

The Determinants of Economic Growth in Emerging Economies: a Comparative Analysis

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ABSTRACT

Over the past decade, most emerging and transition economies are experiencing fast growth, which is above the world average, and a consistent institutional change. The aim of this paper is twofold. First of all, a cross-country analysis of a group of emerging and transition economies in the period 1999-2005 will be carried out in order to understand what determines such growth among these countries. Secondly, a comparative analysis will be carried out. The countries will be classified according to their socio-economic models and institutional variables. Countries will be classified by taking their financial structures and ownership control over firms into consideration (Levine and Kunt, 1999; La Porta *et. al.*, 1999), and we will investigate whether institutions and the type of socio-economic model may have an impact on growth.

The central hypothesis of the paper is that explaining economic growth is a complex issue which needs positive interaction of several socio-economic and institutional factors. My analysis suggests that countries can grow with their own “style of capitalism” and economic model, and the determinants of economic growth seem to be the ability of each country to associate appropriate governance and institutions with education level, export activity and non-income dimensions of human development (life expectancy growth and infant mortality reduction). In fact, countries which experienced an increase in non-income dimensions of human development during 1970-2000, as a consequence of appropriate institutions, have sustained economic growth.

Key words: economic growth, institutions, human development, socio-economic models.

JEL: F430, O430, O150, G320, I310

¹ I wish to thank Prof. Paul Walsh and all the staff at the Institute for International Integration Studies (IIIS), Trinity College of Dublin, where I worked in November-December 2006 as a visiting researcher. I would also like to thank Prof. Sebastiano Fadda for his support. The usual disclaimer applies.

1. Introduction

One of the most challenging themes for economists is to explain “how countries become rich”. Adam Smith observed that some nations are richer even if not all the individuals in that society work whereas other nations are extremely poor, even if all the individuals work. He attributed most of the output differences among countries to better organization and labour division. Recently, there has been burgeoning literature in this field but theories and empirical analyses about economic growth consistently diverge.

The aim of this paper is twofold. Firstly, a cross-country analysis of a group of emerging and transition economies during the years 1999-2005 will be carried out. This is a group of 42 countries which includes almost all the emerging economies as defined by the IMF. These countries experienced fast growth which was above the world average in the past decade and a consistent institutional change. Moreover, Spain and Ireland are included in this analysis because they can be considered reference points for emerged economies. The first research question is what determines such growth among those 44 countries.

Secondly, a comparative analysis will be carried out. The 44 countries will be classified according to their socio-economic models and institutional variables. Countries will be classified by taking their financial structures and ownership control of firms into consideration (Levine and Kunt, 1999; La Porta *et. al.*, 1999). A first mapping of countries includes:

1. *competitive capitalist* countries
2. *corporative capitalist* countries
3. *dirigiste economies*
4. *socialist markets*.

I will investigate whether institutions, defined in general as “rule of the game” (North, 1990) have, in some way, an impact on growth and if the type of socio-economic model is one of the determinants of growth.

The central hypothesis of the paper is that explaining economic growth is a complex problem which needs positive interaction of several socio-economic and institutional factors. The economic growth literature abounds with papers explaining growth on the basis of four or five factors, often taken singularly, such as human capital (Lucas, 1993; Barro, 1998; Young, 1995; Goldin and Lawrence, 2001), technology (Kuznets, 1966; Landes, 1969; Mokyr, 1990), natural resources (Shaban, 1987;

Walker and Ryan, 1990), trade (Lockwood, 1954; Pomeranz, 2000; Galor and Mountford, 2003) and population density (Das Gupta, 1994). In parallel, “market-friendly” economic reforms are advocated as necessary conditions for economic growth. However, such economic reforms in Less Developed Countries (LDC) have failed to deliver the promised economic growth during the 1980s-1990s (Easterly, 2001).

Recently, more and more economists have started to take into account the role of institutions for economic growth (North, 1990; Jones 1981; Knack and Keefer, 1995; Olson *et al.* 1998; Nugent and Lin, 1995; Acemoglu *et al.*, 2001; etc). In parallel, an increasing literature championed by the United Nation of Development Program (UNDP) has been critical of economic growth which does not take into account human development indicators such as life expectancy, infant mortality, literacy, etc. The main problem with all this literature is the lack of interaction between some relevant socio-economic factors of growth and well-captured institutions. On the contrary, in our paper we maintain that countries which experienced an increase in non-income dimensions of human development during 1970-2000 as a consequence of appropriate institutions, will have sustained economic growth. Secondary school net enrolment and Export are included in the cross-country analysis as independent variables.

We found that the socio-economic model does not seem to be a determinant of growth and countries can grow with their own “style of capitalism” and economic model. The determinants of economic growth seem to be the ability of each country to associate appropriate governance and institutions with education level, export activity and non-income dimensions of human development (life expectancy growth and infant mortality reduction).

The rest of the paper is organized as follow: in section 2 we define emerging economies and the countries that were part of our sample; in section 3, we present briefly the relevant literature on economic growth; in section 4 we describe our variables, Human Capital, Openness, Education, HDI and Institutions; in section 5 we present our model and the first results of a cross-section analysis and in section 6, an institutional analysis is proposed and, on the basis of that, we control for the type of socio-economic model; some final remarks will conclude the paper.

2. Emerging economies: a mishmash of countries

The term “emerging economy” (EE) was coined in 1981 by Antoine Van Agtmael of the World Bank, and refers to a country that is “emerging” from under-development, and started a path of considerable economic growth, together with a process of reforms.² Yet those countries are from low-to-middle per capita income economies. They are approximately 80% of the global population and they represent about 20% of the world's economies. Emerging economies are small-, medium- and large- sized, and, in general, they appear on the global scene because they are becoming more open economies. China and Tunisia, for instance, are part of the category of emerging economies because they have been experiencing high economic growth and a process of reforms over the past decade. Moreover, they opened their markets to the global economy.

In this sense, emerging economies can also be considered transitional economies because they are experiencing a structural and institutional change, moving from closed economies to open economies. Following this definition, some European countries, such as Spain and Ireland, could have been considered emerging economies in the 1980s and 1990s when they experienced fast growth and structural change. For this reason, we include them in our analysis as reference countries for currently emerging economies.

Along with this kind of EE, another category can certainly be added, that of the former communist countries which started the transition from planned economy towards market economy, i.e., Soviet Union Republics (FSUR) and Central Eastern European Countries (CEEC). However, not all of them are part of our analysis. We selected a sample of countries which are generally experiencing fast growth together with a program of reforms. Some countries, such as Uzbekistan, Belarus and Turkmenistan did not start a true transition process and they are still planned economies. Other countries, such as Armenia, Ukraine, Azerbaijan and other Countries of the Independent Confederation (CIS) did not experience a process of fast growth and, for this reason, are not included in our analysis.

On the contrary, 44 countries are part of our sample: 13 former communist countries: Russia, Poland, Slovenia, Czech Republic, Hungary, Slovak, Estonia, Lithuania, Croatia, Albania, Latvia, Bulgaria and Romania; 12 Asian countries: China and Hong Kong, India, Indonesia, Malaysia, the

² Agtmael A., *The Emerging Markets Century: How A New Breed of World-Class Companies is Overtaking the World*, Free Press, January, 2007.

Philippines, Vietnam, Singapore, Taiwan, South Korea, Thailand, and Pakistan; 9 Latin American countries: Brazil, Chile, Argentina, Peru, Mexico, Venezuela, Bolivia, Ecuador, and Colombia, 1 South-east European country, Turkey; 2 Middle Eastern countries: Saudi Arabia and Israel; 5 African countries: South Africa, Botswana, Egypt, Algeria and Tunisia and 2 old European Union member states, Spain and Ireland.

Average economic growth in the whole sample, in the period 1999-2005, was 4.3%, above the world average growth of 4.1% (IMF, World Economic outlook, 2006). Some countries such as Venezuela, Turkey, Pakistan and Argentina, had an average growth during 1999-2005 which was lower because of crises and slumps between 1999-2001. Nevertheless, in the last 3-4 years, these four countries also experienced an economic growth rate which was far above the world average.

3. Explaining economic growth: a brief review

As we stated above, explaining economic growth is a complex problem because several factors can contribute to growth process. All the theoretical predictions which assume that a single specific factor makes some countries richer than others do not find consistent empirical confirmation. Many exceptions, for instance, can be raised against the idea that human capital is the only factor which is important for growth: some countries such as Poland, Russia, South Korea have education levels which are very close to those in the richest economies yet their GDP per capita is much lower. Another problem with human capital is the possibility of reverse causality between growth and education and it is important to understand which one comes first and which one causes what. Human capital is definitely an important factor for economic growth (Barro and Sala-i-Martin, 1995; Barro, 1998) but it has also been seen that differences in human capital can explain no more than one-fifth of the differences in living standards (Olson, 1996).

A similar argument can be put forward with regard to the relation between technology and growth. Richer countries can afford high levels of R&D expenditure and they can enjoy positive returns and spillover from that. Investment in technology is definitely correlated, both theoretically and empirically, with economic growth but the root of the problem seems to be how countries can afford high levels of investment in technology and, consecutively, how some nations have more advanced technology than others (Yeager, 2004).

Another factor which is often considered very important for economic growth is natural resources (Shaban, 1987; Walker and Ryan, 1990). United States, Norway, Germany and other richer countries possess abundant natural resources such as oil, coal, land, etc. However, many other better or equally endowed countries such as Russia, Brazil, Nigeria, Venezuela, Saudi Arabia etc. are not as rich while other poorer endowed countries such as Japan, Singapore, Taiwan, Hong Kong are much richer.

The same exceptions can be found when considering trade and population density. In the first case, together with the success of some export led countries such as Ireland and the “Asian Tigers”, the history of economies also records successfully cases of inward-oriented countries such as France and other old European Member States after the IIWW. Even the Asian tigers, before entering the global economy, created a strong “infant industry” and promoted import-substitutions policies. From a theoretical point of view, similar contradictions can be traced between some economists who support the idea of a strong correlation between trade and growth (Bhagwati, 2004, Galor and Mountford, 2003) and others who minimize the impact of trade on growth (Kreize 2000) arguing that in some cases negative effects such as inequality, wage discrimination and skilled and unskilled inequality seem to prevail (Nayyar, 2000). With regard to population density, today we cannot say that poverty is always associated with high density as some economists, following Malthusian predictions, initially believed. Switzerland, Germany (and in particular the former West Germany) and newly industrialized Asian countries have a high population density and this was not an obstacle to their economic development. In contrast, many Latin American countries such as Brazil and Mexico have a low population density but this did not bring development.

Hence, it seems that a comparative analysis reveals many problems and many controversial aspects related to development. Economic growth does not seem to be associated with one single particular factor which is able to bring about development. No single mentioned factor is able to explain economic differences between countries. Moreover, the failure of Washington Consensus during 1990s in several countries such as Mexico, Argentina, Russia, etc. (Stiglitz, 1998; Rodrik, 2004) also showed that there is no single economic policy receipt suitable for all countries while interaction between variables, national institutions and path dependency can explain much more the recent economic success of many countries in Asia or the economic boom of some European countries after the Second World War (Rodrik, 1999).

In former communist transitional economies, the transformation from plan to market was mainly perceived by economists and policy makers as a combination of Liberalization, Privatization and Stabilization (LPS). This receipt, associated with democratization, brought about moderate success in some countries such as Poland, Czech Republic, Hungary while in other countries, where LPS receipt was less associated with democratization, such as Russia, Romania, Bulgaria and many other former Soviet Republics, it brought about failures and less income than prior transition. On the contrary, in China and a few other emerging economies where heterodox policies were implemented, there was no consensus on the above mentioned LPS receipt yet China economic growth is defined as “phenomenal” and economic success is real. China’s success occurred without complete liberalization, without privatization and without democratization (Qian 2003). In 1988, China’s GDP was half of Russia’s, in 1998 Russia’s GDP was half of China’s. Markets incentives occurred without liberalization and secure private property rights.

China was poor, overpopulated, short of human capital and natural resources and was constrained by an ideology which was hostile towards markets. Nevertheless, GDP growth took place and was, under such initial conditions, really surprising (Qian, 2003). GDP in terms of “Purchasing Power Parity” (PPP) in China is about to reach and/or to overcome the ones of the largest European economies (Italy, France, United Kingdom, Germany).

4. The determinant of economic growth: interaction between selected variables

As the review of the literature above suggests, there does not seem to be a single receipt with one variable that is able to explain economic growth. On the contrary, empirical evidence in developed capitalist economies and also in the recently emerged economies such as Ireland and Spain, the reference countries in our sample, shows that economic receipt was very different among capitalist countries. Moreover, a consistent part of economic growth comes from a residual which is not explained by traditional variables such as capital and labour. This residual, which is generally associated with technological progress, can be explained by better endowment of some variables such as institutions, infrastructures, social capital, etc. (Knack and Keefer, 1995; Olson et al., 1998; Jones and Hall, 1999).

Therefore, in order to explain economic growth, our analysis focuses on the *interaction* between some socio-economic factors and institutional indicators. Only when “institutions”, which provide the proper governance, give the right incentives to economic agents, a positive *interaction* with

other socio-economic variables will foster economic growth. Each society can have their own formal and informal rules but what it is important is that they provide a consistent institutional framework for a good business environment, reduce uncertainty, and implement effectively appropriate institutions and policies. Below we will present the relevant factors which can interact positively with each other in order to create economic growth.

4.1 Human Capital

Starting from endogenous growth models, more and more economists included schooling in their growth model. Romer (1986), following seminal works by Young (1928), Kaldor (1957) and Arrow (1962), imputed increasing returns to scale to knowledge. An improvement in the skills of workers increases, *ceteris paribus*, the final outcome simply because skilled workers are more productive. Knowledge is strictly connected with school and education. Lucas (1988) directly associated the human capital with “learning by schooling” and “learning by doing”, allowing human capital to become reproducible. Physical capital integrated by this definition of human capital is part of a cumulative and reproducible process which avoids decreasing return to scale. Empirically, this model was followed among others by Levine and Renelt (1992), Barro and Sala-i-Martin (1995) and Barro (1998) who showed that convergence between countries is conditional to improvements over time in secondary school enrolment. At the same time, neoclassical economists argue that human capital only accounts for a fraction of cross-country income differences (Hendricks 2002). Moreover, reverse causality, according to which growth causes schooling, seems to be, in their cross-country analysis, more important (Bils and Klenow, 2000). In our model, human capital, expressed by the variable “secondary school net enrolment” as an average between 2000-05, contributes to economic growth only when it is associated with appropriate governance, captured by political stability and government effectiveness. Of course, policies and incentives, even in politically stable countries with strong governments could be biased. However, political stability and government effectiveness would at least offer a consistent and secure institutional framework which would allow economic agents, both workers and firms, to accumulate knowledge and capital (Jones and Hall, 1999). Economic agents would know that they could get benefits from that better than in a country where political instability and government ineffectiveness prevail.

4.2 Openness

Lewis (1980), and with him many economists such as Lucas (1993) and Baghwati (2004), believed that trade is the engine of economic growth. Nevertheless, the experience of globalization, so far,

has shown that performance of opened economies can vary consistently. The hypothesis that we are supporting in the paper is that openness *per se*, although it is one of the indicators of competitiveness, it is not an engine of economic growth. Openness (defined as import and export as GDP percentage) and integration in the world economy should be accompanied by institutions and state strategies which support internal cohesion and maintain external competitive advantages. According to Rodrik (1999), the best performing countries are the ones that are integrated in the world economy with appropriate institutions which are able to support the impact of globalization on domestic market and social domestic issues. Countries with poor political institutions, weak conflict management institutions and strong social cleavages suffer the external shocks and do not perform well in the world economy.

The world market is a source of disruption and upheaval as much as it is an opportunity for profit and economic growth. Without the complementary institutions at home – in the areas of governance, judiciary, civil liberties, social insurance, and education – one gets too much of the former and too little of the later. The weakness of the domestic institutions of conflict management was the Achilles' heel of the development strategy pursued in Latin America, the Middle East, and elsewhere, and this is what made countries in these regions so susceptible to the external shocks of the 1970s (Rodrik, 1999 p.96).

In Lucas (1993), international trade contributes to stimulate economic growth through a process of structural change and capital accumulation. As in the case of Ireland, where according to Walsh and Whelan (1999) a structural change had already taken place during the 1970s and created conditions which allowed the Irish economy to grow considerably in the 1990s and later in the 2000s.³ Capital accumulation is determined by a “learning by doing” and a “learning by schooling” in a process of knowledge and innovation spillover. A country which protects their goods from international competition by raising tariffs on goods made with intensive skilled work will have as an effect an increase, at home, in the price of goods which use intensive skilled work. Skilled workers' wages will increase and R&D will be more expensive. Consecutively investments in R&D will decrease and growth will be affected negatively. On the contrary, deleting tariffs on those goods will cause a reduction in the price of goods which use intensive skilled work. R&D will cost less and investments in R&D will increase with positive effects on growth (Lucas, 1993). Policies should therefore address such problems and should create conditions for effective and substantial R&D investments.

³ Similar conditions which are however less marked, took place in Spain which together with Ireland is a reference country in our sample.

In our model, openness (expressed by the variable “Export” in \$US during 2000-05) to world economy is not a condition of economic growth. Following Rodrik’s approach, policies and institutions together with openness and human capital interact positively and can create better conditions for sustainable economic growth. Institutions give the right incentive for knowledge to be accumulated and capital to be invested. This allows firms to be more competitive and export more leading to higher economic growth.

4.3 Human Development

The idea that the GDP is an absolute and reliable measure of development has been widely criticized by development economists (Morris, 1979; Sen, 1985; Noorbakhsh, 1996). A great deal of empirical evidence shows that, both in developing and in developed economies, some countries have relatively high GDP per capita but very low indicators of development such as literacy, access to drinking water, rate of infant mortality, life expectancy, education, etc. This is partly due to the fact that wealth is unequally distributed. Vice versa, there are cases of relatively low GDP per capita and high indicators of development in countries where income is more equally distributed (Ray 1998).⁴ Human development, which is considered to be a process which allows for an environment where people enjoy long, healthy and creative lives (UNDP, 1990), is a better measure of well-being. Human development is measured using the Human Development Index (HDI) of the United Nations Development Programme (UNDP).⁵

The core idea which is maintained in this paper is that countries that experienced an increase in human development levels will have sustained economic growth. Investments in Human

⁴ For instance, Guatemala has a GDP per capita that is higher than Sri Lanka but inequality is much higher in Guatemala. Development indicators are much better in Sri Lanka than in Guatemala. Life expectancy (years): 72 compared with 65; infant mortality rate (per 1000): 18 compared with 48; access to safe water (% of pop.): 60 compared with 62; adult literacy rate (%): 89 compared with 54 (UNDP, 1995). Examples like this are numerous and non-perfect correspondence between GDP and development indicators can be observed even in industrialized countries where there are more resources to distribute. For instance, Ireland has the highest GDP per capita after Luxemburg yet its non-income dimension indicators i.e., education and life expectancy are lower than Italy or Portugal (UNDP 2006). Saudi Arabia has a GDP per capita which is higher than many transition economies such as Poland Czech Republic, Hungary etc, but its non-income dimension indicators are lower. USA has an income per capita which is much higher than most of the countries in the world, yet life expectancy of black American citizens is lower than in China or in the Indian State of Kerala. As a result of all these contradictions and exceptions, the UNDP taxation of Human Development Indexes and GDP rank is not at all coincident (UNDP, 1999).

⁵ The UNDP Human Development Index is a composite index, ranking between 0-1. It is the combination of two non-income dimensions of people’s lives and one income dimension. The first one is life expectancy at birth which also reflects infant mortality. The second one is educational attainment which is a combination of primary, secondary and tertiary educational level and adult literacy rate. The third element is an adjusted GDP index which reflects income per capita measured in Purchasing Power Parity (PPP) at US\$ (UNDP, 1990).

Development increase both aggregate demand and effective quality of life. A better quality of life will generate a better and more skilled labour forces, with positive effects on economic growth, as Barro (1998) showed using improvements in life expectancy from 1960s to 1990s as an explanatory variable in growth regression. We will show that countries which invested during 1970-2000 in non-income dimensions of human development are emerging today (1999-2005) as fast growing economies. However, non-income dimensions of human development are associated with institutional improvements and competitiveness. In other words, human development, together with appropriate institutions and competitiveness of markets, underlined by export ability and human capital, determine economic growth.

4.4 Institutions

Economic researches showed that institutions and good governance, in some ways, matter in economic organization and rising productivity (i.e., Knack and Keefer, 1994; Olson et al 1998; Jones and Hall 1999; Acemoglu et. al., 2001; etc). Institutions are in general defined as “the rules of the game”. A more sophisticated definition of institutions is “a set of social rules that structure social interactions” (Knight 1992, p. 2). If we consider this definition of institutions, then the explanation of development should be consistent with that of Kuznets (1965, p. 30): “the transformation of an underdeveloped in to a developed country is not merely the mechanical addition of a stock of physical capital: it is a thoroughgoing revolution in the patterns of life and a cardinal change in the relative powers and position of various groups in the population”. Consequently, in order to change institutions, the prevalent social rules need to be changed. In emerging economies, informal economic institutions (i.e. uncodified and prevalent social rules⁶) can be very resistant towards change and inertia may occur. This is one of the most important problems which inhibit development. Institutional policies and an active State role are therefore needed in order to favour cultural change and foster development.

To characterize institutions and institutional reforms is a very difficult task and institutional economists are well aware of this. Recently, Bardhan (2005) suggested that some non-income dimensions of development are better explained by a particular institutional index such as participatory rights and democratic accountability than property right institutions, while according to Rodrik and Rigobon (2005), who explain income gaps among countries, democracy and the rule of law are both good for economic performance.

⁶ Cf. Hodgson (2006).

Since 1996 the World Bank has regularly published governance indicators which focus on political institutions and informal institutions.⁷ We will use these indicators as independent extra-economic variables interacting with other economic variables such as openness and education in order to observe their relation with economic growth. There are two variables which seem have a positive and statistically significant impact on our cross-country section, Government Effectiveness and Political Stability. This result confirms that countries which enjoyed relatively high political stability and governments which were able to give effectiveness to appropriate rules and institutions had better performance in terms of GDP. Another variable, such as Voice and Accountability, seems to be important for performance in terms of HDI. Finally, Control of Corruption, Regulatory Quality and Rule of Law which are also taken into consideration, do not seem statistically significant for the GDP or HDI.

The point is that if Government is ineffective or the State is politically unstable, the formal economic institutions are weaker and informal institutions and processes of spontaneous forces prevail. This informal institutionalization may also be *parastatal* or illegal. Examples include the mafia, organized crime, corrupt bureaucracy and an informal economic network among agents, lobbies, etc. These forces fill the *vacuum power*. These kinds of informal institutions will generate an informal and illegal economy, underdevelopment forces such as inequality and poverty will prevail and human development will be lowered. Moreover, economic relations will be weakened and transaction costs will increase, thus negatively affecting economic growth.

Recently the relationship institutions → economic growth has been increasingly investigated both from a theoretical and empirical point of view (e.g., North and Thomas, 1981; Jones 1981; Knack and Keefer, 1995; Rodrik 1999). Olson *et al.* (1998) show that better governance and quality of institutions are the main sources of economic growth and determine the differences between the output of the various countries. Along the same lines, Jones and Hall (1999) find that “Social Infrastructure” and governmental policies explain the different levels among countries of the residual productivity, which in turn, is on the basis of the GDP level of the countries. However, very often the main problem with this analysis is a reliable estimate of the impact of institutions on economic performance. Usually, rich countries have better institutions. The difficulty is to obtain an

⁷ World Bank indicators, elaborated by Kaufmann, Kraay and Mastruzzi (2006) reflect the statistical compilation of responses on the quality of governance given by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries as reported by a number of survey institutes, think tanks, non-governmental organizations, and international organizations. Indexes are estimated between -2,5 and +2,5. They concern five fundamental governance dimensions: Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

instrumental and exogenous variable to compare with income. Acemoglu *et. al.*, (2001) estimate in a cross country section that institutions, expressed instrumentally by settler mortality rates, have a significant effect on economic growth.

In the model below, independent institutional variables will be regressed together with non-income dimension variables such as life expectancy and infant mortality, which to some extent, are indirect indicators of policies (cf. Easterly, 2001). The first results seem to suggest that only when institutions and policies interact with openness - represented by export capacity of countries - and with education – represented by the percentage of net enrolment in secondary education - the cross country section seem to yield consistent results.⁸

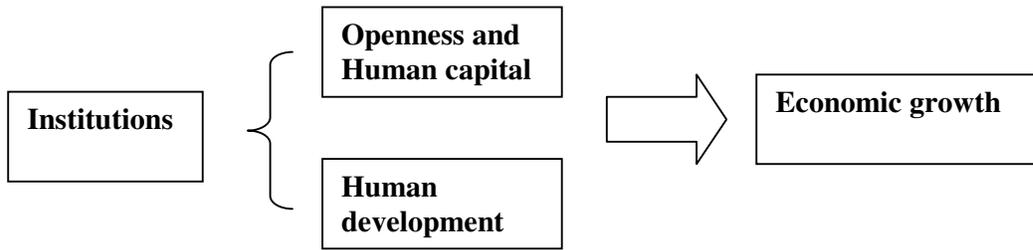
5. The model

In our model, institutions, measured by the World Bank governance indicators, play a crucial role. On the one hand, institutions, and voice and accountability and government effectiveness in particular explain Human Development. In fact, human development is based on Sen's notion of "capability", perceived in the sense of what people want and can choose (Sen 1985; Sen 1999). At the same time, choices are determined by *institutions* and perceived in the sense of policies that give opportunities to people, in other words, capabilities (Fadda, 2003). Increasing Human Development means increasing both aggregate demand and effective quality of life. This is on the basis of the first positive interaction between institutions and human development. A better quality of life, captured by life expectancy and infant mortality, will generate stronger and better labour forces, with a positive effect on economic growth.

On the other hand, World Bank indicators and political stability and government effectiveness, in particular, provide an institutional framework which is useful for reducing uncertainty, ensuring property rights and guaranteeing legality. This underlines a second positive interaction between institutions, human capital and openness. In other words, economic agents receive positive incentives to accumulate human capital (i.e., education), invest in R&D and therefore be more competitive in the world economy, with a positive effect on economic growth (Jones and Hall, 1999). Both the first and the second interactions will generate high economic growth. Such a model, which is analysed in the cross country regression, is shown in the figure below:

⁸ Net enrolment in secondary education can be a better indicator, in emerging countries, for skilled workers.

Figure 1



In the cross country analysis, we first regress human development index (2004) with institutional variables. The HDI is largely explained (R-squared 57%) by Voice and Accountability and Government Effectiveness (2000-2005). Other variables, such as rule of law, control of corruption and political stability do not seem to improve the regression and are therefore excluded. These results, which are consistent with Bardhan’s (2005), encourage institutional policies which give opportunities to people, allow for pluralism and provide a consistent institutional framework.

Table 1. Correlation matrix

	hdi_04	voice_ac	poli_st	gov_ef	rule_L	cont_of_cor
hdi_04	1.0000					
voice_accounta	0.6535	1.0000				
politi_stability	0.5924	0.5690	1.0000			
govern_effectiv	0.6883	0.5826	0.8197	1.0000		
rule_of_Law	0.6332	0.5768	0.7834	0.9691	1.0000	
cont_of_corrup	0.6449	0.5475	0.7347	0.9474	0.9587	1.0000

Source: own elaboration, data in appendix

Table 2. Dependent variable: HDI 2004

Model: OLS			
Number of obs: 44			
	Coeff.	Std. Err.	P> t
Voice and Accountability	5.8669	1.933471	0.004
Government effectiveness	8.0007	2.164681	0.001
Constant	18.851	1.351734	0.000
Prob > F = 0.0000; R-squared= 0.5703; Adj R-squared = 0.5493			

Source: own elaboration, data in appendix

If China had the same level/quality of institutions as Ireland its HDI would be 25% more than its actual level. For Botswana, the HDI would be 68% higher and for Pakistan, it would be 82% higher.

Better institutions are not only able to improve HDI. Better institutions, together with non-income dimensions of human development and openness, seem to explain most of the recent growth of

emerging economies. In the second cross-section, we regress GDP growth (average 1999-2005) with infant mortality growth (1975-2000), Life expectancy growth (1970-2000), net enrolment in secondary schools (average 2000-05) and Export (average 2000-05). Export is both an indicator of competitiveness and policy. We observe that when institutions (i.e., political stability and government effectiveness) are included in the regression, the R-squared increases and the coefficients are statistically more significant. In other words, as interaction tests confirm, interaction between institutions with HD variables, education and openness increases economic performance, yet openness and education alone are no longer enough to explain economic growth.

Table 3. Dependent variable: average rate of economic growth (1999-2005)
 Regressions with and without institutional variables:
 Political stability and government effectiveness (pos_gov_eff)

Model: OLS		
Number of obs 43		
	I Reg.	II Reg.
	Coeff.	Coeff.
Reduction inf_mor70_00	5.587.558 (1.671927)*	4.788.248 (1.683564)*
life_ex_70-00	4.853.006 (2.478007)**	3.100.570 (2.401662)
pos_gov_eff	.787604 (.3979088)**	
export_000	7.8209 (3.0909)*	9.0409 (3.1409)*
edu_2	.0523425 (.0221413)**	.0692346 (.0212003)*
cons	2.975.779 (1.784233)***	1.382.173 1.652258
	Prob > F= 0.0005 R-squared= 0.4384 Adj R-squared= 0.3625	Prob > F = 0.0010 R-squared = 0.3790 Adj R-squared= 0.3136

Significance level at 1%(*), 5% (**), 10%(***); Standard error in parenthesis
 Source: own elaboration , data in appendix

The results of our cross-country analysis in Table 3 confirm that growth is a complex process. In general, growth seems to be associated with education and integration in the world economy mitigated by appropriate institutions expressed by Political Stability and Government Effectiveness and the improvement of human development. In particular, in our model, growth (Gro99.05) is a function of infant mortality reduction from 1970 to 2000 (IMR), life expectancy improvement from 1970 to 2000 (LEI), Political stability and Government effectiveness (PS.GE - average indicator 2000-2005), Export flow (EXP - average 2000-2005) and secondary net enrolment ratio in education (EDU2 - average 2000-2005):

$$Gro99.05 = \alpha + \beta_1 IMR + \beta_2 LEI + \beta_3 PS.GE + \beta_4 EXP + \beta_5 EDU2 + \varepsilon_i$$

Interactions of the other variables with the institutional variable improve the quality of the regression. Nevertheless, the quality of institutions does not seem to be associated with any particular form of institutions. Political stability and government effectiveness are general concepts which are necessary for the economy to work. They provide a consistent institutional framework, allow economic agents to make right choices and manage and mitigate social conflicts. However, institutional forms and reform processes in each country can vary consistently and this does not affect economic performance. In fact, as we will show in the next paragraph, socio-economic models of these countries are very different.

6. Socio-economic models and economic growth

We classified countries on the basis of their socio-economic model. The classification is made following the approach of Choi Chonj Ju (2004) who takes control of firm ownership into consideration. However, this approach seems to lead to the same classification as that of Amoroso (2003), Jessop (2002), etc, who classify countries according to specific macroeconomic factors such as competition, welfare states, openness, etc. A classification which considers control of firms has the advantage of allowing a world-wide comparison among many countries. In some countries, firms are controlled by financial markets, in others the State has several control functions over firms and in others still, the control over firms is shared by State, banks, trade unions, etc. Following this classification we theoretically identify five types of models:

1. *competitive capitalist* countries
2. *corporative capitalist* countries
3. *dirigiste economies*
4. *socialist markets*.
5. *social democratic countries*

1. In a competitive capitalist country, financial markets control and determine shareholder behaviour and this affects corporate governance and performance. Among advanced economies, this model is represented by the USA. This model as well as the others listed below, is not only characterized by the type of control over shareholders. Many other factors are included on the basis of the differences between the models listed such as percentage of public expenditure in health and education; Welfare States, democracy/pluralism; etc., which are indicated in the TABLE A1 in the Appendix. However, we feel that the control over shareholders synthesises the type of socio-economic model well. Countries in this

- group, whose benchmark is Ireland, are mainly from Europe and Latin America. In general, these are countries where the economic and cultural influence of the USA, which is the theoretical benchmark of the model, is stronger.
2. In corporative capitalist countries the control and monitoring of shareholders is shared by several agents such as banks, financial markets, Government and employees. This type of socio-economic model, implemented in Germany and Japan, which are the theoretical benchmarks, especially after WWII, is characterized by a particular type of compromise between economic agents and organizations. Current benchmarks in the sample are the New Industrialized Countries, NIC, (Hong Kong/Taiwan/Korea S./Singapore). In some Asian countries, such as Indonesia, Thailand, the Philippines and Malaysia, this compromise included a sort of family capitalism because of the stronger power, in those countries, of some families (Hirshmann, 1981). Countries in this group are mainly from Europe and Asia. These are countries where the influence of Germany and Japan is stronger (Wade, 1990).
 3. The third group is made up of Dirigiste capitalist countries where State control of the market and some assets in particular is quite consistent, in line with the French model – the theoretical benchmark. However, this is a very heterogeneous group of countries and references to France, in terms of cultural and economic influence, are not clear with the exception of Tunisia and Algeria whose influences could derive from the fact that they were former French colonies. India, which could represent, to some extent, the benchmark of the sample, has a sort of mixed model where State control of markets is quite strong. Russia, Pakistan, Saudi Arabia and Venezuela have a very odd type of socio-economic model which is difficult to include completely in the French model of dirigisme capitalism. The attachment to this model is made rather on the basis of the power and the control that single “State leaders” and/or particular “families” or “organization” seem to have over the economy. Israel, which is also in this group, is a very special case. Because of its history and cultural heritage, the type of socio-economic model seems to fit into this group better. However, economic and cultural influence from France is scarce. In a way, Israel could constitute a benchmark in itself.
 4. China and Vietnam represent “Socialist Markets” and seem to be the only two countries which embrace such a model. This represents an evolution and a result of a reform process which started firstly in China in 1978 and was intensified during the 1990s (Yeager, 2004). This transitional process transformed China and Vietnam from planned economies to “Socialist Market Economies”, characterized first by particular forms of property rights which allow: 1) both privates and State to invest, without complete liberalization,

- privatization and pluralism; 2) integration in the world economy, though quite modest; 3) government control and monitoring of domestic financial markets.
5. Finally, the Social democratic model should also be listed, although we did not find any countries, among emerging economies, which could be closer to such a model. This model is characterized by the traditional compromise between Trade Unions and Industrial organizations (Jessop, 2002; Amoroso, 2003). The State guarantees that this compromise is respected. This compromise allows trade unions and employees to play a role in the economic organization and in the corporate decisions. The Social democratic model follows this scheme:

Trade Unions and Markets → Shareholder → corporate performance

Theoretical Benchmarks of this model among advanced economies are Scandinavian economies such as Sweden, Norway, Denmark and Finland. The fact that we did not find any countries among emerging economies that could be included in the Social democratic model underlines, in a sense, that Scandinavian countries are not very influential and able to “export” their model, although it worked well in their countries and produced very positive results in economic and social terms (Rodhes, 2000).

The classification is made by considering proxies from financial structures among countries elaborated by Levine and Kunt (1999) and La Porta *et. al.*, (1999).⁹ In particular, a high indicator of “Claims of deposit money bank on private sector/GDP” underlines strong bank activity in the economy. Germany which is the benchmark country for the corporative capitalist model has 0.94 as a value of this indicator. While a high indicator of “Claims of other Financial Institutions on private sector/GDP” underlines market control of the economy. The USA which is the benchmark country for the competitive capitalist model has 0.91 as a value of this indicator (Levine and Kunt, 1999). The proxy for the dirigiste capitalist model comes from the Public share in commercial banks, and France has the highest values, among advanced economies, for this indicator (0.74).

⁹ The debate, in the field of finance about the relation between finance structures and economic growth is very important (see for instance Rajan and Zingales, 1995; Levine and Zervos, 1998). However, this topic remains outside our analysis.

Table 4. Type of socio-economic models

1) Competitive capitalism	2) Corporative capitalism	3) Dirigiste capitalism	4) Socialist Markets
Financial Markets ↓ shareholder ↓ corporate performance Theoretical Benchmark: USA. Actual Benchmark in the Sample: Ireland	Banks, Families, Government, Trade Union ↓ Shareholder ↓ corporate performance Theoretical Benchmark: Germany/Japan. Actual Benchmark in the Sample: NIC	State and Financial Market ↓ Shareholder ↓ corporate performance Theoretical Benchmark: France. Actual Benchmark in the Sample: India	Government and Emerging Markets ↓ Shareholder ↓ corporate performance Theoretical and actual Benchmark: China/Vietnam
1. Ireland 2. Bulgaria 3. Romania 4. Estonia 5. Poland 6. Czech Republic 7. Peru 8. Mexico 9. Argentina 10. Bolivia 11. Chile 12. Botswana 13. Albania 14. Slovak 15. South Africa 16. Ecuador	1. Hong Kong 2. Taiwan 3. Korea S. 4. Singapore 5. Indonesia 6. Thailand 7. Latvia 8. Philippines 9. Lithuania 10. Malaysia 11. Hungary 12. Slovenia 13. Croatia 14. Spain	1. India 2. Saudi Arabia 3. Tunisia 4. Russia 5. Pakistan 6. Venezuela 7. Egypt 8. Algeria 9. Turkey 10. Brazil 11. Israel 12. Colombia	1. China 2. Vietnam
Average GDP growth 1999-2005 3.99%	Average GDP growth 1999-2005 4.91%	Average GDP growth 1999-2005 3.35%	Average GDP growth 1999-2005 7.93%

Source: own elaboration

Countries are then classified according to the closeness of their indicators to the benchmarks. This classification is consistent with the ones elaborated by La Porta et al., (1999) who consider different indicators of corporate ownership and financial structures such as State/Families/Financial Institutions/miscellaneous ownerships of firms. Finally, China and Vietnam are classified as Socialist Markets following the interpretation of Choi Chonj Ju (2004) and many others (i.e., Yeager, 2004; Qian, 2003; etc). This classification is more influenced by long-run strategies than particular policies implemented in a short period. Therefore, even if a country, such as India or

Brazil or Turkey, implemented neoliberal policies during 1990s (De Long 2003; Easterly, 2001; Stalling and Peres 2000), there are not automatically classified in competitive capitalism, etc.

When we control for the type of socio-economic model of the country by introducing a dummy variable for each of the 4 models above analysed, the results are not significant. First of all, the correlation matrix below shows a low correlation between the dummy, which represents the type of model, and the average rate of growth (1999-2005).¹⁰

Table 5. Correlation matrix

	growth	pos_gov	exp_000	edu_2	inf_mort.	life_ex	dummy_mod
growth99_05	1.0000						
pos_gov_eff	0.3786	1.0000					
export_000	0.3810	0.2122	1.0000				
edu_2	0.3570	0.5963	0.1052	1.0000			
inf_mor70-00	0.1912	-0.2233	-0.1071	-0.2603	1.0000		
life_ex_70-00	-0.1365	-0.4418	0.0059	-0.4169	-0.3036	1.0000	
dummy_mod	0.1163	-0.3444	0.2708	-0.1201	0.0093	0.3945	1.0000

Source: own elaboration, data in appendix

Secondly, the regression modified with the dummy variable yields poor results. Hence, the type of socio-economic model does not have an impact on growth. This confirms our hypothesis according to which it is not the model *per se* which makes countries richer or poorer but the consistency of the institutional framework and the effectiveness of appropriate policies, expressed by the political stability and government effectiveness indicators, which, together with some policy indicators of human development as defined by Easterly (2001) and with some particular variables such as education and export, allow countries to growth. The regression table obtained when introducing the dummy variable capturing the type of socio-economic model is shown below.

Table 6. Dependent variable: average rate of economic growth (1999-2005)

Model: OLS			
Number of obs 43			
	Coeff.	Std. Err.	P> t
edu_2	.0491868	.0229916	0.039
life_ex_70-00	4.338.365	2.652464	0.111
reduct_inf_mor70_00	5.440.347	1.705971	0.003
pos_gov_eff	.8657235	.4233926	0.048
export_000	7.0909	3.3609	0.042
dummy_model	.1715333	.2949728	0.565
_cons	2.883.224	1.807429	0.119
Prob > F = 0.0011; R-squared = 0.4436 ; Adj R-squared = 0.3509			

Source: own elaboration, data in appendix

¹⁰ Each country received a dummy between 1 and 4, according to the model with which they are associated. Competitive capitalism (1), Corporative capitalism (2), Dirigiste capitalism (3), Socialist Markets (4).

On the contrary, as the correlation matrix below shows, the type of model seems to be more correlated with certain social indicators such as inequality (Gini index) and poverty (cf Table A4 in Appendix). On one hand, since the sign of the correlation is negative, we observe that the smaller the dummy variable (close to 1, the competitive capitalist model), the higher the inequality. On the other hand, the correlation with poverty is positive: the greater the dummy variable (close to 4, socialist markets) the higher the poverty level. Finally, as we expected, the correlation between HDI and inequality and poverty is negative. Countries with higher HDI have lower poverty levels and better distribution of resources.

Table 7. Correlation matrix

	poverty	gini	model	hdi	gdp 04
poverty	1.0000				
gini_index	0.4257	1.0000			
model	0.1009	-0.0106	1.0000		
hdi_03	-0.4108	-0.2937	-0.2218	1.0000	
gdp_ppp_04	0.0194	0.0332	0.1657	-0.0021	1.0000

Source: own elaboration, data in appendix

FINAL REMARKS

In this paper we analysed, through a cross-country analysis, the determinants of economic growth among emerging economies. We found out that both human capital and export capacity are important for economic growth. However, these socio-economic variables increase their explanatory power when associated with two non-income dimensions of development which are also policy indicators (i.e., infant mortality reduction and life expectancy growth between 1970-2000) and with good governance, expressed by two World Bank indicators such as Government effectiveness and Political Stability. We showed that interaction between these variables explained growth to a greater extent. In other words, socio-economic variables cause growth when extra-economic institutional variables are able to provide appropriate incentives and security for economic agents to accumulate knowledge and capital.

On the other hand, Voice and Accountability, together with Government Effectiveness seem to explain the HDI better. Indeed, pluralism and State interventism in a non-income dimension such as health public expenditure and education public expenditure would generate more opportunities for people and better capabilities. Increasing human development means increasing both the effective quality of life and aggregate demand with positive effects on labour forces and economic growth.

Furthermore, we found out that the type of socio-economic model (i.e., competitive capitalism, corporative capitalism, dirigiste capitalism and socialist markets) does not have an impact on growth. Emerging economies adopted very different socio-economic models and growth occurred independently, as a cross-country analysis with dummy variables controlling for the type of socio-economic model confirmed.

APPENDIX

TABLE A.1 Type of Economy – main institutional dimensions

Countries	Socio-economic model *	% of Public expenditure on GDP (1999-04)	Integration in the global economy (openness 1999-04 exp+imp as % of GDP)	Competitiveness (as % export on GDP 2000-04)	Pluralism -2.5/+2.5 (as Voice and accountability 2000-05)	
Ireland	1 Competitive Capitalism	13	167	80	1.36	
Argentina		17	31	25	0.35	
Bolivia		19	46	31	0.05	
Bulgaria		30	113	58	0.54	
Chile		18	65	36	0.94	
Czech Rep.		31	129	72	0.96	
Mexico		13	60	30	0.26	
Peru		17	34	21	0.03	
Poland		17	65	39	1.09	
Romania		15	74	37	0.39	
Albania		19	14.2	21	-0.04	
Botswana		29	6.4	40	0.73	
Ecuador		21	12.8	27	-0.13	
Estonia		31	14	78	1.00	
Slovak		26	10.4	77	0.97	
South Africa		24	28.6	27	0.83	
Taiwan	2 Corporative capitalism	12	9	5	0.85	
Korea S.		11	12.4	44	0.70	
Hong Kong		6	304	193	0.1	
Singapore		9	14.5	10	-0.05	
Slovenia		22	114	60	1.06	
Spain		17	57	26	1.11	
Thailand		16	121	71	0.2	
Lithuania		28	10.4	54	0.94	
Latvia		31	7.5	44	0.90	
Egypt		10	45	29	-1.01	
Hungary		28	137	64	1.11	
Indonesia		18	67	31	-0.43	
Philippines		15	102	52	0.12	
Malaysia		18	216	121	-0.36	
Croatia		28	5.5	47	0.44	
India		3 Dirigist economies	36	28	19	0.33
Brazil	22		26	18	0.37	
Algeria	21		4.9	40	-1.05	
Turkey	16		57	29	-0.32	
Venezuela	17		45	36	-0.43	
Russia	26		63	35	-0.65	
Saudi Arabia	28		65	53	-1.52	
Tunisia	14		94	45	-0.97	
Pakistan	18		30	16	-1.28	
Israel	25		75	44	0.63	
Colombia	28		41	21	-0.47	
China	4 Socialist markets		29	46	34	-1.55
Viet Nam			15	114	66	-1.54

Sources: first column: own elaboration; second and third column: Heston A., Summers R., Aten B., (2006), Penn World Tables 6.1; fourth column: UNCDAT, 2006; fifth column: Kaufmann et. al., 2006. Asian corporative economies have very low public expenditure in comparison with other. However, this would not be enough to justify their involvement in the competitive capitalist model (Hirschman, 1981; Wade, 1990).

TABLE A.2 Relevant variables for growth (OLS model)

	Government effectiveness and Political Stability 2000-05 (-2.5/+2.5)	Export (2000-05) thousand of \$	Education: secondary net enrolment ratio 2000-05*	Life Expectancy growth 1970-00	Infant mortality reduction 1970-00	GDP growth 1999-05 (%) (dependent variable)
Argentina	-0.18	28510101	79	10	-81	1.1
Bolivia	-0.48	1617243	74	36	-63	2.5
Brazil	-0.08	68390667	76	17	-66	2.3
Bulgaria	0.13	6630929	88	01	-57	4.6
Chile	0.95	21070827	80	24	-90	3.6
China	-0.03	3.74E+08	78	14	-69	9.0
Hong Kong	1.14	2.18E+08	74	13	-69	5.1
Colombia	-1.25	13435841	55	16	-74	2.3
Czech Republic	0.76	43086297	90	09	-81	3.3
Egypt	-0.42	4913327	81	35	-83	4.3
Hungary	0.82	33808683	91	06	-81	4.4
India	-0.57	51264080	77	26	-51	6.3
Indonesia	-1.20	60228238	64	37	-71	4.3
Ireland	1.38	89017840	87	10	-75	6.5
Israel	-0.28	32076673	89	11	-79	2.8
Malaysia	0.51	1.02E+08	76	16	-78	5.4
Mexico	-0.05	1.63E+08	64	21	-71	2.8
Pakistan	-1.07	10884293	59	21	-33	1.7
Peru	-0.66	8473265	69	25	-79	3.5
Philippines	-0.53	35416858	61	21	-54	4.5
Poland	0.53	47047873	90	4	-78	3.4
Romania	-0.07	15346125	81	3	-63	4.2
Russia	-0.66	1.24E+08	95	0	-34	6.7
Saudi Arabia	-0.25	71612992	52	33	-82	3.5
Slovenia	0.96	11348061	93	09	-84	3.8
Spain	0.91	1.28E+08	97	10	-89	3.6
Thailand	0.08	71410257	67	15	-76	4.9
Tunisia	0.42	7274470	67	30	-84	4.7
Turkey	-0.52	40990953	59	21	-81	0.3
Venezuela	-1.00	28642994	60	11	-66	1.7
Viet Nam	0.04	15406011	85	40	-71	6.9
Albania	-0.47	384470.01	77	9	-78	5.56
Algeria	-0.53	23339337	67	31	-76	3.55
Botswana	0.81	2743227.9	54	0	-15	6.03
Croatia	0.28	5641038.2	87	07	-82	3.55
Ecuador	-0.92	5631091.2	50	28	-74	4.15
Estonia	0.98	4668673.8	88	1	-71	6.06
Korea S.	0.90	186565961	87	24	-88	5.29
Latvia	0.61	2262015.3	88	1	-52	7.04
Lithuania	0.69	6066402.3	94	1	-65	6.44
Singapore	2.28	141422468	90	13	-86	6.13
Slovak Republic	0.60	17712777	88	6	-76	3.36
South Africa	0.65	29781846	66	0	-46	3.13
Taiwan	1.15	145184607	88	na	Na	4.33

Notes: * data of China, India and Vietnam refer to gross secondary school enrolment ratio 2000-05, (UNICEF, 2005)
Source: first column: Kaufmann et. al., 2006; second and third column: UNCDAT, 2006; fourth and fifth column: UNDP, 2006; sixth column: World Economic Outlook, 2006. Venezuela, Turkey, Pakistan and Argentina have relatively lower GDP growth due crises between 1999-2001. Nevertheless, also these four countries, in the last 3-4 years, experienced an economic growth rate above the world average.

TABLE A.3 Main economic strategies for growth¹¹**Source:** first and second column: Kaufmann et. al., 2006; third, fourth and fifth column: UNDP, 2006.

	Government effectiveness 2000-05 (-2.5/+2.5)	Polit. stability 2000-05 (-2.5/+2.5)	R&D as %GDP 2004	Health Public Expend. as % of GDP 2003	Edu. Public Expend. as % of GDP 2003
Argentina	-0.07	-0.30	0.4	4.3	4.2
Bolivia	-0.35	-0.60	0.3	4.3	6.4
Brazil	-0.13	-0.04	1	3.4	4.1
Bulgaria	0.03	0.22	0.5	4.1	4.2
Chile	1.09	0.82	0.6	3	3.7
China	0.08	-0.14	1.3	2	2.2
Hong Kong	1.22	1.05	0.6	2.8	4.7
Colombia	-0.51	-1.99	0.2	6.4	4.9
Czech Repub	0.75	0.77	1.6	6.8	4.6
Egypt	-0.18	-0.66	0.2	1.5	3.9
Hungary	0.82	0.82	0.9	6.1	6
India	-0.19	-0.96	0.8	1.2	3.3
Indonesia	-0.70	-1.71	0.6	1.1	0.9
Ireland	1.61	1.15	1.1	5.4	4.3
Israel	0.70	-1.25	1.3	6.1	7.3
Malaysia	0.73	0.29	0.7	2.2	8
Mexico	0.03	-0.13	0.4	2.9	5.8
Pakistan	-0.68	-1.46	0.2	0.7	2
Peru	-0.46	-0.86	0.1	2.1	3
Philippines	-0.08	-0.98	0.6	1.4	3.2
Poland	0.60	0.45	0.6	4.5	5.8
Romania	-0.23	0.09	0.4	3.8	3.6
Russia	-0.51	-0.81	1.3	5.3	3.7
Saudi Arabia	-0.12	-0.38	0.5	3	5.8
Slovenia	0.92	1.01	1.5	6.7	6
Spain	1.37	0.44	1.1	5.5	4.5
Thailand	0.25	-0.09	0.2	2	4.2
Tunisia	0.61	0.23	0.6	2.5	8.1
Turkey	-0.19	-0.85	0.7	5.4	3.7
Venezuela	-0.88	-1.13	0.3	2	4.5
Viet Nam	-0.21	0.29	1	1.5	1.8
Albania	-0.69	-0.47	Na	2.7	5
Algeria	-1.61	-0.53	Na	3.3	5
Botswana	0.78	0.81	Na	3.3	6
Croatia	0.30	0.28	1.1	6.5	4.5
Ecuador	-0.95	-0.92	0.1	2	3
Estonia	0.83	0.98	0.8	4.1	5.7
Korea S.	0.32	0.90	2.6	2.8	4.6
Latvia	0.81	0.61	0.4	3.3	5.4
Lithuania	0.80	0.69	0.7	5	5.2
Singapore	1.12	2.28	2.2	1.6	3
Slovak Republic	0.72	0.60	0.6	5.2	4.4
South Africa	-0.25	0.65	0.8	3.2	5.4
Taiwan	0.57	1.15	Na	na	Na

¹¹ The variables reported in this table are strictly connected with variables found relevant for growth in Emerging economies (OLS model). In fact, Public expenditure for health is crucial for life expectancy growth and infant mortality reduction; Public expenditure for Education is important for net enrolment in secondary school; R&D affects competitiveness of firms and therefore exports ability.

TABLE A.4 Comparing Socio-economic models with Poverty, inequality HDI, and GDP, plus indicators of legality.

Countries	Socio-economic model	Poverty	Gini index (0-100)	Hdi 2003	GDP \$ PPP 2004	Rule of law	Control of Corruption	
Ireland	1 Competitive Capitalism	16**	34	0.946	34551,14	-0.53	-0.52	
Argentina		7***	53	0.863	12240,14	-0.61	-0.79	
Bolivia		62*	60	0.687	2585,433	-0.32	-0.08	
Bulgaria		12*	29	0.808	7355,352	-0.12	-0.11	
Chile		17*	57	0.854	10146,46	1.20	1.39	
Czech Rep.		5**	25	0.874	15549,08	-0.40	-0.51	
Mexico		20*	49	0.814	9222,413	1.37	1.52	
Peru		49*	45	0.762	5163,547	-0.78	-0.40	
Poland		8**	34	0.858	11000,4	0.64	0.37	
Romania		21*	31	0.792	6944,597	0.03	-0.34	
Albania		25*	28	0.780	5404,704	0.76	0.63	
Botswana		23***	63	0.565	11409,680	0.05	-0.36	
Ecuador		46*	43	0.759	4316,166	-0.92	-1.02	
Estonia		12,4**	36	0.853	16414,034	1.62	1.60	
Slovak		7**	26	0.849	16040,740	0.83	0.92	
South Africa		11***	58	0.658	12160,622	0.49	0.29	
Taiwan	2 Corporative capitalism		na	Na	20590,490	-0.40	-0.32	
Korea S.		2***	31	0.916	27721,088	-0.77	-0.92	
Hong Kong		Na	43	0.927	27763,59	-0.63	-0.32	
Singapore		Na	42	0.907	28368,110	-0.60	-0.54	
Slovenia		8*	28	0.904	18520,92	0.46	0.32	
Spain		14**	34	0.928	22886,94	-0.26	-0.33	
Thailand		13*	42	0.778	6972,131	-0.88	-0.87	
Lithuania		17****	36	0.852	14158,421	0.28	0.24	
Latvia		28****	37	0.836	12666,093	0.87	0.97	
Egypt		16	34	0.659	3816,987	1.18	1.46	
Hungary		7**	27	0.862	14105,46	0.12	-0.31	
Indonesia		27*	37	0.697	3749,541	0.23	0.36	
Philippines		36*	46	0.758	4271,315	-0.02	-0.25	
Malaysia		15*	49	0.796	9545,584	-1.12	-0.95	
Croatia		Na	29	0.841	12324,796	-0.55	-0.75	
India		3 Dirigiste economies	28*	32	0.602	2744,918	-0.47	-0.76
Brazil	22*		58	0.792	7698,284	-0.53	-0.61	
Algeria	22*		35	0.722	7189,246	0.81	0.95	
Turkey	27*		44	0.750	458994,4	0.28	0.07	
Venezuela	31*		44	0.772	5485,154	-0.92	-0.90	
Russia	30*		40	0.795	8587,343	0.98	0.79	
Saudi Arabia	Na		Na	0.603	13349,96	0.90	0.31	
Tunisia	7*		40	0.753	6981,686	0.61	0.19	
Pakistan	32*		31	0.527	2209,092	0.69	0.29	
Israel	15**		39	0.915	21509,14	2.28	2.37	
Colombia	64*		59	0.785	6509,121	0.60	0.32	
China	4 Socialist markets		4*	45	0.755	5312,516	0.65	0.42
Viet Nam			28*	37	0.704	2407,978	1.15	0.65

Source: UNDP, 2006. Columns Rule of Law and Control of Corruption: Kaufmann et al., 2006

Data on Poverty refers to the most recent year between 1990-2003:

*= below national income poverty line

**=below income poverty line as 50% of national median income

*** below \$1 a day

**** below \$4 a day

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