph 10



Graph 11



Between stability and flexibility the median was set in 50-50, though the distribution was a bit skewed in favour of flexibility. Clearly respondents of the private sectors were more incline towards this, as the majority vote (19%) showed.

There was no clear preference between metropolitan dominance and urban polycentricity, since the median was stabilised at 50-50. However, the distribution of both public and private sector employees was showed an slight inclination towards polycentricity.

Finally, as regards the combination of social inequality and social cohesion, the majority of respondents argued for a mix of 30% of the former and 70% of the latter.

4.6 Theoretical approaches and methodologies explaining economic dynamism

Turning to the question (see Appendix, Tables 14,15,16,17,18) of which theoretical frameworks explain better economic dynamism, respondents opt for the New Economic Geography models followed by neoclassical theory, and institutional economics. The cumulative causation theories were scored last.

Table 14: Theoretical backgrounds explaining better economic dynamism at any spatial level.

Rank	Theoretical backgrounds	Average score	1st choice (%)
1	New trade theories / New Economic Geography	3,14	23,39
2	Rational expectations / neoclassical	3,22	22,71
3	Institutions	4,00	16,10
4	Demand management models	4,03	9,36
5	Supply-side models	4,20	12,66
6	Endogenous growth	4,33	12,99
7	Path dependence / cumulative causation	4,66	9,58

Table 15: Most appropriate methods to highlight the determinants of economic dynamism.

Rank	Methods	Average score
1	In-depth case studies	1,83
2	Historic analysis	2,03
3	Formalism/modelling	2,14

Table 16: Theoretical backgrounds explaining better economic dynamism at any spatial level – Public Sector

Rank	Theoretical backgrounds	Average score
1	Endogenous growth	2,78
2	New trade theories / New Economic Geography	3,01
3	Supply-side models	3,77
4	Demand management models	4,09
5	Institutional Economics	4,09
6	Path dependence / cumulative causation	4,15
7	Rational expectations / neoclassical	4,74

Table 17: Theoretical backgrounds explaining better economic dynamism at any spatial level – Private Sector

Rank	Theoretical backgrounds	Average score
1	Demand management models	3,40
2	Endogenous growth	3,47
3	Supply-side models	3,84
4	Rational expectations / neoclassical	3,90
5	Institutional Economics	4,68
6	Path dependence / cumulative causation	5,14
7	New trade theories / New Economic Geography	6,24

Table 18: Theoretical backgrounds explaining better economic dynamism at any spatial level – Academia

Rank	Theoretical backgrounds	Average score
1	Path dependence / cumulative causation	1,67
2	Endogenous growth	3,22
3	New trade theories / New Economic Geography	3,30
4	Institutional Economics	3,87
5	Rational expectations / neoclassical	4,38
6	Demand management models	4,41
7	Supply-side models	4,42

The picture however changed when responses analysed according to the occupation of the person replied. Thus, people working in the public sector highlighted the importance of endogenous growth theories, followed by the New Economic Geography models and the supply-side models, whereas neoclassical explanations came last. In turn, private sector employees indicated the explanatory value of demand management models, followed by the endogenous growth theories and the supply-side models, downrating the New Economic Geography models. Finally academics opt for cumulative causation theories, followed by the endogenous growth and the New Economic Geography theories leaving last the supply-side models.

As regards the appropriate methodologies respondents were showed a preference for in-depth case studies followed by historic analysis and formal modelling.

5. Conclusions

This paper draws on a questionnaire survey to explore experts' views on the factors underlying economic dynamism. The results of the survey provide empirical support to a number of important research hypotheses, contributing in this way to existing literature. The value of this survey is based on the characteristics of the respondents. People with an 'informed' opinion in the academia, the public and the private sector were targeted as the sample group, providing responses on issues related to the sources of economic dynamism as well as on theoretical and policy dilemmas.

First, the survey identified a number of important determinants of economic dynamism at the global scale. These determinants are consistent with the relevant mainstream literature,

but also with its most recent developments, highlighting the increasing influence of political and institutional factors. In this framework, China and India exhibit by far the greatest potential for economic dynamism, while Europe receives a lower ranking. The last positions are taken by countries and areas located in Africa, implying the need for urgent and stronger or different international development policies.

Second, it was found that the determinants of economic dynamism do not have the same influence in advanced and less advanced countries (or regions). There are clear indications that the priorities in terms of the factors influencing economic dynamism are quite different between developed and developing countries. For the first ones, the respondents adopt parameters with more economic, hi-tech and specialised features, whereas for the second ones, matters related with the socio-political framework, the level of foreign direct investments and the formal institutions seem to prevail. It is worth noticing that the high degree of openness, the capacity for adjustment and the quality of infrastructure are the common preconditions for economic dynamism shared by both developed and developing countries. In general, the results of this part of the questionnaire raise a question for the efficiency of a number of existing development policies.

Third, respondents tend to select overall balanced combinations of opposite characteristics related to theoretical or policy dilemmas in their effort to promote economic dynamism. This tendency was verified in the dilemmas of discretionary vs. persistent policies, endogenous qualities vs. exogenous forces, competition vs. cooperation, flexibility vs. stability, informal arrangements vs. formal institutions, sectoral diversity vs. specialisation, public sector decentralisation vs. centralisation and metropolitan dominance vs. polycentric urban system. At the remaining theoretical dilemmas, the distribution of the responses was clearly skewed in favor of market forces instead of public policies, open economy instead of closed economy and finally social cohesion instead of social inequality. The prevailing mix of opposite characteristics that is considered to best promote economic dynamism indicates that a number of perceived relations are valid only within a limited range of values. This raises a question for the validity of linear models, in which relations and impacts can be either positive or negative.

Fourth, satisfaction with different theoretical paradigms varies among respondents according to their occupation (academia, private sector, public sector). The degree of

differentiation is quite high, indicating that there is a different understanding of the main functions of the economy among the three groups. Theoretical paradigms highly popular in the academia appear in the last places of preference for people working in the private sector. Finally, pro-active models tend to be appreciated more than market-driven models.

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