Judicial Efficiency and Entrepreneurship

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SCHOOL OF ECONOMICS, BUSINESS ADMINISTRATION & LEGAL STUDIES
A thesis submitted for the degree of
Master of Science (MSc) in Management

October 2016
Thessaloniki – Greece
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I hereby declare that the work submitted is mine and that where I have made use of another’s work, I have attributed the source(s) according to the Regulations set in the Student’s Handbook.

October 2016
Thessaloniki - Greece
Abstract

The relationship between entrepreneurship and the efficiency of Justice is investigated under this thesis. Through an empirical analysis conducted in a sample of 37 European countries and with cross-sectional data referring to the year 2012, the research focuses on highlighting the impact the judicial efficiency has on the entrepreneurs’ expectations on the reliability of the national legal systems, with the thought that the latter acts as a factor which fosters entrepreneurial activity. The term judicial efficiency is used herein to denote the performance of the national legal systems especially with regard to contract enforcement which is considered a sine qua non condition for successful business transactions. The present thesis aims to contribute to the existing literature that focuses on studying the determinants of entrepreneurship.

The dissertation is structured in 7 sections. First, the Introduction describes briefly the topic of the dissertation. Second, the relative literature review is developed. Data and their sources follow in section 3, while the methodology used is presented in the fourth section. Section 5 presents the findings of the empirical analysis and contains a discussion of the findings. Finally, the last session concludes, summarising the main findings and making some suggestions based on them.

For this Thesis, I would like to express my foremost gratitude to my supervisor Dr. Theologos Dergiades for introducing me to the topic as well as for his useful comments, remarks, valuable guidance and engagement through the entire process of writing this master thesis. My sincere thanks also go to the academic, librarian and administrative staff of the International Hellenic University for their continuous assistance to my work.

Maria Theologidou

29/10/2016
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1. Introduction

Entrepreneurship is generally regarded as the workhorse of the economic development and growth. Defined either as the outcome of managerial decisions or as the “new entry” activity of motivated self-employed individuals, it constitutes the core of innovation, business risk taking, productivity and job creation. Given its importance, entrepreneurship has largely attracted the interest of the recent literature which focuses on defining it and examining the determinants of it with the aim to formulate an appropriate policy contour for its promotion. Many institutional factors potentially affect the entrepreneurial activity in a given State including among others the availability of and access to credit, the liquidity constraints, education, business and entrepreneurial culture. Additionally, the existence of a stable and investment-friendly taxation regime, bankruptcy legislation and labor laws may significantly influence the entrepreneurial activity.

Except for the above mentioned factors, another one named judicial efficiency has also been proven to largely impact on entrepreneurship. Defined as the level of efficiency of the operation of the justice system, judicial efficiency constitutes an important institutional determinant of entrepreneurship and at the same time it reveals also the performance of the political regime in a given State, in the sense that both economical and political considerations may arise due to an inefficient justice system. Judicial efficiency may be measured with reference to a number of factors which indicatively extend to contract enforcement, productivity of the judges and the other inputs employed, the speed with which the judiciary disposes of the pending cases, the quality of justice offered and the level of protection of property rights.

Although the literature has separately investigated entrepreneurship and judicial efficiency to a large extent, the literature which examines the impact of the latter on the first is still very limited. The aim of this thesis, therefore, is to contribute to the investigation of the influence the judicial efficiency has on entrepreneurship. Having Ippoliti et al. (2014) paper titled “Judicial efficiency and entrepreneurs’ expectations on the reliability of the European legal systems” as a basis, the empirical analysis performed herein purports to update the results by using more recent data referring to the year 2012 and examine whether the relevant theory can be confirmed. The research is performed on a set of cross-sectional data of 37 European countries for the year 2012. The dependent variable is the “Enforcing Contract-Distance to Frontier” which is employed to account for entrepreneurship and it particularly shows the distance of each economy to the best performance observed on a number of indicators which relate to contract enforcement, across all
economies in the *Doing Business* sample since 2005. The independent variables include the Clearance Rate, the Civil Liberties, and Dummy variables which take into consideration the distinction of the legal systems into German, French, English, Socialist and Scandinavian origin legal systems, based on La Porta *et al.* (1998) and Djankov *et al.* (2003). For the estimation of the model, the classical linear regression model is employed with the use of the Ordinary Least Square (OLS) approach.

The results of the empirical analysis are found to be in accordance with the theory which indicates a positive relationship between judicial efficiency and entrepreneurship. The coefficients of the Clearance Rate and Civil Liberties variables are positive, revealing their positive influence on the entrepreneurs’ expectations on the reliability of the legal systems particularly examined with regard to the enforcement of the contracts. Moreover, the Dummy variables are statistically significant and reveal an impact of the origin of the legal system on entrepreneurship with the English legal origin system, being the base category, to impact on it less than the German, French, Socialist and Scandinavian ones. Overall, the outcome of the empirical analysis suggests that the improvement of the efficiency with which the judiciary operates could be regarded as a policy measure towards creating a reliable institutional framework which in turn may potentially enhance the entrepreneurial activity and consequently contribute to the economic development and growth. The regression results indicate that a reliable and efficient national legal system may constitute a fertile ground capable of attracting the “new entry” business activity, which is considered to be at the core of what is generally defined as entrepreneurship.
2. Literature Review

2.1 Entrepreneurship: definition and importance for economic growth

As Braunerhjelm et al. (2015) allege, entrepreneurship may be the outcome of decisions made by influential managers of organizations. However, it is the “new entry” activity and the creation of new business ventures which is at the core of what we define as entrepreneurship. The creation of a new enterprise, either in the form of a personal activity or in the form of a legal entity, requires the attractiveness of self-employment over employment within existing organizations of the public or private sector or over unemployment. The decision one makes to become a self-employed entrepreneur is heavily influenced by the existing institutions which impact both on the individual’s motivation and the uncertainty inherent in the corresponding decision-making process. The number of new businesses entering the market is an important indicator of the economy. New entrepreneurial activity fosters competition by adding pressure on the existing entities and, additionally, finances the market with new capital. According to Foster et al. (1998), approximately 25% of the growth in productivity within the U.S. manufacturing sector stems from the replacement of old unproductive firms by new productive firms, a phenomenon which was named as “net entry effect”. Moreover, entrepreneurs, self-employed individuals who run their own firms, have been regarded as catalysts of the economic change and economic improvement mainly because of their capacity to innovate and their willingness to take business risks, as Armour and Cumming (2008) have pointed out.

A distinction between Opportunity-Motivated (OME) and Necessity-Motivated (NME) entrepreneurial activity was made by McMullen et al. (2008) when they studied the relationship between entrepreneurship and institutional activity. This distinction is not new. Previous literature has used different terminology to refer to what the Institutional Theory distinguishes as opportunity-driven and necessity-driven entrepreneurs. For instance, Schumpeter (1934) used the terms innovators versus imitators, Baumol (1990), Baumol and Strom (2007) and Minniti (2008) referred to productive and unproductive entrepreneurship, Autio and Acs (2010) distinguished between entrepreneurs with growth aspirations and entrepreneurs without them, and, finally, Dau and Cuerzo-Cazurra (2014) talked about formal and informal entrepreneurship. What is important is that, independently of the terminology used, the difference among the two types of entrepreneurship lies mainly on the motives which drive individuals to become self-employed. Consequently, in
OME entrepreneurs are “pulled” by the attractiveness of a business opportunity, while to NME they resort due to absence of employment alternatives or unsatisfactory, in terms of income-generation, alternatives.

McMullen et al. (2008) highlight the importance of this distinction on their relative research. Although they find a significant relationship between entrepreneurship and institutional activity in general, they note that differences in the relationship between the two variables were found, which are attributable on the one hand on the type of entrepreneurial activity, whether OME or NME, and, on the other hand, on the various dimensions of economic freedom such as fiscal freedom, monetary freedom, and labor freedom. Within this context, fiscal and monetary freedoms were found to relate only to NME, while labor freedom was found related to both OME and NME. The researchers justify the difference by invoking the different profit margins related to OME and NME, in the sense that fewer profits are expected from the imitative activity of the NME compared to the innovative action of an OME, which is thought to earn more through creating niche markets. Differences arise due to different motives; OME are self-determined while NME is determined by the external environment. Again, the differences in the profit margins result from the differences in the motivation for the one or the other type of entrepreneurial activity. Finally, OME was found to be more affected by the level of property rights’ protection than NME. Strong property rights act as an incentive for entrepreneurial activity based on innovation. Therefore, as law enforcement with regard to property rights increases, OME increases too.

Finally, an uncontested relationship exists between entrepreneurship on the one hand and economic development and growth on the other hand. Indeed, entrepreneurship enhances productivity, reinforces employment through the creation of new jobs and, finally, increases governmental income through the imposition of taxes on business income and profits. Braunerhjelm et al. (2015) emphasized on the positive effects of entrepreneurship on job creation, wealth and income generation, innovation and competition within industries, and developed some fundamental considerations regarding the relationship between regulation, firm dynamic and entrepreneurship. In fact, the contribution of entrepreneurship on economic development and growth has become more apparent since the economic crisis and following recession which revealed public policy makers’ coordinated efforts to promote entrepreneurship as a means to ameliorate the economic situation.
2.2 Judicial efficiency: definition and key determinants

The importance of judicial efficiency for economic development and growth has been amply documented by the literature. Judicial efficiency is a term widely used to denote the efficiency in the operation of the judicial system in a given State. Several determinant factors define the efficiency of the judiciary and have been largely reported in the literature. Garcia-Posada et al. (2014) regard judicial efficiency as the ability of the legal system to enforce the contractual obligations undertaken by the contracting parties. Judicial efficiency is, thus, influenced by factors such as the speed with which tribunals render their decisions and the level of education and relevant training of the judges. Japelli et al. (2002) highlight specifically the cost of enforcing contracts as being the key determinant of judicial efficiency. To this regard, two main indicators need to be taken into consideration for the judicial efficiency to be assessed; first, the time-length of ordinary civil trials, which is directly linked to the cost of court proceedings, and, second, the ratio of the number of civil suits pending before the courts over the population.

Moreover, efficiency in justice is defined by Voigt (2016) as the abstention of unreasonable delays and overly long case backlogs. Indeed, potential judicial, political and economic considerations might arise due to significant court delays. In fact, unreasonable delays in the rendering of justice may go as deep as to threaten apart from a country’s justice system, its political regime as well. Moreover, economic consequences relating to the decrease in the number of business contracts signed may occur, which in the long term unavoidably affect employment, growth and income. Last but not least, the infringement of core human rights, such as the right to personal freedom, might be the outcome of long waiting times with regard to the court process. As Voigt (2016) explains, the speed of justice and consequently its efficiency are influenced among others by the existing substantive law in a given country, the relative procedural law and the degree of the judicial organization. Indeed, unclear or inconsistent legislation slows down the rendering of the judicial decisions while the number of specialized courts (i.e. constitutional courts) and the possibility of the substitution of judges by other judicial staff are likely to affect the time needed for the trials to be completed.

Furthermore, Voigt (2016) uses the productivity function in order to define judicial efficiency; efficiency, therefore, exists either when a specific outcome is achieved with minimum use of inputs or when maximization of the output is achieved exclusively with given inputs. In order to evaluate judicial efficiency, measured under the productivity function, and the relevant performance of the courts in a given country, one should consider both supply and demand
determinants. Indicatively, supply side considerations include the number of judges per capita, with judges’ education, age and experience offering further insights, the incentives which the judges are given, examined both in terms of wages and in terms of career prospects, the number and the quality of the rest of the judicial staff which assists the judges’ tasks, and, the available technology extending to the software used, the exchange of information between judges and between judges and police and other public servants. In addition, the complexity of the judicial system, the amount of the state budget allocated to justice and the complexity of the filed cases are also to be considered. With regard to the demand side considerations, these refer indicatively to the availability of the Alternative Dispute Resolution and other court substitutes, the direct and indirect costs of the access to justice, the attitude towards litigation in general, the quality of substantive and procedural law and precedents, citizens’ customs and litigants’ risk aversion.

Although speed is an important element, judicial efficiency should by no means be regarded only from this side; the quality of justice is of equal importance. There is, actually, as Voigt (2016) supports, an interaction between speed and quality which affects both the private and the public good that is expected to result from a judicial decision. The litigants to a trial are expected to be interested in both the speed of the court’s decision making and its quality, especially when quality is seen as access to a fair trial. Similarly, precedent is important as it decreases the number of subsequent cases similar to those for which a decision has been rendered through the interpretation of the law. To this regard, speed and quality both matter; slow decision making can lead to submission of similar cases before the court which could have been avoided had the court more quickly provided its decision on the similar case pending before it. After all, when it comes to efficiency in justice, what matters is to find the right balance between speed and quality.

Acemoglu et al. (2005) also point out the quality of the judiciary and its contribution to the efficiency of justice. To them, quality is based on the one hand, on the de jure laws and regulations and, on the other hand, on the de facto implementation of these laws and regulations. In their research, they employ a number of key factors to measure the quality of the judicial system in the Mexico states. These key factors include, first, the institutional quality which is determined by the quality of the judges, the expertise and specialization of judges in commercial cases, the impartiality of judges and the criteria for their promotion and, second, the duration of the cases which refers to the average time it takes to resolve a case and enforce a contract as well as to the backlog of pending cases. The quantity and efficiency in the use of the human and physical resources allocated to the judiciary and the support that the executive authorities provide with regard to the enforcement
of the final verdicts of the courts are also taken into account in order to assess justice quality. Finally, Laeven et al. (2005) associate the performance of the judicial system to the transparency and efficiency of the courts which they evaluate with data collected to account for the degree of property rights’ protection and the compliance with the legal provisions within a large number of countries. Consequently, property rights’ protection and compliance constitute additional key determinants of judicial efficiency.

2.3 The impact of institutions on entrepreneurship

A large literature has highlighted several crucial institutional factors which can potentially affect entrepreneurship. Such determinants include among others the availability of and access to credit, possible liquidity constraints, education, business and entrepreneurial culture. In addition, the regulatory environment, mainly with respect to the existence of a stable and investment-friendly taxation regime, bankruptcy legislation and labor laws, has been observed to influence the entrepreneurial activity. To all the above, judicial efficiency, examined in terms of the ability of the legal system to enforce the contractual obligations of the parties should be added as well.

While Verheul et al. (2002) and Veciana (1999) support that not only institutional but also economic, psychological and organizational factors determine entrepreneurship, the Institutional theory emphasizes on the institutional environment, which it considers decisive for both the individuals’ decision to become entrepreneurs and for the characteristics of the new business ventures which subsequently affect growth rates in a given country. According to this theory, all actions of a firm are tightly linked to and influenced by the domestic institutional environment. This environment is determined by a number of factors that among others include the existence of laws and regulations which constitute the normative dimension of the regulatory environment. The normative regulatory component more specifically refers to government effectiveness, regulatory quality, control of corruption, contract enforcement, tax burden, and some administrative and physical international trade barriers. In the same direction, North (1990) defined institutions as the rules which regulate the political, social and economic relationships in a society. These rules include property rights, business freedom, fiscal freedom, labor freedom, financial capital and educational capital. A further taxonomy distinguishes between formal and informal institutions; the first are related to the political, legal and economic rules which regulate individual behavior and facilitate
business transactions, while the second mostly refer to the values and beliefs which characterize a given society (North 1990).

McMullen et al. (2008), studied the relationship between entrepreneurship and institutional activity. Investigating a number of assumptions concerning the relationship of entrepreneurship and governmental-based variables, they came to the conclusion that there is a strong link between self-employment and transaction costs, whereby the role of institutions is crucial in terms of ensuring a standard of economic freedom. In turn, economic freedom is provided through the incentives offered in the form of low taxation, independent legal system and property rights’ protection. Entrepreneurial activity is, thus, largely dependent on the level of economic freedom. Low governmental intervention fosters economic freedom which in turn increases entrepreneurial action.

Moreover, internalization can largely contribute to the growth of firms in general, but most importantly to that of small enterprises. To this regard, institutional weakness constitutes an impediment towards the creation of competitive advantage for firms, an effect which can be particularly observed in periods of stagnation and economic recession. Accordingly, Novikov (2014) investigated the impact of the institutional environment, with emphasis on its regulatory dimension on the export activity, as the most frequent way of internationalization (APEC SMEWG 2011; European Commission 2010) of small enterprises and found that small enterprises are more vulnerable in negative institutional changes. These findings were used to suggest governments the enhancement of policies which impact on the private sector’s development and the fostering of the efficiency of the judicial system with the aim to ensure contract enforcement.

Furthermore, according to Peng et al. (2009), the institutional frameworks constitute a crucial determinant of the economic behavior and development of a region or a nation. Similarly, Aidis (2005) alleged that the institutional context is inextricably linked to the perceptions of uncertainty and risk which, in turn, drive entrepreneurial decisions. Based on the above, Dies-Martin et al. (2016) ascribed the differences in the rates of entrepreneurial activity across countries in the different institutional frameworks and invoked the Institutional theory and its several tenets to claim that it is the legitimacy which arises within a given institutional framework which ultimately determines the levels of uncertainty and, consequently, individuals’ willingness to take on business risks. For this purpose, the researchers developed a model to investigate the impact of legitimacy on both entrepreneurial activity and access to financing collectively. Based on Suchman’s (1995) definition, they defined entrepreneurial legitimacy as “a generalized perception or assumption that the actions of a country to promote entrepreneurial activity are desirable, proper, or appropriate”.
Among the factors that according to the entrepreneurs’ perception affect legitimacy, the writers explore culture, norms, values and the judicial system as well as tradition and the business incentives and they classify them in three types of legitimacy; regulative, normative and cognitive. Regulative legitimacy is comprised by the rules, policies and laws which regulate individuals’ behavior and acts and it affects entrepreneurial activity by imposing a kind of “code of conduct” which entrepreneurs are obliged to follow. Dies-Martin et al. (2016) research concludes among others that in innovation-driven countries there is a link between regulative entrepreneurial legitimacy and access to financial resources. This result points out that a favorable regulation regime in place is a sine qua non condition for a country to attract investors.

The level of governmental intervention has also been studied towards entrepreneurial levels and rates of economic growth. It has been proven that heavily regulated economies are likely to discourage entrepreneurial activity while low regulation can lead to high levels of corruption, again creating aversion towards entrepreneurship. Accordingly, El-Namaki (1998) suggests that countries with less regulation, low barriers to entry and open markets are more likely to offer more business opportunities and attract higher rates of entrepreneurship. Moreover, according to Manalova et al. (2008), the countries which incentivize individuals to start new business usually are characterized by stable and trustworthy taxation systems or tax incentives, coherent and predictable application of the law and, finally, low levels of bureaucracy. Ayyagari et al. (2007) proved that the less costly it is to start a new business, the larger the number of small business is observed, while Alesina et al. (2005) suggested that there is a strong, negative impact of the regulation of markets on investment and, therefore, growth. Finally, Blanchard and Giavazzi (2003), Nicoletti et al. (2001a, 2001b), Bertrand and Kramarz (2002), Pissarides (2001), Nicoletti and Scarpetta (2003), Djankon et al. (2002), all support the view that there is a negative impact of excessive regulation on entrepreneurship by focusing on comparisons between developing and developed economies.

The existence of a certain regulatory level is indispensable for transparent and efficient markets. To this regard, the protection and enforcement of property rights is being emphasized. However, overregulation may have undesirable results, acting as a hindering factor towards innovation and productivity growth. Excessive regulation may negatively affect the size of startups and consequently reduce the success probability as firms are forced to enter to and compete in markets while being too small. In this direction, Ciccone and Papaioannou (2006) provide further evidence which show that excessive entry regulation decreases the entry of new varieties or goods in industries preventing them from catching up with constantly expanding global demand or the
new opportunities opened up by technological advances. All these deter general economic growth. Therefore, a conclusion can be reached towards the need to find the right balance between an institutional environment able to attract new entries and create growth and over-regulation which can harm market efficiency, innovation and productivity growth (Acemoglu et al. 2003, 2006; Chun et al. 2007).

Finally, entrepreneurial growth aspirations are affected by institutions; they benefit from the presence of strong government particularly translated as property rights’ enforcement as well as by less governmental intervention. Estrin et al. (2013) examine how the different types of institutions affect the high-growth aspirations of new entrepreneurs. Based on William’s (2000) concept of the hierarchy of institutions, they classify institutions based on three fundamental aspects; 1) level of corruption, 2) property rights’ strength and 3) the extent of governmental activity. They then develop a number of hypotheses with regard to how these different institutional aspects affect entrepreneurial aspirations while at the end, they also consider the impact of social structures on alleviating the negative impact of institutions on entrepreneurship based on the social micro-level perspective of Granovetter (1985).

Different institutions affect different types of entrepreneurship. The researchers focus their attention on examining these institutions which impact the creation of new ventures with future considerable growth plans in contrast to self-employment and small firms, believing that the potential of the latter is significant for the achievement of economic growth and employment creation. (Acs, 2006; Autio and Acs, 2010; Hessels et al., 2008; Minniti and Lévesque, 2010). Imparting form Autio (2011:251), the writers assume high growth aspiration entrepreneurship as the type of entrepreneurial activity that mostly contributes to the creation of new jobs and thus attracts the interest of policy makers. They also find that strong local social ties can moderate the ineffectiveness of the macro-level institutions such as property rights and corruption, it cannot, however, be claimed that they eliminate it. The role of macro-level institutions remains the key determinant of entrepreneurial growth aspirations.

2.4 Taxation, corruption and entrepreneurship

Taxation and corruption have been observed to significantly affect entrepreneurship. The impact of taxation on entrepreneurship has long been investigated and reported in the literature. For example,
Da Rin et al. (2011) investigated how the tax policy impacts on the creation of new business to find a negative impact of corporate income taxation on the number of new entries. In general, high levels of taxation (Gordon, 1998; Glaeser and Kerr, 2009 as well as complex regulatory tax structures (Braunerhjelm and Eklund, 2014) constitute considerable entry barriers as they increase startup costs and hamper new entrepreneurial activity. Moreover, tax evasion and corruption are interrelated and both negatively impact on entrepreneurship. High levels of corruption create a tax evasion friendly environment which becomes noticeable in the form of a shadow economy, while at the same time a tax evasion environment may lead tax administrators to corruption. The general view shows an aversion towards both corruption and tax evasion, as it recognizes the negative impact they have on the economy and notably on entrepreneurship.

Additionally, Dove (2015) shows how judicial independence is an important determinant of entrepreneurship especially when seen under its ability to act in the direction of reducing corruption. The research focuses on the long-term relationship between entrepreneurship and, jointly, tax evasion and corruption in 15 European countries between 2002 and 2010. Distinguishing between opportunity and necessity driven entrepreneurship, the researchers find out less impact of tax evasion and corruption on necessity driven entrepreneurship which is explained by the motivations lying behind it. In NME, the individual resorts as a last resort, when no other possibilities of employment exist. Therefore, this category of entrepreneurs is less sensitive to institutional weaknesses. Although corruption influences Necessity Motivate Entrepreneurship (NME) in a smaller degree when compared to its impact on Total Entrepreneurship, tax evasion is totally indifferent when it comes to necessity driven entrepreneurs. The writers conclude that governments should focus on the elimination or at least reduction of the institutional weakness in order to foster economic growth through entrepreneurial activity.

Finally, Estrin et al. 2013 regard corruption as an additional, though informal, institution which highly impacts on entrepreneurship, while Anokhin and Schulze (2009) view it as a form of taxation, in the sense that it discourages economic activities especially for high growth aspiration entrepreneurs who bear the transaction costs of a corrupted environment. In order to survive within a corrupted economic environment, entrepreneurs will have to adapt to the informal corruption environment but until so they will act entrepreneurial activity at a disadvantage. The empirical investigation of the researchers robustly shows that weak property rights and corruption negatively impact on employment growth aspirations.
2.5 Judicial efficiency and the cost of credit

Financing is crucial for the function of businesses. The lack of access to capital is one of the main problems that entrepreneurs face, especially when they have to establish a new business from scratch and it is observed in several countries whether they belong to the developed or the developing economies. Several studies have shown that the availability and cost of credit is highly influenced by the efficiency of the judiciary. Hence, the examination of the relationship between judicial efficiency and the cost of credit is important given its indirect impact on the entrepreneurial activity. Japelli et al. (2002), studied the relationship that exists between judicial efficiency and credit market performance and concluded that there is indeed a relationship between judicial efficiency and the availability and cost of credit. As judicial efficiency improves, aggregate lending increases while the collateral demanded reduces. In addition, it was found that judicial efficiency is positively correlated with the amount of lending, while negatively correlated with the proxies which were used to account for credit rationing.

In particular, the researchers used panel data from the Italian National Institute of Statistics (ISTAT) referring to 95 Italian Provinces and for the time period between 1984 and 1998 in order to statistically show that improvements on the judiciary can lead to a reduction on credit rationing and an increase on the volume of lending. Making a distinction between a borrower’s accidental and strategic default on a loan, they focused their attention on the case of strategic default where the borrower, even if potentially solvent, is unwilling to pay back the loan that has been granted to him. Why this happens is a consequence of weighting the gain from a potential default on the loan obligation towards the perceived costs which are expected to result from the presumed sanctions imposed for non-performance. A borrower, thus, defaults strategically, when he assumes a lower default cost when compared to that of the presumed sanctions. Moreover, the cost of the sanctions is highly dependent on the law and the level of its enforcement. To this extent, it becomes apparent that poor judicial efficiency enhances the opportunistic behavior of debtors who tend to take advantage of the creditors’ difficulty to enforce their claims mainly due to costly and slow court proceedings. To defend themselves against such opportunistic behaviors, lenders tend to reduce the availability of credit, influencing this way the performance of the credit market.

Furthermore, Bae and Goyal (2003) revealed that property rights and the level of their protection within a certain country work towards the direction of lowering loan interest rates for increased levels of protection. Additionally, Demirguc-Kunt et al. (2004) found that institutions in general, which among others include courts, are in the position to affect the cost of lending in the
sense that banks will charge less for credit in those countries where better institutions exist. Finally, Laeven et al. (2005), also investigated the relationship which exists between judicial efficiency and the cost of bank credit across many countries for the year 2000. In their research, the cost of bank credit was measured as the spread between the average lending interest rate and the average cost of funding through deposit interest payments. The results revealed a statistically and economically significant impact judicial efficiency and the debt contracts’ enforcement have on bank interest rates spreads. Taking into consideration certain country specific characteristics which can potentially influence the results of the research such as the level of economic development, this paper indicates judicial efficiency and inflation rates as the two main determinants of the banks’ lending interest spreads. Adding on the previous research, it reveals that judicial reform can lead to lower cost of credit for both households and firms and yet even more it may increase the amount of lending for the existing, rationed customers. On a broader scope, judicial reform enhances the investment climate in general, as banks are more keen to increase the amount of credit and reduce its cost when they can recover loans and repossess collateral relatively fast in cases of default.

2.6 Judicial efficiency and entrepreneurship

A more recent literature has concentrated on studying in particular the impact of judicial efficiency on entrepreneurship, considering it as one of the most influential institutions with regard to the enhancement of entrepreneurial activity. In fact, the importance of the quality of the judicial system for the economic development has been amply documented by empirical literature. For example, it has been shown that judicial efficiency influences the development of financial and credit markets (Djakov et al. 2008), the availability and the relevant cost of borrowing money (Bae and Goyal, 2009), the volume of trade activity (Berkowitz et al. 2006), specialization at work (Nunn, 2007) and, finally, competition (Johnson et al. 2002). Judicial efficiency may affect a number of firm choices including, but not limited to, investments, employment, models of organizational structure and the contractual relationships with potential counterparts; all these factors affecting eventually firm size. Lack of judicial efficiency negatively affects firms’ growth but it does not hinder firm’s entry. Lengthy trials hinder contract enforcement which eventually increases entrepreneurs’ risk concern and reduces their willingness to invest; hence, growth opportunities diminish.

Garcia-Posada et al. (2014), investigated how the design and the efficacy of the judicial system can influence the entry rate of entrepreneurs, given that this entry rate largely forms
entrepreneurship. They concentrated on Spain, a country with very low entry rates by international standards and a judicial system which performs worse compared to the European average. The research concentrated on civil cases, measuring the degree of enforcement of the contractual obligations of the parties. More specifically, judicial efficacy was measured through the construction of a congestion rate variable, defined as the ratio of the sum of pending plus new cases in a year over the cases resolved in the same year. The finding was that improvement of the efficacy of the courts in Spain, promoted the entry of new entrepreneurs in the Spanish market. However, no impact was observed on the exit rate, which was defined as the number of businesses which seize operations and liquidate their assets. Finally, it is noteworthy that the impact of judicial efficiency on entrepreneurship was statically confirmed only with regard to individual entrepreneurs and not with regard to corporations. As the writers explain, this fact is mainly attributed to the higher costs an individual is likely to face when referring a dispute to court in contrast to the lower costs incurred for corporations which assign their conflicts to their legal departments or in-house counsels.

Moreover, Giacomelli and Menon (2012) examined the causal relationship between judicial efficiency and the size of firms across several municipalities of Italy believing that an efficient and well-performing judicial system is key to contract enforcement and property rights’ protection. Italian firms are characterized by a small size in general and this is considered to be a weakness of the productive system in place. It ultimately results in low productivity growth in Italy. This is mainly attributable, according to Banca d’Italia 2009 report, to the difficulties that small firms face when it comes to innovating and competing within the international context. Moreover, judicial efficiency in Italy appears to be very low, especially when compared to other European countries. According to the World Bank’s “Doing Business” report, Italy is ranked 157 out of 183 countries with regard to the “enforcing contracts” indicator, a result which arises mainly due to the extremely lengthy court proceedings. The researchers found that less efficient municipal judicial systems lead, on average, to smaller firm sizes. The results show that a 50% reduction of the length of the proceedings before civil courts can lead on average to an 8-12% increase in the size of firms, ceteris paribus.

Similarly, Esposito et al. 2014 put up the inefficient judicial system in Italy as the cause behind the difficult business environment the country experiences. The inefficiency is depicted in the long delays in court proceedings and the enormous backlog of pending civil and commercial cases. It is undeniable that the improvement of the judicial system can positively affect the economy.
by creating a more favorable business climate, fostering innovation and securing tax revenues. The writers insist on the positive effect of entrepreneurship on economic growth which could be achieved through the improvement of the judicial system. In this regard, they highlight as most important issues to be dealt with the court fees, the new mediation scheme which needs improvement, the strengthening of court management and finally, a thorough review of the appeal system.

In 2002, a judicial reform was implemented by the government of Pakistan. Entitled “Access to Justice Programme” and conducted by the Asian Development Bank, the reform aimed primarily at reducing the backlog of 1.2 million cases pending before Pakistani Courts at that time. It was realized through the provision of more training on case-flow management to judges and it resulted in an increase in the rate of new firms in Pakistan. Pakistani GDP increased by 0.5% thanks to this reform, which cost the Pakistani Government $350 million or only 0.1% of the country’s 2002 GDP. Besides entry regulations which are responsible for the entry rates of new firms, the judicial system is considered by entrepreneurs to be an important factor for consideration before deciding to become self-employed and it is most of the times the main obstacle that hinders entrepreneurial action. Chemin (2008) used the data of Pakistan’s judicial reform to investigate what motivates people to become entrepreneurs and how does the judiciary affect entrepreneurship. According to him, the judiciary may affect entrepreneurship through two ways; first, through the protection of property rights and, second, through credit markets. Securing property rights and contract enforcement constitute, therefore, the two main determinants of investments and accordingly entrepreneurship; and it is at the interest of and a responsibility of governments to provide these two through an efficient and timely judicial system. In detail, the reform’s results were the following; 1) Thanks to the judicial reform law and order issues ceased preventing the workforce from working and creating a favorable business environment, 2) The unemployed population became more confident with regard to obtaining credit and therefore, more willing to begin a self-employed activity. Consequently, the number of unemployed who started seeking for land or buildings etc to start a new business tripled after this reform took place. One third increase in the transitions from unemployed to self-employed or employed to self-employed were observed.

Furthermore, lack of judicial efficiency and most importantly lack of implementation of the law has as a direct consequence the considerable increase of the transaction costs. Very high transaction costs, in turn, deteriorate market transactions and discourage firm entry, ultimately inhibiting economic growth through hindering competition and trade. Acemoglu et al. (2005)
pointed out the importance of institutions such as the judiciary in designating economic growth on the long term. Increasing firm size by augmenting production and labor is the main mechanism for firms to grow. This is mainly achieved through competition which creates the necessary dynamics for taking on capital and expanding. Melitz (2003) and Melitz and Ottaviano (2008) alleged that such dynamics contribute to the aggregate growth of productivity in free markets. According to Laeven and Woodruff’s 2007, the quality of the legal system affects directly the investment risk and, hence, the willingness of entrepreneurs to invest and indirectly firm size. More specifically, their model suggests that improvements in the quality of justice increases the entrepreneurs’ demand for capital and labor. This increase in demand causes wage and rental rates to rise and consequently forces entrepreneurs with low ability to leave self-employment and search for a wage job position in existing firms. Hence, average firm size increases. Dougherty (2014) examined the impact the legal systems have on firm size in the large developing economy of Mexico. What is characteristic, is that quality and enforcement differences exist with regard to the legal system among the different States of Mexico. Additionally, the process of judicial reform also varies among these States. The researchers found that in States with higher judicial efficiency levels, the size of the firms appeared to be larger than in the States with lower quality of justice. The model concluded that the more the quality of the judiciary increased, the more the average firm size increased in Mexico. Finally, the researchers found evidence which support their hypothesis that judicial efficiency may be more pivotal in capital intensive industries, such as those of the manufacturing sector, where hold-up costs are more substantial. More specifically, the evidence showed that a movement from worst to best-practice judicial quality can boost average firm size by two-thirds and also lead to an increase of 8% in the GDP of the weakest States.
3. Data & Sources

The data employed to account for entrepreneurship are extracted from the 2010 World Bank’s “Doing Business” Report. The index employed is the variable labelled as “Enforcing Contract - Distance to Frontier”. This variable shows the distance of each economy to the best performance observed on a number of indicators which relate to contract enforcement, across all economies in the Doing Business sample since 2005. These indicators include: 1) the time it takes to enforce a contract (measured in days), 2) the cost of enforcing contracts (calculated as a % of the claim) and, 3) the quality of the judicial processes index (with values ranging from 0 to 18). The “distance to frontier” is reflected on a scale from 0 to 100, where 0 represents the lowest performance and 100 represents the “frontier”, hence the best performance. It is worth noting that this index measures only the subjective perceptions on the ease of contract enforcement in every country and it does not constitute an objective measurement of the judicial activity. Finally, it was considered as the most appropriate for capturing entrepreneurial levels as the overall level of entrepreneurship is ultimately affected by entrepreneurs’ expectations on the reliability of the judicial system captured by this index.

The Clearance Rate index is employed to measure judicial performance particularly with regard to the ability of the Judiciary to manage the load of cases. The relative data are extracted from the 2014 CEPEJ Report on "European judicial systems: efficiency and quality of justice”. The Clearance Rate (CR), expressed as a percentage, is given by the ratio of the cases disposed to the incoming ones as following:

\[
\text{Clearance Rate \%} = \frac{\text{Disposed cases in a period}}{\text{Incoming cases in a period}} \times 100
\]

A CR = 100% indicates that all the lawsuits filed are dealt with by the Judiciary. Accordingly, a CR > 100% means that the judicial system is able to satisfy all the lawsuits filed plus some backlog cases as well, while a CR < 100% implies the inability to handle the incoming cases, which ultimately leads to a rise in the stock of backlog cases.
The Civil Liberties index is used as a proxy of the civil rights enjoyed by the citizens in the countries examined herein and it generally accounts for the state of democracy in these countries. The Civil Liberties (CL) variable receives values from 0 to 10 and it is considered necessary in order to capture potential cases of judicial inefficiency attributable to scarcely democratic regimes. The relevant data are extracted from the 2012 Democracy Index Report issued by the Economist Intelligence Unit. Moreover, the distinction of the legal systems into English, Scandinavian, Socialist, German and French legal systems was considered necessary in order to capture potential differences in judicial performance which might be attributable to the difference in the regulatory regime of these legal systems. For this, reference has been made to La Porta et al. (1998) and Djankov et al. (2003). Finally, the Gross Domestic Product (GDP) per capita (in constant 2011 international $) and the Population (POP) indices which were employed as socio-economic variables in this study have been extracted from The World Bank’s DataBank.

Tables 1 and 2 below present, respectively, the descriptive statistics of the dependent and independent variables adopted in the regression analysis and the correlation matrix of the same variables.

Table 1 Descriptive statistics of dependent and independent variables

<table>
<thead>
<tr>
<th></th>
<th>EC</th>
<th>CR</th>
<th>CL</th>
<th>GDP</th>
<th>POP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>65.74</td>
<td>101.03</td>
<td>8.25</td>
<td>25.671,13</td>
<td>18.760.105,00</td>
</tr>
<tr>
<td>Median</td>
<td>68.00</td>
<td>100.40</td>
<td>8.82</td>
<td>23.722,34</td>
<td>7.199.077,00</td>
</tr>
<tr>
<td>Maximum</td>
<td>81.55</td>
<td>115.70</td>
<td>10.00</td>
<td>63.620,04</td>
<td>143.000.000,00</td>
</tr>
<tr>
<td>Minimum</td>
<td>42.38</td>
<td>65.40</td>
<td>4.12</td>
<td>4.150,51</td>
<td>421.364,00</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>9.81</td>
<td>8.75</td>
<td>1.54</td>
<td>14.230,02</td>
<td>30.237.815,00</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.49</td>
<td>-1.61</td>
<td>-1.27</td>
<td>0.66</td>
<td>2.51</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.33</td>
<td>8.82</td>
<td>3.88</td>
<td>2.92</td>
<td>9.40</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>2.14</td>
<td>68.10</td>
<td>11.21</td>
<td>2.69</td>
<td>102.05</td>
</tr>
<tr>
<td>Probability</td>
<td>0.34</td>
<td>0.00</td>
<td>0.00</td>
<td>0.26</td>
<td>0.00</td>
</tr>
<tr>
<td>Sum</td>
<td>2.432,20</td>
<td>3.738,00</td>
<td>305.32</td>
<td>949.831,80</td>
<td>694.000.000,00</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>3.463,01</td>
<td>2.754,83</td>
<td>85.63</td>
<td>7.29E+09</td>
<td>3.29E+16</td>
</tr>
<tr>
<td>Observations</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>
The Correlation Matrix, as depicted in Table 2 above, is used to investigate the dependence between the multiple variables at the same time. The table contains the correlation coefficients between each one of the variables and the others. What we observe from the correlation matrix is that there is a weak negative correlation between the CR and CL variables. There is a moderate positive correlation between the CL variable and the GDP and moderate negative correlation between the CL and the POP variables. Finally, the EC variable has a weak positive correlation with each one of the independent variables. The absence of strong positive or negative correlation between any of the variables and the others indicates the absence of multicollinearity, namely the existence of an exact lineal relationship between the variables of the regression model.

<table>
<thead>
<tr>
<th></th>
<th>CL</th>
<th>CR</th>
<th>EC</th>
<th>GDP</th>
<th>POP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>1,00</td>
<td>-0,23</td>
<td>0,13</td>
<td>0,62</td>
<td>-0,43</td>
</tr>
<tr>
<td>CR</td>
<td>-0,23</td>
<td>1,00</td>
<td>0,12</td>
<td>-0,12</td>
<td>0,11</td>
</tr>
<tr>
<td>EC</td>
<td>0,13</td>
<td>0,12</td>
<td>1,00</td>
<td>0,39</td>
<td>0,16</td>
</tr>
<tr>
<td>GDP</td>
<td>0,62</td>
<td>-0,12</td>
<td>0,39</td>
<td>1,00</td>
<td>0,08</td>
</tr>
<tr>
<td>POP</td>
<td>-0,43</td>
<td>0,11</td>
<td>0,16</td>
<td>0,08</td>
<td>1,00</td>
</tr>
</tbody>
</table>
4. Methodology

For the purposes of this empirical analysis we use the classical linear regression model. The specification adopted for the linear function has the following form:

\[
EC_i = c + \beta_1 CR_i + \beta_2 CR_i^2 + \beta_3 CL_i + \beta_4 CL_i^2 + \sum_{j=1}^{5} c_j D_{i,j} + \epsilon_i
\]  

(1)

where, \(EC_i\) is the dependent variable, labelled as “Enforcing Contracts - Distance to Frontier”. This variable shows the distance of each economy to the best performance observed on a number of indicators which relate to contract enforcement, across all economies in the Doing Business sample since 2005 and receives values from 0 to 100, where 0 represents the lowest performance and 100 represents the “frontier”. \(c\) is the constant term, \(CR_i\) is the Clearance Rate variable taking values = 100% when the court disposes all the incoming cases, < 100% when the court disposes less than the incoming cases and > 100% when the court disposes all the incoming cases plus some backlog cases. The \(CR_i^2\) variable is employed to depict the rate with which the Clearance rate affects the dependent variable. \(CL_i\) is the Civil Liberties variable with values from 0 to 10 and accordingly, \(CL_i^2\) is employed to account for the rate with which the Civil Liberties affect the EC variable. Finally, \(D_i\) (with \(i = 1, 2, \ldots, 5\)) denotes the dummies which are used to distinguish the legal regimes into English, Scandinavian, Socialist, German and French, \(\epsilon_i\) is the error term, and the \(\beta\) ’s are the parameters to be estimated.

In order to estimate the parameters, we use the standard OLS approach which consists of minimizing the squared errors. To begin with, we set up the minimization problem in order to derive the formulas for the calculation of the intercept and the slope coefficient. The relative formula is,

\[
\min_{\beta_0, \beta_1} \sum_{i=1}^{N} (y_i - \hat{\beta}_0 - \hat{\beta}_1 x_i)^2
\]

(2)
To solve the minimization problem, we set the partial derivatives of the above equation equal to 0; we take first the derivative with respect to $\beta_0$ and set it equal to 0 and second, the derivative with respect to $\beta_1$ and set it equal to 0. $W$ is used to denote $\sum_{i=1}^N (y_i - \beta_0 - \beta_1 x_i)^2$. This gives us the following equations,

$$\frac{\partial W}{\partial \beta_0} = \sum_{i=1}^N -2(y_i - \beta_0 - \beta_1 x_i) = 0 \quad (3)$$

and,

$$\frac{\partial W}{\partial \beta_1} = \sum_{i=1}^N -2x_i(y_i - \beta_0 - \beta_1 x_i) = 0 \quad (4)$$

First, we solve equation (3), with respect to $\beta_0$. We start by getting rid of -2 and re-write the equation as $\sum_{i=1}^N y_i - \beta_0 - \beta_1 x_i = 0$. We rearrange accordingly and use the algebraic fact that $\sum_{i=1}^N y_i = N\bar{y}$. What we get is,

$$N\beta_0 = N\bar{y} - N\bar{x}\bar{y} \quad (5)$$

Next, we divide everything by N and we obtain the formula,

$$\beta_0 = \bar{y} - \bar{x}\bar{y} \quad (6)$$

Now, we need to solve equation (4) with regard to $\beta_1$. To do so, we get rid of -2 as above and rearrange to $\sum_{i=1}^N x_iy_i - \beta_0 x_i - \beta_1 x_i^2 = 0$. 

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We then substitute the result obtained from the calculation of the first equation for \( \hat{\beta}_0 \) which gives us,

\[
\sum_{i=1}^{N} x_i y_i - (\bar{y} - \hat{\beta}_1 \bar{x}) x_i - \hat{\beta}_1 x_i^2 = 0
\]  

(7)

Then, we distribute the sum to each of the terms of the equation to get,

\[
\sum_{i=1}^{N} x_i y_i - \bar{y} \sum_{i=1}^{N} x_i + \hat{\beta}_1 \bar{x} \sum_{i=1}^{N} x_i - \hat{\beta}_1 \sum_{i=1}^{N} x_i^2 = 0
\]  

(8)

Again, we make use of the algebraic fact that \( \sum_{i=1}^{N} y_i = N \bar{y} \) and, accordingly, that \( \sum_{i=1}^{N} x_i = N \bar{x} \).

We re-write Equation (8) by applying these properties and then solve for \( \hat{\beta}_1 \) which gives us,

\[
\hat{\beta}_1 = \frac{\sum_{i=1}^{N} x_i y_i - N \bar{x} \bar{y}}{\sum_{i=1}^{N} x_i^2 - N \bar{x}^2}
\]  

(9)

Furthermore, using algebra we derive that \( \sum_{i=1}^{N} (x_i - \bar{x})(y_i - \bar{y}) = \sum_{i=1}^{N} x_i y_i - N \bar{x} \bar{y} \) and that

\[
\sum_{i=1}^{N} (x_i - \bar{x})^2 = \sum_{i=1}^{N} x_i^2 - N \bar{x}^2.
\]

These two properties are now substituted into (9) and lead us to,

\[
\hat{\beta}_1 = \frac{\sum_{i=1}^{N} (x_i - \bar{x})(y_i - \bar{y})}{\sum_{i=1}^{N} (x_i - \bar{x})^2}
\]  

(10)
5. Estimation Results & Discussion

To estimate our results, we first ran a regression including within our independent variables macro data such as the population (POP) and Gross Domestic Product (GDP) variables, as they appear on Tables 1 and 2 of the previous section. These two variables were found to be highly insignificant and were therefore omitted from the estimation model. We ran again the regression without the macro data. Table 3 below presents the final estimation output:

Table 3 Final Estimation Output

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-100,141</td>
<td>40,525</td>
<td>-2,471</td>
<td>0.020</td>
</tr>
<tr>
<td>CR</td>
<td>3,610</td>
<td>0,728</td>
<td>4,957</td>
<td>0.000</td>
</tr>
<tr>
<td>CR^2</td>
<td>-0,019</td>
<td>0,004</td>
<td>-4,845</td>
<td>0.000</td>
</tr>
<tr>
<td>CL</td>
<td>13,140</td>
<td>6,269</td>
<td>2,096</td>
<td>0.045</td>
</tr>
<tr>
<td>CL^2</td>
<td>1,637</td>
<td>0,724</td>
<td>2,262</td>
<td>0.032</td>
</tr>
<tr>
<td>FLO</td>
<td>9,165</td>
<td>4,301</td>
<td>2,131</td>
<td>0.042</td>
</tr>
<tr>
<td>GLO</td>
<td>19,506</td>
<td>2,097</td>
<td>9,300</td>
<td>0.000</td>
</tr>
<tr>
<td>SCLO</td>
<td>11,473</td>
<td>3,036</td>
<td>3,779</td>
<td>0.001</td>
</tr>
<tr>
<td>SOLO</td>
<td>13,242</td>
<td>4,021</td>
<td>3,293</td>
<td>0.003</td>
</tr>
</tbody>
</table>

R-squared 0.420  Mean dependent var 65,735
Adjusted R-squared 0.255  S.D. dependent var 9,808
S.E. of regression 8,467  Akaike info criterion 7,318
Sum squared resid 2007,526  Schwarz criterion 7,710
Log likelihood -126,385  Hannan-Quinn criter. 7,456
F-statistic 2,538  Durbin-Watson stat 2,494
Prob(F-statistic) 0.032  Wald-F statistic 63,008
Prob(Wald F-Statistic) 0.000

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Overall, the estimation results are in accordance with the theory and the hypothesis raised herein that the efficiency of the justice systems positively affects the economic and entrepreneurial activity by reducing the uncertainty that is relative to the contract enforcement and which can act as an inhibiting factor for many economic transactions. In other words a favourable institutional environment, form the side of the judicial institutions, fosters entrepreneurship. All the variables are significant at the 0,05 level of significance.

As said, the CR variable is employed to measure the national system’s ability to deal with the current demand of justice. Within this context, a CR > 1 shows that the national judicial system can fully satisfy the current demand and even deal with a number of backlog cases as well, while a CR < 1 implies the inability of the national judicial system to dispose of the cases pending before it. In accordance with the theory, the CR is found to affect positively the EC in the sense that the EC increases when the CR increases but with a decreasing rate. It should be noted that the Clearance rate is employed to measure judicial performance, however it is not a measure of the productivity of the justice system as it does not take into consideration any labour force or other inputs. Hence, the CR compares the judicial performance of the national systems only with regard to the cases disposed, neglecting the resources employed and therefore no conclusions can be reached with regard to how efficiently organised the national judicial systems are.

With regard to the CL variable, findings indicate that a positive relationship exists between it and the dependent variable EC. The results show that the EC increases with an increasing rate when the CL increases. The positive coefficient is consistent with the idea that more advanced legal systems exist in the countries where civil rights enjoy higher protection and that higher levels of contract enforcement are expected to be found in such advanced legal systems. The positive coefficient is also in accordance with that part of the literature which links the effectiveness of the legal enforcement to the level of political and cultural development of societies (Djankov et al.). Also, according to La Porta et al. (1998), the level of civil rights enjoyed in a country constitutes a determinant of economic freedom which in turn affects the entrepreneurial level.

With regard to the dummy variables which were used to take into consideration the legal origin of the judicial systems, the estimation results advocate the impact of the legal origin on the efficiency of the justice system. The coefficients of the dummy variables indicate that the German,
French, Scandinavian and Socialist Legal Origin justice systems affect more positively the EC than the English Legal Origin system.

Finally, for the robustness of the estimation results, the R-squared is considered statistically significant at the 0.05 level for the given set of cross-sectional data and the F-statistic is significant as well.
6. Conclusion

The aim of this Master Thesis was to focus on entrepreneurship by empirically assessing the impact of the judicial efficiency on it. Entrepreneurship is generally regarded as the workhorse of the economic development and growth. The creation of new business ventures, the development of the existing businesses as well as the creation of new job positions, which ultimately enhance employment, all contribute to and are necessary prerequisites for the achievement of economic development and growth. Under this thesis, entrepreneurship was examined from the aspect of the entrepreneurs’ expectations on the reliability of the judicial system which is assumed to relate positively to the efficiency of the national legal systems. With regard to the performance of the judiciary, emphasis is given particularly on the levels of contract enforcement given that the latter has been proved essential for business transactions and their eventual success or failure. So far, the literature on this topic has been very limited. Most studies focus mainly on the other determinants of entrepreneurship, such as the availability of and access to credit, the liquidity constraints, education, business and entrepreneurial culture, the existence of a stable and investment-friendly taxation regime, bankruptcy legislation and labor laws, neglecting the institutional aspect and its potential implications. This institutional aspect was investigated herein, especially with regard to courts’ performance which ultimately determine the reliability and consistency of the Judiciary.

The Thesis concentrated on a pool of 37 European countries and a cross-sectional analysis with data referring to 2012. Based on Ippoliti et al. (2014) paper titled “Judicial efficiency and entrepreneurs’ expectations on the reliability of the European legal systems” the empirical analysis performed herein purported to update the results by using more recent data from 2012 and to examine whether the relevant theory can be confirmed. Overall, the estimation results proved to be in line with the previous literature and the hypothesis raised herein that the performance of the judicial systems affect entrepreneurship. More specifically, it was found that the Enforcing Contracts - Distance to Frontier (EC) variable, employed to account for the entrepreneurs’ reliability on the enforcement of the contracts, increases when the Clearance Rate (CR) variable, employed to measure court performance, increases but with a decreasing rate. Furthermore, the EC is positively affected from the Civil Liberties (CL) variable which is consistent with the idea that more advanced legal systems exist in the countries where civil rights enjoy higher protection and that higher levels of contract enforcement are expected to be found in such advanced legal systems. In addition, the estimation results indicate an impact of the legal origin on the efficiency of the justice system. The
coefficients of the dummy variables indicate that the German, French, Scandinavian and Socialist Legal Origin justice systems affect more positively the EC than the English Legal Origin system which constitutes the base category.

To conclude, the findings of this empirical analysis update and verify the previous literature with regard to the impact of judicial efficiency on entrepreneurship. Moreover, given the importance of entrepreneurship for the economic development and growth as explained in detail herein, they further constitute an important consideration and guideline for future European policy contouring and the relative actions which might be taken with the aim to promote and foster the entrepreneurial activity. Within a reliable and efficient judicial system, more individuals are keen to take the risks to create new business ventures, hence the importance of the Judiciary should not be underestimated when contouring a policy framework aimed to enhance entrepreneurship. Finally, it should be noted that under this thesis, judicial efficiency is not claimed to be the only or the major institutional factor affecting entrepreneurship but it only aims to highlight the importance of the Judiciary along with a number of other institutional factors which should be taken into consideration as well.
References


Giacomelli, S., Menon, C. (2012). Firm Size and Judicial Efficiency in Italy: Evidence from the Neighbour’s Tribunal. SPATIAL ECONOMICS RESEARCH CENTRE (SERC) DISCUSSION PAPER 108


