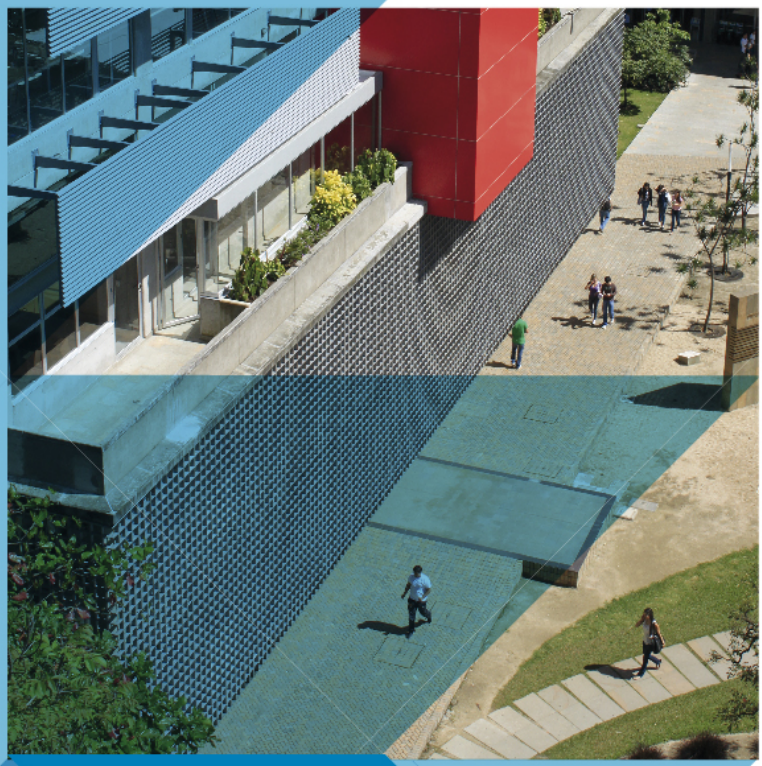

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Foreign Direct Investment, Institutional Quality, Economic Freedom and Entrepreneurship in Emerging Markets

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Abstract

This study investigates the relationship between foreign direct investment, institutional quality, economic freedom, and entrepreneurship in emerging markets. The research compares the capacity and appetite for business creation among high-income, low-income and emerging countries. The results are based on a panel study of data, from 2004 to 2009 for 87 countries, using as its source "The World Bank Entrepreneurship Snapshots" to look at the connection between business creation, institutional quality, market freedom and foreign direct investment (FDI). The findings reveal a strong positive relationship between institutional quality and business generation in all three of the above categories. Meanwhile, institutional quality and how this develops remains significant to business creation at least two years after a business is incubated, underscoring its importance as a contributory factor for creating an environment conducive to entrepreneurship. The freedom to create businesses and invest has a marked impact on business generation in emerging countries, while the influence of international trade appears more important as a spur to the genesis of business in low-income countries. Results also show that regulation of the free market has a short-term effect on business creation. Finally, there is a direct and significant relationship between FDI and business development in emerging countries. The effect of FDI is also felt for at least two years after the foreign investment. This result is consistent with "the spillover theory of entrepreneurship" (Acs et al, 2009; Görg and Strobl, 2002; Ayyagari et al, 2010).

Keywords: Foreign Direct Investment; Institutional Quality; Economic Freedom; Entrepreneurship

JEL classification: F21, G18, G24

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1. Introduction

The consensus within recent research on economic development has shown how institutions play a large part in fostering a free market and thus, in turn, spurring economic growth. Meanwhile, further studies chart the relationship between business creation and entrepreneurship and how this impacts economic growth and social development. This has spurred interest to investigate the relationship between institutions, a free market and business creation. However, little research has been undertaken into the relationship between entrepreneurship and factors ancillary to a free market (including freedom to trade and to invest). And, in the research that has been conducted to date, the results are inconclusive and do not allow for a consensus on whether these factors, in fact, stimulate business development.

The majority of studies have looked at the relationship between institutions and entrepreneurship and whether institutional quality spurs would-be entrepreneurs to create businesses (Knack et al, 1995, Desai et al, 2003, Aidis et al, 2008) and, therefore, whether there is a direct relationship between entrepreneurship and institutions. However, findings are not yet exhaustive or conclusive in this area, making the correlation between institutions and entrepreneurship difficult to assess, particularly in relation to emerging countries. By way of example, there is still scope to investigate further the influence of the timing of institutional change and how institutional quality interacts with the free market and FDI to promote business creation.

This article is based on a panel study of data for the six years from 2004 to 2009 for 87 countries. Using data from the registry of new companies on "The World Bank Entrepreneurship Snapshots", we seek to track the relationship between company creation, institutional quality, a free market and FDI. To allow for comparative analysis, the 87 countries were split into three groups. The first group comprises countries of high and middle income; the second group comprises countries of low income (both groups selected according to the proposed classifications by the Atlas method of The World Bank); and, the third group comprises emerging or frontier emerging countries (these countries did not figure in previous groups and are grouped according to classifications from *The Financial*

Times and The London Stock Exchange (FTSE) Index).

This study makes four contributions to the canon of work on the subject. First, it analyses the relationship between institutional strength and business creation in emerging countries, shedding light on the impact of institutional quality in business creation and how outside influences affect institutional quality which, in turn, can provide incentives for business creation. As part of this dynamic, the study considers whether the greater perception of risk in emerging countries, manifested in government instability, corruption and poor legal quality, serves to stymie entrepreneurship or whether entrepreneurs devise strategies to overcome these adverse institutional factors. Second, it evaluates the relationship between entrepreneurship and aspects of the free market (in particular relative aspects such as financial matters, foreign trade, flow of capital and conditions for starting up, running and winding down a business over the lifespan of an enterprise), while considering which factor has the greatest influence and how gradations in the factors impact business creation. Third, the study examines the impact of FDI in assisting business development in emerging countries. This work considers whether FDI compels business creation in the hosting country or, actually, deters domestic company development. This aides in determining how external factors that impact on the domestic economy and, in turn, affect business creation. Fourth, the study looks at the interplay between FDI, institutional quality and the free market and how they combine to lay the groundwork for business development in emerging countries.

This article continues as follows: the second section reviews recent literature and considers the rationale for the study; the third section shows how the chosen econometric model has been developed; the fourth section details the data and sources used in this study while in the fifth section, we consider the results and how they stand up to testing. In the last section, we present our conclusions, consider limitations to research, and ponder opportunities for further research.

2. Literature Review

2.1 Business creation and institutional quality

There is a consensus among economists of the importance institutions play in economic development. It is believed that healthy institutions encourage investment and stimulate economic growth. Recent studies show that countries with solid institutions have the potential for greater economic growth than countries that do not (Barro, 1991; Knack and Keefer, 1995; Johnson et al: 1997). Other studies have acknowledged that institutional quality affects whether would be entrepreneurs decide to start a business (Leibenstein, 1968; Baumol, 1990) and that there is an underlying correlation between institutions and entrepreneurship (Sautet, 2005; Coyne and Leeson, 2004). In this section, our objective is to review recent findings on the subject. In doing so, it first summarizes the institution's purpose, how it is rated and how it impacts entrepreneurial activity. It then records the results of recent studies to conclude.

North (1990) defines institution as the formal and informal restrictions created by man to structure human interaction. These rules exist to facilitate the exchange, increase confidence between economic players and reduce transactional cost. Williamson (2000) expands this definition and includes the existence of organized entities, decisive procedures and regulatory structures as defining parameters within each society. *The World Development Report: Building Institutions for Markets* (World Bank, 2002)[1], states that the country's institutional quality depends upon the quality of its rules, what enforcement procedures it has in place to encourage society to observe these rules, and performance and guidance available for organizations. Kaufmann et al (2010) measures institutional quality and its relationship to other factors that lay the groundwork for effective regulation in three categories: (1) how governments are elected, monitored and replaced if necessary; the government's capacity to devise and implement good policy; and (3) a citizen's regard and the government's regard for institutions that manage social and economic interaction.

Some conditions highlight the relationship between institutional quality and business creation. First, there is no consistency in how the rules operate across cultures, stimulating some groups while disadvantaging others, depending upon the size and power of the economy in question. Cultural customs or the influence of some interest groups can serve

[1] http://publications.worldbank.org/index.php?main_page=product_info&cPath=0&products_id=22407

to preserve institutions, even those that are inefficient. Then there is the symbiotic relationship between organizations and institutions in the sense that institutions tend to mirror the organization's actions; and these organizations evolve within structure devised by the institutions. Also, changes to institutions can be slow, incremental and show dependency patterns (DiMaggio and Powell, 1983; North, 1990). So, where institutions are not functioning well--for example in developing economies--institutional quality will not be sufficient to reverse this trend and promote entrepreneurial activity. This is likely to deter potential entrepreneurs from setting up a business as they weigh the perceived risks.

To measure how the quality of institutions impacts startups, researchers aim to show the impact on entrepreneurs, of property rights protection, the quality of legal services, law enforcement and corruption control. Studies charting the relationship between property rights and business creation have already established how significant a factor property rights have been in promoting economic development. It is no surprise, then, that weak property rights, in turn, impede economic growth (Mauro, 1995; Svensson, 1998).

Strong property rights protection prompts economic growth as businesses consider and take advantage of the significant benefits. Meanwhile, not surprisingly, it has been shown that weak property rights protection increases the perception of risk for would be entrepreneurs, deters individuals from starting up a business and reduces their involvement in future development projects (Besley, 1995; Frye and Shleifer, 1997; Shleifer, 1997; La Porta et al., 1997; Demirgüç-Kunt and Vojislav, 1998; Johnson et al., 2002; Kumar et al., 2002; Claessens and Laeven, 2003). Fears over poor property protection rights tend to stifle the creation of businesses. (Parker, 2007). One of the obvious strengths of a society which places value upon the protection of property rights is that it creates an environment in which a business owner has the luxury of acquiring and protecting assets; and it creates a landscape in which would- be entrepreneurs perceive advantages. Protection of property rights is, therefore, fundamental to the entrepreneurial process because it allows entrepreneurs to enjoy the fruits of their labor and, at the same time avoid losing out to a rogue state or another opportunistic entity (Hodler, 2009). The guarantee of secure property protection rights is even more critical to the relationship between investor and entrepreneur as the risks they shoulder and fears of losing out are reciprocal. On one hand, investors

may have a legitimate fear they may not recover anything if an entrepreneur acts opportunistically. On the other hand, the entrepreneur may fear that their idea could be stolen by an investor, who may have the financial means and motivation to develop the concept without their participation. Without adequate property rights protection, not only do many potential entrepreneurs see no motivation to start businesses, but potential investors will be more leery about providing financial support to progress their ideas. To conclude, then, an inadequate property rights protection system is likely to deter participation from entrepreneurs and investors alike. A further upshot of poor property rights, as noted by Gonzalez (2005), is that it spawns several types of predatory entrepreneurship (greedy entrepreneurship) while reducing an investment´s return in productive entrepreneurship (constructive entrepreneurship).

Researchers have also shown how entrepreneurship fails to flourish where inadequate legal quality, poor law enforcement and high levels of corruption proliferate. This phenomenon disadvantages entrepreneurial activity in several ways. First, where there is low legal quality and high corruption, entrepreneurs have found political support is crucial to their survival and entrepreneurial development. Consequently, there is no incentive to the honest entrepreneur--- who is not open to corruption (Wei, 2000; Aidt, 2009; Aidis and Adachi, 2007; Aidis, et al., 2008). Second, an environment that fosters those kind of designs does not promote loyalty and encourages dishonest practices, which acts as a deterrent to new entrants to the business arena (Barkhatova, 2000; Aidis y Mickiewicz, 2006). Third, where law enforcement falters and there is a lot of corruption, this can taint the entrepreneurial experience (Glaeser et al., 2003; Johnson et al., 1997; Hodler, 2009) and, in turn, create prejudicial views of entrepreneurial activity.

Country studies (for example, in Russia, Djankov et al., 2005 and Russia and China, Puffer et al., 2010) show reduced corruption levels in conjunction with favorable governmental attitudes towards entrepreneurship foster an environment conducive to producing entrepreneurs. Meanwhile, corrupt environments restrict entrepreneurial opportunities, diminish potential economic gains and discourage would be entrepreneurs from starting new businesses. In addition, the behavior of entrepreneurs who are so intent on pursuing their aims that they are willing to participate in a dishonest system serve only to bolster

corrupt practices which impede access to the market from more honest entrepreneurs which stifles entrepreneurial activity in general (Aidis et al., 2010).

To conclude, the scope of entrepreneurial activity is influenced by how much confidence stakeholders have in institutions and how willing they are to abide by the law. What also matters are the police, courts and government are and how they promote laws to help the private sector develop and create conditions in which contracts are honored and corruption is not allowed to thrive. This study contributes to a body of research which analyzes the relationship between institutions and entrepreneurship in emerging countries, specifically highlighting how and when institutional quality impacts business creation and determining how changes in institutional quality affect business creation, and discerns how institutional quality, economic freedom and FDI impact the creation of businesses.

Research shows that these forces work synergistically particularly in less developed economies where major institutional quality problems exist. It begs the question whether, in this type of economy, the largest perceived risks of government instability, corruption and an impoverished legal system combine to impede entrepreneurial behavior or whether entrepreneurs act dynamically developing strategies to surmount those adverse institutional factors.

2.2 Business creation and free market economies

Kirzner (1992) considers a free market as the legal, political, constitutional and economic principle most likely to encourage entrepreneurship. Economic theory, in general, underscores the importance of a free market to development (Smith: 1776; Ricardo: 1821) while a number of studies show that a free market contributes propensity for an economy to grow and eradicate income inequality (Scully and Slottje, 1991; Gwartney et al., 1999; Doucouliagos and Ulubasoglu, 2006; Berggren 1999, 2003; Carter, 2007). This research attempts to extend that relationship on a microeconomic level and analyze the connection between a free market and entrepreneurship. There have been a number of studies on this subject (Bjørnskov and Foss, 2008; Sobel et al., 2007) but only one of them reviews data over the course of several years (Nyström, 2008) and none focuses on emerging markets. In this section, we develop the free market concept used in this study, analyze the factors that

contribute to a free market and then summarize findings from recent research on the relationship between those factors and business creation. To conclude, we consider questions that will form the basis for investigation in this study.

As is well-known, in a free market economy, supply and demand will determine which goods and services must be produced and the price for which they will be sold. Although an entirely free market is but an ideal, the degree of freedom can be measured through reference to existing intervention mechanisms. The most common among these are: price controls; taxes; import and export tariffs; monetary control; subsidies and state monopolies. Four of these have been considered by this study, drawing from previous research that regarded them as being instrumental to entrepreneurial activity: fiscal intervention; impediments to the free movement of goods and services; the regulatory framework governing the ease with which one can form or close a business; and restrictions on investment.

2.2.1 Freedom to start and close business

The extent and complexity of regulations together with the costs associated with the formalities of setting up and closing down a business will determine how effective a free market is and how well new businesses can perform. Tight control and high costs may be perceived as barriers to a free market which, in turn, would stifle business creation. There are two views among researchers on how the relationship between entrepreneurship and the regulatory framework operates in practice. The first belief posits that tight regulatory control acts to impede chaos within the marketplace and undermines confidence in the market, thereby engendering entrepreneurship. The counterargument is that too stringent a regulatory system goes hand-in-hand with higher levels of bureaucracy, paves the way for corruption, and impedes new business creation and expansion of existing ones.

Among the researchers that favor the former view that tight regulatory control has a positive impact on entrepreneurial behavior are Glaeser and Shleifer (2003), who conclude that regulation is the price paid to eradicate the unfairness that may be regarded as part of the existing order. Meanwhile, DiTella and McCulloch (2006) and Landier et al (2008) take the view that a tighter regulatory framework is borne from the need to control

corruption; while Pinotti (2008) concludes that it is a lack of confidence in the market which spawns increased regulation. Finally, the work of Djankov et al (2003) indicates that regulation is a natural response to the demand by the public to counter disorder, real or perceived, within the marketplace.

Equally, many studies support the notion that regulation favors fledgling businesses (Stigler, 1971) and the regulators themselves (Krueger, 1974; Shleifer and Vishny, 1998). The evidence in studies including Djankov et al (2002) shows that in countries where regulation inhibits entry to new businesses, there also happens to be higher levels of corruption. From this flows the theory that there is a relationship between strong regulation and private interest protection, which acts to the detriment of the spirit of the common good. Studies by Klapper et al (2006), Desai et al (2003) and Parker (2007) have found that industries that are generally attractive to would-be entrepreneurs across the board, will be less appealing in countries where the system is more bureaucratic and the regulatory costs more significant.

However, Rajan and Zingales (2003) showed that even though excessive regulation may act in the interest of private individuals, insufficient or non-existent regulation is as likely to deter entrepreneurial activity. Regulation paves the way for investment, ensures property rights and spurs entrepreneurial activity, even though the framework has the capacity for manipulation by malevolent forces for personal gain. In countries where there is high corruption, the regulatory framework may be either lax or excessive. Either way, authorities would be foolish to ignore regulation, as a reasonable amount of regulation can smooth operations and oil the wheels of industry.

2.2.2 Fiscal freedom

Fiscal freedom is another factor critical to a free market. In economies where there are high taxes, the levies can be seen as a deterrent to investor and entrepreneurial participation within the marketplace. The findings in McMullen et al (2008) indicate tax hikes have a direct impact upon entrepreneurial activity, as potential entrepreneurs weigh the risks they will assume in setting up a business and regard this as a further impediment.

Research has considered whether a country's tax framework impedes entrepreneurial activity. Levels of taxation can have a positive or negative impact upon the appeal of self-employment over salaried jobs which inform decisions made by would be-entrepreneurs. This correlation impacts the risk-to-profit ratio, determining the relative merits of being an employer as opposed to being employed. For example, complex tax structures deter entrepreneurial activity even for those who are risk-averse as they will eventually feel the effect of continuing tax hikes (Kanbur, 1980; Gentry and Hubbard, 2000).

Another way in which fiscal freedom impacts entrepreneurial activity is the situation in which high tax rates prompt individuals to look for tax-efficient ways of making a living, perceiving self-employment as a pathway for tax evasion (Robson and Wren, 1999; Schuetze, 2000). Where such choices are limited, entrepreneurship is unable to flourish (Blau: 1987; Parker, 1996; Long, 1982a; Long, 1982b; and Moore, 1983). Another way in which fiscal freedom determines entrepreneurial potential is how low levels of financial freedom, in tandem with low levels of risk aversion, can foster an appetite for investment in risk-assets under certain conditions. For example, profit forecasts suggesting a wealth reduction spurred by tax hikes are more likely to increase the entrepreneur's appetite for accepting the risk and starting a business (Mossin, 1968; Stiglitz, 1969).

It bears note that studies focusing on developed countries have not supported this acknowledged relationship. Parker (2003) and Bruce and Mohsin (2003) found no evidence in these conditions that he self-employment option could provide taxation avoidance and evasion opportunities. They reported that previous studies did not detail relative incomes of the self-employed and wage earners as a variable that could establish the significance of the effects of the tax rate. Feldstein and Slemrod (1980), Gordon (1998), and Cullen and Gordon (2002), highlighted that financial systems are complex and their interrelationships cannot be easily predicted; and for that reason, the relationship between fiscal freedom and entrepreneurship can vary depending on existing factors such as capital gains tax, income tax and corporate tax.

2.2.3 International trade freedom

Trade freedom is another key element of a free market with its attendant absence of

regulation and barriers that impede the free movement of goods and services. Research shows that government support for the development of domestic industry at the expense of imports can distort international commerce and add restrictions (Prebisch, 1959; Singer, 1999; Krugman, 1995). The logical extrapolation is that large barriers to international trade can stimulate internal entrepreneurial rates. In that sense, it could be argued that growing globalization presents a hostile environment for small businesses. The consensus is that success in international markets is the preserve of larger companies while smaller companies are disadvantaged by fixed costs, their limited knowledge of international markets and limited skills and wherewithal to negotiate with other governments (Vernon, 1970; Gomez-Caceres, 1997).

Other studies contend the message is that business creation and free international trade enjoy a symbiotic relationship. Bartlett and Ghoshal (1999) conclude that globalization has created interesting opportunities for small businesses while big businesses benefit from the fast pace of globalization (because scope and scale allow them to exploit the opportunities), small businesses benefit from the advantages of the trickledown effect and marginal opportunism. The research of Sobel et al (2007) shows a negative relationship between international trade barriers and entrepreneurship. This result supports the World Bank's thesis[2] indicating that protectionist limitations to international trade impede specialization and free participation, favor known products over innovation, and limit entrepreneurship activity because new opportunities to make money are excluded from local entrepreneurs' alternatives.

Finally it is important to note that research has established a significant relationship between free international trade and entrepreneurship. Bjørnskov and Foss (2008), Nyström (2008) and McMullen et al (2008) bear out this theory.

2.2.4 Freedom to Invest

An economy that aims to trade freely will be characterized by few restrictions to the free

[2]World Bank. (2005). *Doing Business in 2005: Removing Obstacles to Growth*. Washington, DC: World Bank, the International Finance Corporation, and Oxford University Press.
http://rru.worldbank.org/Documents/DoingBusiness/DB-2005-Overview.pdf

flow of capital investments. The importance of sourcing capital as a prerequisite to starting a business is no secret. Many researchers have suggested that restrictions on the flow of capital inhibit the growth rate in business formation (Wetzel, 1983; Blanchflower and Oswald, 1998; Holtz-Eakin et al., 1994; Di Patti and Dell'Ariccia, 2004). There is also extensive research establishing that the availability of financial resources, especially venture capital, is vital to entrepreneurial development (Gompers and Lerner, 2001; Henderson, 2002). Investment freedom provides fertile ground for the creation of a variety of instruments and mechanisms that finance entrepreneurship, paving the way for investment from at home and abroad. The research which investigates more closely that relationship between investment freedom, FDI and business creation shall be analyzed in the next section.

Our recapitulation of research already undertaken, in this section, demonstrates that the free market economy is a source and precondition for entrepreneurship to flourish. The consensus among researchers seems to be that a free market spurs would be entrepreneurs to look for opportunities and this unfettered approach imbues the entrepreneur with confidence which is critical to their success since they depend on themselves. Free market conditions allow participants to pursue their own plans and make their own decisions making entrepreneurs more eager to use their own abilities and knowledge to pursue their economic goals. The aim of this study is to contribute to the existing body of research on the subject by analyzing the interconnectivity of various factors focusing on emerging countries. It aims to consider particular aspects of market freedom, particularly relating to financial issues, international trade, free capital flows and the freedom to start, run and close a business. The objective is to establish which of those factors has the greatest influence, how changes in those factors affect them and how the factors interact with institutional quality and FDI to influence business creation in emerging countries.

2.3 Business Creation and Foreign Direct Investment

Most research thus far has focused exclusively on domestic factors that influence business creation. It is only recently that researchers have shown some interest in how external factors such as FDI impact business creation on the local front. The studies have attempted to deduce whether the presence or absence of FDI encourages or discourages

entrepreneurial activity.

The first raft of research suggests that entrepreneurs benefit from the presence of FDI in three main ways. The first, to which this paper alluded above, is that in undeveloped and developing countries financial sources fill the risk capital gap financing innovative ideas while foreign investors, pursuing greater gains, assume greater risk (White and Fan: 2006). Meanwhile other studies, Alfaro et al. (2009) and Alfaro and Charlton (2008) have indicated that economic activity flourishes where there is international financial investment in those industries that have a greater dependency on foreign financial investment. Furthermore, entrepreneurs benefit because FDI promotes improvements to infrastructure, regardless of whether this stems from the domestic government's bid to look more attractive to potential investors or whether some of the proceeds from FDI are earmarked for specific infrastructure projects). The third factor is referred to as the spillover phenomenon, which has been identified by several researchers (Acs et al., 2009, Görg and Strobl, 2002; Ayyagari et al., 2010). These studies revealed cumulative positive effects of FDI upon business creation in Ireland, Belgium and the Czech Republic. Their research revealed that FDI can have an exponential effect stimulating multiple business entries within the same industry ("horizontal spillovers") and within related industries up and down in the same production chain ("vertical spillovers").

A second body of research, focusing on occupational decision models claims that FDI can expedite an entrepreneur's exit through product and market labor selection (Grossman: 1984)[3]. Some studies (Aitken and Harrison, 1999 in Venezuela; and Konings, 2001 in Bulgaria, Romania and Poland) conclude that, at best, the positive impact of FDI is minimal and the benefits limited to firms that have the highest foreign investment and dependency. Barbosa and Eiriz (2009) show that, in the case of Portugal, the impact of FDI is at first, positive; but long-term it has a negative impact upon business creation. Finally, De Backer and Sleuwaegen (2003) established that, in Belgium, the presence of FDI discouraged new entrepreneurs from setting up and hastened the demise of existing ones.

[3]Grossman (1984) demonstrated that competition between companies with imported products and companies with direct foreign investment forced some entrepreneurs to quit as prices for products dropped and, with them, the entrepreneurs' earnings compared to what they would earn in salaries.

However, the result can be less severe or even helpful if local and foreign companies can learn from the experience.

The existing body of research invites further inquiry into the impact of FDI on the business creation in emerging countries. Data have yet to be collected for several countries over the course of several years. Specifically, an investigation into whether FDI encourages business creation in the host country or whether it creates barriers which impede business development is required. There is also scope for considering how changes in the degree and flow of FDI can impact business creation and how FDI, the quality of institutions and free market conditions interact to facilitate an environment, within emerging countries, that is either conducive or hostile to business creation.

3. Challenges in estimating the effects of FDI, the quality of institutions and a free market upon business formation: Model development

The objective of this research is to measure how the quality of institutions, FDI and a free market interact to promote business creation and to compare how the behavior of these variables changes among emerging, high-income and low-income countries. We then proceed to build three different models, one for each data set. To this end, we use the data panel technique as it provides the benefit of using an approach that combines cross-sectional analysis and time series comparisons. In addition, it offers the benefit of allowing us to control individual heterogeneity by using a specific range of spatial and temporal characteristics, not observable or used in the specified variables in the models used in this study.

In each regression, the test of Wald (Baltagi, 2001) was applied to establish the significance of variables that control temporal and spatial effects. The results indicate the significance of temporal effects alone for high-income countries. The purpose of the Hausman Specification Test is to establish if unseen characteristics have to be assumed as fixed or random. Test results have indicated random effects, which is consistent with observations extracted randomly from a greater sample of each class of countries (Baltagi, 2001). Breusch and Pagan's Test (the Lagrange multiplier to prove random effects) confirmed the models used which appear in equation (1) for countries of high-income and in equation (2) for low-income and emerging countries:

$$Y_{it} = \nu_i + \beta_1 \chi_{it} + \beta_2 \gamma_{it} + \beta_3 \delta_{it} + \beta_4 \varphi_{it} + y' \partial_t + \varepsilon_{it} \quad (1)$$

$$Y_{it} = \alpha_i + \beta_1 \chi_{it} + \beta_2 \gamma_{it} + \beta_3 \delta_{it} + \beta_4 \varphi_{it} + \varepsilon_{it} \quad (2)$$

$$\alpha_i = \alpha + \vartheta_i \quad (3)$$

Where Y_{it} denotes a Business creation measure in an i country and during a year t. χ_{it}, γ_{it}, δ_{it} and φ_{it} denote the associated variables to institutional quality, free market, FDI and control variables respectively to each country in a year. ∂_t It's a "dummies" yearly dimension vector t X 1. Equation 3 allows us to control the "individual" characteristics for each country, α_i is a random order variable with a median value α and a random deviation ϑ_i.

The challenge is to find consistent values for the coefficients β, but this can prompt problems for three reasons: (1) because the errors of a country can also be correlated to previous errors in research for that nation, it is probable that new firm registration in a country at moment t is associate with new firm registration in t-1 (serial correlation); (2) because the errors for each country in this model can have a non-constant variance (heteroscedasticity); and (3) because countries' errors can be correlated during the same year (contemporary correlation) due to unseen characteristics in certain countries that can be related to unseen characteristics of other countries. For example, a strong regional crisis can affect the macroeconomic variables of Latin America emerging countries and, therefore, the creation of companies in this region, although it does not affect the emerging countries of Asia and Africa.

In order to analyze serial correlation problems in each regression, the test by Wooldridge was used (2002). The results in all three groups of countries reject the null hypothesis of serial non-correlation; therefore, the errors within each country are correlated temporally. The heteroscedasticity problems were analyzed by means of the Modified Wald Test, in agreement with Green (2000). This works even though the normal error distribution assumption is violated. The test failed in rejecting the null hypothesis; therefore it leads to assume that problem of heteroscedasticity for the three groups of countries exist. Finally, the Pasaran CD test (cross-sectional dependence) was used to detect whether the errors between countries were correlated (Hoechle, 2007). The null hypothesis of this test is that

the residues are not correlated and it was only ineffective for the group of high-income countries.

Beck and Katz (1995) demonstrated that the errors standard of models, Panel Corrected Standard Errors (PCSE), are more concise than Feasible Generalized Least Squares (FGLS) models when used to tackle issues with contemporary correlation, heteroscedasticity and auto-correlation. Since then, many studies have used PCSE in their panel's models. Here, the same solution is also used to construct the model for high-income countries given the problems and dichotomizing variables are introduced to include the significance detected in temporal effects. However, since there was little temporal observation, PCSE may not be a valid method of correction (Beck: 2001).

On the other hand, Hoechle (2007) indicates that one may relax the assumption of independently distributed errors and the estimator of random effects producing consistent standard errors, if residuals are not correlated between "clusters". If the variable used to perform "clusters" is the panel's identifier (in this case the countries), then the standard errors are consistent by heteroscedasticity and auto-correlation. Therefore, in the case of emerging and low-income countries, we used the random effects GLS regression robust standard error clusters in countries model.

Finally, to mitigate endogenous problems between FDI and the indicators of economic freedom or FDI and the quality of institutions, we distinguished the differences in time of the variables. Therefore, in the model used, it is FDI and the amount of goods traded in t-1 with the quality of institutions, the free market and the creation of companies in t.

4. The Data

4.1 Variables Justification, chosen measures and empirical implications:

4.1.1 Degree of business creation, dependent variable.

Entrepreneurship levels can be measured in terms of self employment (approach of the labor market, used among others by: Acs et al., 1994; Blanchflower, 2000; Blau, 1987; Bruce, 2000, 2002; Dunn et al., 2000; Gentry and Hubbart, 2004; Parker, 1996; Parker and

Robson, 2004) or in terms of the number of companies created (ecological approach, used among others by: Armington and Acs, 2002; Bartelsman et al., 2004, Klapper, Leaven and Rajan, 2006; Klapper et al.. 2007, Klapper and Love, 2010; Verheul, 2009). This investigation forces us to consider entrepreneurship in relation to creation of an incorporated economic unit formed legally and publicly registered to execute transactions with other organizations. We have decided, for that reason, to use an ecological approach to the rate of entry of new companies (entry density) as a dependent variable. Entry density is calculated as the number of new companies registered by each 1,000 people of working age (using a standard range of 15 to 64 years of age).

Data on new business registration in 87 countries from 2004 to 2009 came from the *World Bank Entrepreneurship Snapshots* (Table 1). In order to conduct a comparative analysis, we classified the 87 countries into three separate groups according to their respective levels of prosperity. The first group comprises high- and medium-income countries; the second consists of countries which command low incomes. These two groups were categorized according to the proposed classification outlined in the *Atlas of the World Bank*[4]. A third group comprising emerging countries or frontier emerging countries, was identified with reference to *The Financial Times* and the London Stock Exchange (FTSE) Index[5]. Table 2 shows the countries included in each group.

4.1.2 Limitations of entry density like dependent variable

There are some problems with the dependent variable that can distort the research. First, entry density is defined in legal terms more than economic terms; the fact that a company is registered does not necessarily mean that it is an active company. Take companies that are created solely as financial vehicles – these obviously are not a reflection of entrepreneurial activity. For this reason, the decision was taken to exclude data from tax havens from the research.

Also, researchers recommend using indicators for the rate of entry and exit of companies in

[4] The definition of the method atlas of qualification of the World Bank can be at this address:http://data.worldbank.org/about/country-classifications/world-bank-atlas-method.

[5] Definition methods from *The Financial Times* and the London Stock Exchange (FTSE) Index can be found at this address: http://www.ftse.com/Indices/Country_Classification/index.jsp

this kind of research, because although many new companies may fail, existing companies can also be liquidated for a variety of reasons from failure to acquisition. The theoretical model for entry and exit was developed by Joyanovich (1982) and Hopenhayen (1992). They emphasized the importance of using the entry-exit dynamic but factoring in failure rates for businesses that lose competitiveness in the market or are outmaneuvered by the advantages of potential competitors. These studies tend to disregard normal industrial dynamics except for FDI, the quality of governance and free market conditions upon business creation. Although industrial dynamics can influence business creation as companies flourish in sectors which are more productive and where resources are greater, institutional variables and a free market affect all economy sectors in a country. The difference in economic dynamics between countries is controlled economic growth and the amount of goods traded, more of which later.

Research is also thwarted by how registries operate and store data in some countries for example how or whether ownership or company name changes are recorded. Company registration can also be affected by economic or legal reforms that may prompt existing businesses to formalize their activities. To counter this, we individualized countries, and when the phenomenon occurred we used dummy variables or, in some cases, removed the countries from the sample.

Also, our focus has been on formalized businesses although it is accepted that other studies have indicated that entrepreneurs are more inclined to operate informally to evade bureaucracy and corruption. It is also the case that too stringent a regulatory framework or increased governance may encourage entrepreneurs to set up informal business models (Johnson et al., 1998, and Friedman et al., 1999). This work focuses on which factors spur entrepreneurs to set us businesses formally because of factors that support their enterprises such as legal protection, access to credit from reputable sources and access to legal sources of labor and external markets (Schneider and Enste, 2000).

4.1.3 Institutional quality

The quality of institutions is determined according to the most recent version of "Worldwide Governance Indicators (WGI)" (Kaufmann et al: 2010). These indicators are

available for 212 countries and record six dimensions of institutional quality, for the years from 1996 to 2009: Voice and Accountability (Voi_Acc); Political Stability and Absence of Violence/Terrorism (Pol_Sta); Government Effectiveness (Gov_Eff); Regulatory Quality (Reg_Qual); Rule of Law (Rule_Law); and Control of Corruption (Ctrl_Cor); the definitions and sources for the calculation of each one is in Table 1. Each indicator is calculated from 35 sources such as non-governmental organizations and specialized international organizations on the subject, for developed and developing countries. The scale ranges from -2.5 to 2.5; the highest values corresponding to greater institutional quality for each factor where a positive impact on Entry-Density is expected.

The WGI have been used for several years in some groundbreaking studies (Wernick et al.; 2009; Dollar and Kraay, 2002; Asterly and Levine, 2003; Faccio, 2006; Gupta et al., 2002, Demirguc-Kunt et al., 2004; Pande and Udri., 2006). The WGI also reflect the importance of good governance and a sound political system consolidating economic growth as set forth in the New Institutionalism Theory (North, 1990, Hayek, 1960; Williamson, 2000) and The New Theory of Economic Growth (Knack and Keefer, 1995; Olson, 2000; Knack, 2003; Azfar and Cadwell, 2003).

When analyzing bivaried correlations between indicators of each dimension of the WGI, it was established that they are high in countries of high income (0.7997 up to 0.9862), less high in emerging countries (0.5019 up to 0.8796) and more dispersed in low-income countries (- 0.3074 up to 0.8092). In the first and second examples, this behavior demonstrates relationship to common dimension dependency. In order to establish if there was dependency of a common dimension, principal components analysis was made (Ledesma and Bullet mold-Moor: 2007). The analysis revealed that one factor attracted the values of 90.84%, 70.16%, 46.11% from six indicators for high- income, emerging and low-income countries, respectively. The dependency is confirmed for our study focus (the emerging countries). It creates a new variable measuring the quality of institutions quality (Inst_Qual), being the mean of six factors in one year. The use of averages to measure the institutional influences on entrepreneurship has already been adopted by Wennekers et al. (2005), Van Stel et al. (2007) and McMullen et al. (2008).

4.1.4 Free markets and foreign direct investment

There is no universally accepted method of measuring the propensity for a free market. For our part, we use the measures included in The Index of Economic Freedom (IEF) of the Heritage Foundation (Beach and Kane, 2007). The index offers independent indicators associated with different categories relating to a free market. In this work, the indicators are: freedom to establish companies (Bus_Free); freedom to trade internationally (Tra_Free); fiscal freedom (Fiscal_Free); and freedom to invest (Inv_Free). Definitions and sources are in Table 1. These indicators are designed so that together they measure the main aspects of a free market in a country by reference to how the players respond to changing market conditions. Other studies that used this methodology using IEF indicators are (Claessens and Laeven, 2003; Klapper et al., 2006; McMullen et al., 2008; Aidis et al., 2010; Doucouliagos and Ulubasoglu, 2006; Heckelman, 2000; Han and Sturm, 2000).

The bivaried correlations between the indicators of the four IEF dimensions included in this work, in countries of high-income range from -0.6049 up to 0.6865, in emerging countries from -0.0502 up to 0.4047 and in the countries of low-income from -0.1779 up to 0.5045. Principal Component analysis was used to review multicolinear conformity. "Eigenvalues" for the first four factors were 2.47796, 1.10683, 0.86338 and 0.73072, respectively. In accord with standard practice the first two factors are retained. However, four variables to measure a free market were used in the model as two factors alone were insufficient to explain the existing relationship conclusively. This approach is justified for three reasons: (1) a steep fall in the magnitude of "eigenvalues" is not observed; (2) to retain two factors would imply high costs of singularity for indicators like Bus_Free and Tra_Free (values of singularity of 0.6113 and 0.4219, respectively); and (3) Costello and Osborne (2005) mention that the orthogonal rotation does not use all the information available in these cases. Actually other investigators have identified the independent effects of Bus_Free (Claessens and Laeven, 2003; Klapper et al., 2006; Desai et al., 2003), Fiscal_free (Kanbur,, 1980; Gentry and Hubbard, 2000; Parker, 2003) and Trade_Free (Horst, 1972; Bartlett and Ghoshal, 1999) on business creation. For these reasons, we consider each indicator separately in our model.

Finally, FDI is measured by the net flow of foreign investment divided by the gross

domestic product, with data based on the *World Development Indicators* compiled by the World Bank. This variable can be related to Inv_Free, but analysis of the variables (Table 4) shows the values are low in low-income and emerging countries. One theory is that while FDI measures investment inflow, Inv_Free is related to existing regulation. As demonstrated, entrepreneur-friendly regulation is essential though not, of itself, enough to attract FDI. As discussed, to mitigate endogenous problems between FDI and any free market indicator or between FDI and measurements of institutional quality, temporal differences in the variables is introduced.

4.1.5. Control Variables

The historical perspective would seem to suggest that the relationship between FDI, the quality of governance and a free market will work together in favor of budding entrepreneurs in emerging countries. Even so, a series of control variables were included to ensure that the relationship between the explanatory variables and dependent variables could be authenticated. Five control variables were included (See Table 1 for a detailed description of each variable). The first variable is the amount of domestic credit available to the private sector, represented as a percentage of GDP, since many investigators have suggested poor cash flow will inhibit the rate of business formation (Blanchflower and Oswald, 1998; Holtz-Eakin et al., 1994; Di Patti and Dell'Ariccia, 2003).

The second variable is GDP per capita (GDP_PCU), expressed in dollars and at current prices and exchange rates obtained from data from the United Nations (UNCTADstat). Some authors have found robust influences of this variable on entrepreneurial behavior, for example Lucas (1978), Acs et al., (1994) and Klapper et al., (2010). The third variable is the percentage of unemployed people in the total labor force (Unemployed), information obtained courtesy of the *International Monetary Fund: World Economic Outlook Database*. A number of studies link this factor to business creation (Blanchflower, 2000), (Staber and Bogenhold, 1993) and (Cowling and Peter, 1997).

The fourth control variable is the rate of inflation, gleaned from the *International Monetary Fund: World Economic Outlook Database* which represents the economic atmosphere for each country. It would tend to suggest that unstable economies discourage formal business

creation. The final control variable introduced is a trade of goods and services index, represented as percentage of GDP (Trade), showing the volumes of imports and exports to and from a particular country in a specific year. The expectation here is that amount of compromised goods will have an impact on the number of businesses created in any given period.

4.2 Data Description

In Figure 1, the y axis is the number of new companies registered per 1,000 people of working age (using the standard measure of adults between 15 and 64 years) while the x axis is a measure of the quality of governance calculated according to the average of the *World Wide Governance Indicators* (Kaufmann et al., 2010), the net flow of foreign investment divided by GDP, and the index of freedom to make businesses (Beach and Kane, 2007). Governance is at its best in countries with high incomes, less impressive in the emerging countries and much smaller in the low-income countries though the trend is for the relationship to be positive in all three groups of countries.

The correlation between FDI and entry density is also positive for all three groups of countries though it is at its most pronounced in emerging countries and falls significantly in low-income countries. This is because FDI is measured as a percentage of the GDP, therefore, in low-income countries, smaller amounts of FDI account for a greater percentage of GDP. The objective of this study is to demonstrate that FDI in an economy can stimulate business creation and, for that reason FDI is measured, not in absolute values but as a percentage of GDP. In low-income countries, data show that, even though for some of those beneficiaries of funding, FDI can be a high percentage of GDP, it does not always follow it will always lead to high levels business creation. Fundamentally, this is because much of this investment is directed to the operation of natural resources, as is the case of poor Africa countries (Asiedu, 2005) or Latin American countries (ECLAC, 2008). This would seem to suggest that, in emerging countries, FDI is more important a stimulus to business creation than in the other two groups of countries examined in this study.

The behavior of indicators to measure the extent of the free market is different from the two previous indicators. Minor differences are observed between the values of averages and

ranges for the three groups of countries (Table 3). The graph plots the index for the freedom to create businesses against that for entry density for new businesses – the relationship in low-income countries being strongest. This would tend to indicate that in countries where the regulatory system is more flexible, the landscape is more conducive to new business creation than in other countries. As Table 3 shows, the data for all variables is not complete and in the case of low-income and emerging countries, we work with non-balanced panels.

5. Results Analysis

5.1 New business registration determinants

Table 5 illustrates the correlation between each of the independent variables and the dependent variable, for each group of countries. The variable that measures the strength of governance is significant and positive in all the cases. This leads one to conclude that the quality of institutions can explain the differences in rates of new business creation across the three groups of countries. The results of the equations (1), (2) and (3) show that the size of the associated coefficient to institutional strength is greatest in high-income countries, lower in emerging economies and smallest in low-income countries. It could be that, in high-income countries, there is greater institutional quality leading to increased entry density. However, upon analysis of the relative size of the coefficient measuring institutional quality against the size of other, this could be done to what DiMaggio and Powell (1983), and North (1990) observed were institutional changes that are slow, incremental, continuous and show dependency patterns. Consequently, the variable reflects a cumulative effect most notable in high-income countries. This is borne out by contrasting these results with other indicators for institutional quality. Our research showed that, when contrasting four of the five countries that saw the largest number of new business formations on average per year over the past four years (the United Kingdom, 385,600; Canada, 194,750; France, 137,018; and, Japan, 122,816), they have consistently been in the top 25 countries in the world in terms of institutional quality rankings (Krause, 2010).

The freedom to form businesses is significant and positive in all three groups of countries. This is consistent with the view that rigid and expensive barriers to starting up businesses

can impede entry density and deter entrepreneurs from formalizing existing businesses, across all three groups of countries. Take the example of Latin America. Based on the Economic Commission for Latin America and the Enterprise Solutions Network Project (ECLAC - FUDES), 2006 was a bad year with submittals at 88%, concurrently reducing 52% of the requested requirements, a 67% reduction in the number of inscriptions process steps for the companies and 53% fewer entrepreneur visits to the institutions, particularly in low-income countries such as Bolivia and Guatemala. However, moving forward, these two countries saw rises of 24% and 120% in new business formations, from 2007 to 2009, respectively.

Fiscal freedom has a positive impact but it is only significant in high-income countries. In this group, complex tax regimes discourage would be entrepreneurs. One reason their fiscal freedom does not seem to be as important in lower income countries is that their smaller companies cannot benefit from tax breaks or subsidies and are more susceptible than larger companies to the costs of bureaucracy cost, as the report "Doing Business: How to Reform" of the World Bank (2007)[6] indicates.

Freedom to invest also has a positive impact only to a significant extent in emerging countries. Emerging markets are also, by definition, undergoing accelerated growth and industrialization. Investment freedom is, therefore, a motor driving the industrialization process because it promotes multiple instruments and financing mechanisms, diminishing obstacles to cash flow and paving the way for local and foreign investors. The emerging countries in our list which registered the largest numbers of business formations over the period have been those that have been making reforms for years that support foreign investment. These include Indonesia[7] and Romania[8] which have since the 1970s and 1990s, respectively, introduced regulations specifically designed to open doors to foreign investment". In Brazil, Resolution No. 2689 of 26 January 2000, from the National Monetary Council, allowed foreign organizations to use all investment mechanisms

[6] http://www.doingbusiness.org/~/media/fpdkm/doing%20business/documents/annual-reports/english/db07-fullreport.pdf

[7] Zahri, A. (1971). "Open Door Policy and Foreign Investment". *Intereconomics*. 6(4): 117-20

[8] Helmenstain, C. y Voicu, I. (1995)."An exploratory Analysis of Joint Venture Performance in Romania". Institute for Advanced Studies Vienna, East European Series 17.
http://www.ihs.ac.at/publications/eco/east/ro-17.pdf

available to Brazilian investors in Brazil financial markets. Meanwhile, in Colombia, since the 1990s pension fund (AFPs) regulation has evolved permitting foreign investment in the private capital fund. In this regard, this development outshines other reforms in Latin America[9].

Freedom to trade internationally is important for both high- and low-income countries. In the former, the coefficient shows negative impact; in the latter, it is positive. This indicates that a lack of regulation and the absence of barriers impeding free movement of goods and services have a negative impact on new business formation in high income countries but, conversely, a positive one on the same process in low-income countries, according to the Organization for Economic Co-operation and Development (OECD)[10]. Companies in industrialized countries have been operating for decades in a largely globalized economy. Supply chains in industries have been globalized in a bid to reduce costs and increase productivity in order to be more competitive at a national and international level. One way of achieving this is to produce goods more efficiently and to use supplies from the most effective producers, national or internationally. This has led to fragmentation in several countries as businesses offshore processes. Offshoring allows businesses to buy goods or services from foreign suppliers or move parts of the process abroad.

In terms of business creation, this phenomenon can be detrimental to high-income economies but positive for low-income economies. That is because offshoring has resulted in the partial relocation of activities that have led to shrinkage in production in high-income countries as work moves to countries where wages are lower and public services or raw material cheaper. The study by the OECD shows the rate of imports over domestic production of intermediate goods has risen in all countries considered in this study, between 1995 and 2000.

Second, thanks to the relaxation of regulatory barriers to international trade and large increases in FDI, foreign branches of multinational companies have become more

[9]Official newsletter of the Latin American Venture Capital Association, March 27/2011. http://lavca.org/2011/01/27/executive-briefing-latam-governments-open-the-door-to-global-pevc/

[10]OECD (2007). "Moving Up the Value Chain: Staying Competitive in the Global Economy: Main Findings".: http://www.oecd.org/dataoecd/24/35/38558080.pdf

important to low-income countries where they represent increasing volume of businesses, jobs, and research and development. The aforementioned OECD study[11]shows a 24% increase in labour forces for foreign subsidiaries from 1995 to 2001, in countries within its remit. The corollary is that multinational companies in developed countries have a competitive advantage derived from intellectual capital so they can take advantage of business opportunities by creating subsidiaries and affiliated companies abroad. Affiliated ones not only serve local markets but become essential links in the multinational's global supply chain. The OECD report has shown that exchange within the corporations has risen over recent years, affecting the interpretation of commercial deficits between countries. Part of the commercial deficit between the United States and China relates to imports that North American companies bring subsidiaries in China. For developed countries, competing in traditional industries based on low costs, is no longer an option but businesses have moved up the supply chain, focusing on specialist areas of expertise. This process has led to "de-industrialization" accounting for a drop of between 5% and 20% in manufacturing jobs in all OECD countries, except Portugal, with those activities transferring to other countries.

All the previous issues have generated challenges for small companies in high-income countries. Expanding activities internationally can be a difficult step for small companies. There is then a trend towards mergers and acquisitions to manage the volumes required to support the cost of research and development, training and business administration lower down the supply chain, allowing enterprises to maintain productivity and retain high standards of quality.

Finally, FDI has a positive impact on business creation in all groups of countries but is only significant in emerging countries. This activity supports the hypothesis that FDI encourages entrepreneurial activity in emerging countries. There is a lot of evidence supporting this assertion. For example, the Offshore Location Index of A.T. Kearney[11], shows that of 25 best performing countries in 2004, 19 are classified as developing economies, 14 of them in

[11]A.T. Kearney since 2004 produces an index that analyzes and classifies the first 50 countries worldwide like the best host countries to offer *offshore activities*, including IT and support services, contact centers and back-office support. Report series about the index was consulted on April 14/2011 from: http://www.atkearney.com/images/global/pdf/Making_offshore_s.pdf

the top quartile of countries with the greatest entry density levels among emerging countries.

Similarly, worldwide reports of foreign investment from the United Nations[12] have, since 2005, shown that developing and emerging economies have received the largest proportion of worldwide FDI. Of the top 33 countries, targeted for research and development funds from overseas in 2005, 17 are considered developing economies and 14 of them are in the mid-high segment of emerging countries, in terms of their rates of entry density over this period. This would suggest that FDI has not only has boosted business creation through offshoring of products and services in emerging countries but qualified functions such as research and development are also outsourced to companies in emerging markets.

The OECD report shows how internationalizing I+D in developing countries has flourished as some countries offer a combination of low wages and good educational standards (one of the characteristics of emerging countries). The presence of multinational companies has affected productivity in emerging economies. Although that prompts competition among domestic businesses, it also moves the technology and know-how to countries that can benefit from it. The trickledown effect of technology and knowledge from multinational companies to domestic ones creates training and supply chains so that local entrepreneurs create domestic businesses within the same sectors and related sectors, up and down the supply chain.

5.2. The impact of timing of changes to the quality of governance, FDI and free market regulation in relation to business creation

Another important stage is establishing for how long independent variables have an impact on business creation. The equations in table 6 illustrate this correlation. In Equations (4) and (5) for emerging countries, and (6) and (7) for low-income countries[13], it appears that

[12] The surveys series about FDI in the world was emitted by United Nations since 1991. It was consulted in April 14/2011 from:
http://www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1

[13] The numbers of observations were incremented for low income countries due to historic data availability with dom cre variable.

entry density is dependent upon conditions that prevailed a year or two years before the creation of a particular business. The result shows how significant perceptions about the quality of governance over the past two years are to the rate of business creation in present times for both groups of countries. This indicates that in countries where the governance improves gradually and is sustained, conditions will be more conducive to business creation.

Variables that measure a free market do not behave the same way as those that measure standards of governance. Previous values for the variables are not sufficient to explain its effects. This would indicate free market regulation is significant in the year in business creation and that an entrepreneur's decision to set up a business is informed by current regulation. It is possible entrepreneurs consider prevailing stability and sustainability of regulation over the standards of governance before embarking on particular projects. The only exception is the variable measuring openness to international trade for low-income countries, a relationship which is relevant until the year before the entrepreneur sets up operations.

Finally it is possible to see in equations (4) and (5) that the FDI effect on the creation of companies conserves its importance for both previous periods in the case of the emerging countries. The coefficient shows the significance of FDI received two to three years before the formation of businesses, in the current year, showing that emerging countries work hard to attract quality FDI (which produces economic, technological and social development) and not only great FDI amounts has had effect at least in the period of studied time.

5.3. FDI Productivity in the creation of companies at emerging countries

Tables 5 and 6 show the influence of good governance and FDI on business creation in emerging countries while good governance can also, in turn, be a catalyst determining how effective FDI is for business creation. Table 7 looks at this relationship. To avoid endogeny between variables the equations consider the amount of FDI at moment t-1 with the strength of institutions at moment t and the dependent variable Entry Density at moment t. Equation (8) orders the 35 emerging markets examined as part of this study, based on their institutional quality. The first independent variable measures institutional quality showing

a direct and significant correlation with the dependent variable. The following independent variable multiplies FDI by one if the country's institutional quality is in the lowest quartile or zero if it is the reverse. The third independent variable does the same for the countries whose institutional quality is ranked in the first to the third quartiles. The fourth independent variable repeats the previous process with countries whose institutional quality is in the top quartile of emerging countries.

The main characteristic of this regression is the significance and size of coefficients used to represent the independent variables, identified above. The size of the coefficients for countries with institutional quality that is better than that of those in the first quartile is greater than the size of the coefficients of the countries located below the first quartile (0.064 is greater than 0.057 and 0.007). In addition, the coefficient for countries in the top quartile loses its significance. The conclusion is that size and significance of FDI coefficients depend on institutional quality. It should be then that FDI has a positive impact on business creation in emerging countries with better institutional quality.

In order to test the strength of the result in equation (8) equation (9) divides the 35 emerging countries into two groups and repeats the process in equation (8) for both groups of countries. The first independent variable that measures institutional quality continues to show a direct and significant correlation to the dependent variable. The second independent variable, which multiplies FDI by one if that country's institutional quality is mid-to-high or by zero if the reverse, shows a significant coefficient with more than five times the third coefficient's variable and does the same for those countries whose institutional quality is mid-to-low (0.65 as opposed to 0.012). Also, the coefficient associated with countries whose institutional quality is mid-inferior loses significance. Again, it is shown that FDI is only effective in spurring business creation in emerging countries with better governance and FDI is most effective in this regard in countries with high institutional quality.

Previous studies have shown that countries with better governance attract more FDI[14]. Tables 5 and 6 show better governance and FDI contribute to greater business creation. But table 7 is more detailed showing how institutional quality and FDI combine to spur

[14] A complete review of empirical determinats of FDI can be found in: Blonigen, B. (2005). "A Review of the Empirical Literature on FDI Determinants". *Atlantic Economic Journal*. 33(4): 383-403

business creation in emerging countries. It has been shown that once FDI reaches a certain level, it is more productive and only significant in emerging countries with greater institutional quality. Thus, good institutions are key to attracting FDI flows to a country and, once it has arrived, influence the flow of FDI, maximizing its potential and ensuring it has the greatest impact on business creation in the emerging countries.

This result shows how the characteristics of good governance – included in the indicator used in this work to measure it – interact with FDI to promote business creation in emerging countries. On one hand, the measure for institutional quality used in this study factors in political stability, corruption control, protection for the property rights and lower crime rates. These factors determine where FDI may wind up in emerging countries, limiting the likelihood that the funding misplaced and reducing costs for those setting up businesses. They also increase the expected return for investors. On the other hand, the institutional quality measurement used in this study also includes factors such as representation and political control; and the effectiveness of government and regulatory quality. This last group of factors measures an individual's capacity to vote in a new or back an existing government, depending on their ability and commitment to developing and implementing politics and rules that favour the development of private sector development. The factors, associated with good governance, determine how FDI can produce economic, technological and social development, and well-being through the creation new businesses and, in turn, new jobs. So, the quality of institutions can make a difference, ensuring that FDI becomes a source of financing to assist new businesses and funding improvements to infrastructure that benefit local entrepreneurs and lead to horizontal or vertical spillovers. Unless this is so, FDI will not foster much business creation in the donee country.

5.4. The strength of the results

5.4.1. Variation in the creation of companies and changes in the institutional quality, FDI and the free market in emerging countries

The results obtained thus far have focused on how the extent to which a free market operates and good governance and how they inter with FDI from each country can explain the differences in levels of firm creation in the emerging countries. However, if the relationship between these three factors really mattered, the changes in these variables

would have to show a measurable impact on the rate of entry density for the emerging countries.

Table 8 shows the impact to entry density variation (of t-1 to t) of changes in several variables. Institutional quality (t-1 to t), FDI (t-2 to t-1) and free market variables (of t-1 to t) that have demonstrated their impact in the previous regressions (the freedom to start businesses and to invest). In equation (10), all the variables behave as expected. Variations in institutional quality, the freedom to start a business and to invest changes are significant with a confidence level of 95%. Meanwhile, the fluctuation in FDI is highly significant, recording a confidence level of 99%. Note that equation (10) explains nearly 40% of the variations in entry density for emerging countries. This result is consistent with those recorded in the foregoing tables together with evidence that changes to a free market and standards of governance affect the rate of new business creation in emerging countries, even in the short-term.

This does not go against the fact that investors and entrepreneurs monitor for patterns that favour institutional quality and a free market. As can be seen at table 6, the perception of institutional quality for the previous two years impact, impacts the capacity for business creation in the current year. This shows institutional quality for the previous two years is important because it informs the entrepreneur's perception of whether the changes are temporary or permanent and how stable a system it is. If a country has a history of institutions that have shown low quality, doubts will persist about the impact of recent reforms and their longevity. That may be because the influence of political leaders and the decisions that they made while power can be felt for some time after they have left office while social customs can impede the effectiveness of any reforms.

There are several methods for testing these results against reality. First, an alternate source that measures institutional quality and the free market in several countries around the world is "the Economic Freedom of the World Index"[15]. We used the results obtained by the countries in this index from 2005 to 2009 to determine the degree of improvement

[15] Gwartney, James and Robert Lawson with Herbert Grubel, Jakob de Haan, Jan-Egbert Sturm, and Eelco Zandberg (2009). Economic Freedom of the World: 2009 Annual Report. Vancouver, BC: The Fraser Institute. Taken April 17/ 2011 from: www.freetheworld.com

(variation) to institutional quality and the openness of the free market over this period. We divided the countries into quartiles and analyzed the results for the 10 best performing countries in terms of entry density for the emerging markets reviewed in this study. Apart from Hungary, the other nine (Bulgaria, Macedonian, Romania, Latvia, Slovenia, Slovakia, Russia, Croatia and the Czech Republic) are in the second quartile.

The report of "Doing Business: How to Reform" from the World Bank (2007), ob cit, explains, using specific examples, how these countries have adopted reforms that improve the quality of governance and lay the groundwork for a free market. For example Bulgaria has simplified the process of company registration and taken steps to better protect investors; Romania has streamlined the amount of paperwork required to gain permits and licences and has increased disclosure requirements for the benefit of investors; Macedonia, has also reduced the backlog of cases in its courts of first instance thereby increasing their capacity to adjudicate on contractual matters that will benefit the business community.

5.4.2 Entry density variations and FDI Changes. Emerging and frontier emerging countries comparison.

"The Financial Times and the London Stock Exchange, FTSE Index"[16] separates emerging markets intop two groups, emerging and frontier emerging markets. Frontier emerging markets have a tendency to be smaller, less developed and less sound among the group of emerging countries. According to the FTSE, frontier emerging markets are typically attractive to investors who look for high long-term returns, independence and low dependency upon other markets. Typical of a frontier emerging market is that, as the time goes by, it will become a market which is similar in character, in terms of risk and return, to a more developed emerging country. The distinction between emerging and frontier emerging markets is important to our work, as the latter tend to demonstrate a greater openness to FDI and are not subject to extreme economic and political instability in which case, if our results to date are representative, in frontier emerging market, the value of FDI would have to greater than that for the rest of emerging countries. This would be another method of corroborating existing results.

[16] Method definition of the "Financial Times and the London Stock Exchange, FTSE Index" can be found at: http://www.ftse.com/Indices/Country_Classification/index.jsp

In equation (11) of table 8, impact is analyzed by the variation that has (of t-1 to t) in entry density changes in several variables. They are institutional quality (of t-1 to t), FDI (of t-2 to t-1) and free market variables (of t-1 to t) which have shown significance in previous regressions (freedom to form businesses and to invest). As in equation (10), all the variables behave as expected and changes in standards of institutional quality, the freedom to form businesses and to invest are significant, as together they can lead to a confidence level of 95%. The difference in this case is that the FDI variation was distributed in two mutually exclusive variables. The countries were classified as frontier emerging and emerging. In one, FDI is multiplied by one if the country is frontier emerging or by zero if it is not. In the other variable, it is a constant for the remaining emerging markets that are not classified as frontier markets. As can be seen, equation (11) is more illuminating in this regard than equation (10). In addition, although the two variables for FDI are still significant in explaining the variation in entry density in emerging countries, the coefficient for frontier emerging markets is the double and shows greater levels of confidence (99%) than in the remaining markets within the group (90%). This result is consistent with the hypothesis raised at the beginning of this section and with the results of the previous tables.

6. Summary of Results

Results show a strong positive correlation between institutional quality and the rate of business creation in all three groups of countries. They also demonstrate that the quality of institutions and fluctuations in this quality can continue to have an influence on the creation of new businesses for up to two years from the date at which that quality is measured, compounding the importance of the relationship. The relationship between the freedom to create businesses and the availability of investment has the most significant positive impact on company development in emerging countries. Likewise, access to international trade has the greatest impact in low-income countries. Previous studies have not indicated that these factors are significant or that they have had an effect on latest levels of business development. This tends to indicate that the regulation of the free market has a short-term impact on business creation and that it is the current prevailing regulatory climate that determines whether an entrepreneur decides to start a business. However, entrepreneurs also pay heed to the stability and longevity of rules in terms of how they have contributed to the quality of institutions.

Finally, the study has recorded a strong direct impact for FDI upon business creation in emerging countries. Furthermore, where institutional quality is concerned, FDI remains an influential factor for at least two years from the date that quality is measured. The study also indicates that the quality of institutions multiplies the effectiveness of FDI's contribution to business creation. The strength of the relationship is verified by: (1) controlling the possible endogenous relationship between FDI and institutional quality; (2) establishing the significance between variations in FDI and business development; and (3) observing that the FDI coefficient is largest in the frontier emerging countries as opposed to other emerging countries. This last result is consistent with "the spillover theory of entrepreneurship" (Acs et al., 2009, Görg and Strobl, 2002; Ayyagari et al., 2010).

7. Study limitations and further investigation

In this study, the relationship between the strength of governance, a free market, FDI and business creation is investigated. Although there have been some obstacles that future research should be able to surmount, evidence exists that some regions with strong existing manufacturing industries, make room for some business creation but to a lesser extent (Audrestsch and Fritsch: 1994). To illustrate this, in Klapper et al. (2007), it is shown that businesses in financial services and retail are as important in developing countries as in developed countries, while manufacturing and services businesses are half as important. This would seem to invite inquiry of a greater depth to determine why entrepreneurs in certain sectors are more likely to flourish in certain sectors in developing countries and not others.

The relatively small sample of emerging countries and limited duration of the analysis in this study, as foregrounded, limit the number of variables that can be included in the model. Therefore other variables, that have already been identified by research as being cogent, could not be included. By extending the number of countries and studying them for longer, socio-cultural variables could be factored in which shed more light on the model and how it works and to illuminate the results. Also entry density figures are available only for a few emerging countries so it is critical to develop models that combine economic and socio-cultural variables to explain how entrepreneurship works in developing countries.

Another challenge has been measuring the relationship between a free market and the strength of institutional quality. The correlation is a complex matrix of factors. Averaging several factors associated with the strength of institutional quality supposes that those factors have equal weight, which is not necessarily so, but begs the question how else can the relationship be evaluated?

A next step may be to determine whether the factors that facilitate opportunities for business creation are the same as those that are needed to see businesses survive. Establishing determinants can assist nascent companies reach maturity and fulfill their social and economic potential. Also, it would be opportune to determine how these environmental factors can affect particular industrial sectors differently to determine how policy is devised and the landscape for would be entrepreneurs to create a level playing field. Finally, how the political and economic landscape influences entrepreneurial activity is ripe for further investigation.

8. Conclusions and the implications of public policy

This work contributes to a body of research on what sparks company creation in emerging markets. First it investigates the relationship between institutions and business creation, analyzes the impact of the timing of the degree of institutional quality and establishes how changes in the institutional quality affect business creation. Second, it reveals the relationship between entrepreneurship and aspects of a free market in terms of those particularly those relevant to the subject of the study such as foreign trade, flows of capital and the ease with which individuals may start, run and close a business) and how changes in these factors affect business creation. Third, it analyzes how FDI affects business creation. It also determines how external participation affects the internal economy in how fertile an environment the countries become for business creation. Finally, it analyzes the interaction between FDI, the quality of institutions and the role of a free market in business creation in emerging countries.

Data for the six years from 2004 to 2009 and for 87 countries from the registry of new companies database of the “The World Bank Entrepreneurship Snapshots” formed the basis for this research. To recap, in order to conduct comparative analysis, the 87 countries were

divided into three groups. The first group comprises countries of high- and mid-high income; the second group consist of low- income countries, both of which groups were selected according to the Atlas of the World Bank. Meanwhile, a third group of emerging and frontier emerging countries was formed with reference to “The Financial Times and The London Stock Exchange: the FTSE index”.

The results suggest that those who devise public policy must consider FDI as a catalyst to business creation, its impact compounded by the strength of governance. Good institutions, besides attracting FDI also create regulatory frameworks to attract desirable types of FDI. Emerging countries must make efforts to attract FDI that produces economic, technological and social gains and not only great amounts of FDI. Additional indicators must be used so efforts are channeled in such a way as to maximize the effectiveness of FDI, creating businesses that last. These include job creation; value added and change of value added by worker; capital expenses by employee; the use of local suppliers and other forms of relationship with the local economy. However, of supreme importance are those factors related to investment in training and technology. This is because, in this sector, there is a greater multiplying effect prompting domestic companies within the same industry to cross-pollinate (horizontal spillovers) and, within related industries, to have a positive effect on other businesses up and down the production line (vertical spillovers). To illustrate this, a technology company may require qualified workers who are better paid thus creating demand within the local market which other technology companies create demand for services of greater value, making room for healthy competitive from other local companies.

As a side note, the author recognizes that the study is but a first step into what promises to be a rich vein of investigation into how public policy can be devised so as to attract foreign investment, promote a free market and create and maintain institutions that allow new businesses to enter the market and to succeed.

Bibliography

Acs, Z., Audretsch, D. & D. Evans (1994). “Why Does the Self-employment Rate Vary Across Countries and Over Time?”. CEPR Discussion Paper 871, C.E.P.R. Discussion Papers..

Acs, Z., Braunerhjelm, P., Audretsch, D. & B. Carlsson (2009). "The Knowledge Spillover

Theory of Entrepreneurship". *Small Business Economics*. Springer. 32(1): 15-30.

Aidis, R. & T. Mickiewicz (2006). "Entrepreneurs, Expectations and Business Expansion: Lessons from Lithuania". *Europe Asia Studies*. 58(6): 855-880.

Aidis, R. & Y. Adachi (2007). " Russia: Firm Entry and Survival Barriers". *Economic Systems*. 31(4): 391-41.

Aidis, R., Estrin, S. & T.Mickiewicz (2008). "Institutions and Entrepreneurship Development in Russia: A Comparative Perspective". *Journal of Business Venturing*. 23: 656-672.

Aidis, R., Estrin, S. and T. Mickiewicz, (2010). "Size matters: entrepreneurial entry and government". Small Business Economics. On Line FirstTM. PP. 1-21. Taken January 22 / 2011 from: http://www.springerlink.com/content/t8034l00p0vt0030/fulltext.pdf.

Aidt,T. (2009). "Corruption, Institutions and Economic Development". *Oxford Review of Economic Policy*. 25(2): 271-291.

Aitken, B. & A. Harrison (1999). "Do Domestic Firms Benefit from Direct Foreign Investment? Evidence from Venezuela." *American Economic Review*. 89(3): 605–18.

Alfaro, L. and A. Charlton (2008). "International Financial Integration and Entrepreneurial Firm Activity". Harvard Business School Working Paper 07-012. Taken en february 22 / 2011 de: http://www.hbs.edu/research/pdf/07-012.pdf

Alfaro, L., Kalemli-Ozcan, S. & S. Sayek (2009). "FDI, Productivity and Financial Development". *World Economy*. 32(1): 111-35

Armington, C. & Z. Acs (2002). "The Determinants of Regional Variation in New Firm Formation". *Regional Studies*. 36(1): 33-45.

Asiedu, E. (2005). "Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability". World Institute for Development Economic Research (UNU-WIDER). Working Papers RP2005/24. Taken February 27/2011 from: http://www.wider.unu.edu/stc/repec/pdfs/rp2005/rp2005-24.pdf

Asterly, W. & R. Levine (2003). "Tropics, Germs, and Crops: How EndowmentsIinfluence Economic Development". *Journal of Monetary Economics*. 50(1): 3-39.

Ayyagari, M. & R. Kosová (2010) "Does FDI Facilitate Domestic Entry? Evidence from the Czech Republic". *Review of International Economics*. 18(1): 14–29.

Azfar, O., & C. Cadwell, eds. (2003). *Market-Augmenting Government: The Institutional Foundations for Prosperity*. Ann Arbor: University of Michigan Press

Baltagi, B. H. (2001). *Econometric analysis of panel data*. New York: Wiley.

Barbosa, N. & V. Eiriz (2009). "The Role of Inward Foreign Direct Investment on Entrepreneurship". *International Entrepreneurship and Management Journal*. 5:319–39

Barkhatova, N. (2000). "Russian Small Business, Authorities and the State". *Europe-Asia Studies*. 52: 657-676.

Bartelsman, E., Haltiwanger, J. and S. Scarpetta (2004). "Microeconomic Evidence of Creative Destruction in Industrial and Developing Countries". The World Bank Policy Research Working Paper 3464.

Bartlett, C. & S. Ghoshal (1999). *Transnational Management: Text, Cases and Readings in Cross Border Management*. New York: McGraw-Hill.

Barro, R. (1991). "Economic Growth in a Cross Section of Countries". *The Quarterly Journal of Economics*. 106: 407-443.

Baumol, W. (1990). "Entrepreneurship: Productive, Unproductive, and Destructive". *Journal of Political Economy*. 98: 893-921.

Beach, W. & T. Kane (2007). "Methodology: Measuring the 10 Economic Freedoms". En Miller, T., Holmes, K., O'Grady, M. y A. Kim (Eds.). (2008) Index of Economic Freedom: The link between Economic opportunity and prosperity (p.39-55).Washington: The Heritage Foundation.

Beck, N. and J. Katz (1995). "What to Do (and Not to Do) With Time-Series Cross-Section Data". *American Political Science Review*. 89(3): 634-47.

Beck, N. (2001). "Time-Series Cross-Section Data: What Have We Learned in the Past Few Years". *American Political Science Review*. 4: 271-95.

Berggren, N. (1999). "Economic Freedom and Equality: Friends or Foes?". *Public Choice*. 100: 203–223

Berggren, N. (2003). "The Benefits of Economic Freedom: A Survey". *The Independent Review*. 8: 193–211

Bjørnskov, C. & N. Foss (2008). "Economic Freedom and Entrepreneurial Ativity: Some Cross Country Evidence". *Public Choice*. 134: 307–328.

Blanchflower, D. & A. Oswald (1998) "What Makes an Entrepreneur?" *Journal of Labor Economics*. 16(1):26-60.

Blanchflower, D. (2000). "Self-employment in OECD Countries". *Labor Economics*. 7:471-505.

Blau, D. (1987). "A Time-Series Analysis of Self-Employment in the United States". *Journal of Political Economy*. 95(3):445–467.

Blonigen, B. (2005). "A Review of the Empirical Literature on FDI Determinants". *Atlantic*

Economic Journal. 33(4): 383-403

Bruce, D. & M. Mohsin (2003). "Tax Policy and Entrepreneurship: New Time Series Evidence". *Small Business Economics*. 26: 409–425

Carter, J. (2007). "An Empirical Note on Economic Freedom and Income Inequality". *Public Choice*. 130: 163–177

Claessens, S., & L. Laeven (2003). "Financial Development, Property Rights, and Growth". *Journal of Finance*. 58(6): 2401-2436.

Costello, A. & J. Osborne (2005). "Best Practices in Exploratory Factor Analysis". Practical Assessment, Research & Evaluation. 10(7). Taken January 10/2011 from http://pareonline.net/pdf/v12n2.pdf

Coyne, C. & P. Leeson (2004). "The Plight of Underdeveloped Countries". *Cato Journal*. 24(3): 235-49

Cowling, M. & P. Mitchell (1997)."The Evolution of U.K. Self-Employment: A Study of Government Policy and the Role of the Macroeconomy". *The Manchester School of Economic and Social Studies*. 65(4): 427-42

Cullen, J. & R. Gordon (2002). "Taxes and Entrepreneurial Activity: Theory and Evidence for the U.S". National Bureau of Economic Research. NBER Working Paper 9015

De Backer, K & L. Sleuwaegen (2003)."Does Foreign Direct Investment Crowd Out Domestic Entrepreneurship?". *Review of Industrial Organization*. 22(1): 67-84

Demirguc-Kunt, A., Laeven, L. & R. Levine (2004). "Regulations, Market Structure, Institutions, and the Cost of Financial Intermediation". *Journal of Money, Credit and Banking*. 36(3): 593-622

Djankov, S., Glaeser, E., La Porta, R., Lopez-de-Silanes, F. & A. Shleifer (2003). "The New Comparative Economics". *Journal of Comparative Economics*. 31(4): 595-619.

Di Patti, E., & G. Dell'Ariccia (2004). "Bank Competition and Firm Creation". *Journal of Money, Credit and Banking*. 36(2): 225-251

DiTella, R. & R. McCulloch. (2006). "Why Doesn't Capitalism Flow to Poor Countries?".National Bureau of Economic Research. Nber Working Paper Series. Working Paper 13164.

Dollar, D. & A. Kraay (2002). "Growth is Good for the Poor". *Journal of Economic Growth*. 7(3). 195-225

Doucouliagos, C. & M. Ulubasoglu (2006). "Economic Freedom and Economic Growth: Does Specification Make a Difference?". *Journal of Political Economy*. 22: 60 - 81.

Dunn, T. & D. Holtz-Eakin(2000). “Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links”. *Journal of Labor Economics*, 18(2): 282-305.

De Soto, H. (1989). *The Other Path: The Invisible Revolution in the Third World*. New York: Harper and Row.

Desai, M., Gompers, P. y J. Lerner (2003). “Institutions, capital constraints and entrepreneurial firm dynamics: Evidence from Europe”. National Bureau of Economic Research. NBER Working Paper 10165.

DiMaggio, P. & W. Powell (1983). “The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*”. American Sociological Review*. 48: 147–160.

Djankov, S., La Porta, R. Lopez-de-Silanes, F. & A. Shleifer (2002). “The Regulation of Entry”. *Quarterly Journal of Economics*. 117: 1-35.

Djankov, S., Miguel, E., Qian, Y., Roland, G. & E. Zhuravskaya (2005). “Who are Russia's Entrepreneurs?”. *Journal of European Economics*. 3(2-3): 587-597.

ECLAC (2008).”Foreign Direct Investment in Latin America and Caribbean”. Taken March 1 / 2010 de: http://www.eclac.org/publicaciones/xml/4/36094/LCG2406i.pdf

Faccio, M. (2006). “Politically Connected Firms”. *The American Economic Review*. 96(1): 369-386

Feldstein, M. & J. Slemrod (1980). “Personal Taxation, Portfolio Choice, and the Effect of the Corporate Income Tax”. *Journal of Political Economy*. 88: 854–66

Friedman, E., Johnson, S., Kauffmann, D. & P. Zoido-Lobaton (1999).”Dodging the grabbing hand: The determinants of unofficial activity in 69 countries”. Conference Paper, The Nobel Symposium in Economics - The Economics of Transition, Stockholm, September 1999. Available at SSRN: http://ssrn.com/abstract=194628 or doi:10.2139/ssrn.194628

Frye, T. & A. Shleifer (1997). “The Invisible Hand and the Grabbing Hand”. *American Economic Review*. Papers and Proceedings 87: 354-358.

Gentry, W. & R. Hubbard (2000). “Tax Policy and Entrepreneurial Entry”. *American Economic Review*.90: 283–287

Gentry, W. & R. Hubbard (2004). “Entrepreneurship and Household Saving”. *Journal of Advances in Economic Analysis & Policy*. 4(1), Article 8.

Glaeser, E., J. Scheinkman, & A. Shleifer (2003). “Injustice of inequality”. *Journal of*

Monetary Economics. 50: 199-222

Glaeser, E. and A. Shleifer (2003). "The Rise of the Regulatory State*". Journal of Economic Literature.* 41(2): 401-425.

Gomez-Casseres, B. (1997). "Alliance Strategies of Small Firms". *Small Business Economics.* 9: 33–44.

Gompers, P. & J. Lerner. (2001). "The Venture Capital Revolution". *Journal of Economic Perspectives.* 15(2): 145-168

Gonzalez, F. (2005). "Insecure Property and Technological Backwardness". *Economic Journal.* 115(505): 703-721.

Gordon, R. (1998)."Can High Personal Tax Rates Encourage Entrepreneurial Activity?". *International Monetary Fund Staff Papers*. 45(1): 49–60

Görg, H. & E. Strobl (2002). Multinational Companies and Indigenous Development: An Empirical Analysis. *European Economic Review*. 46: 1305-22.

Greene, W. (2000). *Econometric Analysis*. Upper Saddle River, NJ: Prentice Hall

Gupta, S., Davoodi, H. & R. Alonso-Terme (2002). "Does Corruption Affect Income Inequality and Poverty?. *Economics of Governance*. 3(1): 23-45

Grossman, G. (1984). "International Trade, Foreign Investment, and the Formation of the Entrepreneurial Class". *American Economic Review*. 74(4): 605-14

Gwarty, J., Lawson, R. & R. Helcombe (1999). "Economic Freedom and the Environment for Economic Growth". *Journal of Institutional and Theoretical Economics*.155(4): 643-663.

Hayek, F. (1960). *The Constitution of Liberty*. Chicago: University of Chicago Press.

Henderson, J. (2002) "Building the Rural Economy with High-Growth Entrepreneurs." *Federal Reserve Bank of Kansas City Economic Review*. 87(3): 45–70

Hodler, R. (2009). "Industrial Policy in an imperfect world". *Journal of Development Economics.* 90: 85-93.

Hoechle, D. (2007). "XTSCC: Stata module to calculate robust standard errors for panels with cross-sectional dependence". Statistical Software Components, Boston College Department of Economics. Taken February 22 / 2011 from: http://econpapers.repec.org/RePEc:boc:bocode:s456787.

Holtz-Eakin, D., Joulfaian, D. & H. Rosen (1994). "Sticking It Out: Entrepreneurial Survival and Liquidity Constraints". *The Journal of Political Economy*. 102(1): 53-75.

Hopenhayn, H. (1992): "Entry, Exit and Firm Dynamics in Long Run Equilibrium".

Econometrica. 60(5): 1127-1150

Horst, T. (1972). "Firm and Industry Determinants of the Decision to Invest Abroad: An Empirical Study". *Review of Economics and Statistics*. 54: 258-66.

Johnson, S., Kaufmann, D. & A. Shleifer (1997). "Politics and Entrepreneurship in Transition Economies". Tomado el 12 de enero de 2011 de SSRN: http://ssrn.com/abstract=1117620

Johnson, S., McMillan, J., & C. Woodruff (2002). "Property Rights and Finance", *American Economic Review*. 95: 1335-1356

Johnson, S., Kaufmann, D. & y P. Zoido-Lobaton. (1998). "Regulatory Discretion and the Unofficial Economy". *American Economic Review*. 88(2): 387-92.

Joyanovic, B. (1982). "Selection and the Evolution of Industry". *Econometrica*. 50(3): 649-670

Kanbur, R. (1980). "Risk Taking and Taxation: An Alternative Perspective". *Journal of Public Economics.* 15(2): 163-184

Kaufmann, D., Kraay, A. and M. Mastruzzi (2010). "Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008". World Bank Policy Research Working Paper 5430

Kirzner, L. (1992). *The Meaning of Market Process: Essays in the Development of Modern Austrian Economics*. London: Routledge.

Knack, S., ed. (2003) *Democracy, Governance, and Growth*. Ann Arbor: University of Michigan Press.

Knack, S., & P. Keefer (1995). "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures." *Economics and Politics*. 7: 207–27.

Klapper, L., Laeven, L. & R. Rajan. (2006). "Entry Regulation as a Barrier to Entrepreneurship". *Journal of Financial Economics*. 82: 591-652.

Klapper, L., Amit, R., Guillen, M. and J, Quesada (2007). "Entrepreneurship and Firm Formation Across Countries". World Bank Policy Research Working Paper 4313.

Klapper, L. and I, Love (2010). "The Impact of the Financial Crisis on New Firm Registration". World Bank Policy Research Working Paper 5444.

Konings, J. (2001). "The Effects of Foreign Direct Investment on Domestic Firms: Evidence from Firm Level Panel Data in Emerging Economies". *Economics of Transition*. 9(3): 619–33.

Krause, M. (2010). "Indice de Calidad Institucional 2010". International Policy Network. Taken April 20 / 2011 from:

http://works.bepress.com/cgi/viewcontent.cgi?article=1041&context=martin_krause

Krueger, A. (1974). "The political economy of the rent-seeking society". *American Economic Review.* 64(3): 291-303.

Krugman, P. (1995). "Cycles of Conventional Wisdom on Economic Development". *International Affairs*. 71(4): 717-32

La Porta, R., Lopez-De-Silanes, F., Shleifer, A. & R. Vishny (1997). "Legal Determinants of External Finance". *The Journal of Finance.* 52 (3): 1131-1150

Landier, A., Thesmar, D. & M. Thoenig. (2008). "Investigating Capitalism-Aversion". *Economic Policy*. 55: 3-42.

Ledesma, R. & P. Valero-Mora (2007). "Determining the Number of Factors to Retain in EFA: An easy-to-use computer program for carrying out Parallel Analysis". Practical Assessment Research & Evaluation. 12(2). Taken January 10/ 2011 from http://pareonline.net/pdf/v12n2.pdf

Leibenstein, H. (1968). "Entrepreneurship and Development". *The American Economic Review.* 58(2): 72-83

Lucas, R. (1978). "On the Size Distribution of Business Firms". *Bell Journal of Economics.* 9(2): 508-523.

Long, J. (1982a). "Income Taxation and the Allocation of Market Labor". *Journal of Labor Research.* 3(3):259–76

Long, J. (1982b). "The Income Tax and Self-Employment". *National Tax Journal*. 35:31–42

Mauro, P. (1995). "Corruption and Growth". *Quarterly Journal of Economics*. 110 (3): 681-712.

McMullen, J., Bagby, D. & L. Palich (2008). "Economic Freedom and the Motivation to Engage in Entrepreneurial Action". *Entrepreneurship Theory and Practice*. 32(5): 875-895.

Moore, R. (1983) "Self-Employment and the Incidence of the Payroll Tax". *National Tax Journal*. 36:491–501

Mossin, .J (1968). "Taxation and Risk-Taking: An Expected Utility Approach". *Economics.* 35:74–82

North, D. (1990). *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.

Nyström, K. (2008). "The Institutions of Economic Freedom and Entrepreneurship:

Evidence from Panel Data". *Public Choice.* 136: 269–282

Olson, M. (2000). P*ower and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. New York: Basic Books.

Pande, R. & C. Udri (2006). "Institutions and Development: A View from Below". En Blundell, R., Newey, W. y T. Persson, "Advances in economics and econometrics: theory and applications, ninth World Congress".PP. 339-444. New York: Cambridge University Press.

Parker, S. (1996). "A Time Series Model of Self-employment under Uncertainty". *Economica*. 63:459–75.

Parker, S. (2003). "Does Tax Evasion Affect Occupational Choice?". *Oxford Bulletin of Economics and Statistics.* 65(3):379–394.

Parker, S. (2007). "Law and the Economics of Entrepreneurship". *Comparative Labor Law andPolicy Journal.* 28:695-716.

Parker, S. & M. Robson (2004)."Explaining International Variations in Self-Employment: Evidence from a Panel of OECD Countries". *Southern Economic Journal*. 71(2): 287-301

Pinotti, P. (2008). "Trust, Honesty and Regulations". Bank of Italy and Universitat Pompeu Fabra. MPRA paper 7740. Taken November 8 / 2010 from: http://www.eief.it/it/files/2008/04/trustreg_apr08.pdf

Prebisch, P. (1959). "Commercial policy in the Underdevelopment Countries". *The American Economic Riview*. 49(2): 252-73

Puffer, S., McCarthy, D. & M. Boisot (2010). "Entrepreneurship in Russia and China: The Impact of Formal Institutional Voids". *Entrepreneurship Theory and Practice*. 34(3): 441-67

Sautet, F. (2005). "The Role of Institutions in Entrepreneurship: Implications for Development Policy". Mercatus Policy Primer No. 1. Tomado en Febrero 17 de 2011 de SSRN: http://ssrn.com/abstract=1264033

Rajan, R. and L. Zingales (2003). "The great reversal: The Politics of Financial Development in the 20th Century". *Journal of Financial Economics*. 69(1): 5-50.

Ricardo, D. (1821[1996]). *Principles of political economy and taxation*. Amherst, N.Y.: Prometheus Books.

Robson, M. & C. Wren. (1999). "Marginal and Average Tax Rates and the Incentive for Self-Employment". *Southern Economic Journal*. 65(4): 757-773

Schneider, F. & D. Enste (2000). "Shadow Economies: Size, Causes and Consequences". *Journal of Economic Literature.* 38(1): 77-114.

Scully, G. & D. Slottje (1991). "Ranking Economic Liberty across Countries". *Public Choice*. 69(2): 149-164

Shleifer, A. & R. Vishny. (1998) *The Grabbing Hand: Government Pathologies and their Cures*. Cambridge: Harvard University Press.

Schuetze, H. (2000). "Taxes, Economic Conditions and Recent Trends in Male Self-Employment: A Canada-U.S. Comparison*". Labour Economics.* 7(5):507–544

Singer, H. (1999). "Beyond Terms of Trade-Convenience and Divergence". *Journal of International Development*. 11(6): 911-16.

Smith, A. (1776[1976]). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Chicago: University of Chicago Press.

Sobel, R., Clark, J. and D. Lee (2007). "Freedom, Barriers to Entry, Entrepreneurship and Economic Progress*". The Austrian Review of Economics*. 20: 221–236.

Staber, U. & D. Bogenhold (1993). "Self-employment: A study of Seventeen OECD Countries". *Industrial Relations Journal*. 24:126-37.

Stigler, G. (1971) "The Theory of Economic Regulation". *Bell Journal of Economics*. 2 (1): 3-21.

Stiglitz, J. (1969). "The Effects of Income, Wealth, and Capital Gains Taxation on Risk-Taking". *The Quarterly Journal of Economics*. 83(2):263–283

Svensson, J. (1998). "Investment, Property Rights and Political Instability: Theory and Evidence". *European Economic Review*. 42: 1317-1341.

Van Stel, A., Storey, D., & R. Thurik (2007). "The Effect of Business Regulations on Nascent and Young Business Entrepreneurship". *Small Business Economics*. 28, 171 – 186

Verheul, I. (2009). "Regional Opportunities and Policy Initiatives for New Venture Creation". *International Small Business Journal*. 27(5): 608–625

Vernon, R. (1970). "Organization as a Scale Factor in the Growth of Firms", en Ribeiro, D. y S, Roig (2009). "Linking globalization of entrepreneurship in small organizations*". Small Business Economics.* 32: 233-239

Wei, S. (2000). "Bribery in the Economies: Grease or Sand?". Brookings Institute Working Paper. Taken in november 21/ 2010 from: http://www.brookings.edu/~/media/Files/rc/papers/2000/0115globalization_wei/20000115.pdf

Wennekers, S., Van Stel, A., Thurik, R., & P. Reynolds (2005)."Nascent Entrepreneurship and the Level of Economic Development*". Small Business Economics*. 24, 293 – 309

Wernick, D. Haar, J. & S. Singh (2009). "Do Governing Institutions Affect Foreign Direct Investment Inflows? New Evidence from Emerging Economies". *International Journal of Economics and Business Research*. 1(3): 317-332

Wetzel. W. (1983). "Angels and Informal Risk Capital". *Sloan Management Review*. 24(4):23-34.

White, C. and M. Fan (2006). *Risk and Foreign Direct Investment*. Hampshire : Palgrave Macmillan

Williamson, O. (2000). "New Institutional Economics: Taking Stock, Looking Ahead". *Journal of Economic Literature*. 38: 595-613.

Wooldridge, J. (2002). *Econometric Analysis of Cross Section Panel Data*. Cambridge: MIT Press.

Wooldridge, J. (2002). *Econometric Analysis of Cross Section Panel Data*. Cambridge: MIT Press.

Table1. Variables Description and data source

Entry_Density	Entry_Density: It is the number of new companies registered by each 1.000 people in labor age (age between 15 and 64 years)	The World Bank Entrepreneurship Snapshots http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTFINRES/0,,contentMDK:21454009~pagePK:64168182~piPK:64168060~theSitePK:478060,00.html Taken February 2 /2011
Ctrl_Cor	Corruption Control: It indicates the perception on magnitude in which the public power is exerted to obtain private gains; it includes great and small forms of corruption, as well as the use of the state to satisfy private interests. Upper values indicate greater corruption control. Ctrl_Cor-0 it is the obtained data for the same year, Ctrl_Cor-1 it is the obtained data for the previous year and Ctrl_Cor-2 it is the obtained data two years back.	World Wide Governance Indicators Daniel Kaufmann, Brookings Institution, Aart Kraay, World Bank Development Economics Research Group, Massimo Mastruzzi, World Bank Institute. http://info.worldbank.org/governance/wgi/index.asp Taken February 2 /2011
Rule_Law	State of right: It indicates the perception of agents about its confidence in the existing norms and the degree in which they believe can rely that the contracts will be fulfilled and	

	the property rights will be protect by the courts. Rule_Law-0 it is the obtained data for the same year, Rule_Law-1 is the data obtained for the previous year and Rule_Law-2 is the data obtained for two years back.	The methodology for calculation of these indicators is available in: Kaufmann, Daniel, Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: http://ssrn.com/abstract=1682130 Taken February 2 /2011
Reg_Qual	Regulatory quality: It indicates the perception ability of a government to formulate and to implement politically regulations that allow promoting development of the private sector. Reg_Qual-0 it is the obtained data for the same year, Reg_Qual-1 it is the obtained data for the previous year and Reg_Qual-2 it is the obtained data two years back.	
Gov_Eff	Effectiveness of the government: It indicates the perception of quality of public and civilians services and its independence degree of political pressure. It measures the quality in formulation and implementation and the commitment of the government with related policies. Gov_Eff-0 it is the obtained data for the same year, Gov_Eff-1 it is the obtained data for the previous year and Gov_Eff-2 it is the obtained data two years back.	
Pol_Sta	Political stability: It captures the perception of probability that the government is destabilized or overthrown by nonviolent or non-constitutional means. Pol_Sta-0 it is the obtained data for the same year, Pol_Sta-1 it is the obtained data for the previous year and Pol_Sta-2 it is the obtained data two years back.	
Voi_Acc	Voice and Accountability: It captures the perception level in which the citizens of a country can also participate in the government selection. It reflects expression and association freedom. Voi_Acc-0 it is the obtained data for the same year, Voi_Acc-1 it is the obtained data for the previous year and Voi_Acc-2 it is the obtained data two years back.	

Dom_Cre	Domestic credit to the private sector (% of the GDP): it refers to financial resources provided to private sector, such as credits, bonds and other receivable accounts that establish a right of reimbursement of principal. Dom_Cre-0 it is the obtained data for the same year, Dom_Cre-1 it is the obtained data for the previous year and Dom_Cre-2 it is the obtained data two years back.	International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates http://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS Taken February 9 /2011
Bus_Free	Freedom to make businesses: it is a quantitative measurement of the ability to begin, to operate and to close a business, the score goes from 0 to 100, 100 is equivalent to a country with a businesses atmosphere of Maximum ability. The indicator is obtained from the weighting of quantitative measures taken from the "World Bank' s Doing Business study", within which they are included: 1. Number of procedures, the required time, the cost and the required minimum capita[17] to register a business; 2. Number of procedures, the required time and the cost as percentage of the entrance per capita obtaining a license; and, 3. The required time, the cost (like percentage of the assets) and the rate of recovery (cents by dollar) when a business is closed). Bus_Free-0 it is the obtained data for the same year, Bus_Free-1 it is the obtained data for the previous year and Bus_Free-2 it is the obtained data two years back.	The Heritage foundation, index of economic freedom. http://www.heritage.org/index/explore?view=by-region-country-year Taken February 9 /2011La metodología de construcción de cada índice se encuentra disponible en http://www.heritage.org/index/PDF/2011/Index2011_Methodology.pdf Taken February 9 /2011
Tra_Free	Trade freedom: it is a measurement composed of the absence of tariff and non-tariffs [18] barriers that affect the imports and exports of goods and services in each country. Tra_Free-0 it is the obtained data for the same year, Tra_Free-1 it is the obtained data for the previous year and Tra_Free-2 it is the obtained data two years back.	

[17] the cost and the minimum capital required to register a business calculated as percentage of earnings per capita

[18] The barriers that do not include tariffs can be amount restrictions, like quotas of import or export; price restrictions, for example the antidumping charges; regulatory restrictions, that imply obtaining licenses; restrictions to the currency change and other financial controls; or the governmental monopolies, among others.

Fiscal_Free	Fiscal freedom: It is a measurement of the tax barriers imposed by the government. It is calculated by carefully examining the Maximum rate of taxes on earnings (corporative and individual) and the total amount of taxes collected as percentage of the GIP of each country. Fiscal_Free-0 it is the obtained data for the same year, Fiscal_Free-1 it is the obtained data for the previous year and Fiscal_Free-2 it is the obtained data two years back.	
Inv_Free	Freedom of investment: It is a measurement of the existent restrictions to the flow of capital of investment in a certain country. Inv_Free-0 it is the obtained data for the same year, Inv_Free-1 it is the obtained data for the previous year and Inv_Free-2 it is the obtained data two years back.	
GDP_PCU LGDP_PCU	Gross domestic product per capita in dollars to prices and current rates of change. GDP_PCU-0 it is the obtained data for the same year, GDP_PCU-1 it is the obtained data for the previous year and GDP_PCU-2 it is the obtained data two years back. LGDP_PCU it is the logarithm of GDP_PCU	United Nations: UNCTAD, UNCTADstat. http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx Taken February 15 /2011
Inflation	Inflation: Percentage change of prices to the consumer at the end of the period. Inflation-0 it is the obtained data for the same year, Inflation-1 it is the obtained data for the previous year and Inflation-2 it is the obtained data two years back.	International Monetary Fund: World Economic and Financial Surveys, World Economic Outlook Database http://www.imf.org/external/pubs/ft/weo/2010/02/weodata/index.aspx Taken February 16 /2011
Unemploy	Rate of unemployment: percentage of unemployed people of the total of the labor force available. Unemploy-0 it is the obtained data for the same year, Unemploy-1 it is the obtained data for the previous year and Unemploy-2 it is the obtained data two years back.	
Trade Ltrade	Merchandise traded as percentage of the GDP: it is the sum of the exports and imports divided by the value of the gross internal product in current dollars. Trade-0 it is the obtained data for the same year, Trade-1 it is	The World Bank, World Development Indicators http://search.worldbank.org/data?qterm=trade%20in%20goods&languag

	the obtained data for the previous year and Trade-2 it is the obtained data two years back. Ltrade it is the logarithm de trade	e=EN&format=html Taken February 16 /2011
FDI	Direct foreign investment: net flow of foreign investment divided by the GDP. FDI-0 it is the obtained data for the same year, FDI-1 it is the obtained data for the previous year and FDI-2 it is the obtained data two years back.	The World Bank, World Development Indicators http://search.worldbank.org/data?qterm=foreign+direct+investment&language=EN&format=html Taken February 16 /2011

Table 2. Sampled Countries

High income and Mid-high Countries	Low Income Countries	Emerging Countries	Frontier Emerging Countries
Austria	Armenia	Check Republic	Argentina
Finland	Bhutan	Hungary	Bulgary
Belgium	Bolivia	Latvia	Croatia
Canada	Burkina Faso	Malaysia	Estonia
France	Cambodia	Poland	Kazajistán
Denmark	El Salvador	Russian Federation	Lithuania
Gabon	Ethiopia	South Africa	Macedonia, FYR
Portugal	Guatemala	Turkey	Romania
Netherlands	Kosovo	Brazil	Serbia
Albany	Kirgizstan	Chile	Slovak Republic
Spain	Madagascar	Colombia	Slovenia
Algeria	Malawi	Mexico	Uruguay
Belarus	Maldives	Peru	Ghana
New Zealand	Moldova	Egypt	Jordania
Italy	Niger	India	Kenya
Azerbaijan	Philippines	Indonesia	Nigeria
Island	Rwanda	Morocco	Oman
Sweden	Senegal		Sri Lanka
UK	Tajikistan		
	Togo		
	Uganda		
	Ukraine		
	Uzbekistan		
	Zambia		

Figure 1. Institutional Quality (Inst_Qual), Foreign Direct Investment (FDI), Freedom To make Businesses (Bus_Free) and entry density (Entry_Density). The graphs show in the axis "and" the number of new companies registered by each 1.000 people in labor age (age between 15 and 64 years) and in axis "X" the calculated Institutional Quality like the average of the "World Wide Governance Indicators" (Kaufmann et al.: 2010), the net flow of foreign investment divided by the gross internal product, the index of freedom To make Businesses (Beach and Kane: 2007). It is shown the behavior of variables in countries of high income, emerging and low income in the left, center and right column, respectively.

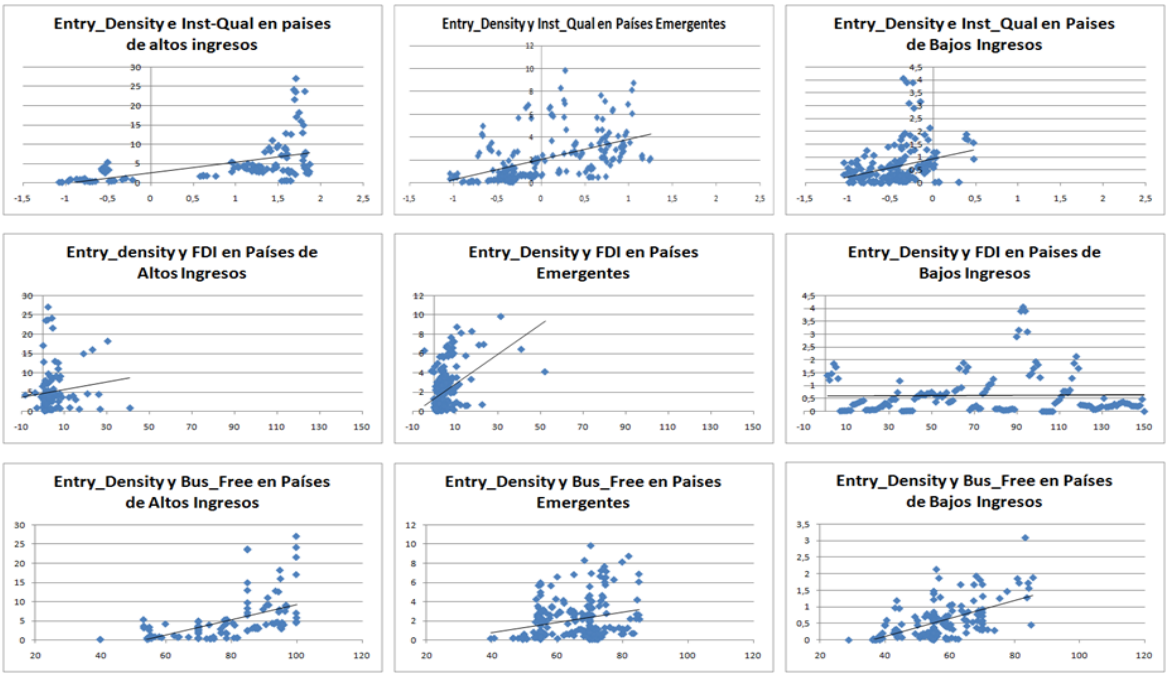

Table 3. Sample characteristics for each group of countries

Variable	Mean	Standard Deviation	Minumun	Maximun	Number of Observations	Kind of variable
High Income Countries						
Entry_density	5.054567	5.541767	0.227786	27.03295	114	Dependent
Ctrl_Cor	1.075736	1.213353	-1.184699	2.466556	114	Explanatory
Rule_Law	0.9381536	1.078484	-1.221939	1.964045	114	Explanatory
Reg_Qual	0.8622564	1.001375	-1.738693	1.866298	114	Explanatory
Gov_Eff	0.9983484	1.099561	-1.179183	2.236914	114	Explanatory
Pol_Sta	0.5574859	0.7295116	-1.442785	1.487244	114	Explanatory
Voi_Acc	0.8160018	1.082135	-1.761545	1.826686	114	Explanatory
Inst_Qual	0.8746636	0.9907375	-1.071778	1.867081	114	Explanatory
Bus_Free	78.68509	15.06502	40	100	114	Explanatory
Tra_Free	78.15088	9.458865	48.2	88.2	114	Explanatory
Fiscal_Free	59.8807	15.11807	32	92.8	114	Explanatory
Inv_Free	66.40351	18.8204	20	90	114	Explanatory
FDI	4.52159	7.107739	-14.36905	40.96646	114	Explanatory
GDPP	29940.88	17662.95	1036.345	65935.41	114	Control
Unemploy	6.730035	3.962542	0	21	114	Control
Ltrade	4.163011	0.4039719	3.545499	5.223792	114	Control
Inflation	3.372518	3.561662	-0.673	19.533	114	Control
Dom_Cre	122.1266	121.1192	9.869059	638.1389	114	Control
Emerging Countries						
Entry_density	2.128293	2.051554	0.03	9.809634	219	Dependent
Ctrl_Cor	-0.0347466	0.5908079	-1.340383	1.483908	219	Explanatory
Rule_Law	-0.13627	0.7281831	-1.641221	1.284179	219	Explanatory
Reg_Qual	0.2911028	0.6610867	-0.8985417	1.819906	219	Explanatory
Gov_Eff	0.197936	0.5570391	-1.236465	1.308775	219	Explanatory
Pol_Sta	-0.1851941	0.8955626	-2.756399	1.083631	219	Explanatory
Voi_Acc	0.0834009	0.7139255	-1.268701	1.21023	219	Explanatory
Inst_Qual	0.0360382	0.5742054	-1.042087	1.251167	219	Explanatory
Bus_Free	65.45814	9.513351	39.8	85.2	215	Explanatory
Tra_Free	71.54419	12.98077	23.6	87.8	215	Explanatory
Fiscal_Free	77.24558	8.253675	54.6	98.5	215	Explanatory
Inv_Free	51.72093	15.65744	10	90	215	Explanatory
FDI	5.117152	5.954955	-4.542268	52.13266	219	Explanatory
GDPP	6483.536	5146.93	414.1115	26987.49	216	Control
Inflation	6.263662	4.082542	-1.637	21.531	219	Control
Unemploy	10.06957	6.13029	1.38	40	210	Control
Ltrade	4.187696	0.5022605	2.902479	5.22813	214	Control
Dom_Cre	47.73466	30.3723	-0.2773536	162.4562	194	Control
Low Income Countries						

Entry_density	0.5979081	0.6947839	0.0021169	4.052327	144	Dependent
Ctrl_Cor	-0.4942648	0.4886529	-1.340383	0.8368546	144	Explanatory
Rule_Law	-0.390467	0.6140264	-1.641221	1.271157	144	Explanatory
Reg_Qual	-0.2757111	0.4647973	-1.305273	1.271157	144	Explanatory
Gov_Eff	-0.3771028	0.5140344	-1.607028	1.221884	144	Explanatory
Pol_Sta	-0.5716938	0.7605724	-2.756399	1.297433	144	Explanatory
Voi_Acc	-0.5506646	0.5301758	-1.946643	0.7465643	144	Explanatory
Inst_Qual	-0.4422095	0.3107283	-1.042087	0.4763121	144	Explanatory
Bus_Free	58.77136	11.40614	28.8	85.6	144	Explanatory
Tra_Free	67.23317	12.34926	22	87.6	144	Explanatory
Fiscal_Free	78.39196	9.142858	49.7	98.5	144	Explanatory
Inv_Free	45.17588	13.84781	20	90	144	Explanatory
FDI	4.00505	3.598181	-2.498868	22.65197	127	Explanatory
GDPP	1730.555	2477.187	137.9499	18878.55	117	Control
Inflation	7.626777	6.080172	-3.729	55.27	138	Control
Unemploy	9.400642	9.826803	0.1	77	119	Control
Ltrade	4.123899	0.4131127	2.963742	4.915033	129	Control
Dom_Cre	32.60142	24.3985	6.042057	113.1767	115	Control

The chart shows the descriptive statistics of the variables used in the developed models. The unit of analysis is country and the unit of time is year. The first panel has information of 19 countries with high income, the second of 35 emerging countries and the third of 24 countries with low incomes. Countries with high and low income were categorized by the classification of The World Bank Atlas method[19]; on the other hand the emerging economies were categorized by *The Financial Times and the London Stock Exchange: FTSE index*[20]. The period of time is 6 years (from 2004 to 2009). ***Entry density*** is the number of new companies registered per 1,000 people of working age (age between 15 and 64). The following variables are the proportions of institutional quality of a country in a particular year (Kaufmann et al.: 2010): ***Ctrl_Cor:*** shows the perception over the magnitude, where the public power is used in order to obtain private earnings. ***Rule_Law:*** is the agents' perception about their confidence in the existing rules. ***Reg_Qual:*** is the perception of the government ability to formulate and implement regulations and policies that allow and promoted the development of the private sector. ***Gov_Eff:*** is the perception of the quality of public and civil services. ***Pol_Sta:*** is the perception of the possibility that the government will be destabilized or overthrown by nonviolent or no constitutional means. ***Voi_Acc:*** is the perception of the level at which citizens can participated in the government selection, as well as freedom of expression, association and media. ***Ins_qual:*** is

[19] The definition of the World Bank atlas methos can be find at: http://data.worldbank.org/about/country-classifications/world-bank-atlas-method.

[20] The definition of the "Financial Times and the London Stock Exchange, FTSE Index" method can be find at: http://www.ftse.com/Indices/Country_Classification/index.jsp

the average of all the institutional quality dimensions proposed by Kaufmann et al. (2010). The followings are measures oriented to determine the freedom of market (Beach y Kane: 2007): ***Bus_free:*** is the quantitative measure of the facility to start, operate and close a business. ***Tra_free:*** is a measure composed of the absence of tariff barriers and nontariff barriers, which affect the importations and exports of goods and services in each country. ***Fiscal_Free:*** is a measure of the tax barriers imposed by the government. ***Inv_Free*** is a measure for the existing restrictions to the flow of capital investment on a specific country. ***Fdi:*** is the net flow of foreign investment divided by the gross domestic product. ***GDPP:*** is the gross domestic product per capita in dollars in power parity values. ***Inflation:*** is the percentage change of the consumer prices at the end of the period. ***Unemploy***: is the percentage of unemployed people of the total available workforce. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. ***Dom_Cre***: is the domestic credit of the private sector as percentage of the gross domestic product

Table 4. co-variances Matrix for each group of countries

High Income Countries

	Entry_density	Ctrl_Cor	Rule_Law	Reg_Qual	Gov_Eff	Pol_Sta	Voi_Acc	Inst_Qual	Bus_Free	Tra_Free	Fiscal_Free	Inv_Free	GDPP	Inflation	Unemploy	FDI	Ltrade	Dom_Cre
Entry_density	1																	
Ctrl_Cor	0.5142	1																
Rule_Law	0.4894	0.9862	1															
Reg_Qual	0.4683	0.8676	0.8968	1														
Gov_Eff	0.4525	0.9771	0.9853	0.8952	1													
Pol_Sta	0.4572	0.8492	0.8416	0.6937	0.8231	1												
Voi_Acc	0.434	0.9256	0.9482	0.9222	0.9583	0.7997	1											
Inst_Qual	0.4909	0.9814	0.9905	0.9243	0.9879	0.8644	0.9719	1										
Bus_Free	0.5359	0.8336	0.8165	0.7605	0.7907	0.6081	0.7588	0.8035	1									
Tra_Free	0.2879	0.7712	0.8034	0.7809	0.7934	0.6583	0.8033	0.8069	0.6865	1								
Fiscal_Free	0.0106	-0.5744	-0.6049	-0.4661	-0.6237	-0.5232	-0.5934	-0.5926	-0.3849	-0.4387	1							
Inv_Free	0.2795	0.6666	0.6737	0.659	0.7008	0.5137	0.7711	0.7004	0.5223	0.5156	-0.6049	1						
GDPP	0.3445	0.8767	0.8867	0.7873	0.8666	0.7634	0.8372	0.8777	0.8164	0.7683	-0.603	0.6007	1					
Inflation	-0.0916	-0.4428	-0.4666	-0.4971	-0.4884	-0.2962	-0.5495	-0.4836	-0.3812	-0.2173	0.4167	-0.5967	-0.3362	1				
Unemploy	-0.3349	-0.3011	-0.2883	-0.1569	-0.2195	-0.515	-0.1443	-0.2724	-0.1675	-0.2243	0.1649	0.0635	-0.3539	-0.2422	1			
FDI	0.0733	0.0209	0.0555	0.0604	0.0268	-0.0468	0.0397	0.0303	0.0547	0.0853	0.0455	**0.0071**	0.143	-0.0235	-0.0557	1		
Ltrade	-0.3323	-0.1168	-0.1282	-0.2265	-0.1293	0.0161	-0.2207	-0.1456	-0.1736	-0.0635	-0.154	-0.0796	0.0029	0.2734	-0.2635	0.2408	1	
Dom_Cre	0.5267	0.5161	0.5229	0.5625	0.5003	0.3903	0.4869	0.5226	0.4901	0.4211	-0.0483	0.3782	0.5438	-0.1208	-0.2955	0.1902	-0.2187	1

Emerging Countries

	Entry_density	Ctrl_Cor	Rule_Law	Reg_Qual	Gov_Eff	Pol_Sta	Voi_Acc	Inst_Qual	Bus_Free	Tra_Free	Fiscal_Free	Inv_Free	GDPP	Inflation	Unemploy	FDI	Ltrade	Dom_Cre
Entry_density	1																	
Ctrl_Cor	0.3432	1																
Rule_Law	0.4162	0.6591	1															
Reg_Qual	0.3856	0.7162	0.7025	1														
Gov_Eff	0.3324	0.8796	0.685	0.7215	1													
Pol_Sta	0.5244	0.7112	0.5364	0.5019	0.7513	1												
Voi_Acc	0.4476	0.6814	0.6847	0.645	0.6204	0.6249	1											
Inst_Qual	0.4922	0.8968	0.8352	0.828	0.8992	0.8213	0.8381	1										
Bus_Free	0.2386	0.4291	0.3627	0.3114	0.4591	0.2887	0.1957	0.3913	1									
Tra_Free	0.401	0.427	0.5803	0.5987	0.4557	0.4091	0.4953	0.5819	0.2353	1								
Fiscal_Free	0.2838	-0.0498	-0.0966	-0.0175	-0.1038	0.0155	-0.033	-0.0512	0.0159	0.1465	1							
Inv_Free	0.3666	0.6591	0.5515	0.5612	0.518	0.4966	0.6457	0.6701	0.4047	0.2719	-0.0502	1						
GDPP	0.4496	0.5693	0.6128	0.5762	0.662	0.6767	0.5977	0.728	0.3224	0.5817	-0.1913	0.4521	1					
Inflation	-0.0066	-0.3729	-0.1323	-0.1824	-0.4296	-0.2952	-0.2016	-0.307	-0.2064	-0.027	0.2437	-0.2645	-0.2158	1				
Unemploy	-0.0001	-0.0119	-0.093	-0.1077	-0.1208	-0.0199	-0.0273	-0.0715	-0.1395	-0.0595	0.025	0.0766	-0.2421	0.0398	1			
FDI	0.4838	0.2378	0.1825	0.2766	0.1997	0.3012	0.1866	0.2751	0.1001	0.2168	0.0744	**0.279**	0.2018	-0.0055	-0.019	1		
Ltrade	0.3967	0.4012	0.3712	0.3786	0.575	0.5055	0.2085	0.4756	0.3399	0.4128	0.0992	0.1445	0.3796	-0.2156	-0.0849	0.3871	1	
Dom_Cre	0.2547	0.4698	0.2572	0.2089	0.5735	0.4042	0.1112	0.3857	0.3291	0.1835	-0.119	0.1843	0.3989	-0.3051	-0.2334	0.2244	0.607	1

Low Income Countries

	Entry_density	Ctrl_Cor	Rule_Law	Reg_Qual	Gov_Eff	Pol_Sta	Voi_Acc	Inst_Qual	Bus_Free	Tra_Free	Fiscal_Free	Inv_Free	GDPP	Inflation	Unemploy	FDI	Ltrade	Dom_Cre
Entry_density	1																	
Ctrl_Cor	0.0965	1																
Rule_Law	0.1545	-0.3074	1															
Reg_Qual	0.3442	0.3057	0.1552	1														
Gov_Eff	0.1034	0.8092	-0.3634	0.2814	1													
Pol_Sta	0.5001	0.5652	-0.169	0.3743	0.4976	1												
Voi_Acc	-0.1024	0.1485	-0.0056	0.2925	0.1186	0.1182	1											
Inst_Qual	0.3621	0.7063	0.1292	0.6991	0.6486	0.7425	0.4715	1										
Bus_Free	0.4086	0.4031	-0.0148	0.0568	0.4714	0.2333	-0.1722	0.2775	1									
Tra_Free	0.3396	-0.1665	0.3386	0.3362	-0.2202	0.0257	0.0922	0.1383	-0.0316	1								
Fiscal_Free	0.2042	-0.2484	0.0314	0.2268	-0.3653	0.063	0.0492	-0.0473	-0.233	0.5045	1							
Inv_Free	0.0607	0.2397	-0.0721	0.1341	0.2086	0.3152	0.0382	0.2614	0.2234	-0.1779	-0.0846	1						
GDPP	0.3506	0.5929	-0.1749	0.3923	0.6213	0.559	-0.0488	0.5647	0.3966	0.168	0.0761	0.0946	1					
Inflation	-0.0408	-0.3184	0.2946	0.1293	-0.4609	-0.2419	0.0937	-0.1373	-0.3072	0.2454	0.2565	-0.4017	-0.2684	1				
Unemploy	-0.1105	0.2468	-0.0378	-0.047	0.1228	0.2316	0.0253	0.1667	0.0212	-0.1023	-0.1634	0.1744	-0.0929	-0.1016	1			
FDI	0.316	0.1734	0.0202	0.2705	0.0217	0.2245	-0.3527	0.118	-0.0486	0.1569	0.2199	**0.0113**	0.1214	0.038	-0.1104	1		
Ltrade	0.4269	0.1816	-0.0164	0.2249	0.1018	0.2662	-0.1323	0.1948	0.1521	0.3853	0.2844	-0.306	0.3039	0.0383	-0.2308	0.4339	1	
Dom_Cre	0.0909	0.6175	-0.3094	0.2638	0.6248	0.3184	-0.0377	0.4017	0.3007	-0.1462	-0.3616	0.042	0.5404	-0.2565	-0.0964	0.2661	0.3463	1

The table shows the covariance among the variables used in the developed models. The unit of analysis is country and the unit of time is year. The first panel has information of 19 countries with high income, the second of 35 emerging countries and the third of 24 countries with low incomes. Countries with high and low income were categorized by the classification of The World Bank Atlas method[21]; on the other hand the emerging economies were categorized by *The Financial Times and the London Stock Exchange: FTSE index*[22]. The period of time is 6 years (from 2004 to 2009). ***Entry Density*** is the number of new companies registered per 1,000 people of working age (age between 15 and 64). The following variables are the proportions of institutional quality of a country in a particular year (Kaufmann et al.: 2010): ***Ctrl_Cor:*** shows the perception over the magnitude, where the public power is used in order to obtain private earnings. ***Rule_Law:*** Is the agents' perception about their confidence in the existing rules. ***Reg_Qual:*** Is the perception of the government ability to formulate and implement regulations and policies that allow and promoted the development of the private sector. ***Gov_Eff:*** is the perception of the quality of public and civil services. ***Pol_Sta:*** is the perception of the possibility that the government will be destabilized or overthrown by nonviolent or no constitutional means. ***Voi_Acc:*** is the perception of the level at which citizens can participated in the government selection, as well as freedom of expression, association and media. ***Ins_qual:*** is the average of all the institutional quality dimensions proposed by Kaufmann et al. (2010). The followings are measures oriented to determine the freedom of market (Beach y Kane: 2007): ***Bus_free:*** is the quantitative measure of the facility to start, operate and close a business. ***Tra_free:*** is a measure composed of the absence of tariff barriers and nontariff barriers, which affect the importations and exports of goods and services in each country. ***Fiscal_Free:*** is a measure of the tax barriers imposed by the government. ***Inv_Free*** is a measure for the existing restrictions to the flow of capital investment on a specific country. ***Fdi:*** is the net flow of foreign investment divided by the gross domestic product. ***GDPP:*** is the gross domestic product per capita in dollars in power parity values. ***Inflation:*** is the porcentage change of the consumer prices at the end of the period. ***Unemploy***: is the percentage of unemployed people of the total available workforce. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. ***Dom_Cre***: is the domestic credit of the private sector as percentage of the gross domestic product

[21] The definition of the World Bank atlas method can be find at: http://data.worldbank.org/about/country-classifications/world-bank-atlas-method.

[22] The definition of the "Financial Times and the London Stock Exchange, FTSE Index" method can be find at: http://www.ftse.com/Indices/Country_Classification/index.jsp

Table 5. Firms Creation Determinants

Determinants of Firm Creation						
Dependent Variable New Firms Entry Density						
	High Income Countries		Emerging Countries		Low Income Countries	
	(1)		(2)		(3)	
inst_qual	4.197	(1.327)***	1.019	(0.458)**	0.477	(0.195)***
dom_cre	0.011	(0.003)***	0.019	(0.006)***	0.005	(0.002)**
bus_free	0.137	(0.041)***	0.027	(0.009)***	0.005	(0.002)**
tra_free	-0.129	(0.059)***	0.003	(0.005)	0.007	(0.002)***
fiscal_free	0.057	(0.033)*	0.014	(0.008)	0.005	(0.003)
inv_free	0.027	(0.029)	0.014	(0.004)**	0.001	(0.001)
$Fdi_{(t-1)}$	0.030	(0.027)	0.059	(0.007)***	0.002	(0.004)
gdp_pcu	0.0001	(0.00008)**	0.00004	(0.00003)	0.0002	(0.00003)
unemploy	-0.224	(0.097)**	-0.109	(0.037)***	-0.004	(0.003)*
ltrade-1	2.482	(0.797)**	0.754	(0.369)**	0.119	(0.055)*
inflation	0.121	(0.080)	0.031	(0.017)	0.001	(0.003)
intercept	10.214	(6.706)	2.408	(1.486)	-0.41	(0.359)
R^2	0.576					
Within			0.7231		0.6474	
Betwee			0.3360		0.2870	
Overall			0.3319		0.2470	
n	114		194		99	
	Test	p-value			Test	p-value
wald chi^2	101.52	0.0000	265.34	0.0000	100.54	0.0000
Hausman	6.27	0.7127	12.12	0.3545	2.59	0.9951
Breusch-Pagan (LM)	100.28	0.0000	181.05	0.0000	118.31	0.0000

The dependent variable for country *i* at year *t* is the number of new companies registered per 1,000 people of working age (age between 15 and 64).The regression (1) is done for high income countries group ; The regression (2) is done for emerging countries group; and the regression (3) is done for low income countries group. Countries with high and low income were categorized by the classification of The World Bank Atlas method[23]; on the other hand the emerging economies were categorized by *The Financial Times and the London Stock Exchange: FTSE index*[24]. The period of time is 6 years (from 2004 to 2009). The independent variables are: ***Ins_qual:*** is the average of all the institutional quality dimensions proposed by Kaufmann et al (2010). ***Dom_Cre***: is the domestic credit

[23] The definition of the World Bank atlas method can be find at: http://data.worldbank.org/about/country-classifications/world-bank-atlas-method.

[24] The definition of the "Financial Times and the London Stock Exchange, FTSE Index" method can be find at http://www.ftse.com/Indices/Country_Classification/index.jsp

of the private sector as percentage of the gross domestic product (Beach y Kane: 2007): ***Bus_free:*** is the quantitative measure of the facility to start, operate and close a business. ***Tra_free:*** is a measure composed of the absence of tariff barriers and nontariff barriers, which affect the importations and exports of goods and services in each country. ***Fiscal_Free:*** is a measure of the tax barriers imposed by the government. ***Inv_Free*** is a measure for the existing restrictions to the flow of capital investment on a specific country. ***Fdi:*** is the net flow of foreign investment divided by the gross domestic product. ***gdp_pcu:*** is the gross domestic product per capita in dollars calculated at prices and currents exchange rates. ***Unemploy***: is the percentage of unemployed people of the total available workforce. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. ***Inflation:*** is the porcentage change of the consumer prices at the end of the period. ***Fdi*** and ***Ltrade*** are lagging in order to avoid possible endogeneity with ***Ins_qual, Inv_Free*** or ***Tra_free.*** The static is specified in parentheses. The regression (1) contains temporal effects and the coefficients are based on the errors estimating. PCSE (*Panel Corrected Standard Errors*). Moreover the regression (2) and (3) the coefficients are based on the errors estimating GLS *(Randon effects GLS regression robust standard error).****, ** and *, which means statistical significance at 1%, 5% and 10% respectively.

Table 6. Time of impact of changes in the institutional quality, FDI and regulation of free trade in Entry Density

Time of impact of changes in the institutional quality, FDI and regulation of free trade in Entry Density								
Dependent Variable New Firms Entry Density								
Variable	**Emerging Countries**				**Low Income Countries**			
	(t-1)		(t-2)		(t-1)		(t-2)	
	(4)		(5)		(6)		(7)	
inst_qual	0.548	(0.318)*	0.819	(0.420)**	0.429	(0.163)***	0.284	(0.167)*
dom_cre	0.014	(0.006)**	0.007	(0.247)	0.0005	(0.003)	0.003	(0.004)
bus_free	0.006	(0.010)	0.021	(0.0121)	0.003	(0.004)	0.002	(0.003)
tra_free	0.003	(0.007)	0.002	(0.008)	0.006	(0.001)***	0.002	(0.004)
fiscal_free	0.001	(0.012)	0.034	(0.0187)*	0.005	(0.005)	0.003	(0.004)
inv_free	0.01	(0.008)	0.001	(0.005)	0.002	(0.001)	0.001	(0.001)
$Fdi_{(t-1)}$	0.034	(0.009)***	0.038	(0.013)***	0.0004	(0.005)	0.001	(0.005)
gdp_pcu	0.00001	(0.00003)	0.00001	(0.00006)	0.000006	(0.00004)	0.00008	(0.00004)**
unemploy	-0.025	(0.031)	0.034	(0.033)	-0.006	(0.002)***	-0.007	(0.003)**
$ltrade_{(t-1)}$	1.102	(0.402)***	1.121	(0.490)**	0.196	(0.077)**	0.379	(0.136)***
inflation	-0.047	(0.019)	-0.0007	(0.009)	-0.005	(0.003)	-0.004	(0.004)
intercept	-3.859	(2.011)*	-4.321	(2.110)**	-0.951	(0.678)	-1.285	(0.795)
R^2								

Within	0.2796		0.2352		0.2758		0.2510	
Betwee	0.3080		0.3854		0.3028		0.3843	
Overall	0.2854		0.3688		0.2717		0.3244	
n	194		194		115		115	
	Test	p-value	Test	p-value	Test	p-value	Test	p-value
wald chi²	72.76	0.0000	50.18	0.0000	107.48	0.0000	77.09	0.0000
Hausman	2.37	0.9927	9.97	0.5331	4.92	0.8962	4.91	0.9159
Breusch-Pagan (LM)	234.39	0.0000	238.4	0.0000	130.59	0.0000	142.17	0.0000

The dependent variable for country *i* at year *t* is the number of new companies registred per 1,000 people of working age (age between 15 and 64). The regressions (4) and (5) are done for emerging countries group; and the regressions (6) and (7) are done for the low income countries group. Countries with low income were categorized by the classification of The World Bank Atlas method[25]; on the other hand the emerging economies were categorized by *The Financial Times and the London Stock Exchange: FTSE index*[26]. The period of time is 6 years (from 2004 to 2009). The independent variables are: ***Ins_qual:*** is the average of all the institutional quality dimensions proposed by Kaufmann et al (2010). ***Dom_Cre***: is the domestic credit of the private sector as percentage of the gross domestic product (Beach y Kane: 2007): ***Bus_free:*** is the quantitative measure of the facility to start, operate and close a business. ***Tra_free:*** is a measure composed of the absence of tariff barriers and nontariff barriers, which affect the importations and exports of goods and services in each country. ***Fiscal_Free:*** is a measure of the tax barriers imposed by the government. ***Inv_Free*** is a measure for the existing restrictions to the flow of capital investment on a specific country. ***Fdi:*** is the net flow of foreign investment divided by the gross domestic product. ***gdp_pcu:*** is the gross domestic product per capita in dollars calculated at prices and currents exchange rates. ***Unemploy***: is the percentage of unemployed people of the total available workforce. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. ***Inflation:*** is the porcentage change of the consumer prices at the end of the period. ***Fdi*** and ***Ltrade*** are lagging two periods in order to avoid possible endogeneity with ***Ins_qual, Inv_Free*** or ***Tra_free.*** The statistical is specified in parentheses. The coefficients of the regression are based on the error estimation due to the countries aggrupation (*Randon effects GLS regression robust standard error clusters in countrys*). ***, ** and * *, which means statistical significance at 1%, 5% and 10% respectively.

[25] The definition of the world bank atlas method can be find at: http://data.worldbank.org/about/country-classifications/world-bank-atlas-method.

[26] The definition of the "Financial Times and the London Stock Exchange, FTSE Index" method can be find at: http://www.ftse.com/Indices/Country_Classification/index.jsp

Table 7. FDI Productivity in firm creation at emerging countries.

FDI Productivity in firm creation at emerging countries				
Dependent Variable New Firms Entry Density				
	(8)		(9)	
inst_qual	0.665	(0.376)**	0.695	(0.362)*
$Fdi_{(t-1)}$*Ins_qual (mitad superior)			0.065	(0.011)***
$Fdi_{(t-1)}$*Ins_qual (mitad inferior)			0.012	(0.011)
$fdi_{(t-1)}$*Ins_qual (<1er quartil)	0.007	(0.022)		
$fdi_{(t-1)}$*Ins_qual (1er-3er quartil)	0.064	(0.033)*		
$fdi_{(t-1)}$*Ins_qual (> 3er quartil)	0.059	(0.007)***		
dom_cre	0.019	(0.009)**	0.019	(0.008)**
bus_free	0.018	(0.010)*	0.013	(0.008)
tra_free	0.004	(0.006)	0.002	(0.005)
fiscal_free	0.001	(0.010)	0.0007	(0.009)
inv_free	0.006	(0.005)	0.005	(0.005)
gdp_pcu	0.0001	(0.0004)	0.00001	(0.0005)
unemploy	-0.032	(0.040)	-0.030	(0.041)
$inflation_{(t-1)}$	0.739	(0.394)*	0.763	(0.436)*
$ltrade_{(t-1)}$	-0.015	(0.012)	-0.023	(0.015)
intercept	-2.586	(1.607)	-2.663	(1.721)
R^2				
Within	0.6293		0.6413	
Betwee	0.2547		0.2730	
Overall	0.2749		0.3007	
n	194		194	
	Test	p-value	Test	p-value
wald chi^2	260.09	0.0000	147.27	0.0000
Hausman	0.88	0.9999	7.01	0.8572
Breusch-Pagan (LM)	189.49	0.0000	142.07	0.0000

The dependent variable for country *i* at year *t* is the number of new companies registered per 1,000 people of working age (age between 15 and 64). For emerging countries group categorized by the classification of the *Financial Times and the London Stock Exchange: FTSE index*. The period of time is 6 years (from 2004 to 2009). The independent variables are: ***Ins_qual:*** is the average of all the institutional quality dimensions proposed by Kaufmann et al. (2010). ***Fdi:*** is the net flow of foreign investment divided by the gross domestic product. ***Fdi*Int_qual (upper half):*** multiply the FDI by one if the institutional quality of the country is

in the upper half or by zero in the contrary case. ***Fdi*Int_qual (lower half):*** multiply the FDI by one if the institutional quality of the country is in the lower half or by zero in the contrary case. ***Fdi*Int_qual (upper quartile):*** multiply the FDI by one if the institutional quality of the country is in the upper quartile or by zero in the contrary case. ***Fdi*Int_qual (quartiles 2 and 3):*** multiply the FDI by one if the institutional quality of the country is in the quartiles 2 and 3 or by zero in the contrary case. ***Fdi*Int_qual (lower quartile):*** multiply the FDI by one if the institutional quality of the country is in the lower quartiles or by zero in the contrary case. ***Dom_Cre***: is the domestic credit of the private sector as percentage of the gross domestic product (Beach y Kane: 2007): ***Bus_free:*** is the quantitative measure of the facility to start, operate and close a business. ***Tra_free:*** is a measure composed of the absence of tariff barriers and nontariff barriers, which affect the importations and exports of goods and services in each country. ***Fiscal_Free:*** is a measure of the tax barriers imposed by the government. ***Inv_Free*** is a measure for the existing restrictions to the flow of capital investment on a specific country. ***gdp_pcu:*** is the gross domestic product per capita in dollars calculated at prices and currents exchange rates. ***Unemploy***: is the percentage of unemployed people of the total available workforce. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. ***Inflation:*** is the porcentage change of the consumer prices at the end of the period. ***Fdi*** and ***Ltrade*** are lagging in order to avoid possible endogeneity with ***Ins_qual, Inv_Free*** or ***Tra_free.*** The statistical T is specified in parentheses. The coefficients of the regression are based on the robust errors estimation due to the countries aggrupation (*Randon effects GLS regression robust standard error clusters in countrys*). ***, ** and *, which means statistical significance at 1%, 5% and 10% respectively.

Table 8. Firm creation and changes in institutional quality, FDI, market freedom in emerging countries.

Firm creation and changes in institutional quality, FDI, market freedom in emerging countries.				
Dependent Variable New Firms Entry Density				
		(10)		(11)
$Inst\_qual_{(t)}$ - $Inst\_qual_{(t-1)}$	1.446	(0.643)**	1.346	(0.621)**
$dom\_cre_{(t)}$ - $dom\_cre_{(t-1)}$	0.019	(0.011)*	0.018	(0.010)*
$Fdi_{(t-1)}$ -$Fdi_{(t-2)}$	0.038	(0.014)***		
$Fdi_{(t-1)}$ -$Fdi_{(t-2)}$ (Países Emergentes)			0.029	(0.014)*
$Fdi_{(t-1)}$ -$Fdi_{(t-2)}$ (Países Emergentes de Frontera)			0.058	(0.018)***
$bus\_free_{(t)}$ - $bus\_free_{(t-1)}$	0.011	(0.004)**	0.011	(0.004)**
$Inv\_free_{(t)}$ - $Inv\_free_{(t-1)}$	0.011	(0.005)**	0.010	(0.004)**
$inflation_{(t-1)}$	-0.023	(0.013)*	-0.023	(0.013)*
$ltrade_{(t-1)}$	0.087	(0.069)	0.083	(0.069)

intercept	-0.175	(0.317)	-0.162	(0.315)
R^2				
Within	0.3026		0.3085	
Between	0.6745		0.7494	
Overall	0.376		0.3982	
n	194		194	
	Test	p-value	Test	p-value
wald chi²	30.72	0.0001	36.48	0.0000
Hausman	3.55	0.8298	3.32	0.9126
Breusch-Pagan (LM)	8.00	0.0047	10.74	0.0010

At the regressions (10) and (11) the dependent varible for theconutry *i* and the year *t* is the variation between *t* and *t-1* in the number of new companies registered per 1,000 people of working age (age between 15 and 64). For emerging countries group categorized by *The Financial Times and the London Stock Exchange: FTSE index.* The period of time is 6 years (from 2004 to 2009). The independent variables are: $\boldsymbol{Ins\_qual_{(t)}- Ins\_qual_{(t-1):}}$ is the variation between *t* and *t-1*, of the average of the institutional quality dimensions proposed by Kaufmann et al. (2010). $\boldsymbol{dom\_cre_{(t)}-dom\_cre_{(t-1):}}$ is the variation between *t* and *t-1*, of the domestic credit to the private sector as a percentage of the gross domestic product. $\boldsymbol{Fdi_{(t-1)}- Fdi_{(t-2):}}$ is the variation between *t-1* and *t-2*, of the net flow of foreign investment divided by the gross domestic product. $\boldsymbol{Fdi_{(t-1)}- Fdi_{(t-2)}}$ ***(emerging countries)***: multiplies by one the variation between *t-1* and *t-2* of the net flow of the foreign investment divided by the gross domestic product if the emerging country is not classify as frontier economy according to *The Financial Times and the London Stock Exchange: FTSE index.* $\boldsymbol{Fdi_{(t-1)}- Fdi_{(t-2)}}$ (***Frontier emerging countries):*** multiplies by one the variation between *t-1* and *t-2* of the net flow of foreign investment divided by the gross domestic product, if the emerging country is classify as frontier economy according to *The Financial Times and the London Stock Exchange: FTSE index*. $\boldsymbol{bus\_free_{(t)}-bus\_free_{(t-1)}}$: is the variation between *t* and *t-1*, in the quantitative measure of the ease to start, operate and close a business (Beach y Kane: 2007). $\boldsymbol{Inv\_free_{(t)}-Inv\_free_{(t-1)}}$ is the variation between *t* and *t-1*, the extended of any restrictions on the flow of investment capital in a given country (Beach y Kane: 2007). ***Inflation:*** is the porcentage change of the consumer prices at the end of the period. ***Ltrade***: is the logarithm of the sum of all the exportations and importations divided by the current value of the gross domestic product in current dollars. The coefficients of the regression are based on the robust errors estimation due to the countries aggrupation (*Randon effects GLS regression robust standard error clusters in countrys*). ***, ** and *, which means statistical significance at 1%, 5% and 10% respectively.