UNIVERSITE CATHOLIQUE DE LOUVAIN

LOUVAIN SCHOOL OF MANAGEMENT

THE EMPIRICAL STUDY OF THE IMPACT OF CORRUPTION ON ENTREPRENEURSHIP IN TRANSITION ECONOMIES

Supervisor: Frank Janssen

Submitted by DUONG Phuong-Thanh

NOMA: 82521300

Master in Management

ACADEMIC YEAR 2014-2015

I am deeply grateful to Professor Frank Jansen, who gives me valuable guidance and instruction to complete this study;

I am also grateful to the Belgian Technical Cooperation who gives me the priceless opportunity to pursue my higher education and experience wonderful life here in Belgium;

Most of all, I am grateful to my family and friends for their unconditional love and support.

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Introduction

Negative impact of corruption on entrepreneurship is widely recognized in most of the literature. There have many studies focusing on the issue of corruption control and characteristics of as well as necessary conditions to encourage entrepreneurship in countries. In entrepreneurial literature corruption is regarded as detrimental to the development of not only entrepreneurship but also the whole economy (Bardhan, 1997). The issue of corruption in transition economies has also been identified and tackled for a long time both in academic and non-academic researches. The fact that corruption erodes institutional trust and increases costs and uncertainty of venture's expected return is doubtless. Corruption is also seen as a common impediment to the flourish of entrepreneurial activities. Meanwhile, enterprises are considered one of main pillars of the transition process influencing the resources' allocation of the economic system from communism to capitalism (Olson, 1992). Therefore, the development of entrepreneurship in any economy in general and in transition economies in particular should be put in priority in policy making process.

Nevertheless, though many studies have been conducted in an attempt to understand thoroughly the causes and impacts of corruption both socially and economically as well as the status of entrepreneurship in transition economies, there has been little literature exploring possible impacts of corruption on entrepreneurship in these specific economies. Despite of more than two decades since the beginning of the transition process, different results have been gained in different countries depending on the level of government's intervention in the economic activities (McMillan & Woodruff, 2002). It is true that entrepreneurs in transition economies have to deal with many obstacles, especially with financial constraints and institutional insufficiency (Pissarides, 1999) and (Earle & Sabirianova, 1998).

These issues trigger the curiosity of finding the relationship between corruption and entrepreneurship in transition economies. In the framework of the paper, the Empirical Study of the Impact of Corruption on Entrepreneurship in Transition Economies will be explored. Countries with transition economies host a large proportion of the world's population (World Bank, 2004). Possible suggestions to fasten and enhance the effectiveness of the transition process would create considerable benefit. After exhaustive review of literature, it is surprising that there has very little precedent research on this typical topic.

This study is constructed with the main objective to shed light on possible impacts of corruption on entrepreneurship in transition economy based on empirical study. Accordingly, four main hypotheses are placed and examined:

- Factors which have considerable impact on entrepreneurship are the level of corruption, GDP per capita, literacy rate, unemployment rate, competitiveness of the economy or the freedom to trade internationally, government size, effectiveness of the legal system, and comprehensiveness of regulations of a country;

- Corruption has negative impact on entrepreneurship in transition economies;

- Macroeconomic factors such as GDP per capita and literacy rate and unemployment rate have positive impacts on entrepreneurship;

- Among social factors, while the competitiveness of the economy, the effectiveness of the legal system and the appropriateness of the implemented regulation have positive on entrepreneurship, the government size is expected to have negative impact.

In order to examine these hypotheses and give an answer to the research question of *How much does corruption influence entrepreneurship in transition economies?*, thorough literature review is conducted and empirical data are collected and tested by OSL estimation applying simple linear regression method. Literature review is considered one of the two main parts of this study as it helps to have an overall understanding of the concepts in academic research as well as to keep update studies on the topic as well as related issues. As it is an empirical study, the other main part will be devoted to examine data collected from trusted independent sources to test hypotheses as well as propose possible interpretations obtained from the results. Because of the nature and objectives of the study, a combined method of qualitative and quantitative research method is applied. The quantitative method assists the author to collect reliable data properly and design research model to present possible empirical results answering to the research questions (Bogdan & Biklen, 1998). The qualitative method enables the author to generalize the findings and discuss possible reasons as well as propose suggestions based on the obtained results (Patton, 2002). The paper aims at giving a comprehensive and general understanding of the issue of corruption and entrepreneurship and their interaction with each other in the context of transition economies. The communist history is regarded as a unique characteristic contributes to economic context and plays a critical role in giving result interpretation. By studying existing researches on the topic as well as resolving the suggested model, negative impacts of corruption on entrepreneurship in transition economies are identified and highlighted. Accordingly, possible suggestions to tackle the issue and have better control of corruption in these countries are discussed. In the study process, many difficulties have arisen and been tackled. The largest obstacle that we had to face is the publication and validity of the data on transition economies. Details on these difficulties will be revealed in the following part.

This study is particularly relevant since it contribute to emerging literature on the topic and to present an empirical look at the impact of corruption in transition economies. Firstly, the study presents an overall review on the current discussion on the topic of corruption and entrepreneurship in general and in transition economies in particular. The comprehensive review enables the author and readers to keep update about the issues and have the insight in factors influencing corruption and entrepreneurship as well as how these two factors interact with each other. Secondly, this paper supplements existing empirical studies which remain rather limited by giving an empirical result of the impact of corruption on entrepreneurship in these typical economies. By analyzing the relationship of these two factors quantitatively in transition economies, it is our hope to open the way for further researches in a single transition economy factoring other specific social and economic conditions of that country. In doing so, practical recommendations are expected to present to enhance the development of entrepreneurship and to go forward to a more prosperous society. Furthermore, we wish to stimulate discussions on possible solutions to fasten the transition process and strike against corruption despite the fact that we acknowledge our study is conducted within limited resources and competences. The study thus provides a basis for further research in the field.

The core of the study is divided into three main parts. The first part introduces a comprehensive review on literature on the concerned topic of corruption, entrepreneurship and their relationship. In this chapter, up-to-date concepts on corruption and entrepreneurship are presented followed by an attempt to discover factors influencing the two issues. Discussion on the level of corruption and entrepreneurship and the development of these two subjects in transition economies will finish the first part. The second part focuses on the empirical study with details on methodology of data collection and model design. Details on how typical factors are chosen in the applied model and how data of each individual are collected will be explained following by the proposed model. The last section of this second part presents results obtained by resolving the model applying OSL estimation. Possible interpretations and explanation for such results are also explored and suggested. In the last part, discussion on the contribution and limitation of the study as well as some recommendations on how to – partially – improve identified problems is offered. The study ends with general conclusion and our reflection developed throughout the research.

LITERATURE REVIEW

1. Corruption

Any business activity is conducted under specific economic conditions and institutional context. Those factors are seriously taken into consideration by any actors in the economy and possible accountable for the economic status of each country. In the study of the emergence and development of entrepreneurship, social environment, legal framework and culture cannot be paid loose attention. Among many elements contributing to the nature of an economy and characterizing the quality of the legal framework, the level of corruption can be considered the most relevant. With the objective to understand the impact of corruption on entrepreneurship in transition economies empirically, a thorough understanding of corruption is first and foremost necessary.

1.1. Definition

It is not exaggerated saying that corruption is a very complex phenomenon. Across literature, many definitions of corruption have been advanced. Although none of them is considered satisfactory and comprehensive, the corruption phenomenon and practice is not hard to recognize. Most of the time, corruption is related to the activity of public officials in an attempt to seek for personal gains at the expense of public resources which is translated as "*Corruption is a behavior of public officials which deviates from accepted norms in order to serve private ends*" (Huntington, 1968). As political economy attracts more attention among academic economists, the relation of corruption and accountability has been formulated. For example, Klitgaard (1988) links the practice of corruption with the low level of accountability as "*Corruption is a mixture of monopoly over goods or services, discretion over their provision and low accountability*" (Klitgaard, 1988). Later, he expands the concept of corruption into "*Corruption is a term of many meanings, and indeed the beginning of wisdom on the issue is to subdivide and unpack the vast concept. At the broadest level, corruption is the misuse of office for unofficial ends.*" (Klitgaard, 1997).

The attention to corruption issue has been raised much more often and paid much more serious along with the establishment of multinational institutions such as World Bank, IMF or Transparency International. With the mission to promote development, these organizations have spent much of their resources studying the impact as well as roots of corruption.

In its website, Transparency International argues "*corruption is the abuse of entrusted power for private gain"* (Transparency International, 2015).

The International Monetary Fund (IFM) looks at corruption from different angle. In one of his work for the IMF, Tanzi identifies "*act of corruption can be classified in different categories: bureaucratic (or "petty") or political, i.e. corruption by the bureaucracy or by the political leadership; cost reducing (to the briber) or benefit-enhancing; briber-initiated or bribe-initiated; coercive or collusive; centralized or decentralized; predictable or arbitrary; involving cash payments or not"* (Tanzi, 1998).

Meanwhile, the European Union links corruption with every activity that it relates as stating that "*corruption can be defined as the abuse of entrusted power for individual or collective, direct or indirect personal gain, and whereas acts of corruption include the crimes of bribery, embezzlement, trading in influence, abuse of functions and illicit enrichment, as defined by the UNCAC; whereas fraud, extortion, blackmail, abuse of discretionary power, favoritism, nepotism, clientelism and illegal political contributions are closely linked to corruption*" (European Parliament, 2013).

One of the most accepted and widely quoted in works of researchers is the definition proposed by the World Bank. Under World Bank observation, corruption can be summarized simply and shortly as "*the abuse of public office for private gain*" (World Bank, 1997). Generally, corruption occurs when a person with the power of discretion whether explicitly or implicitly demands an allocation of benefits or a provision of goods or service that is beyond what he or she is entitled to. Or from another perspective, an attempt to influence an official or an authorized individual through an exchange of benefits or favor to gain special treatment or benefits that are not available to others is also considered a form of corruption. In general conception, corruption is not limited in the sphere of public sector only or in the form of bribery. It can be practiced in all forms of government activities depending on how well-established its democracy is and also in private sector activities. It is taken in any forms of benefit exchange including immediate and/or financial gain or undue and/or other kind of advantages whether directly or through intermediaries (World Bank, 1997). The World Bank also classifies five types of corruption as follow.

Bribery is considered one of the main and most pervasive tools of corruption. It can be applied by private parties in exchange for services/assets provided by central or local government. It also can be demanded by officials who seek bribes in supplying those things. Bribes can appear in government contracts with an attempt to influence the government's choice of firms to supply goods, services and works and the terms of their contracts. It may also be used in seeking the allocation of government's benefits such as subsidies to enterprises, stakes in enterprises being privatized, access to unemployment insurance or simply access to certain schools and so on. Individual or enterprises can offer bribes to reduce the amount of taxes or fees collected by the government where negotiable tax bill is applied. In certain circumstances, bribe can be suggested for the issuance of a special license including an exclusive right such as a land development concession or natural resource exploitation by the state officials or even changes in the outcome of a legal process. In a smaller scale, bribe can be paid simply to speed up the government's services supply. Considering the variety of forms of bribery, the benefits it brings back also significantly differ in types and size. Normally, enormous benefits can be traded in international business transaction involving politicians and bureaucrats (that is often called grand or wholesale corruption) and subjected to public scrutiny. Despite not under the public scrutiny as grand corruption, petty or retail corruption which is generated by the misinterpretation of laws also can create equal or even greater costs.

Another type of corruption is theft. Theft of state assets may be conducted in various ways in various scales. Theft can be as simple as office equipment or working hour or as severe as large assets taken from the privatization process, especially in transition economies. There are numerous ways of theft in state offices but the most frequent one may be the theft of government financial resources. Officials may pocket tax or fee revenues by colluding with the payer, or even steal cash by marking up the bill of supplies or drawing payment for fictitious workers and so on.

Corruption may be identified in political and bureaucratic activities. Political corruption is defined as the abusive adaptation of decision aimed at gaining more political power (Vargas-Hernandez, 2010). Political and bureaucratic corruption may be independent or collusive. These activities may be taken place by controlling political figures through policy or even law implementation. In some extreme cases, these types of corruption may include criminal elements and become instrument of individual enrichment.

There exists also isolated and systematic corruption. Isolated corruption happens in a society where the action is uncommon and exceptional for some individuals. If it is the case, isolated corruption must not be so hard to identify and eliminate. On the contrary, systematic corruption creates situations where bribery is an acceptable routine norm and illicitly understood by involved parties. Especially, systematic corruption encourages individuals and firms to comply with the system instead of fighting against it. Gradually, it becomes the rule of the game and effort or legislation issued to tackle the issue is hardly effective.

The last type of corruption in the World Bank's category is corruption in private sector. It frequently happens in the form of fraud and bribery where financial system is poorly regulated. Once exists and permeates, corruption in private sector may generate costly results as it worsens the country's vulnerability to financial crises and macroeconomic instability. In systematic corruption society, corrupted management with individual enrichment purposes may collude with state officials to accelerate their assets and promote the corruption behaviors (World Bank, 1997).

In most literature, corruption is usually associated with a public official's behavior as one of the two willing actors. According to Rose-Ackerman, corruption occurs at the interface of the public and private sectors. Corruption, thus, is an illegal payment to a public agent who has discretionary power over distribution of public assets/services to obtain a benefit that may or may not be deserved in the absence of payoffs (Rose-Ackerman, 1997). Or corruption may be viewed as "*the sale of by government officials of government property for personal gain*" (Shleifer & Vishny, 1993). In exchange for the abuse of power, a public official may ask for or receive a benefit. The benefit need not be immediate, direct or financial. Some focus on the payment of bribe as "*undue pecuniary or other advantage whether directly or through intermediaries to a (foreign) public official, for that official or for a third party, in order that the official act or refrain from acting in relation to the performance of official duties, in order to obtain or retain business or other improper advantage in the conduct of (international) business*" (OECD, 1997). Some give the wider perception of corruption practice as "*the offering, giving, receiving, or soliciting of anything of value to influence improperly the action of a public official*" (World Bank, 2011). Some view acts of corruption just as the simple payment of bribes. It may occur through patronage or nepotism when the public official abuses power not for private benefit but for the benefit of his/her family, friends, tribe or party. For instance, an official may take advantage of his position to place an infrastructure project in his hometown. This kind of action implies the act of corruption while no payment of a bribe involves (Bannon, 1999) and (Tanzi, 1998). In short, corruption is regarded as a secret collaboration between public officials and private actors for private gains in contravention of the public's interest (Wang & Rosenau, 2001).

From any angle of analysis, corruption can be identified as a symptom of the inefficient management of the state (Rose-Ackerman, 1999).

Nevertheless, it should be well noted that corruption is not an exclusive incident happening only in public sector. As categorized as one specific type o corruption by the World Bank, corruption can and do take place in private sector as well.

Although corruption in private sector is also tremendously harmful, public corruption is believed to be more serious and in priority in prevention and reduction as it is a prerequisite for tackling the problem of economic growth and political stability. As a result, in the scope and for the purposes of this master thesis, I would like to put my concentration on the issue of public corruption.

1.2. Economic Opportunities for Corruption and Causes of Corruption

Corruption has existed as long as there have been people and money to influence it (Ryan, 2000). This is to say corruption existence is a fact rooted in long history. Bribes which are seen as the most popular form of corruption are developed in four stages by the scholar John T. Noonan, Jr.: (1) 3000 B.C to 1000 A.D. where "*the idea of non-reciprocity of struggles against the norms of reciprocation which cement societies whose rulers are both judges and recipients of offerings*"; (2) 1000 A.D. to 1500 A.D where "*the anti-bribery ideal is dominant in religious, legal and literary expression*"; (3) the 16th century with the "*domestication of bribery in English bibles and English plays and English law and ends in the 18th century with its proclamation as a norm for the English empire*" and (4) the American era where heirs of the English tradition started their application and expansion until it affirmed its influence and became worldwide norm. Through observation, Noonan gives conclusions about bribery as universal recognition as moral wrong (Noonan, 1984). Accordingly, it is an undeniable fact that corruption is not an exclusive phenomenon in a specific country or society. It occurs here and there, now and then. However, its prevalence and severity varies from one to another society depending on the structure of the society, its culture and tradition and the development level of the economy. As many researchers pointed out, typically, corruption practice seems to mushroom in transition economies with incompetent legal framework and institution and too much state interventionism.

1.2.1. Government interventionism

It is undeniable that government plays an important role in an economy. Although market mechanism is considered the best way to guarantee fair competition and equilibrium, government is considered the catalyst balancing, adjusting and correcting market failures. Through its activities, government sometimes re-influences the market in a negative way. In relation to causes of corruption, most of the time, government is blamed for requiring and nurturing conditions in favor of exercising the crime with or without intention. Government activities creating conditions for corruption can be identified by three types of actions through its intervention: levels of taxation, public spending and regulations, and controls of economic activities.

One possible reason is that state interventionism together with improper legal framework creates room for politicians and public servants to manipulate and act in their own interest (Lovell, 2005). Up to recent decades, more studies have been conducted showing the role and participation of government in the economy through various tools of policies. Among them three types of participations can be identified. Firstly, it is the taxation structure. The government implements laws and regulation on the tax rates and types. Theoretically, the taxation system is built based on clear and concise laws restraining involved parties including tax payers and tax inspectors and collectors from any wrongdoing. Practically, there are many factors influencing the implementation and enforcement of the laws. It is often the case that the laws are difficult to understand or interpreted into different ways requiring explanation from the tax authorities while the act of tax administrators are not supervised properly and effectively. The level of official income of the tax collectors contributes to their behavior in response to the temptation of corruption as well (Tanzi, 1998). In some countries where the tax bill is negotiable, the possibility of corruption arises proportionally to the advance of the legal structure. The negotiability of the tax bill may encourage state officials and individuals to collude and seek for personal gains, especially when the tax is a large burden for individuals or firms. Another possibility of corruption exercise relating to taxation is the tax relaxing policies for certain types of individual, organization or economic activities to promote general social welfare. The most frequent type of corruption in this scenario is that individuals or companies from private sector offer bribe to state officials who have discretion to enforce the regulation and policies with the aim of fastening the procedure or being selected in the programs.

Secondly, under some circumstances, government participates in market activities providing some certain types of goods and/or services for the benefit of the society through public spending. Public spending or public investment has long been seen as one way to increase economic growth. Thus, many countries, especially those with transition economy, apply public spending as an efficient way to boost the economic growth and create employment. Public spending may be conducted by establishing state owned enterprises receiving capital directly from the state (like some post-communist countries) or providing subsidies to companies providing the utilities by giving access to low price capital or reducing or relaxing tax or in forms like investment projects, procurement spending or extra-budgetary accounts. *Investment projects* funded by the government often involve many parties with enormous value which bring the chance of grant corruption. Most of the time, public investment projects are facilitated by high ranking officers with considerable level of discretion over the implementation and procedure of selecting partners in performing subsequent contracts that "commission" in return is frequently asked. Corruption also exists in public *procurement spending*. The purchase of goods and services carried out by the state is usually large in both quantity and amount that most of companies in the market would be willing to be its partners. In some countries, bribery in the form of "commission" is pervasive in order to win the contracts while in some others, a procedure of selection is designed in an attempt to avoid corruption increasing remarkable the price of the products or services. Extra-budgetary accounts are lucrative for corrupt officials as well. While they are set up with good and overwhelm beneficial purposes, such as pension funds, funds gaining from sales of natural resources or road funds, an insufficient supervision mechanism may pave the way for corruption practice.

Government may also influence the supply and demand balance in the market by offering some kinds of goods and services at a price below the market one. Government may provide them under the forms of goods or the rights to access, for example, access to educational and health facilities, including those specialized for disability, or access to public land. There are substantial opportunities both for petty and grand corruption practices in an attempt to gain such goods, services and access. Individual may offer bribe in order to fasten the process to be qualified as appropriate for specific program and gain privilege from it. Crony companies or organization are more than willing to gain privilege to be partners in programs cooperating with government to or to be able to access to such programs (Tanzi, 1998). Without a transparent framework, firms can collude with state officials in this case to gain the public subsidies. In another case, when government holds the power of scarce resource allocation, corruption will be exercised to distort the allocation process in favor of some individuals/organizations at the expense of the state resources (Rose-Ackerman, 1999).

Lastly, state interventionism is managed through policy and regulation implementation. Government is believed to play an important role in adjusting the market mechanism. In an attempt to provide and guarantee fair and just conditions for economic players in the market, government tends to introduce and enforce different types of regulations. In some specific circumstances, exclusive rights or several types of permits or authorizations are given. Normally, those rights and permits are granted under regulated procedures and specific conditions at public officials' discretion. Nonetheless, the transparency or availability of the procedures or conditions as well as the extent of discretion granted extracts great impact on the possibility of corruption. It is the authorization given to the state officials temping related parties in exchanging bribe to personal gains. The authorized officers may prolong the procedure under their control without sufficient reasons. Also because of such procedures and conditions, there are more interaction between state officials and citizens in terms of communication and time spending regarding the permit issuance or regulation appliance. As a result, individuals and organizations are willing to pay bribes to accelerate the procedure and receive the final expected result. In some countries, there have been even "middlemen" or "facilitators" working as mediators for both sides to shorten the procedure of exchanging bribes and permits/licenses (Tanzi, 1998).

There are plenty of other forms of state intervention affecting the behavior of economic factors that may lead to corruption practice. In fact, as long as state officials are eligible for discretionary grant, the threat and probability of corruption practice remains. Such threat or probability may lie in decisions regarding tax incentive's provisions which are probably worth a considerable amount of value in terms of the present value of decreased future liabilities to those who benefit from them; or it could be decisions on the types of land whether it is agricultural or urban land which play a major, even the biggest, role in determining the value of the land taken into consideration for any investment project; similarly, it could be the decisions on the use of public land, for instance the exploitation of specific forests for logging or on the sale of public sector assets including the right to exploit natural resources and the access to and partnership in the privatization process of state-owned-enterprises; and it could be the decision on granting the exclusivity rights for particular activities such as exporting and/or importing typical goods or providing specific goods or services domestically (Tanzi, 1998). Undeniably, such above mentioned decisions can determine the level of privilege and wealthy of any individuals and enterprises. This explains why attempts to influence the state officials' decision and/or behavior in order to gain such privilege or to use of such discretion for personal gain by state officials are natural and constant in any economic circumstance at any time.

It is worth noting that state intervention is carried out in almost all economies, even in the most transparent and effective economies and that the impact of such intervention on the level of corruption in a country is not immediate and inevitable. By the time of applying and adjusting and under surrounding conditions, norms of behavior are established. This is where differences are made separating the transparent and effective economies from others. In those countries, corruption's impacts on state officials are limited by the custom norms and strict regulations. There, state officials neither suggest nor accept the practice of bribery even when they are granted great discretion. Contrarily, in countries without advanced legal structure and showing symptoms of systematic corruption, the state's intervention seems to have more instant impact. In those countries, government's participation in the economy with its unique power creates many opportunities for corruption practice without sufficient constraint tools. Nevertheless, after a period of time, state officials would possibly be influenced by offers or benefits from corruption and when more of them exercise the practice, the attitude toward corruption would change. Despite the warning of strict punishment before, state officials may collude with each other to bend or even break the rules or protect the allies eroding the tradition into a systematic corruption. This is to say that corruption is a constant danger threatening to break the whole system no matter how well functioning and monitoring it is.

1.2.2. Transition economies

There have been many researches showing that corruption is widespread in developing and transition economies where normally public servants receive a very meager salary and poverty is a daily concern motivating them to earn income by any possible, even immoral and sometime illegal, way (Bannon, 1999). Also, it is prevalent because of poor and distorted policy and regulatory regime. Such economies normally bear excessive bureaucracy hindering the efficiency of economic actors in conducting business activities. In order to avoid such hindrance, firms are willing to pay bribes to accelerate the procedure and state officials take those bribes as another source of income.

In one of his books, Klitgaard proposes a corruption equation which is

$$C = M + D - A$$

Where C is corruption, M is Monopoly over power and opportunities for economic rent, D is discretion given to (state) officials and A is the accountability of the official's actions. It can be interpreted that corruption may spread in a society where complete control of supply and opportunities and the discretion of such control authorized to some representatives exist and are incompatible with the accountability for those agent's actions. In other words, the more monopoly and discretion is given and the less accountability is demonstrated, the more corruption practice happens (Klitgaard, 1988).

It is also noticed that there exists a link between corruption practice and political instability. Cases of Eastern Europe and former Soviet Union have proved for such claim. The rush of eliminating the tyrannical regime and privatization process paved the way for corrupted officials to seek for personal gains and enrich themselves quickly.

1.2.3. International trade

Another opportunity for corruption emerges from the globalization trend in international commerce and trading. International procurement contracts with large value often are lucratively profitable enough for companies to induce state officials to accept bribes in exchange for favors over rivals in the competition. Most of the time, the bribe is called in a fancy name as "commission". Those favors may vary from the access to the market or particular benefits like tax incentives or privileges in competition. Many cases of companies paid bribes to foreign officials to get into the markets have been reported. When the practice becomes a norm, it forces all players in the market to have the same action, even with those coming from countries without tradition of bribery. Otherwise they may have to pay the cost of losing contract or being isolated in the market (Tanzi, 1998).

1.2.4. Other causes

Addition to specific factors discussed above about promoting corruption dramatically and directly, there are other numerous factors ranging from various dimensions of culture and society to governance quality possibly contributing to the pervasiveness of corruption. Among them some factors can be analyzed like the quality of bureaucracy, the level of public sector wages, the penalty system, the quality of institutional controls, the transparency of rules, laws and processes and the examples by the leadership.

1.3. Impacts of Corruption on the Economy

Negative impacts of corruption on the economy and society are commonly recognized and proved in both academic and non-academic discussions. In the pursuit of a more prosperous society, striving against corruption is encouraged in every country. It is because of dangerous and serious consequences that an economy has to bear if corruption practice is pervasive. Even though numerous problematic issues can be listed because of corruption, typical ones can be explore in details such as the fact that corruption creates inefficiency and inequalities; the presence of corruption may encourage unofficial tactics; accepted corruption practices negatively influence economic actor’s behavior and especially, corruption may erode institutional trust. Some authors argue possible positive effect of corruption as an actor to “grease the wheel” in some concrete cases or at specific period in the economic development. That special effect will also be discussed.

1.3.1. Creating inefficiency and inequities

First of all, it is widely acknowledged that corruption creates inefficiencies and inequities. Corruption at any level can distort government’s effort in regulating the economy. State official can replace the wise choice of a public procurement by a familiar or designated firm in exchange for personal gains at the expense of the public budget. Corruption in the privatization process in transition economies also points out the fact that large part of the revenues raising through the process flew into personal pockets. In such environment, crony firms are granted many opportunities and become larger because of bribery and favoritism not because of its competitiveness and efficiency (Rose-Ackerman, 1999). As a result, the gains from the privatization or public investment are distributed inequitably. Also, such corrupt figures would try their best to maintain the status quo instead of promoting reforms or restricting it which are in urgent need in such transition economies or corrupt environment.

1.3.2. Encouraging unofficial tactics

Recent studies show the positive relation between the level of corruption of one country and its level of investment and growth. The ineffectiveness of industrial policies and lack of transparency in implementing related regulations creates incentives for business to exercise unofficial tactics; even they may violate the law (Rose-Ackerman, 1999). They suggest that the levels of investment, especially the foreign direct investment, are lower in countries with higher level of corruption. For instance, James Hines' study shows that the American firms conduct less investment in more corrupt countries after 1977 (Hines, 1995). Or Shang-Jin Wei presents studies showing that corruption in host country has a negative impact on inward foreign direct investment from all source countries (Wei, 1997) and (Smarzynska & Wei, 2000). On the contrary, corruption encourages public investment especially that relates to infrastructure. It is easy to realize that public investment is often made in large amount which is a considerable incentive for corrupt officials and private companies who want to get involve as a contractor. Based on the strictness and efficiency of the legal structure as well as the limitation of discretion granted to state officials, the level of corruption varies (Tanzi & Davoodi, 1997).

1.3.3. Negatively influencing economic actors' behavior

Additionally, corruption influences the way entrepreneur acts and makes decision on conducting his business as well as investing in innovation. Entrepreneurs' decision on pursuing or not an entrepreneurial activity mostly depends on the portion of value that the venture creates that the entrepreneur is able to capture for their own purposes (Baker, Gedajlovic, & Lubatkin, 2005). However, corruption creates risks that the entrepreneur or innovator has to face the risk that part of prospective profits will be pocked. The reliability and credibility of the law enforcement in case of dispute is also put under question. Moreover, under corrupt environment, it is difficult to calculate and monitor the payoffs of a new venture as investments in innovation or economic opportunities become uncertain and transaction cost increases. As a result, the potential scale and scope of the entrepreneur's market is limited (Teece, 1981). For above reasons, entrepreneurs and/or innovators in different countries have different approaches for their innovative ideas and initiatives. Recent study by Anokhin and Schulze reaffirms the conclusion and warning the far-reaching consequences of corruption for an economy. Also corruption may be an explanation for the disparities in rates of entrepreneurship and innovation across nations (Anokhin & Schulze, 2008). It should be noticed that corruption influences not only entrepreneur's behavior but also all individuals engage in economic activities. It is demonstrated in the study conducted by Murphy, Shleifer and Vishny that in corrupted societies, the most talented people are encouraged to increase their wealth by bribing instead of engaging in productive activities (Murphy, Shleifer, & Vishny, 1991).

1.3.4. Eroding institutional trust

Another negative impact of corruption is that it erodes the foundations of institutional trust that are critical for entrepreneurial and economic activities (Anokhin & Schulze, 2008). Suggestions that control of corruption and development of "institutionalized trust" are of crucial elements in providing economic environment encouraging the establishment and development of entrepreneurship and innovation are proposed by Susan Rose-Ackerman in her studies on the relationship between corruption and state-building process and state governance (Rose-Ackerman, 2001) and (Rose-Ackerman, 2004). Although Fadahunsi and Rose argue that influence, affinity or ethnic identity may contribute to promoting trade within specific geographic regions (Fadahunsi & Rosa, 2002), Ackerman asserts that only just and independent enforcement of law of state officials as one of actors in economic activities helps to build confidence and trust among entrepreneurs when they consider making investment in innovation and any other forms of economic activities (Rose-Ackerman, 2001). According to her studies, trust as well as confidence is one-sided and reinforced based on positive repeated experience or eroded otherwise. It is the product of a long period of interactions which helps define the quality of the experience as well as the level of trust should be placed. It also helps to define whether or not trust can be generalized for the whole group or just an individual after each interaction. Likewise, the fairness and independence of state officials will be concluded after repeated interactions with state institutions by entrepreneurs. From that experience, they can decide whether personal connection or bribes are necessary for their business activities that partly contributing to evaluation of business prospective (Rose-Ackerman, 2001). Corruption also creates high level of information asymmetries and increases the uncertainty which discourages investment in innovation or expansion in advance economic activities.

From another aspect, in case corruption is controlled, it seems to be eliminated from the prospect calculation. This is explained by the fact that in that environment, parties in a transaction share the same values, communication channels are clear and transparent, and especially, legal and market mechanism is sufficient to solve disputes. In other words, controlled corruption means that no other burden costs are added to the transaction cost.

1.3.5. Possibly positive impact – "grease the wheel impact"

There remain some writings from theoretical perspective on corruption arguing the positive influences of corruption. First, from their point of view, corruption may not make any distortion of the efficiency of an economy in the short term. Instead, it involves a transfer of economic rents from a private party to public representative party. Here, bribes are considered a market payment to an official who has discretion to allocate the public resources by the party who may take the most efficient use of them (that he/she is willing to pay bribe for). Unfortunately, this kind of reasoning ignores any objective other than short-term efficiency. Even in the short term, when bribery becomes a norm, the whole system would be distorted and transaction costs increases unexpectedly. Then in the long run, the efficiency of public officials working in the condition without bribery is obviously affected. These consequences may defer any reform needed and worsen the inequality (Rose-Ackerman, 1999) and (World Bank, 1997).

Another argument in favor of corruption is that some writers think that bribery can theoretically enhance economic efficiency as it allows firms to avoid excessive regulations or tax or administrative burdens and/or in some case, accelerate the speed of administrative procedure that is unnecessary for their business activities. This argument may be true to some extent. However, it also ignores the fact that bribery practice like that hinders the potential of any reform for a better institution. It is also harmful in the point that firms involving in bribery can easily claim good regulation as bad in attempt to erode the whole system and increase their profit, especially, those who take much from the unequal distribution of public resources thanks for corruption. In the end, the cost of such system remains disproportionately on smaller disadvantage firms (World Bank, 1997).

Finally, several evidences in some Asian countries showing that corruption can coexist with economic growth suggest that corruption is not always harmful. Nevertheless, arguments claiming positive effects of corruption on the economy are usually based on short run analysis. In the long run, bribery's prospects encourage state officials to change the rules of the game in favor for their own benefits which increases burdens for private enterprises in general, decreases economic efficiency and threatens political legitimacy.

In summary, corruption has existed as long as there have been people and money. Although there are a small number of arguments supporting for the idea that corruption may be effective in short term under specific circumstance to some extent, most of literature assert the negative impact of corruption on the society in general and on the entrepreneurship in particular. Firstly, corruption generates inefficiency and inequities for the whole society and economy. Secondly, while corruption may make public investment increase in some countries, it downgrades investments from private sectors and especially the foreign direct investment. Thirdly, entrepreneurs' reaction and decision in corrupt environment are certainly influenced which in turn influences their plan of investment in innovation. Last but not least, corruption erodes the foundations of institutional trust which are claimed to be of most essential elements for entrepreneurial and economic activities.

2. Entrepreneurship

Entrepreneurship can be recognized as a social activity that individuals engage in for centuries. Indeed, entrepreneurship is a constant subject attracting interest of researchers in almost every discipline in social science. However, most of the time, researchers study entrepreneurship in terms of motivation and characteristics of entrepreneurs in typical type of society/economy. It is quite surprising that the study of entrepreneurship in the field of economics is quite new. Only recently when the perceived political need for studying the structure of mature industrial economies in order to make them more flexible is identified and the establishment of small and medium-size enterprises is encouraged, economists pay more attention to integrate entrepreneurship into their overall model of the economy (Casson, 1999). This partially explains why researches on entrepreneurship have been mostly done in the context of industrial economies. Under this context, economists try to figure reasons driving individuals to become entrepreneurs as well as factors influencing entrepreneurs' decisions. However, there has never been a consensus on the definition of entrepreneurship among academic researchers.

2.1. Definition

The most recent and accepted definition given by Shane and Venkataraman suggests that "*entrepreneurship, as a field of business, seeks to understand how opportunities to create something new (e.g., new products or services, new market, new production processes or raw materials, new ways of organizing existing technologies) arise and are discovered or created* *by specific individuals, who then use various means to exploit or develop them, thus producing a wide range of effects*." (Shane & Venkataraman, 2000). Based on this concept, it is possible to conclude that entrepreneurship is a process starting with the recognition of opportunities resulting from changes in market or society. These changes can stem from technology development or invention, economic transformation or social and demographic diversity. These opportunities imply prospective economic value and rational enough which means that the entrepreneur can reap profit from developing the opportunities and that the opportunities are within legal and moral constraints. Entrepreneurs do not just identify the opportunities, they take action upon them quickly by preparing the business plan including conducting market research, researching legal conditions, identifying competitors, looking up for partners and especially finding finance resources. Then, the entrepreneur is truly called entrepreneurs when they launch a new venture based on collected resources in an attempt to exploit and foster these resources into profit. The entrepreneurs are awarded for their talent based on the firm's success and growth in the long term (Baron & Shane, 2008).

In short, there are many definitions of entrepreneurship developed from different points of views of economists. Each definition is built based on different aspects and characteristics of entrepreneurs under various conditions at specific time and place. These definitions may be contradictory with as well as complementary to each other. The diversity in conceptualization of entrepreneurship nature creates considerably challenges for researchers both in theory and in empirical study. The choice of the entrepreneurship definition remains in the point of view of the researcher. He can assess an individual's characteristics and conclude one as an entrepreneur if he fits at least one of accepted definitions. Another option can be made is to choose one specific definition that suits best the research purposes. A complementary option of both ways seems to be the best way to give definition of entrepreneurship and to understand the entrepreneur's characteristics. In the context of this study, the definition given by Shane and Venkataraman is chosen.

2.2. Entrepreneur's Role in the Economy

Since the beginning of industrialization process, many economists have established an assumption of the important role of large enterprises in the economy. Studies on scale economies by Adam Smith (1776), for example, affirmed the assumption. In this point of view, large corporations keep growing and assert their dominant role to the extent that they eliminate the presence and contribution of small enterprises and that they hold the united capital of the whole economy and monopolize all advantages of transformation (Galbraith, 1956). This argument had been received strongly support and proved by the development of the bulk manufacturing sector. This leads to the concurrence in literature at that time of the correlation between the firm's size and its importance for economic growth. However, technology evolution and the starting of computer era have changed the whole perspective of the role of small firms and entrepreneurship in new venture on the market and economy growth. Economists pay more attention to the contribution of entrepreneurs and small firms to society's welfare and prosperity. Computer and information technology enable researchers to collect more data and gain better understanding about the entrepreneurial activities and their effects. Among them several influential roles recognized in most of literature studying on the topic are the contribution to the diversity and process of selection among diverse alternatives on the market or in the economy as a whole (Audretsch, 1999), the promotion for new products leading to the evolutionary path of the industry and constraining any market power of incumbent firms, the critical role in technology change and innovation and especially the creation of jobs.

2.2.1. Contributing to the diversity and process of selection among diverse alternative

The recurrent presence and development of small sized enterprises have posed a question to researchers on their role in the economy and social welfare. Their existence is not popular in a specific industry but in the whole economy and widespread in almost all nations. The establishment of a new firm is not discouraged in industries to the same extent as do the entry barriers. It is possible to say that new firms' entry creates new equilibrium in the market putting price and profit at the competitive level (Coase, 1937). It is new firms that may provide more options to the customers and the market and create healthy competition between itself and the incumbents. Also new firms are believed to be the most flexible and adaptable in adjusting to the market's demand (Audretsch, 1999). Also, small and medium-sized firms represent a large, diverse and important part of the economy of the US (Acs, Carlsson, & Karlsson, 1999). This is the reason why small and medium-sized enterprises which can be interpreted entrepreneurship's representative are considered as an engine of economic growth (Baron & Shane, 2008). During the past two decades, the number of individuals choosing to become entrepreneurs has been growing dramatically in the US alone. Specifically, more than 900.00 new start-up companies were set up in the US in the period from 1999 to 2001 (SBA, 1999, 2001) and more than 10 million individuals are self-employed (SBA, 1999, 2002). Besides, U.S. firms with fewer than 500 employees account for 51% of private sector output, employ 51% of private sector workers and constitute 99% of all employees (SBA, 1999, 2001).

2.2.2. Promoting new products, shaping the evolutionary path of the industry and constraining any market power of entrenched firms

Under the view of Schumpeter, entrepreneurs make creative destruction in the sense that they introduce new products and/or new technologies that advance and gradually replace the current ones (Schumpeter, 1934). Entrepreneurs have been seen as individuals possessing the know-how or ability to fill in the gap between the out-put demand and the in-put resources since the early day entrepreneurship was studied. In our modern time, it is possible to interpret that entrepreneurs are those who are excellent at knowledge management and able to disseminate his knowledge in the most effective and profitable way. In their research, Abrahamson and Fairchild (2001) categorize three dimensions of entrepreneurs, of which entrepreneurs are depicted as the suppliers of rational technical ideas. They do not stop at conceptualizing the idea but developing further and establish the content for such ideas, for examples the computer programs, sounds, or images to spread the ideas or realize the ideas into products attracting consumers in the market (Abrahamson & Fairchild, 2001). In his work, Audretsch (1999) also confirms the importance of innovation and creativity of entrepreneurs as they cannot simply just imitate the incumbent which leads directly to failure. Audretsch asserts that entrepreneurs can be successful only when they can introduce either new technology or new products (Audretsch, 1999). Practically, the Bolton Committee in the UK in 1971 stated that "*new firms in an industry would promote new products and ultimately shape the evolutionary path of the industry as well as constrain any market power exercised by the entrenched firms. This seedbed function appears to be a vital contribution of the small firm sector to the long-run health of the economy.*" (Acs, Carlsson, & Karlsson, 1999). In studies conducted by OECD in 1997, the important role of entrepreneurship in the long-term macroeconomic growth is once again repeated (OECD, 1997).

2.2.3. Contributing to technology change and innovation

The fact that we are living in a rapidly changing world is undeniable nowadays. New and enhanced technical knowledge is outpacing the production of products and services. In the race of innovation and creativity, excellent individuals can easily stand out and start their own business with the contribution of what economists called “entrepreneur event” or “entrepreneur element”. According to many researchers, entrepreneurs cease opportunities to create something new. It may be new products that have not yet existed in the market but it also can be a combination of the existing resources. This is to show that entrepreneurs are part of the technology change and innovation process. By realizing their entrepreneurship skill, talent individuals start up new venture or small enterprises. As they are the owner of the firm, they can make direct and quick decision on conducting innovation research. This is one of advantages of small firms. Unlikely, in large firms with bureaucratic structure, the decision making process is much slower. Any idea or suggestion for innovation must survive layers of bureaucratic resistance. The risk aversion of supervisor for each project also influences the propensity to embark on any investment in new technology research (Scherer, 1991). As a result, small firms are pioneers in the technical evolution. Research conducted by Links and Rees also mentions the bureaucracy aspect or the size of a firm in relation to the innovation activity tendency. They observe that there exist diseconomies of scale in the innovation generation due to the inherent bureaucratization process which constrains both innovative activity and the speed with which new inventions move through the corporate system towards the market (Link & Rees, 1990).

Also in the studies in the issue of innovation in large and small firms, Acs and Audretsch point out that an industry concentrating most of large firms tends to generate more innovative activities. Nevertheless, the increased innovative activity will tend to stem more from the small firms than from the large firms (Acs & Audretsch, 1988). Later, Cohen and Klepper (1996) suggest that small firms are likely to be more innovative and as a new industry emerges - probably as a result of entrepreneurship, it is normally characterized by a high rate of product innovation carried out mostly by small firms (Cohen & Klepper, 1996) and (Klepper, 1996).

2.2.4. Creating new jobs

Last but not least is the important role of entrepreneurship in creating new jobs and employment. In their study conducted in 1993, Acs and Audretsch show that the small firm share of manufacturing employment increased in most OECD countries in the 1980s (Acs & Audretsch, 1993). Later, Acs and Evans (1995) found that there had been an increase in the self-employment rate after 1975 in most OECD countries (Acs & Evans, 1995). Many studies have shown that small enterprises are better job creators than large firms (Birch, 1981) and

(OECD, 1996). Furthermore, the critical role as job creators of small and medium-sized enterprises is demonstrated in the recession and recovery period of an economy as well. Davidsson, Lindmark and Olofsson argue that during volatile economic situation, SMEs participate more actively in the job maintenance or creations than losing it. Their study results also demonstrate that the fact is true not only in one specific industry but true for the whole industries studied, namely manufacturing, professional services and retailing/hospitality. It is worth noting that during tumbled economic conditions, a slightly small number of SMEs even outgrew the size limit and flourished into larger firms (Davidsson, Lindmark, & Olofsson, 1999).

2.3. Factors Influence Entrepreneurship

Considering the importance of entrepreneurship in an economy, it is worth studying factors having great impact on nurturing and encouraging entrepreneurship. The notion proposed by Kirzner that entrepreneurial element presents in all human action which is very crucial to economizing activity in general and cannot itself be analyzed in term of economizing, maximizing or efficiency criteria is more and more recognized and developed (Kirzner, 1973). Recently, Binks and Vale expand the notion and formulate the idea of "entrepreneur event" which implies that every individual possess the potential to become an entrepreneur during their life and it is the "event" that converges necessary resources enabling the individual to become an entrepreneur.

Shane (2004) points out several fundamental conditions for entrepreneurship that can be discussed in details. Firstly, entrepreneurship can flourish in the circumstance with the existence of entrepreneurial opportunities. Those opportunities can emerge from changes in economic conditions, technological change, and social change and so on. Special talented individual with entrepreneurship skill can identify great profitable chances stemming from such changes. Secondly, entrepreneurship also depends significantly on the preference or risk aversion of individuals. This factor can be translated into the fact that entrepreneurs are willing to take risk and able to co-ordinate productively resources. That is the reason why Richard Candillon (1755) soon regards entrepreneurs as a risk taker or a risk bearer in Frank Knight (1921) words (Barreto, 1989). Such characteristic also reveals the personality aspect of entrepreneurs in terms of their reaction upon an opportunity which is also another essential condition. An entrepreneur is different from any other individual in the aspect that he/she will actively react upon any profit opportunity and realize the opportunity into entrepreneurial activity in order to gain profit. In other word, the ability of an indvidual to exploit opportunities, for instance to create a new firm or to use the market mechanism as licensing or franchising, is a typical feature of an entrepreneur. Finally, another critical element that an individual should possess to become an entrepreneur is the innovation level that is the ability to combine resources into a new form that leads to a change in the market place (Shane, 2004)

Based on such proposed conditions, Stam (2008) summarizes three main sources that are probably suitable explanation for the emergence of new entrepreneurial opportunities. The first source is technological changes. In our current situation, technological changes are probably the most important source of encouraging entrepreneurship. The development of information technologies and communication instruments paves the way for talent individual to transform their ideas into business and generate profit. The next source is from social and demographic changes. Changes in social structure in some countries or economic transition in others remark considerable potentials for entrepreneurs to start their business. For instance, the aging issue or an increasing number of single-parent families in some developed economies can open opportunities to service sector; the trend of production towards personalization or customization also brings potential of business success or the dynamic of transition economies in Asia is attractive motivation for entrepreneurship. The last source in Stam's point of view is from more structural changes. These changes can be identified in the practice of deregulation and liberalization in some sectors or privatization in some economy. Specifically, the deregulation in some branches of industry in the U. S creates positive effect on the new venture formation (Phillips, 1985). Another example is the increasing number of new companies formed after the privatization policy by the Russian government studied by Berkowitz and Holland (Berkowitz & Holland, 2001)

Parker (2004) also studies determinants of entrepreneurship in the effort to explain the drive behind the decision of becoming an entrepreneur of individuals. Variables such as age, education, unemployment rate of the economy, the married status and the working condition of the spouse, personal wealth or self-employment parent essentially depict the entrepreneur's characteristics. Besides, factors such as personal income tax rate, labor market experience, income differential, urban location, and ill health/disability status also partially determine if one decides to realize his entrepreneurship or not (Parker, 2004).

3. Relation between corruption and entrepreneurship

Based on the literature review on corruption and entrepreneurship, relation between these two factors is gradually revealed. Throughout researches on these two topics, it is accepted that corruption and entrepreneurship reciprocally interact. On one hand, corruption is believed to have negative impact on entrepreneurship and hinder the motivation of individuals to become entrepreneurs. Of many impacts that are discussed in literature, three major ones will be revealed in details in the following parts. The three impacts can be briefly summarized as the erosion of legal framework that encourages entrepreneurship, the added costs and increased uncertainty that entrepreneurs should bear in the event of corruption and the social impediment must be overcome for entrepreneurs. On the other hand, the development of entrepreneurship also brings possible impacts on the presence of corruption. To some extent, entrepreneurs are critical human agents promoting institutional changes for better economic environment. Their effort can contribute significantly to strike against corruption practice. However, researches also point out that in some circumstances, entrepreneurs can collude with corrupt officials and severe the situation with the “grease the wheel” practice. These interactions between corruption and entrepreneurship will be gradually studied.

3.1. Corruption’s impact on Entrepreneurship

3.1.1. Eroding the legal framework encouraging entrepreneurship

Dated as early as the first half of fourteenth century, the impact of governance on society generally and economy particularly has been paid attention to. The impressive works conducted by Ambrogio Lorenzetti named Buon Governo frescos or the Allegory of Good and Bad Government partially portray contrary effects of governance in different parts of Italy during the Renaissance. Later, Adam Smith further studies on the economic influence of governance through his pronounced work Wealth of Nations. Recently, the issue of governance continues to attract the attention of political economists worldwide. There have been emerging even new branches of studies focusing on the issue of governance as the institutional economic studies and public choice theory applying the econometrics analysis (North, 1990). The most outstanding concern relating to governance has been pointed out as corruption. As a result, when discussing the issue of corruption, it is hard not to mention the quality of governance and legal settings under specific circumstance of each country or region. Within the scope of this master thesis, I would like to put the corruption issue in relation to the quality of governance and legal framework settings in order to recognize the relationship between corruption and entrepreneurship. Ades and Di Tella (1997, 1999) conduct three studies on the cause of corruption and conclude in the second study that corruption could be reduced by the improvement of market competition and judicial autonomy (Ades & Di Tella, 1997). Additionally, in the third study, they point out that corruption tends to become pervasive in countries where antitrust regulations are not effective (Ades & Di Tella, 1999). In other words, they prove that corruption is higher when the competence and effectiveness of legal framework is worse.

3.1.2. Increasing cost and certainty for entrepreneurs

The main purpose of academic research on entrepreneurship is to understand its role in relation with economic performance. Obviously, by exercising one of the main characteristic of an entrepreneur as a decision maker at their firm level, entrepreneurs affects economic outcome (Wennekers & Thurik, 1999). Entrepreneurs also function as the agent that influence the distribution process of resources, determine the business location and the form of the firm which are considered fundamentals for economic performance (Hébert & Link, 1989). This is the reason why the impact of corruption on entrepreneurship in an economy attracts great attention from researchers all over the world. As mentioned above, many studies have shown that corruption in the form of bribery offering to corrupt state bureaucrats in exchange for “favors” creates direct costs and uncertainty of conducting a business in one country. In order to gain such “favors”, entrepreneurs have to spend resources for bribes being aware that the resources can be utilized more effectively otherwise. It is worse to know that such spending does not guarantee any certainty as it is supposed to do because bribery is considered illegal worldwide. Entrepreneurs engaging in such behavior cannot be certain that the corrupt officers would keep their promise. From another viewpoint, bribery involvement bears high probability of negatively influencing or even harming entrepreneur’s ethical standards and reputation. In other words, corruption reduces the expected profitability of an investment which in turn, can be translated as disincentive for entrepreneurship. Also in a corrupt economic environment and society, entrepreneurs’ image is harmed in the way that entrepreneurs are seen as opportunists negatively influencing the decision to become entrepreneurs of other individuals. In the long run, this condition can lead to a decrease in the level of entrepreneurship in the economy (Burt, 2000) and (Carsrud & Johnson, 1989).

3.1.3. Being social impediment to entrepreneurship

The study of entrepreneurship is always put in connection with institution condition and culture aspect. As a matter of fact, culture aspects are always taken into consideration in research on economics and behavior of economic actors. They are considered playing a role in creating the environment in which business activities are conducted as well as in the decision of becoming an entrepreneur of any individual. In his book of A General Theory of Entrepreneurship, Shane (2004) claims that when an individual ponders entrepreneurial opportunities, he/she is indirectly influenced by cultural factors as such factors influence the desirability, perceived risks and returns of those opportunities. Moreover the decision making process is taken under the influence of social norms and cultural beliefs (Shane, 2004).

Entrepreneurship tends to be halted in the economic situation where political accountability and economic equality are missing or been neglected (Perotti & Volpin, 2004). Such factors as the access to research and educational institutions, access to financial sources and the availability of skilled labors also attribute to the level of entrepreneurship and innovation in a country (Bartholomew, 1997).

In fact, studies by Parker (2004) show that entrepreneurs act in the context formed by institutions. He also emphasizes that institution plays as an explanatory factor determining the growth trajectories of new firms (Parker, The Economics of Self-Employment and Entrepreneurship, 2004). Moreover, entrepreneurship is seen as the consequence of economic growth while institution as the cause (Boettke & Coyne, 2003). Long before, the prominent economist Baumol already asserted that the *"rules of the game*" or in other words, the quality and status of institutions and quality of legal framework settings influence remarkably the way entrepreneurs act at a given time and place (Baumol, 1990). Under the context of institution, with their ability and talent, entrepreneurs recognize profitable activities and accordingly put their effort at these activities. However, such efforts go into different directions depending on the specific nature of institution. Hall and Jones (1999) show that better institutions lead to better economic outcomes (Hall & Jones , 1999). Meanwhile, as Baumol suggests, entrepreneurs adjust their rent seeking activities to the institution context or "rules of the game". Such rent seeking activities can even be unproductive or destructive. He claims that in corruption environment, in order to follow the "rules of the game", entrepreneurs will allocate their resources to non-innovative rent seeking activities such as bribery or unofficial tactics instead of engaging in productive entrepreneurial activities

(Baumol, 1990). For instance, the empirical study conducted by Djankov et al. (2002) shows that the level of corruption has positive correlation with the barrier of entry and the dynamic of unofficial economies and that entry regulation is beneficial for politicians and bureaucrats. In other words, Djankov et al. pinpoint that burden of entry regulation is much heavier in corrupt countries where larger unofficial economies exist (Djankov, La Porta, Lopez-De-Silanes, & Shleifer, 2002).

3.2. Entrepreneurship's impact on the control of corruption

3.2.1. Agent of institutional change

Looking from the other perspective, entrepreneurs are depicted as agent of institutional change. It is true that entrepreneurs conduct business activity under institution context. They behave in the common accepted way of norms and practices. However, as the characteristics of entrepreneurs as opportunity identifier and risk bearer, some entrepreneurs may put much of their effort at overcoming impediments created by institutions. Through their actions which may be taken intentionally or not and effectively or not, they make impact and change the institutional setup gradually (Douhan & Henrekson, 2007).

The importance of entrepreneurship in an economy is undoubted. We already discussed different roles entrepreneurs play throughout the process of studying entrepreneurship conducted by prominent economists in the previous parts. Back in time, entrepreneurs are soon recognized as the primer force being innovation-driven that introduces new products and services as well as new method of manufacturing into the market that contributes to the development of an economy (Schumpeter, 1934). Complementing to this recognition, Acs and Audrestch look at entrepreneurs as main agents of change, promoting industry innovation and attributing to the process of job creation (Acs & Audretsch, 1988). Later on, Acs once again emphasizes the characteristics of changing attributor when pointing out the fact that with new ventures that entrepreneurs engage in, new jobs, new technological and methodical changes and competition are encouraging (Acs, Carlsson, & Karlsson, 1999). The fact that the world economy is moving toward the knowledge based economy offers more evidence supporting the indispensable role of entrepreneurs in long-term economic growth as prerequisite forces introducing and promoting the application of new knowledge and the transformation of new knowledge into economic commercialized knowledge (Audretsch, Keilbach, & Letman, 2006). However, it should be cautious to bear in mind that all entrepreneurial activities are conducted and restrained in economic systems governed and monitored by political institutions.

North (1990) soon realizes that entrepreneurs contribute much in the process leading to institutional change and suggests the interrelations between institutions and economic performance. Under his point of view, entrepreneurs are not simply agents promoting changes in a specific industry or a unique productive capacity but as agents encouraging changing in general (North, 1990). Developing the theory further, Douhan and Henrekson (2007) proposal that entrepreneurs act as rent seeking agents. They engage in the process of rent creation as well as rent appropriation from others. However, the fact that entrepreneurs conduct their rent appropriation activities rationally and respectfully under institutional restraints differentiates entrepreneurs from thieves or robbers. Also, those institutional restraints are taken into consideration in every decision taken by entrepreneurs to distribute their resources into different directions. The unique and special nature of entrepreneurship is important in exerting effort to avoid or overcome hindrances raised by institution. To some extent, entrepreneurs are innovative and clever enough to influence the way institutions work and even further to propose innovation changes that substitute for malfunctioning institution (Douhan & Henrekson, 2007). That is the reason why it is not a surprise that nowadays, entrepreneurs are often invited to dialogues with legislative agents to build legal framework guaranteeing and encouraging the economic development and most of the time, their suggestions are highly appreciated and applied. With negative effects on the economy in general and on the entrepreneurship in particular, corruption is undoubtedly a signal of a malfunctioning institution. Thus, it is not groundless assuming that entrepreneurship can act as an agent encouraging the evolution and reformation of institution to better malfunction.

3.2.2. "Grease the wheel" effect

In the previous part, the "grease the wheel" effect has been discussed in relation with the impact of corruption on the economic development. It is claimed that "petty corruption" to some extent is not always negative and detrimental for the economic growth. In his book of Political Order in Changing Society, Huntington claims that "*in terms of economic growth, the only thing worse than a society with a rigid, over-centralized, dishonest bureaucracy is one with a rigid, over-centralized, honest bureaucracy*" (Huntington, 1968). It is to show that corruption or the way entrepreneurs follow the general rule, officially or unofficially may contribute dramatically to the economic growth.

From a different viewpoint, the fact that entrepreneurs are flexible in response to institutional restraints and evolving into productive or unproductive or even destructive agents also demonstrates the way entrepreneurs interacts with institutions, especially those characterized with corruption. Such reaction from entrepreneurs is not new and unique in terms of normal norms as Buchanan suggests the idea that when "*faced with a prospect of differentially unfavorable tax treatment by government, a person or a group may (1) engage in lobbying effort; (2) engage directly in politics to secure access to decision-making power, and/or (3) make plans to shift into or out of the affected activity*" (Buchana, 1980). Indeed, a well understanding of such interactions between entrepreneurs and institutional aspects can make a good contribution to the formation of better policy. In other words, a well understanding of the reaction of entrepreneurs to corruption can reveal more information about the level of corruption as well as the quality of regulation and bureaucracy in a given economy (Dejardin & Laurent, 2014). Many studies have shown that the so-called "cooperation" of entrepreneurs with corrupt officers or their adaptability to economic conditions is treated as necessary to grease the wheels and may bring positive effect in terms of reducing the ineffectiveness and inefficiencies of the malfunction economic system on one hand. For instance, by greasing corrupt state officer's palm, entrepreneurs can get better access to the market or fasten the permit or license granting process. On the other hand, as a "player of the game", entrepreneurs contribute to the increase in the income of corrupt state officers with meager salary and speed up the public administrative procedure which in turn may advance the quality of civil servants. Last but not least, in the widespread corrupt economic environment, competition among firms with bribery engagement would link to the ability to pay the highest bribe in the most efficient way of a firm. Thus, to some extent, entrepreneurs are pushed to be more effective and enhance the whole system (Tonoyan, Strohmeyer, Habib, & Perlitz, 2010)

In summary, the relation between corruption and entrepreneurship can be seen as exclusive and reciprocal at the same time. On one hand, corruption is considered an obstacle for the flourish of entrepreneurship by distorting the legal framework supporting for the development of entrepreneurship, increasing cost and uncertainty of any new venture and contributing to other social impediments hampering the possibility of becoming an entrepreneurs of individual in a society. On the other hand, entrepreneurs with the nature of change-driven interact with corrupt officers or in corrupt environment cleverly and flexibly well enough to be able to push the insufficient or malfunction institution to change. However, it should be noted the reciprocity of corruption and entrepreneurship under specific circumstance where entrepreneurs shake hands with corrupt officers in attempt to seek favor or special kind of treatment. It is the time when the action of greasing the wheels of entrepreneurs is regarded as relatively positive.

4. Corruption and entrepreneurship in transition economies

The term of transition economies are referred to those who are moving from centrally planned to market-oriented economies. It is estimated that there are about one-third of the world's population are living in those economies (World Bank, 2004). Unfortunately, transition economies face numerous problems and constraints on developments ranging from rising unemployment, rising inflation, lack of infrastructure, lack of sophisticated legal system, moral hazard, and inequality to the two most relevant issues to this master thesis, lack of entrepreneurship skills and corruption. The obsolete highly centralized economic systems have caused insufficiency in production and failed to balance supply and demand. In an attempt to overcome all severe legacies from communist period, the issue of corruption is paid considerable attention.

4.1. Corruption in transition economies

Therefore, it is not a new finding that corruption is pervasive in transition economies (Rose, 2000). Although the differences in the level of corruption vary among countries in the transition process, the overall scale of corruption in these countries are obviously noticeable. According to data released by Transparency International up to 2014, post-Soviet economies are ranked among the highest in terms of corruption rates (Transparency International, 2014).The notorious corruption phenomenon in those economies may root from the fact that discretion power is granted involuntarily by the people to a group of state officers whose competence in doing so may be still questionable. Another attribution is the political and economic legacies that the government had been raised during the years in office. The legitimacy and credibility of governments in these countries are also features raising the concern about the possibility of grand corruption during the transition period. Though corruption may occurs in all countries in various forms, the effect of corruption on transition economies is more dramatic as these economies are vulnerable and inefficient enough to fall into the developing trap (Nowak, 2001). A very interesting point should be noted relating to the specific and unique characteristics of countries with transition economy is that on the one hand, they can benefit remarkably from the best practices exercised and experienced by other countries while on the other hand, massive structural reformations required in the process pave open ways for rent-seeking activities both legally and illegally (Goel & Budak, 2006). Corruption has been regarded as a key element attributing to the quality of institution and influencing considerably the entrepreneurship in an economy as it reflects the quality of property rights protection, arbitrariness in public administration and judicial system (Tanzi, 1998).

4.2. Entrepreneurship in transition economies

Almost all of researches on entrepreneurship focus on the importance role of entrepreneurs as decision makers under uncertainty (Barreto, 1989) or distributors of constraint resources (Kirzner, 1997) or especially, main drivers of innovation and technology changes (Schumpeter, 1934). However, in the transition context, entrepreneurs deal with different issues in a different business environment. In transition economies, based on experience under communism, personal characteristics of entrepreneurs and their entrepreneurial activities and skills are very distinguished. It can be resulted from the rapid changes in system transformation, a wide range of opportunities emerging from the economy's reformation, the dramatically shortage of product and services supply, the vulnerability and inefficiency of the market institution and the pervasiveness of informal rules and behaviors remaining from the communist past (Estrin, Meyer, & Bytchkova, 2005). Probably because of the unique characteristics, entrepreneurs in those economies conduct their business into two different directions. Some become systemic entrepreneurs who encourage changes in the rules and institution system while some become economic entrepreneurs looking for economic opportunities (Dallago, 1997).

Also because the transition process is carried out under different stages and programs, entrepreneurship in those economies develops in different stages. The early transition creates numerous uncertain opportunities without any previous information about the market including the equilibration of supply and demand. Especially, during this period, resource allocation is very limited and opaque. Thus, entrepreneurs appear as equilibrating forces identifying possible newly available resources and opportunities. However, the emergence of new market economy and the inflexibility of the planning system also create a new entrepreneur class who are local party members or associated with local government. These entrepreneurs are distinguished by their networking and personal relations with political and economic elites instead of their ability to identify new opportunities (Ledeneva, 1998).

Together with the development of the transition process, macroeconomic is stabilized; inflation is reduced and economic growth resumes. These conditions soften the uncertainty factor and nurture the development of Schumpeterian entrepreneurship as innovative element. In this second stage, information about supply and demand can be analyzed based on the price mechanism. The decrease in uncertainty of business environment reassures entrepreneurs to invest more in long-term projects and look for new projects and technologies. As the market institutions are more improved and developed in the third stage, better mechanisms for resource co-ordination are formed and completed, information gathering becomes more available and sufficient, contract enforcement as well as property rights protection are insured, entrepreneurship seems to blossom and put more attention to innovation and technology change on a par with their counterparts in other parts of the world (Estrin, Meyer, & Bytchkova, 2005).

Another specific characteristic of transition economies is that the economy is dominated by a group of stated-owned enterprises existing as institutions of planning rather than entrepreneurial ones. They hold a large proportion of fix assets as well as great influence on the resources allocation. It leads to the fact that new set-up firms are often very small and engage in niches in consultancy, logistics and business services (Lizal & Svejnar, 2002).

Entrepreneurship in transition economies is constrained by many factors including financial and institutional barriers. It is common knowledge that under communism system, financial assets accumulation is not allowed. Almost all wealth is or should be owned by the state only. Meanwhile, the unavailability of financial resources supporting for entrepreneurs can be considered one of the most major constraints when entrepreneurship is under consideration (Pissarides, 1999). Due to the inequality in wealth in the communist regimes and differences in risk aversion, entrepreneurs in these systems largely come from the middle classes who are absent at the start of transition (Chilosi, 2001). However, accessibility to financial resources is not the only obstacle for entrepreneurs in transition economies. The immature and inefficiency of institutions in these countries is also a big impediment for entrepreneurship. With the idea of centrally planned economy, commercial code is neglected, legal enforcement of the law of contract is ignored, and market supporting institution is missing while administrative barriers, extralegal payments are relatively official norms and rampant (Earle & Sabirianova, 1998).

4.3. Possible impacts on entrepreneurship in transition economies

International organizations such as EBRD and World Bank have conducted many surveys in an attempt to provide objective, quantifiable measures of institutional and administrative barriers to entrepreneurship, especially those in transition process whose economies seem to be at the most vulnerable status. One common conclusion in their survey is that the instability in taxes and financial policies is the most concern of entrepreneurs in transition economies (EBRD, 2004) and (World Bank, 2005). Research conducted by Aidis and Mickiewicz shows that in transition economies, the frequent changes in tax policy and the ambiguity of tax may hinder entrepreneurial growth (Aidis & Mickiewicz, 2004). Specifically, frequent changes in tax code in post-Soviet Union make firms unable to calculate present tax bills which increase the transaction costs when negotiating with officials from various governmental departments (Hellman, Jones, Kaufman, & Shankerman, 2000). The instability of tax and other tax-relating policies under the broke down circumstance of the whole economy and macro-economic instability does not bring any promise of the profitability and positive possibility of any business in the short term for independent entrepreneurs. From those observations, it is possible to conclude that macro-economic and policy instability is one of the most hindrances for entrepreneurs in the early transition process.

In their empirical studies in some transition economies regarding the entrepreneurs' role in transition economies, McMillan and Woodruff (2002) point out the fact that some governments create some kinds of barriers to entrepreneurial activities and even expropriate profits through official or unofficial corruption practices. Managers of startup manufacturing firms confirmed their "extralegal" payment in exchange for government services or business license. Official policies with burden of unnecessary requirements and procedures in these countries also increase the expense to establish new firms (Johnson, McMillan, & Woodruff, 2002). Unreasonably high cost and uncertainty for establishing new firms is another factor remarkably influence the flourish of entrepreneurship in studied economies in their transition process.

In former communist economies, state-owned enterprises are often vertically structured and this structure would be soon replaced with the market orientation mechanism which allows their managers to acquire the assets at low prices during the process (Johnson & Loveman, 1995). The speed of privatization of such large state – owned enterprises also affects entrepreneurship as their privilege to access to capital and resources as well as favors from regulations are obstacle of market entry. This fact obviously hardens the accessibility to finance resources for entrepreneurs. In addition to that, the efficient legal framework needed to have a well-functioning finance market is missing in those countries while in banking sector, private sector lending, particularly project and organizational capabilities to finance entrepreneurial finance are absolutely inexperienced incompetent (Pissarides, 1999). The limitation in accessing to finance resource prevents the emergence and development of entrepreneurship in those countries.

Last but not least, one of the largest obstacles to entrepreneurship in those economies I would like to discuss here is the institutional environment. There is no doubt of the importance role of institutions in creating an environment nurturing and guaranteeing the development of entrepreneurship. The immature and partial institutions favoring a special group of enterprises doubtlessly prevent individuals to become entrepreneurs.

In short, the most critical issues in transition economies for entrepreneurs are the uncertainty and instability in policy making process, limited access to capital and resources and insufficient institutions. It is clearly difficult for individuals to advance their entrepreneurship and perform their investment under these circumstances, letting alone the element of corruption. Unfortunately, as showed in many precedent studies and above discussion, corruption is not an exclusive factor in those economies. It is to say that entrepreneurs in transition economies are under great pressure to be flexible and adaptable to overcome these difficulties and prove their indispensable role in the development and economic growth of any country.

EMPIRICAL STUDY

1. Research Methodology and Presentation of data

The review of previous literature focusing on the issue of corruption and the importance of entrepreneurship in the economic growth and development in transition economies raises a deep concern about the impact of corruption on entrepreneurship in this unique form of economy. This chapter will give details in the main objective of the research and the following research questions suggested by the author, the research design and methodology and the data collection process.

1.1. Research Questions and Objectives

Previous studies show that on the one hand, corruption is prevalent in transition economies (Rose, 2000) at different levels among countries. Additionally, the negative impact of corruption on the economy in general and in entrepreneurship in particular has been studied and agreed by scholars all over the world (Rose-Ackerman, 1999), (Ades & Di Tella, 1997) (Nowak, 2001), (Goel & Budak, 2006), (Anokhin & Schulze, 2008), (Tonoyan, Strohmeyer, Habib, & Perlitz, 2010), (Avnimelech, Zelekha, & Sarabi, 2011) and (Hameed & Magpile, 2014). Besides, entrepreneurship is considered a great factor contributing to the development of an economy and creating wealth as well as employment for a society (Acs, Carlsson, & Karlsson, 1999), (Anokhin & Schulze, 2008), (Audretsch, Keilbach, & Letman, 2006), (Binks & Vale, 1994) and (Birch, 1981). These two factors lead to a concern about the connection between corruption and entrepreneurship in a given economy. With the origin from a transition economy, the author is interested in issues that a transition economy is facing. Due to such reasons, the main objective of this research is to *identify the impact of corruption on entrepreneurship in transition economies*. As mention specifically in the introduction, this research concentrates only in transition economies which have communist history. These countries host large proportion of population in the world and attract much attention from investors as well as activists from scholars. The understanding of the transition process has enriched knowledge of economic process (Ellman, 2012). This is the reason why transition economies are chosen for the research. The list of countries examined in this study is attached in annex 1.

It is agreed that assumptions and suggestions taken from previous studies as well as personal and professional experience are of help in refining the objectives of a study (Baxter & Jack, 2008). The first chapter of this research presents a general view of literature on the topic with the relative relationship between corruption and entrepreneurship and the potential influences of corruption on entrepreneurship in transition economies being identified. Accordingly, the main questions stemming from the literature and the author's interests relating to the interaction between corruption and entrepreneurship is posed: ***How much does corruption influence entrepreneurship in transition economies?***

In order to give possible answer to the questions, several hypotheses are placed.

Firstly, in research for the impact of corruption on entrepreneurship, other social and economic factors are taken into consideration. The attachment of such factors into the equation is understandable as the study should be place within social and economic environment. It is impossible to exclude such factors in any conditions. By thoroughly studying possible factors influencing the development of entrepreneurship in previous parts, some typical elements are chosen, namely the corruption level, the level of annual income of the population presented by the GDP per capita, the literacy or the education status of the population, the unemployment rate of a country, the competitiveness of an economy evaluated by the freedom to trade internationally, the government size presenting the government spending and the degree of government's intervention, the comprehensiveness and effectiveness of the legal system and the appropriateness of the regulations implemented.

Secondly, the most concerned factor, corruption which is analyzed based on the Corruption Perception Index presented by Transparency International, is expected to have a positive relation with entrepreneurship. In other words, in the context when the degree of corrupt active becomes less pervasive, the level of entrepreneurship is expected to rise.

Thirdly, other macroeconomic factors are also taken under consideration to have a comprehensive understanding of those which influence entrepreneurship. Such factors as the annual income, presented by the GDP per capita, the literacy rate of the population and unemployment rate are chosen for the study. Income can affect entrepreneurship in the way that the level of wealth of an individual partially affects their decision on becoming an entrepreneur or not. Concretely, a study in the UK reveals that the difference between average income from self-employment and paid-employment had determined the self-employment trend in the period of post war in the UK (Parker, 1996) and (Cowling & Mitchell, 1997). It is expected that as with low income or low GDP per capital, more individuals would prefer to become self-employed or an entrepreneur. Similarly, as people become more literate and get more education as foundation to conduct business wisely and ethically, entrepreneurship is assumed to flourish. In some aspect, more educated workers may see themselves in managerial positions (Evans & Leighton, 1989). It is also confirmed that there exists more chances for self-employment in knowledge-based industries for educated and skilled individuals nowadays (Keeble, Walker, & Robson, 1993). Another factor, the unemployment rate partially influences the choice of occupation of individuals in the way that the higher the unemployment rate is, the more individuals tend to choose to become entrepreneurs as profession. There is an increasing interest in the study of the relation between unemployment and self-employment or entrepreneurship as it would be a good indication for policy makers in the sense that entrepreneurship can help to reduce the unemployment rate (Parker, 2004).

Lastly, some social factors are also paid due attention in the study, specifically the competitiveness of the economy, the government size, the effectiveness of the legal system and the appropriateness of the implemented regulations. While the competitiveness of an economy, the effectiveness of the legal framework and the comprehensiveness of regulations are anticipated to have positive relation with entrepreneurship, the government size is assumed to have negative impact. With improvements in government's efforts in policy implementation and attractive economic environment, potential entrepreneurs can seek for profitable chances for their business and be more willing to take risks. Factors affecting business decisions can be evaluated more precisely including expected costs and uncertainty. Contrarily, government's size can create cumbersome procedure and unnecessary costs for business activities that may hinder entrepreneurial motives.

The study's question and hypotheses will be examined and tackled by empirical study in the context of transition economies. The process of examining above questions through empirical study and methodology will be explained in the following part. A good awareness of the unique characteristics of these economies as well as the variety of corruption magnitudes that can have some influence on the research's progression can be the foundation to extend the research boundary (Merriam, 2002). Putting the research in this specific circumstance does not mean that the research is kept limited and close. Expected results from the research will suggest new findings and propositions for further studies as well as implications for policy making process.

1.2. Research design and Methodology

In an attempt to examine existing theories and suggest new findings, an empirical study has been carried out. Firstly, the appropriate form of research has been identified with suitable research objects and data sources. Because corruption is a sensitive and complicated issue, studies on this certain objects require large resources by independent and reliable organizations. Thus, based on the objectives of this research, a combined method of both quantitative and qualitative data collection seems to be appropriate.

Quantitative research is applied to examine hypothetical generalization (Hoepfl, 1997) and highlight the causal relationships between variables (Denzin & Lincoln, 1998). By quantitative research, researchers get to familiar with the related concepts and problems that need to be tested. This method focuses mainly on facts and causes of behavior (Bogdan & Biklen, 1998). Consequently, the information can be quantified and summarized, the analysis of numeric data by running mathematical process and the application of statistical terminologies for final results (Charles, 1995). Regarding the quantitative research, the reliability and validity can be shown through the consistency and accuracy of results in terms of representation over time (Golafshani, 2003). The reliability of quantitative research can be categorized in three types based on the relation with the similarity of results when a measurement is applied repeatedly, the stability of measurement overtime and the similarity of measurements over a certain period of time (Kirk & Miller, 1986). It should be noted that test-retest method can have influence on the responses given because there always remain changes in attitude which leads to differences in responses given. These kinds of changes may reduce the accuracy and consistency of the test scores. That is why researchers are responsible for the consistency and accuracy of the tests and scores (Crocker & Algina, 1986). Meanwhile, the validity of quantitative research lies in a systematic theory of positivism. In other words, the validity can be shown by the accuracy of the means of measurement in terms of whether or not they are truly measuring what they are planned to measure (Golafshani, 2003).

However, the objectives of this research are not simply to provide statistical results but to suggest possible implications for policy making process based on such results. The goal is to have a practical quantified understanding of the impact of corruption on entrepreneurship in transition economies. By empirical results, challenges for economic development and entrepreneurship encouragement are expected to be identified. Lessons and experience from data interpretation are probably given subsequently and applied to development paradigms in the future. Furthermore, entrepreneurship is recognized as a dynamic and complex phenomenon that should not be captured in a single method (Neergaard & Ulhøi, 2007). Also, the procedure of examining testable hypotheses only is regarded as too rigid for entrepreneurship study (Bygrave, 1989). Thus, a qualitative approach would facilitate the research process and supplement the analysis.

The qualitative research helps researchers highlight the entire context of a reality and understand phenomena in context-specific settings by a naturalistic approach (Patton, 2002). While quantitative researchers seek causal relations, prediction and/or generalization, qualitative researchers seek illumination and extrapolation (Hoepfl, 1997). Nevertheless, both quantitative and qualitative researchers are concerned about the credibility of their studies which can be illustrated by the reliability and validity of the research. In qualitative research, the reliability is link to the ability to evaluate the quality of the research in terms of explaining and generating an understanding of the subject (Stenbacka, 2001). Specifically, when researchers evaluate the quality of the qualitative research, criteria such as Credibility, Neutrality or Confirmability, Consistency or Dependability and Applicability or Transferability are utilized (Lincoln & Guba, 1985). The reliability of a qualitative research can be guaranteed by the examination of trustworthiness which is regarded as the center of validity and reliability (Seale, 1999). Unlikely quantitative research, in qualitative research, validity can be seen as a demonstration of the establishment of reliability. In other words, reliability is a consequence of the validity in a study (Patton, 2002). Thus, the validity plays critical role in the evaluation of the quality of a qualitative research. The concept of validity in qualitative research refers to a variety of terms which is not simply fixed, single and general. In fact, almost every researcher applies their own perception in considering the validity and adds other so-called suitable terms such as quality, rigor and trustworthiness (Lincoln & Guba, 1985), (Seale, 1999) and (Stenbacka, 2001). The importance of the validity and reliability of qualitative research lies in the fact that they may lead to the ability to generalize results and display various ways of establishing truth.

Based on the understanding of different research methods and the objectives of this study, it is considered appropriate to apply a combined method of both quantitative and qualitative search. Accordingly, quantitative method would be applied in the first place using numerical data to test the hypotheses and predict the relationship of related elements. In order to test the hypotheses, simple linear regression with panel-corrected standard errors method is applied. The dataset is composed of 29 countries with transition economies. The data have been

collected for a short period of time from 2009 to 2012 in order to produce comparative results which will be used to show the connection with and difference from previous studies.
Then, qualitative method would help to explain and understand the facts that such results represent and gradually demonstrate new findings.

2. Data collection

In order to estimate the number of entrepreneurs, which in the study is remarked as *Entrep*, data on Business Entry Density Rate in each countries in each of studied years concerned are collected from the data bank of the project Doing Business sponsored by World Bank Group. The Doing Business project focuses on the interaction between domestic small and medium-size companies and state regulations through their life cycle in over 189 economies. The project introduces 11 indicator sets, including the Entrepreneurship, calculating the number of new registered firms in private formal sectors with limited liability as well as the new business density. The Entrepreneurship Database is built with the hope to bring a better understanding of the dynamic activities of private enterprises all over the world. By measuring the number of newly registered firms, the Doing Business project quantifies the influences of regulatory, political and macroeconomic institutional changes, of which corruption is an element, on new business registration, which reflects the entrepreneurship movement in a country. It should be clearly borne in mind that the data of newly registered enterprises itself do not show the business demographic of any given economy. However, by using the indicator as an explanatory factor, impacts on the business creation process can be analyzed. Additionally, in order to enable cross-country comparability, a consistent unit of measurement, source of information and concept of entrepreneurship that is applicable and available among the diverse sample of studying economies, a consistent unit of measurement is applied. The project collected data from official sources of relevant administration office in each economy over the period of 2004-2012. Further from collecting statistics from national administration offices in concerned economies, the Doing Business project also carries telephone interviews and email correspondence with business registries in over 150 countries. In some exceptional cases where data can be not provided by business registry, alternative sources, such as agencies in charge of statistics, tax and labor or chamber of commerce are employed. Another detail that should be noticed is that the data gathered are limited to the formal sector only due to difficulties in quantifying the number of firms engaging in informal sector. However, the Entrepreneurship Databased is objected to be used for analyses of both the growth of the formal private sector and factors encouraging the establishment or transition to the formal sector of firms. Initially, the Newly Registered Companies with Limited Liability are calculated per calendar year. Company with limited liability is understood as those whose members are constrained by the financial liability that equals to the value of their investment in the company. It is an independent legal entity with its own privileges and liabilities. Such companies are collected in the study regardless of size. Partnership and sole proprietorships are excluded in the study due to the variety of the definition of such kinds of firms and the regulation across countries. The number of total or closed firms is excluded in the data, either due to the differences in the definition and measurement of these entities. Then, Business Entry Density Rate is estimated as the number of newly registered firms with limited liability per 1.000 working-age people[1] per the same calendar year. The support database of the population number is the World Development Indicators designed by the World Bank. In case the population data are missing in the World Development Indicators, other sources such as the CIA and the Index Mundi are exploited (World Bank, 2013).

In order to estimate the impact of corruption on entrepreneurship, which is hereafter shortened as *Cor*, the Corruption Perception Index (CPI) designed by the Transparency International organization is applied. The CPI is regarded relevant as it reflects the perceived levels of public corruption in 180 countries and territories. The CPI score is ranked on a scale from 0 (perceived to be highly corrupt) to 10 (perceived to have low levels of corruption). Therefore, it should be kept in mind that the higher the CPI score, the less corruption in a given country is expected. In other words, with this kind of CPI interpretation, a positive relation between the CPI and Entrepreneurship should be obtained. The CPI is calculated based on 13 sources from 10 independent accredited institutions with the aim of determining the overall extend of corruption in terms of frequency and/or size of bribes in the public sectors. Of 13 sources two types of sources can be categorized. The first one is surveys on opinion of business people and the other one is country's performance's assessments of a country provided by a group of country/risk/expert analysts. Similarly, the extent of corruption in concerned countries is evaluated by two groups. One group is composed of residents and non-resident country experts while the other one consists of business leaders. The CPI is calculated through several steps. First, the mean value for a country is estimated

[1] Working-age is defined as the age from 15 to 64 year old.

through standardization via a matching percentiles technique using the ranks of countries reported by each individual source. The technique is used due to the different distribution of combining sources. Although there remains some information loss in this technique, all reported scores are maintained within the bounds of the CPI between 0 and 10. After that, a beta-transformation is performed on scores with the objective of increasing the standard deviation among all countries included in the CPI and avoiding the process by which the matching percentiles technique results in a smaller standard deviation from year to year. Next, the average of all of the standardized values for a country is calculated to determine a country's core. Finally, the CPI score and rank are followed by the number of sources, high-low range, standard deviation and confidence range for each country (Transparency International, 2015).

Another variable which is considered having influence on the entrepreneurship is the level of wealth of the population which can be illustrated by the GDP per capita, which is from now on given the sign of GDP. It is widely accepted that better career and wage possibilities are generally found in countries with higher GDP per capita (Dejardin & Laurent, 2014). Thus, *GDP*, as the amount of GDP per capita is collected from the database of the United Nations Statistics Division (Undata). The Undata introduces national accounts data for more than 200 countries and territories worldwide. The database is built based on the data which are obtained from the United Nations National Accounts Questionnaire (NQA) which in turn is based on the System of National Accounts 1993 (1993 SNA) and supplemented with estimates proposed by the Statistic Division. Data in the Undata are collected by using United Nations National Accounts Questionnaire (UN-NAQ) to countries which in turn provide the latest available national accounts estimates and explain differences in concepts and statistical methods of the scope and coverage of the country estimates if they are not identical to those recommended by the 1993 SNA (UN Statistics Division, 2013). In case data for some countries are not directly sent to the Statistic Division, they are supplemented by information gathered from additional correspondence with national statistical offices and from national publications and other sources such as the Organization for Economic Co-operation and Development (OECD), the United Nations Economic Commission for Europe (ECE) and the Caribbean Community (CARICOM) on behalf of their constituents.

In addition, the human resource parameter, which is put as *HR* in this study, using the Adult Literacy Rate gathered from the Statistics and Monitoring work of UNICEF (UNICEF, 2015). The Adult Literacy Rate estimates the literacy among person aged 15 years and older (UNICEF, 2015). The database of UNICEF which includes the Adult Literacy Rate is gathered based on statistically sound and nationally representative data from household surveys and other sources by UNICEF's offices in 140 countries worldwide. The literacy level is predicted to have positive impact on entrepreneurship since it reflects a skilled labor force being able to identify and realize business opportunities (Avnimelech, Zelekha, & Sarabi, 2011). Having relatively similar impact on entrepreneurship as Literacy Rate, the Unemployment rate plays a role in explaining the dynamics of entrepreneurs in an economy. In this study, the parameter *Unemp* is another dependent variable in the consideration of factors influencing entrepreneurship. The Unemployment Rate data are collected from the database of the World Bank with estimate by International Labor Organization's Model (World Bank, 2015). In order to obtain the consistency in timing and reporting practices due to the fact that data are collected from all 188 World Bank Member Countries and other economies. The World Bank's databased includes data provided by official sources with some adjustments in the balance of payments to account for fiscal/calendar year differences and management units of the Bank in concerned countries. The 1993 SNA statistical practice is also used by the World Bank.

Parameters such as *Comp* referring to the level of the openness and competitiveness of an economy which is illustrated by the indicator Freedom to Trade Internationally, *Gov* referring to the level of government's participation in business activities and identical to the indicator Size of Government, *Leg* referring to the effectiveness of the legal system and the level of the protection of property rights in each country which is the Legal Structure and Security of Property Rights, *Reg* referring to the regulation situation or the indicator Regulation of Credit, Labor and Business in such relative areas as credit market, labor market and especially business regulation, are collected from the annual report on Economic Freedom of the World published by Fraser Institute in 2014. The Economic Freedom of the World Index covers 152 countries all over the world and consists of 42 distinct variables. The scale of 10 is applied with 10 being the highest possible rating and zeros the lowest. A higher rating means a greater degree of economic freedom. Indicators extracted from the report are considered relevant to study factors having impact on entrepreneurship because they include various factors contributing to the status and level of concerned topic. The *Comp* parameter or Freedom to Trade Internationally composes of tariffs, regulatory trade barriers, black-market exchange rates and controls of the movement of capital and people. It should be noted that that this parameter is expected to have especially considerable impact on entrepreneurship because of the situation in transition economies. Similarly, the parameter *Leg* and *Reg* are expected to reflect the impact of business environment created by public administration which as above discussed can encourage or prevent the possibility of becoming an entrepreneurs of individuals. The *Leg* parameter or indicator Legal System and Property Rights in the reports is built based on factors such as the independence of judicial system, the impartiality of courts, the level of protection of property rights, the level of military interference in rule of law and politics, the integrity of legal system, the legal enforcement of contracts, the regulatory restrictions on the sale of real property, the reliability of police and the business costs of crime. The effectiveness and reliability of such factors are taken into consideration of every entrepreneur when decisions on investment are made (Gwartney, Lawson, & Hall, 2014).

Finally, the equation for corruption is estimated as follows:

$$\mathbf{lnEntrep = \beta o + \beta_1 lnCor + \beta_2 lnGDP + \beta_3 lnHR + \beta_4 lnUnemp + \beta_5 Comp + \beta_6 Gov + \beta_7 Leg + \beta_8 Reg + \mathcal{E}}$$

where:

βo: the constant variable

$\mathcal{E}$: the error term

The samples are collected for 29 countries with transition economies from various independent sources. Before resolving the equation employing collected data, hypotheses of relationship between the number of Entrepreneurs and other influencing factors are explained. Factors such as Entrepreneurship, Corruption, GDP per capita, Human Resource, and Unemployment are given under the form of natural logarithm to express the assumption of stronger impact that social factors Competitiveness, Government Size, Legal System and Regulation have on entrepreneurship. In summary, it is predicted that corruption has negative impact on the number of entrepreneurs due to several reasons which are discussed in previous parts. It should be noted that the Corruption Perception Index (CPI) employed from Transparency International is scored on the scale from 0 to 10 with the higher the score is, the better corruption restraint power. In other words, countries with higher CPI enjoy better transparency and less corrupt practices. Thus, the linear relation between the number of entrepreneurs and corruption situation is expected to have a positive slope. The prediction is illustrated in the following chart by a statistical processing program:

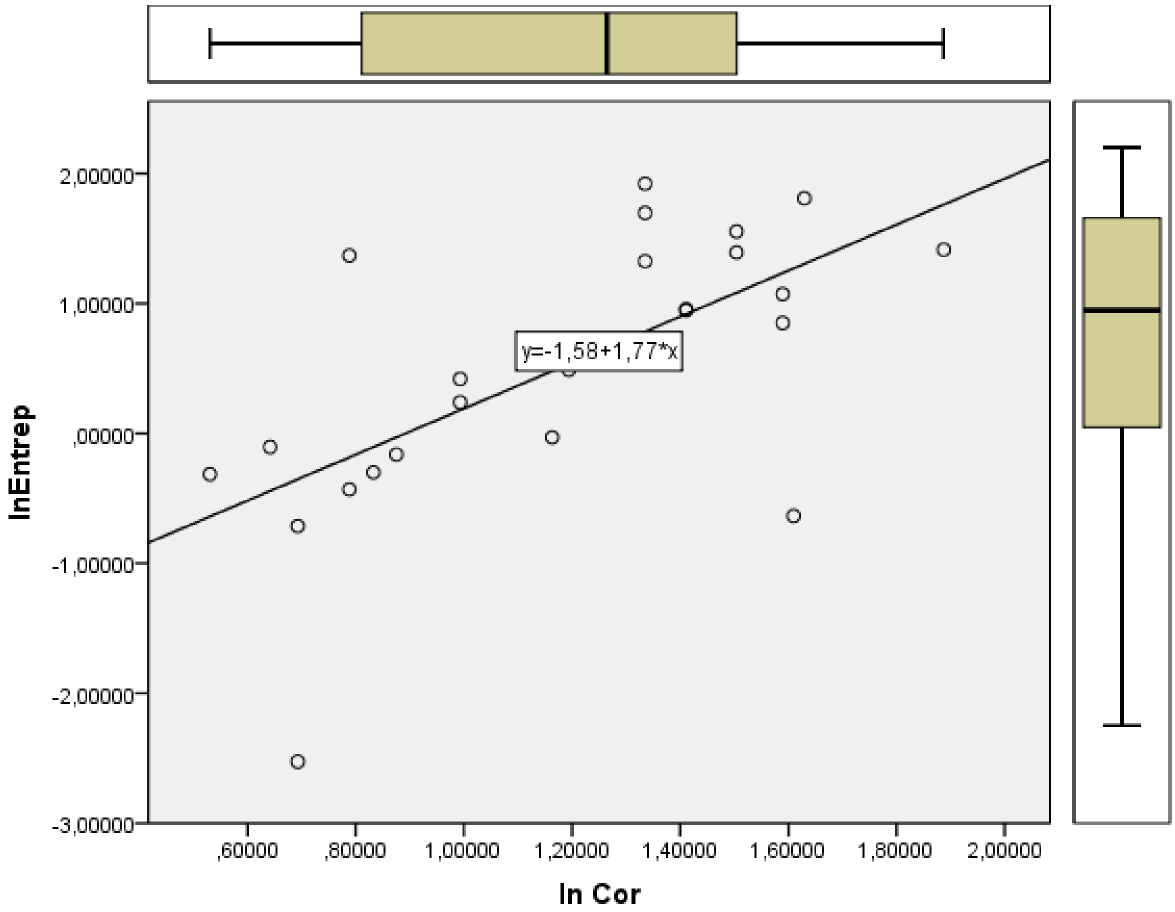

Figure 1: Expected relationship between the Number of Entrepreneurs and Corruption

Source: by the author

Similarly, the relation between the number of entrepreneurs and the amount of GDP per capita, the Literacy rate and the Unemployment rate is positive. In other words, in circumstances where the income is probably higher, more people have access to schools and better education which also means that their skills and competence are enhanced and the employment situation does not improve which is similar to the fact that they do not have many choice of occupation; more individuals would like to become entrepreneurs.

In prediction of the relation between entrepreneurship and social factors such as the competitiveness of the economy or the Freedom to Trade Internationally, the Government influence and intervention, the effective of the Legal Structure and Security of Property Rights and the appropriateness of the Regulation of Credit, Labor and Business, there are different suppositions. While positive correlation between entrepreneurship and the Competitiveness of the economy, effectiveness of the Legal structure and the Regulation is expected, negative correlation between entrepreneurship and the Government Intervention seems to be more appropriate.

3. Results

Results presented below are collected by using the logit estimation technique and controlling for residual correlation among observations. The estimation contains dependent variable as the number of entrepreneurs per 1000 population which can be understood as the density of entrepreneurs in a country and independent variables influencing the entrepreneurial motives of individuals in transition economies including corruption, annual income demonstrated by GPD per capital, population's literacy, unemployment rate and social factors such as the effectiveness of legal system and enforcement, the implementation of regulation, the government's intervention in business activities or the competitiveness of the economy. The main purpose of this exercise is to examine the influence of corruption on entrepreneurship in transition economies. Simple linear regression is applied to confirm expectations.

In a circumstance where the relationship between entrepreneurship and the impact of corruption is studied, the results confirm the hypothesis of positive relation between entrepreneurship and corruption. The results also reflect previous conclusions that corruption has negative impact on entrepreneurship proposed by researchers before.

Corrélations

		lnEntrep	lnCor
lnEntrep	Corrélation de Pearson	1	,725**
	Sig. (bilatérale)		,000
	N	22	22
lnCor	Corrélation de Pearson	,725**	1
	Sig. (bilatérale)	,000	
	N	22	29

**. La corrélation est significative au niveau 0,01 (bilatéral).

Table 1: Relationship between Entrepreneurship and Corruption

Source: by the author

From the obtained result, when only two factors Entrepreneurship and Corruption are taken into consideration and tested, with a relatively large Correlation value which is significant at the 0.01 level, it is confirmed that corruption and entrepreneurship has a strong relation in countries with transition economies. The positive value indicates the assumption that the higher the *Cor* value, the higher the *Entrep* is. In short, the relationship between corruption and entrepreneurship is investigated using Pearson correlation coefficient. Preliminary analyses are carried out to ensure the hypothesis of linearity. There is a strong positive correlation between the two variables, with higher levels of corruption improvement associated with higher levels of entrepreneurship. This result is confirmed by simple linear regression:

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,725[a]	,526	,502	,77474048

a. Prédicteurs : (Constante), lnCor

Table 2: Relationship between Corruption and Entrepreneurship in Empirical Value

Source: by the author

By OSL estimation of the estimations for entrepreneurs and corruption perception index, the empirical results demonstrate a strong relationship between the dependent variable *Entrep* and predictable variable *Cor*, with R-square adjusted = 0.502. The high value of R-square also implies the applied model seems to well explain the relationship and interaction between corruption and entrepreneurship.

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	-2,068	,660		-3,134	,005
	lnCor	2,320	,492	,725	4,712	,000

a. Variable dépendante : lnEntrep

Table 3: Confirmed Relationship between Corruption and Entrepreneurship

Source: by the author

It should be worth recalling that the higher the corruption index indicating the better controlling corrupt practice. In other words, the positive result implies that in case the corruption situation is improved, the prospective of becoming entrepreneur is higher. The results can be interpreted that when in the condition where only entrepreneurship and corruption factor are studied, each change of 1 unit of corruption can change an average of 0.725 unit of entrepreneurship with the correlation being significant at the 0.05 level. It also confirms a considerable close relationship between entrepreneurship and corruption. In other words, corruption may play a critical role in the number of entrepreneurs in a country with transition economy.

Also, as predicted, with the gathered data, positive relation between entrepreneurship and GDP per Capita, the Literacy rate and the Unemployment rate is reached when only these factors are put under consideration. The empirical results also have statistical meaning with the value of the indicator p-value being within allowed limitation.

Corrélations

		lnEntrep	ln GDP per Capita	ln Lit	ln Unemp
lnEntrep	Corrélation de Pearson	1	,660**	,583**	,516**
	Sig. (unilatérale)		,000	,002	,005
	N	24	24	22	24
ln GDP per Capita	Corrélation de Pearson	,660**	1	,485**	,397*
	Sig. (unilatérale)	,000		,005	,017
	N	24	29	27	29
ln Lit	Corrélation de Pearson	,583**	,485**	1	,813**
	Sig. (unilatérale)	,002	,005		,000
	N	22	27	27	27
ln Unemp	Corrélation de Pearson	,516**	,397*	,813**	1
	Sig. (unilatérale)	,005	,017	,000	
	N	24	29	27	29

**. La corrélation est significative au niveau 0,01 (unilatéral).

*. La corrélation est significative au niveau 0,05 (unilatéral).

Table 4: Correlation between Entrepreneurship and Macro Factors

Source: by the author

Relatively high relation between entrepreneurship and macroeconomic factors including the annual income per capita, the level of literacy of the population and the unemployment rate in countries with transition economies are confirmed by solving the data. The obtained results are significant at the level of 0.01 and 0.05 which can be accepted to have statistical meaning. All indicators are shown to have relatively strong relationship with entrepreneurship with correlation values being higher than 0.5. In other words, in the condition of other variables are controlled, it is true that these factors have considerable impact on the development of entrepreneurship in transition economies.

In other analysis of Entrepreneurship and social factors only, predicted hypotheses are confirmed regarding the positive relation of the competitiveness of the economy, the effectiveness of the Legal Institutions and Regulation implementation and the negative relation of Government Intervention with Entrepreneurship.

Corrélations

		lnEntrep	Comp	Leg	Reg	Gov
lnEntrep	Corrélation de Pearson	1	,450*	,269	,433*	-,324
	Sig. (unilatérale)		,023	,126	,028	,082
	N	24	20	20	20	20
Comp	Corrélation de Pearson	,450*	1	,871**	,895**	,547**
	Sig. (unilatérale)	,023		,000	,000	,003
	N	20	24	24	24	24
Leg	Corrélation de Pearson	,269	,871**	1	,857**	,489**
	Sig. (unilatérale)	,126	,000		,000	,008
	N	20	24	24	24	24
Reg	Corrélation de Pearson	,433*	,895**	,857**	1	,666**
	Sig. (unilatérale)	,028	,000	,000		,000
	N	20	24	24	24	24
Gov	Corrélation de Pearson	-,324	,547**	,489**	,666**	1
	Sig. (unilatérale)	,082	,003	,008	,000	
	N	20	24	24	24	24

*. La corrélation est significative au niveau 0,05 (unilatéral).

**. La corrélation est significative au niveau 0,01 (unilatéral).

Table 5: Correlation between Entrepreneurship and Social Factors

Source: by the author

Based on the results, it could be interpreted that in the condition of other variables are constrained, the competitiveness of the economy, the legal system and the quality of regulations probably have relative weak relation with entrepreneurship with correlation values are all below 0.5. In spite of weak relationship, these factors have positive relation or in the context that such factors are improved, entrepreneurship seems to be able to develop. Meanwhile, the government size shows negative relation with entrepreneurship. This result confirms hypothesis that big government with much intervention would hinder the development of entrepreneurship. However, in the analysis of the relationship between these social factors and entrepreneurship, the results seem to have little statistical meanings with a very high level of significance. Possible reasons explaining to this issue will be revealed in more details in the Discussion parts.

In expanding the analysis, the relation between corruption and social factors can be revealed empirically in the below table. By the databased gathered on 29 transition economies in the period from 2009 to 2012, it is possible to affirm that the more competitive of the economy, the more effective of the legal structure and regulation implementation system and especially the less government intervention is, the better corruption restrains are made.

Corrélations

		Comp	Leg	Reg	Gov	ln Cor
Comp	Corrélation de Pearson	1	,871**	,895**	,547**	,644**
	Sig. (unilatérale)		,000	,000	,003	,000
	N	24	24	24	24	24
Leg	Corrélation de Pearson	,871**	1	,857**	,489**	,632**
	Sig. (unilatérale)	,000		,000	,008	,000
	N	24	24	24	24	24
Reg	Corrélation de Pearson	,895**	,857**	1	,666**	,451*
	Sig. (unilatérale)	,000	,000		,000	,013
	N	24	24	24	24	24
Gov	Corrélation de Pearson	,547**	,489**	,666**	1	-,101
	Sig. (unilatérale)	,003	,008	,000		,319
	N	24	24	24	24	24
ln Cor	Corrélation de Pearson	,644**	,632**	,451*	-,101	1
	Sig. (unilatérale)	,000	,000	,013	,319	
	N	24	24	24	24	29

**. La corrélation est significative au niveau 0,01 (unilatéral).

*. La corrélation est significative au niveau 0,05 (unilatéral).

Table 6: Correlation between Corruption and Social Factors

Source: by the author

Empirical results show a strong relationship between corruption and these social factors with correlation values being relatively high at the allowed level of significance. All factors except government size show correlation values nearly 1. In the special case, the competitiveness of the economy shows the correlation at 1. Thus, it is possible to assume that in transition economies, the competitiveness of the economy has absolute relationship with corruption. Possible suggestion to enhance the competitiveness of the economy in the fight against corruption should be paid due attention.

In an attempt to examine hypotheses, the OSL estimation by linear simple regression is applied with independent variables being the Corruption Perception Index, the GDP per capita, the Literacy Rate, the Unemployment Rate, The Government Size, the Competitiveness of the Economy, the Legal System's Effectiveness, and the quality of the Regulation and dependent variable being Entrepreneurship.

Variables introduites/éliminées[a]

Modèle	Variables introduites	Variables éliminées	Méthode
1	Leg, lnUnemp, lnHR, Reg, Gov, lnGDP, Comp, lnCor[b]	.	Introduire

a. Variable dépendante : lnEntrep

b. Toutes les variables demandées ont été introduites.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,856[a]	,732	,494	,81169193

a. Prédicteurs : (Constante), Leg, lnUnemp, lnHR, Reg, Gov, lnGDP, Comp, lnCor

Table 7: Confirmed Relationship of Entrepreneurship and All Factors

Source: by the author

The R-square value reaches 0.494 demonstrate a relative weak relationship among variables. It can be interpreted that hypothesis of interactions among these factors with entrepreneurship should be re-determined.

.In other below table, the exact quantitative relationship among these variables is demonstrated:

ANOVA[a]

Modèle		Somme des carrés	ddl	Carré moyen	F	Sig.
1	Régression	16,215	8	2,027	3,076	,057b
	Résidu	5,930	9	,659		
	Total	22,145	17			

a. Variable dépendante : lnEntrep

b. Prédicteurs : (Constante), Leg, lnUnemp, lnHR, Reg, Gov, lnGDP, Comp, lnCor

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	-8,977	5,536		-1,622	,139
	lnCor	1,547	1,827	,430	,847	,419
	lnGDP	,355	,423	,280	,839	,423
	lnHR	-37,076	17,910	-,437	-2,070	,068
	Gov	-,856	2,264	-,092	-,378	,714
	Comp	,892	5,484	,063	,163	,874
	lnUnemp	-,516	,644	-,231	-,801	,444
	Reg	5,200	4,350	,287	1,195	,262
	Leg	-1,109	5,757	-,058	-,193	,852

a. Variable dépendante : lnEntrep

Table 8: Quantitative Relationship of Entrepreneurship and All Factors

Source: by the author

By applying simple linear regression to resolve the collected data, it should be noted that the results are significant at very high level with R-square being relatively low. In fact, from the statistics' point of view, the results suggest very limited meaning. In other words, if all factors are taken into consideration, it is likely that the proposed factors have inconsiderable influence on entrepreneurship in the transition economies. If we analyze the sign of factors from the regression, it is recognizable that not only the size of government has negative relation with entrepreneurship, the level of literacy and unemployment and the quality of legal system also have negative relation. However, such results are obtained with very high significance implying no statistical meaning. Possible reasons for such results will be discussed in details in the following section.

DISCUSSION

Institutional changes dramatically affect the development of entrepreneurial sector. Clear differences between economies of Central and Eastern Europe with more market-oriented economies and those of the former Soviet Union with slower and more unpredictable pace of change are observed (Estrin, Meyer, & Bytchkova, 2005).

The presented results are obtained for the group of 29 transition economies for the period from 2009 to 2012. Findings for a specific country factoring its specific conditions and context or finding for a larger set of nations taking account for their socio-economic differences might very well be significantly different. The interpretation of the results should be cautious about the fact that corruption is measured by an index of corruption perceptions with the higher the index, the better corruption control. We hope that future research would enhance the understanding of the determinants of corruption by benefitting from larger data sets and better quantitative measures of some of the institutional factors.

Difficulties in data collection

The empirical study is conducted with the goal to find the impact of corruption on entrepreneurship in transition economies qualitatively and quantitatively. The study results are built from a panel of data on 29 transition economies categorized by the IMF (the list of studied countries is put in Appendix A). The results obtained confirmed the negative impact of corruption on entrepreneurship in studied countries in the context that only corruption and entrepreneurship are studied. The identical results are published in previous studies in another set of countries by various academic researchers such as the study "*Greasing the Wheels of Entrepreneurship? A complement according to Entrepreneurial Motives*" conducted by Dejardin and Laurent (2014) or the study "*The Effect of Corruption on Entrepreneurship*" by Avnimelech, Zelekha and Sarabi (2011). However, the finding is true for this set of countries only.

It is observed that results confirm hypotheses in the condition that only each set of factors are taken into examination with entrepreneurship. In case all factors are put under study, the results seem to have no statistical meaning. Several explanations may be taken into consideration.

The first reason that can be taken is the fact that data are collected from a small number of countries involved. The limitation of data from those countries hinders the accuracy and proficiency of the results. It is true that the lack of empirical data on economic factors in transition economies prevents extensive studies (Kaufmann & Siegelbaum, 1996). However, it should be noted that the trend that such results suggest stay at the same direction with previous studies.

The second reason may lie in the validity of the data themselves. It is widely admitted that there are not many trustworthy sources for macroeconomic data. Normally, such data are collected and published annually by independent intergovernmental organizations such as World Bank, the International Monetary Fund or the European Bank for Reconstruction and Development, etc. However, most of the time, those organizations receive data from national statistical offices from member states. This is where problems are coming from. Problems lie not only in the variation of sources, coverage and quality of such data in transition economies. They come from the methodology and measurement criteria that data are collected (Filer & Hanousek, 2002). The root of the problem may stem from the fact that statistic figures are extracted solely from reports to national statistical offices which were established to deal with communist enterprises. This implies two other facts. First, such offices were set under the communist system which is notorious for cheating with everyone being encouraged to over-report because their working assessment was based on gross production (Aslund, 1990). Second, based on their structure and capacity, they are not competent enough to handle the excessive and quick blossom of the small firms that sprung up with transition, let alone unofficial economy emerged (Johnson, Kaufmann, & Shleifer, 1997). A typical example can be illustrated by the way Czech Republic authorities collected data of enterprises operating in the country: at the beginning of the transition process, only firms with more than 100 workers being gathered, later, the minimum employees being lowered to 50 then 25 gradually (Filer & Hanousek, 2002). The difference in the work force that can be counted creates bigger difference in the number of enterprises in Czech Republic or any other concerned country. Another remark is that the information or data collected can be quickly outdated due to the rapid changes happening in transition economies.

A possible third reason may lie in the time series of the data. Data are collected for a period from 2009 to 2012. The initial purpose of this choice is to be able to process the results that can be relatively comparative with other two studies. However, it is true that the longitude of time may be not sufficient enough to have a general overview. Also this period may be quite long from the start of the transition. A more comprehensive study for a longer period of time, ideally from the beginning of the transition process is expected.

Regarding the Corruption Perception Index, up to now, Transparency International is one of the most prestigious organizations collecting and producing score and rankings to measure corruption in countries worldwide. Unfortunately, the organization itself admitted that currently little literature is available on national statistical reporting on corruption and actually no best practice has been identified to demonstrate the issue. National statistical data are usually available in national language and gathered by national authorities based on national perception and methodology. However, this type of methodology leads to above mentioned problem as the reliability and capability of national statistical authorities in countries with transition economies are questionable. Indeed, research on this topic is very limited. Worse still, recent National Integrity System assessments carried out in European member states confirmed that such statistic are not even gathered in some member states (Wickberg, 2013).

Concerning microeconomic data, academic researchers face more serious problems accessing to microeconomic data on individuals and firms from the transition economies (Filer & Hanousek, 2002). Although many researchers conducted household surveys themselves in support for their researches on various topics such as labor mobility (Lehmann & Wadsworth, 2000), (Sorm & Terrell, 2000) and (Boeri & Flinn, 1999); unemployment duration (Lubyova & van Ours, 1999) and (Lehmann & Wadsworth, 1997); wage differentials (Adamchik & Bedi, 2000), (Gimpelson & Lippoldt, 1999) and (Kroncke & Smith, 1999); and wage arrears (Lehmann, Warsworth, & Acquisti, 1999), the representativeness and quality of data are still debatable, especially of those in the former Soviet Union (Atkinson & Micklewright, 1992). And even when data are provided, most of the time, researchers find little useful information from those data. This is the reason why some researchers are normally skeptical of the meaning and usefulness of data obtaining from transition regions. Some researchers even encountered *"risks of findings that are at best meaningless and at worst totally inaccurate"* (Filer & Hanousek, 2002).

General speaking, a common knowledge of researchers conducting research on transition economies is the accuracy and validity of data gathered. A statement by an economist from transition region that *"people seem allergic to telling the authorities anything*" seems to partially explain the issue. There are many reasons for such behavior but the legacies of the communist past seems to be a clear one as people preferred to let others know as little as possible about themselves, especially when they considered the governments the enemy (Filer & Hanousek, 2002).

Avenue

Although we try our best to conduct a reliable and valid research in order to understand impacts of corruption on entrepreneurship in transition economies and to propose practical recommendation, we highlight the need for further investigation of the topic and of other possible impacts. The lack of time and informational, financial and human resources did not allow conducting region-wide research and collecting all relevant information. In addition, the obtained results of the study would be a supplementation to present understanding of negative impacts of corruption. Further researches with more sophisticated approach and including other factors such as culture and specific context would be an exciting and challenging research topic. We truly expect to have more systematic research and publication of statistics about the economic factors and social factors in transition economies. Research on the feasibility and the collection of quantitative data would provide considerable opportunities for deeper understanding of the transition process and more accurate policy recommendations.

Possible suggestions

To encourage entrepreneurship: Changes from communism to capitalism in economic systems requiring a reallocation of resources make enterprises be central pillar of the economic growth in the transition process (Olson, 1992). Unfortunately, as previously discussed, transition economies began their transition process based on insufficient legal and institutional structure for an entrepreneurial market with cumbersome procedures as well as numerous barriers for new entrepreneurs to entry (Verheul, Wennekers, Audretsch, & Thurik, 2002) and (Chilosi, 2001).

To control corruption: The negative impact of corruption on entrepreneurship under circumstances that all variables that may have effect on both corruption and entrepreneurship are controlled in transition economies is evident. The results have considerable implication for policy makers not only in transition economies but all over the world in an attempt to encourage entrepreneurship and improve economic environment. Therefore, appropriate policies restraining the pervasiveness and reducing the level of corruption may contribute to encourage entrepreneurship in transition economies. It is proved that corruption can be restrained by various factors, typically among them are the government size, the competitiveness of the economy, the effectiveness of the legal system and the feasibility of implemented regulations. Previous studies suggest different viewpoint on the magnitude of those factors to corruption in transition economies. It is not groundless affirming that once corruption is controlled, entrepreneurship may be encouraged.

Numerous policies and regulations have been implemented in order to control corruption. One possible mechanism is by transformation policy. The policy can be realized through policies promoting marketization, rule of law and democratization. Studies also suggest that a comprehensive policy engaging market-oriented economy and egalitarian religious society may build a mutually institutionally complementary relationship in the reduction of corruption (Iwasaki & Suzuki, 2012). It is widely recognized that a centralized system nurtures corruption. That is why fundamental structural and institutional reforms are prerequisite to reduce and prevent corruption in transition economies (Abed & Davoodi, 2000).

In the process of carrying out institutional and structural reforms, the process of privatization of state-owned enterprises in transition economies is inevitable. Although, it is perceived that through the privatization process, corruption may permeate by opportunist state officials, privatization process is still prerequisite condition for transition economies to transform into a market economy. Suitable and effective policies fastening the privatization process and strictly punishing corruption practices may be of help in transition process. In fact, impacts of corruption practices during privatization process are assessed considerably less negative than expected by experts from the World Bank, academia and the countries themselves in a research conducted by Kaufmann and Siegelbauum. Their findings indicate that privatization transactions seem to have less corrupt involvement than those in the rest of the economy. Also, privatization programs may affect and even eradicate the incident of corruption in the post-privatization era in comparison with non-privatized past. In other words, privatized sector appears to have significantly less corruption practices than non-privatized sector (Kaufmann & Siegelbaum, 1996).

Moreover, privatization process when conducted with complementary reforms is believed to have positive effect on the economic growth (Estrin, Hanousek, Kocenda, & Svejnar, 2009). Studies indicate that economic prosperity is negative linear with corruption level in a country. In other words, the wealthier a transition economy becomes, the fewer corruption practice it may has. It seems to be reasonable as when individuals either bribe takers or bribe givers become better off, they likely have less motivation to engage in illegal activities (Goel & Budak, 2006) and (Eilat & Zinnes, 2002).

In relation to government size: In fact, findings regarding the impact of government size on corruption are mixed in literature. Studies for specific countries indicate adverse impact of government size on corruption, which means that the bigger the government size, the more evident of corruption inclination (Goel & Nelson, 1998). Meanwhile, studies conducted with cross-country analysis show a positive relation: A bigger government size is likely a factor contributing to improving the corruption situation in transition economies generally (Goel & Nelson, 2005) and (Goel & Budak, 2006). Possible suggestion for the difference may be due to the assumption that government spending in the transition years was objected to improve the monitoring and policy mechanisms (Goel & Budak, 2006).

To enhance the competitiveness of the economy: In recent economic development inclination of the world, competitiveness is considered an important element in the generation of a country's wealth (Zinnes, Eilat, & Sachs, 2001). It is also true that prosperity of a country may contribute in the fight against corruption. Thus, policies to increase the competitiveness of a country should play a critical role in the reduction and prevention of corruption. Furthermore, in order to have competitive advantage in the global market, the competitiveness of a country also is considered a foundation for entrepreneurs. Thus, the enhancement of a country's competitiveness is not only help to lower the level of corruption but also encourage entrepreneurship in that country. The study conducted in Eastern Europe and Asian transition economies by Goel and Budak (2006) concludes that banking and non-banking reforms have equal influence on reducing corruption. Additionally, in general, as the economy of a transition country becomes more competitiveness in terms of price liberalization, foreign exchange liberalization, degree of privatization, banking and enterprise reforms and infrastructure reforms, corruption practice may be lowered and prevented. Thus, a comprehensive reform seems to be more effective on corruption reduction. Probably fewer bottlenecks with reforms being carried out widespread across sectors in comprehensive reforms are expected to have greater remarkable impact on corruption. As a result, fewer opportunities remain for state officers to indulge in rent-seeking behaviors. However, with resource constrained in transition process, whether or not policy makers in those countries can pay for comprehensive reforms and sustain them over time to lower levels of corruptions is still an open-question. This is why the results may give some implications for both internal policymakers and international bodies in designing solutions to reduce corruption and encourage entrepreneurship in those countries.

To construct a competent and sufficient legal system and regulation implementation procedure: There is no doubt that judiciary and legal system is a fundamental pillar of a market economy. Transparent rules and implementation procedure are believed effective way to prevent corruption and break the innate secrecy surrounding corruption (OECD, 2007). Building and promoting transparent and clear regulation/rules and their enforcement is initial condition to create deterrent effect and should be borne in mind of every policy maker. One first step for that is the accessibility to government information of the public. Together with the enhancement of the legal framework and the transparency of government activities, the improvement of government's accountability reflecting by solid internal system of checks and balances is indispensable for good governance which helps to prevent corruption (Nowak, 2001).

Conclusion

In this study, we attempt to conduct an empirical study on the impact of corruption on entrepreneurship in transition economies and propose practical recommendation to tackle the issues. Our interest in that field and the formulation of the research question are the result of a thorough review of the existing literature and diligent data collection which confirm hypotheses of the impacts of corruption on entrepreneurship in transition economies. In fact, much of the existing literature concentrates on the topic of corruption and entrepreneurship. Yet only little studies their interaction, especially in the context of transition economies.

The fight against corruption is still necessary and getting aggressive more than ever before as recently, according to a report published by the World Bank, only eight of the 29 transition economies have the above average Control of Corruption Index and most of the remaining ones fall far below it (World Bank, 2013). Worse still, while the extend of corruption control all over the world has a increase tendency, that of transition economies seems to go downward factoring the economic development level of those countries. Noticeably, the degree of corruption arising in these countries varies differently (Iwasaki & Suzuki, 2012). Therefore, the objective of the study is to understand quantitatively the impact of corruption on entrepreneurship in these specific countries. In an attempt to propose answers, several hypotheses are posed: Corruption has detrimentally negative impact on entrepreneurship; Factors having considerable influence on the development of entrepreneurship include the level of corruption, GDP per capita, literacy rate, unemployment rate, competitiveness of the economy, government size, effectiveness of the legal system and comprehensiveness of regulations of a country; Among those factors, GDP per capita, literacy rate, unemployment rate, the competitiveness of the economy, the effectiveness of the legal system and the comprehensiveness of implemented regulations have positive relation with entrepreneurship while government size has negative one.

Transition economies are chosen as our topic for their unique economic and social characteristics. The fact that the transition process has been taken for quite a long time but many further developments are expected to reached in a shorter time triggers our concern about factors that could contribute to fasten the process. On the one hand, corruption is recognized as detrimental for economic growth (Bardhan, 1997) and causing numerous hindrances for the development of entrepreneurship. Especially, corruption is considered pervasive and evident in transition economies (Rose-Ackerman, 1999). On the other hand, entrepreneurship is regarded as an engine of economic growth (Baron & Shane, 2008). New enterprises are believed to make new equilibrium in the market (Coase, 1937), adjust the market's supply and demand balance (Acs, Carlsson, & Karlsson, 1999) and create new jobs (Acs & Audretsch, 1993). The importance role of entrepreneurship in the economy urges both academic researchers and policy makers to find sufficient approach to improve the economic environment to support entrepreneurs and nurture entrepreneurship. Based on such recognition, we hope that by an empirical study of the impact of corruption on entrepreneurship, we could firstly present the concrete influences that corruption gives to entrepreneurship in the context of transition economies and then propose practical recommendations that useful to fasten the transition process and stimulate entrepreneurship in these countries.

In order to meet our objectives, a comprehensive review of existing literature is carried out. Since the nature of the study is empirical research, we present in details the process and difficulties in collecting data and designing model. By applying simple linear regression and OSL estimation, results and their interpretation and hypotheses confirmation are introduced subsequently. Further discussion on the obtained results as well as possible recommendations is followed.

It is prerequisite to have a deep understanding of relevant corruption and entrepreneurship concepts. The literature reveals that there is no agreed definition of corruption as well as entrepreneurship due to the diversity and complexity in terms of the nature, culture, legal status, etc. In fact, many definitions are proposed by both academic researchers and independent organization concerning these matters (Klitgaard, 1988), (Huntington, 1968), (Transparency International, 2015), (Tanzi, 1995), (European Parliament, 2013) and (World Bank, 1997). However, it is widely accepted that corruption is the abuse of public office for private gain and impediment to the development of economic growth (Bardhan, 1997). It is also believed that corruption is detrimental to the development of entrepreneurship. But the degree of impact is still a question in literature. The empirical study is expected to shed light on the topic.

The study concentrates in the assumption of the negative impact of corruption on entrepreneurship in transition economies. It actually justifies the suggested recommendations to tackle the issue and enhance the effectiveness of the transition process. We highlight the importance of fundamental structural and institutional reforms which are believed to contribute in the prevention of corruption in transition economies (Abed & Davoodi, 2000). Besides, privatization process should be encouraged and fastened in transition process as well as less corruption practice is identified in privatized sector (Kaufmann & Siegelbaum, 1996).

The methodology applied in the study to address the impact of corruption on entrepreneurship in transition economies is a combined method of both qualitative and quantitative approach. In our opinion, it is the right choice since during the study, we encountered various difficulties which could be barriers to quantitative research: the lack of information about the status of entrepreneurs in transition economies, the typical communist history notorious for inaccurate revealed information, the pervasiveness of unofficial economic activities, etc. Moreover, the qualitative approach enables to have better interpretation of results and giving a deeper analysis of possible recommendations stemming from obtained results. Nevertheless, we regret that the complexity of the subject and the lack of data and resources prevent us from drawing more accurate conclusions.

We collect relevant data published by prestigious independent organization to have an objective view and ensure the validity as well as accuracy of the data. Each indicator and its details are explained for the choice of applying. Methodology of data collection and their reliability and validity is presented in order to construct appropriate model. By resolving the mode with simple linear regression and OSL estimation, concrete results are obtained. Received results likely confirm hypotheses that under the context with only corruption and entrepreneurship are taken into consideration, corruption seems to have close and negative relation with entrepreneurship. Similarly, when each individual set of factors are taken to examine the relationship with entrepreneurship, it is likely that GDP per capita, literacy rate, unemployment rate, the competitiveness of the economy, the effectiveness of the legal system and the appropriateness of the implemented regulation have probably positive on entrepreneurship while the government size possibly has negative impact. All these factors demonstrate strong correlation with entrepreneurship individually. However, after running regression to examine the hypotheses with all factors taken into account, the correlation coefficiencies are collected with significance at very high level showing no statistical meaning. Several reasons for the lack of statistical meaning of the results are discussed. Notably, the accuracy and validity of data obtaining should be kept cautious. It is true that data are collected from independent sources but considering the origin that the data stem from, it is reasonable for questioning the reliability of the data.

Finally, from the interpretation of the results several recommendations are proposed in the last part. The most suggested proposal is to endorse fundamental institutional and structural reforms with privatization process being encouraged and fastened (Abed & Davoodi, 2000) and (Kaufmann & Siegelbaum, 1996). Solutions to downsize the government spending and intervention and to improve the competitiveness of the economy with legal systems being strengthened and regulation implementation procedure being improved should be stimulated.

The study is expected to contribute to empirical literature on the impact of corruption on entrepreneurship in transition economies. We attempt to provide an empirical outlook on the negative influence that corruption has on entrepreneurship in order to promote possible solutions to prevent the corrupt practices as well as nurture the development of entrepreneurship in these specific economies. Limitations of the study partially because of the lack of time and informational, financial and human resources are well acknowledged. Therefore, further investigation of the topic in order to have a more systematic and comprehensive understanding of these subjects should be carried out.

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Appendices

Annex A: List of countries with transition economies and classification

Transition economies in Europe and the former Soviet Union

CEE[1]	Albania, Bulgaria, Croatia, Czech Republic, FYR Macedonia, Hungary, Poland, Romania, Slovak Republic, Slovenia
Baltics	Estonia, Latvia, Lithuania
CIS[2]	Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan

Transition economies in Asia

Cambodia, China, Laos, Vietnam

Source: (IMF, 2000)

[1] CEE: Central and Eastern European Economies
[2] CIS: Commonwealth of Independent States

Annex B: Indicators Influencing Entrepreneurship 2009

	New density	lnEntrep	ln Cor	ln GDP per Capita	ln Lit	ln unemp	Comp	Gov	Leg	Reg
Albania	0.97	-0.03046	1.16315	8.24853	-0.03252	-1.98050	0.72	0.77	0.56	0.64
Armenia	1.27	0.23902	0.99325	7.97728	-0.00401	-1.67665	0.76	0.81	0.55	0.68
Azerbaijan	0.74	-0.30111	0.83291	8.50289	-0.00200	-2.86470	0.64	0.46	0.59	0.71
Belarus	0.85	-0.16252	0.87547	8.54985	-0.00401	-2.79688				
Bulgaria	6.83	1.92132	1.33500	8.81537	-0.01613	-2.68825	0.77	0.67	0.5	0.78
Cambodia			0.69315	6.59987	-0.30246	-8.51719	0	0	0	0
China			1.28093	8.23695	-0.05024	-3.12357	0.66	0.44	0.64	0.6
Croatia	2.6	0.95551	1.41099	9.57491	-0.01106	-2.39690	0.76	0.51	0.58	0.7
Czech	2.92	1.07158	1.58924	9.88425		-2.70306	0.79	0.49	0.63	0.73
Estonia			1.88707	9.62119	-0.00200	-1.98050	0.84	0.57	0.73	0.77
Georgia	2.58	0.94779	1.41099	7.80221	-0.00300	-1.77786	0.86	0.55	0.56	0.72
Hungary	6.1	1.80829	1.62924	9.46467	-0.01005	-2.30259	0.8	0.45	0.64	0.75
Kazakhstan	1.52	0.41871	0.99325	8.89891	-0.00300	-2.71810	0.57	0.68	0.57	0.77
Kyrgyz	0.9	-0.10536	0.64185	6.79234	-0.00803	-2.47694	0.64	0.81	0.45	0.73
Laos	0.08	-2.52573	0.69315	6.79234	-0.31883	-4.26870				
Latvia	4.73	1.55393	1.50408	9.42408	-0.00200	-1.76609	0.81	0.53	0.64	0.74
Lithuania	2.34	0.85015	1.58924	9.39848	-0.00300	-1.98777	0.77	0.67	0.64	0.72
Macedonia	5.45	1.69562	1.33500	8.40649	-0.02634	-1.13320	0.75	0.58	0.53	0.79

Moldova	1.63	0.48858	1.19392	7.31920	-0.01005	-2.74887	0.68	0.67	0.56	0.65
Poland	0.53	-0.63488	1.60944	9.34382	-0.00300	-2.50104	0.74	0.56	0.63	0.71
Romania	3.76	1.32442	1.33500	8.94115	-0.02327	-2.67365	0.81	0.65	0.6	0.69
Russia	3.93	1.36864	0.78846	9.04888	-0.00300	-2.48891	0.56	0.67	0.54	0.61
Slovak	4.02	1.39128	1.50408	9.70119		-2.11196	0.81	0.63	0.6	0.74
Slovenia	4.11	1.41342	1.88707	10.10957	-0.00300	-2.83022	0.76	0.46	0.65	0.69
Tajikistan	0.49	-0.71335	0.69315	6.50578	-0.00300	-2.16282				
Turkmenistan			0.58779	8.30894	-0.00401	-2.21641				
Ukrain	0.65	-0.43078	0.78846	7.87360	-0.00300	-2.43042	0.67	0.65	0.48	0.61
Uzbekistan	0.73	-0.31471	0.53063	7.11964	-0.00602	-2.20727				
Vietnam			0.99325	7.00488	-0.06828	-3.64966	0.62	0.76	0.6	0.67

Source: Collected by the author from difference sources (World Bank, 2013), (Transparency International, 2015), (UN Statistics Division, 2013), (UNICEF, 2015), (World Bank, 2015) and (Gwartney, Lawson, & Hall, 2014).

Annex C: Indicators Influencing Entrepreneurship 2010

	New density	ln Entrep	lnCor	lnGDP	ln Lit	lnUnemp	Comp	Gov	Leg	Reg
Albania	0.99	-0.01005	1.19392	8.23907	-0.03252	-1.95193	0.72	0.8	0.54	0.64
Armenia	1.23	0.20701	0.95551	8.04719	-0.00401	-1.66073	0.76	0.81	0.56	0.72
Azerbaijan	0.55	-0.59784	0.87547	8.66854	-0.00200	-2.88240	0.65	0.43	0.6	0.7
Belarus	0.95	-0.05129	0.91629	8.66871	-0.00401	-2.79688				
Bulgaria	6.47	1.86718	1.28093	8.79285	-0.01613	-2.28278	0.8	0.65	0.5	0.77
Cambodia			0.74194	6.66313	-0.30246	-5.52146	0.73	0.79	0.46	0.68
China			1.25276	8.38366	-0.05024	-3.17009	0.67	0.45	0.62	0.6
Croatia	2.4	0.87547	1.41099	9.52908	-0.01106	-2.13707	0.76	0.52	0.58	0.69
Czech	3.03	1.10856	1.52606	9.88410		-2.61730	0.78	0.52	0.62	0.73
Estonia			1.87180	9.61647	-0.00200	-1.77786	0.84	0.59	0.73	0.77
Georgia	3.64	1.29198	1.33500	7.88307	-0.00300	-1.81401	0.85	0.61	0.57	0.71
Hungary	6.45	1.86408	1.54756	9.46800	-0.01005	-2.18926	0.8	0.49	0.63	0.75
Kazakhstan	1.51	0.41211	1.06471	9.13766	-0.00300	-2.84731	0.56	0.71	0.57	0.75
Kyrgyz	0.81	-0.21072	0.69315	6.80128	-0.00803	-2.45341	0.64	0.74	0.44	0.68
Laos	0.07	-2.65926	0.74194	6.96035	-0.31883	-4.26870				

Latvia	7.94	2.07191	1.45862	9.34286	-0.00200	-1.67665	0.81	0.52	0.64	0.71
Lithuania			1.60944	9.40005	-0.00300	-1.72597	0.77	0.68	0.64	0.74
Macedonia	4.51	1.50630	1.41099	8.40626	-0.02634	-1.13943	0.75	0.57	0.52	0.8
Moldova			1.06471	7.39449	-0.01005	-2.60369	0.68	0.73	0.55	0.68
Poland			1.66771	9.43180	-0.00300	-2.34341	0.74	0.53	0.63	0.7
Romania	3.45	1.23837	1.30833	8.94703	-0.02327	-2.61730	0.8	0.72	0.57	0.73
Russia	3.9	1.36098	0.74194	9.27031	-0.00300	-2.61730	0.58	0.69	0.53	0.63
Slovak	4.45	1.49290	1.45862	9.70388		-1.93794	0.81	0.63	0.58	0.39
Slovenia	3.83	1.34286	1.85630	10.05844	-0.00300	-2.63109	0.76	0.43	0.62	0.64
Tajikistan	0.66	-0.41552	0.74194	6.60665	-0.00300	-2.15417	0.56	0.65	0.54	0.66
Turkmenistan			0.47000	8.38777	-0.00401	-2.21641				
Ukrain	0.97	-0.03046	0.87547	8.02813	-0.00300	-2.51331	0.66	0.66	0.48	0.6
Uzbekistan	0.77	-0.26136	0.47000	7.26052	-0.00602	-2.20727				
Vietnam			0.99325	7.17166	-0.06828	-3.64966	0.63	0.8	0.59	0.66

Source: Collected by the author from difference sources (World Bank, 2013), (Transparency International, 2015), (UN Statistics Division, 2013), (UNICEF, 2015), (World Bank, 2015) and (Gwartney, Lawson, & Hall, 2014)

Annex D: Indicators Influencing Entrepreneurship 2011

	density	lnEntrep	lnCor	lnGDP	ln Lit	lnUnemp	Comp	Gov	Leg	Reg
Albania	0.87	-0.13926	1.13140	8.31557	-0.03252	-1.96611	0.71	0.8	0.5	0.63
Armenia	1.17	0.15700	0.95551	8.13798	-0.00401	-1.69282	0.74	0.83	0.58	0.75
Azerbaijan	0.63	-0.46204	0.87547	8.87724	-0.00200	-2.91877	0.65	0.5	0.61	0.69
Belarus	0.9	-0.10536	0.87547	8.75163	-0.00401	-2.81341				
Bulgaria	7.9	2.06686	1.19392	8.93656	-0.01613	-2.18037	0.76	0.71	0.5	0.78
Cambodia			0.74194	6.77765	-0.30246	-5.80914	0.7	0.79	0.48	0.64
China			1.28093	8.58392	-0.05024	-3.14656	0.66	0.5	0.6	0.61
Croatia	2.49	0.91228	1.38629	9.57457	-0.01106	-2.00992	0.76	0.53	0.57	0.7
Czech	2.89	1.06126	1.48160	9.97217		-2.65926	0.77	0.53	0.62	0.75
Estonia			1.85630	9.77656	-0.00200	-2.29263	0.83	0.61	0.73	0.78
Georgia	4.55	1.51513	1.41099	8.10168	-0.00300	-1.89048	0.85	0.68	0.57	0.81
Hungary	7.64	2.03340	1.52606	9.54316	-0.01005	-2.21641	0.77	0.56	0.62	0.76
Kazakhstan	1.64	0.49470	0.99325	9.36580	-0.00300	-2.91877	0.54	0.71	0.6	0.76
Kyrgyz	0.95	-0.05129	0.74194	7.04491	-0.00803	-2.46510	0.64	0.77	0.44	0.66
Laos	0.1	-2.30259	0.78846	7.11964	-0.31883	-4.26870				
Latvia	12.22	2.50307	1.43508	9.52208	-0.00200	-1.82016	0.81	0.57	0.65	0.72

Lithuania			1.56862	9.56704	-0.00300	-3.01593	0.77	0.7	0.65	0.76
Macedonia	4.02	1.39128	1.36098	8.51479	-0.02634	-1.15836	0.76	0.58	0.54	0.81
Moldova			1.06471	7.59085	-0.01005	-2.70306	0.68	0.75	0.55	0.7
Poland			1.70475	9.52697	-0.00300	-2.34341	0.74	0.55	0.64	0.73
Romania	4.39	1.47933	1.28093	9.04770	-0.02327	-2.60369	0.78	0.73	0.56	0.74
Russia	4.47	1.49739	0.87547	9.49401	-0.00300	-2.73337	0.59	0.68	0.54	0.63
Slovak	4.86	1.58104	1.38629	9.79412		-2.00248	0.8	0.64	0.58	0.72
Slovenia	4.06	1.40118	1.77495	10.12085	-0.00300	-2.50104	0.75	0.45	0.62	0.63
Tajikistan	0.26	-1.34707	0.83291	6.72743	-0.00300	-2.18037	0.59	0.64	0.54	0.65
Turkmenistan			0.47000	8.65260	-0.00401	-2.21641				
Ukrain	1.06	0.05827	0.83291	8.21528	-0.00300	-2.53831	0.66	0.68	0.51	0.64
Uzbekistan	0.82	-0.19845	0.47000	7.38895	-0.00602	-2.20727				
Vietnam			1.06471	7.31788	-0.06828	-3.91202	0.63	0.7	0.57	0.66

Source: Collected by the author from difference sources (World Bank, 2013), (Transparency International, 2015), (UN Statistics Division, 2013), (UNICEF, 2015), (World Bank, 2015) and (Gwartney, Lawson, & Hall, 2014)

Annex E: Indicators Influencing Entrepreneurship 2012

	density	lnEntrep	lnCor	lnGDP	lnHR	lnUnemp	Comp	Gov	Leg	Reg
Albania	0.88	-0.12783	1.19392	8.26976	-0.03252	-1.97328	0.7	0.8	0.46	0.62
Armenia	1.55	0.43825	1.22378	8.11791	-0.00401	-1.75446	0.73	0.81	0.58	0.76
Azerbaijan	0.7	-0.35667	0.99325	8.92066	-0.00200	-2.95651	0.68	0.43	0.62	0.72
Belarus	1.14	0.13103	1.13140	8.81937	-0.00401	-2.83022				
Bulgaria	9.03	2.20055	1.41099	8.88544	-0.01613	-2.09557	0.76	0.65	0.5	0.79
Cambodia			0.78846	6.85118	-0.30246	-6.21461	0.71	0.79	0.46	0.68
China	28.12	3.33648	1.36098	8.69551	-0.05024	-3.10109	0.67	0.45	0.6	0.63
Croatia	2.82	1.03674	1.52606	9.48144	-0.01106	-1.84516	0.77	0.52	0.57	0.7
Czech	2.96	1.08519	1.58924	9.87277		-2.65926	0.79	0.52	0.61	0.77
Estonia			1.85630	9.77315	-0.00200	-2.29263	0.82	0.59	0.72	0.78
Georgia	4.86	1.58104	1.64866	8.19864	-0.00300	-1.89712	0.85	0.61	0.58	0.81
Hungary	4.75	1.55814	1.70475	9.45038	-0.01005	-2.21641	0.76	0.49	0.61	0.75
Kazakhstan	1.71	0.53649	1.02962	9.43412	-0.00300	-2.93746	0.55	0.71	0.62	0.79
Kyrgyz	0.92	-0.08338	0.87547	7.09589	-0.00803	-2.47694	0.65	0.74	0.45	0.71
Laos			0.74194	7.25418	-0.31883	-4.26870				

Latvia	11.63	2.45359	1.58924	9.53655	-0.00200	-1.90381	0.81	0.52	0.65	0.76
Lithuania	4.71	1.54969	1.68640	9.55698	-0.00300	-2.02495	0.76	0.68	0.64	0.78
Macedonia	3.6	1.28093	1.45862	7.63675	-0.02634	-1.17118	0.77	0.57	0.54	0.81
Moldova			1.28093	8.43988	-0.01005	-2.88240	0.68	0.73	0.53	0.7
Poland			1.75786	9.47163	-0.00300	-2.29263	0.74	0.53	0.64	0.75
Romania	4.12	1.41585	1.48160	8.97563	-0.02327	-2.65926	0.78	0.72	0.56	0.77
Russia	4.3	1.45862	1.02962	9.55329	-0.00300	-2.90042	0.6	0.69	0.53	0.68
Slovak	5.11	1.63120	1.52606	9.74279		-1.97328	0.79	0.63	0.56	0.73
Slovenia	4.36	1.47247	1.80829	10.01565	-0.00300	-2.43042	0.74	0.43	0.61	0.65
Tajikistan	0.26	-1.34707	0.78846	6.85961	-0.00300	-2.20727	0.589	0.679	0.52	0.68
Turkmenistan			0.53063	8.82438	-0.00401	-2.22562				
Ukrain	0.92	-0.08338	0.95551	8.29655	-0.00300	-2.59027	0.67	0.66	0.5	0.65
Uzbekistan	0.64	-0.44629	0.53063	7.49610	-0.00602	-2.21641				
Vietnam			1.13140	7.44775	-0.06828	-4.01738	0.64	0.8	0.54	0.66

Source: Collected by the author from difference sources (World Bank, 2013), (Transparency International, 2015), (UN Statistics Division, 2013), (UNICEF, 2015), (World Bank, 2015) and (Gwartney, Lawson, & Hall, 2014)