

St. Petersburg University
Graduate School of Management

Master in Management Program

Influence of institutional environment on opportunity-motivated
entrepreneurs: evidence from GEM data

Master's Thesis by the 2nd year student
Concentration — International Business
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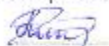
St. Petersburg
2017

**ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ
ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ**

Я, Кудевич Мария Алексеевна, студент второго курса магистратуры направления «Менеджмент», заявляю, что в моей магистерской диссертации на тему « Влияние институциональной среды на мотивацию добровольных предпринимателей: данные из базы GEM», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

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20.05.2017

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THE MASTER THESIS**

I, Maria Kudевич, (second) year master student, program «Management», state that my master thesis on the topic « Influence of institutional environment on opportunity-motivated entrepreneurs: evidence from GEM data », which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

All direct borrowings from printed and electronic sources, as well as from master theses, PhD and doctorate theses which were defended earlier, have appropriate references.

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Аннотация

Автор	Кудевич Мария Алексеевна
Название ВКР	Влияние институциональной среды на мотивацию добровольных предпринимателей: данные из базы GEM
Направление подготовки	Высшая школа менеджмента-Международный менеджмент
Год	2017
Научный руководитель	Верховская Ольга Рафаиловна
Описание цели, задач и основных результатов	<p>В данной работе представлены результаты исследования, целью которого было изучение связи между институциональными факторами и мотивацией добровольной предпринимательской деятельностью на становом уровне. Принимая во внимание институциональные теории Скотта и других, главными факторами были определены коррупция, образование, государственные программы в пользу поддержки предпринимательства, доступность к займам, доступность к венчурному капиталу и доступность к передовым технологиям. Эмпирический анализ проводился с использованием Глобального мониторинга предпринимательства за 2014-2016 года. Используя данные из различных источников, таких как Всемирный банк, Индекс Восприятия Коррупции и отчеты об оценке Конкурентоспособности мы задали независимые переменные, с помощью которых были построены регрессионные модели на основании разделение стран на 2 подгруппы. Результаты эконометрического анализа свидетельствуют о том, что в обеих подгруппах, факторы, которые влияют на мотивацию добровольных предпринимателей разные.</p>
Ключевые слова	Добровольное предпринимательство,

	вынужденное предпринимательство, мотивация предпринимателей, институциональная среда
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Abstract

Master Student's Name	Maria Kudevich
Master Thesis Title	Influence of institutional environment on opportunity-motivated entrepreneurs: evidence from GEM data
Main field of study	Graduate School of Management-International Business
Year	2017
Academic Advisor's Name	O.R. Verkhovskaya
Description of the goal, tasks and main results	This work presents the results of a study, which aimed to examine the relationship between institutional factors and motivation of opportunity entrepreneurship on a country level. Taking into account institutional theory of Scott and others, the main factors have been identified as corruption, education, government programs to support entrepreneurship, ease access to loans, availability of venture capital and availability of latest technology. The empirical analysis was conducted using the Global Entrepreneurship Monitor for 2014-2016 years. Using data from various sources such as the World Bank, Transparency report and Competitiveness reports, independent variables we defined, which were used in building regression models based on the distribution of the countries into 2 groups (innovation-driven, efficiency-driven). The results of the econometric analysis indicate that in both groups, factors that affect the motivation of opportunity entrepreneurs are different.
Keywords	Opportunity entrepreneurs, necessity entrepreneurs, motivation of entrepreneurs, institutional environment

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Introduction

The opportunities for creating new companies are determined, on the one hand, by the presence of people who want to create their own business and are able to become an entrepreneur, and on the other hand, external conditions for starting their own business. The latter are related to national and regional conditions, such as economic growth, culture, business support policies.

Over the past few years, dividing entrepreneurs, according to their motivation, into necessity and opportunity has become generally accepted. The former are those, who were pushed to become entrepreneurs, due to the option of no other opportunity to earn more money, as only opening a business and the second one are those idea of starting the business is a voluntary decision, the last one is characterized as innovative and leads to the economic growth of the country. The ratio of necessity and opportunity entrepreneurs, i.e. the structure of motivation varies depending on the level of economic development of the country. The motives of starting a business determines the entrepreneurial behavior and business what type he intends to create. Understanding the factors that characterize the structure of motivation, leads to understanding what affects the quality of entrepreneurial activity and, consequently, economic growth.

The purpose of the paper is to examine institutional factors that influence motivation of opportunity entrepreneurs. Much has been written on the topics of influence of institutional environments on entrepreneurs and on difference between opportunity and necessity entrepreneurs, but the insufficient study in the field of what external factors motivate opportunity entrepreneurs gives author to deeper the research in that field. A small number of observations limit the authors in the choice of models to analyze a large number of factors in the institutional environment. Topics uniqueness will give the scope for the study.

Object of the study is the motivation of opportunity-driven entrepreneurs.

The **objectives** of the study are:

- Comparing the levels of entrepreneurial activity between the countries;
- Analysis of the literature related to opportunity entrepreneurs and institutional environment;
- Identification of institutional factors that could affect the motivation of opportunity-motivated entrepreneurs;
- Constructing the regression models;
- Consideration of the influence of factors and analysis of the obtained results;

- Determining the differences in the levels of opportunity-motivated entrepreneurs in various countries.

The analysis will be based on collection of raw secondary data and construction of regression models. Thus, the method that is going to be used is quantitative. The sources for gathering the data are GEM data, World Bank, Transparency reports and Competitiveness reports.

The research questions that were stated for analyzing the topic are following:

Research questions:

- What institutional factors affect motivation of opportunity entrepreneurs?
- Is there a difference between influence of institutional factors in different group of countries?

At the end of the work, the author will be able to answer the research questions that were stated.

The **structure** of the paper will be presented in four main parts. The first section presents the theoretical research model and based on the review of theoretical and empirical papers identifies the characteristics of the institutional environment. The second section describes the research methodology and provides an empirical section structure. This section will show an empirical part, which demonstrates step-by-step regression analysis with the final results that were found. The final part will discuss the results of the obtained analysis, theoretical and practical contribution for policymakers, scholars and managers.

The work contributes to be very useful in terms of understanding the influence of motivation between entrepreneurs all over the world. The study of the motivation will be provided through the running of regression analysis, where will be presented the data from 78 countries all over the world for the last three years.

The comparison of different markets is able to provide entrepreneurs with more relevant information about the motivation, on which factors is important to pay attention before creation of the business. The work will also be very crucial in terms of academic study and attention will also be paid to the fact that today it is very essential separation of opportunity-driven entrepreneurs and necessity and the factors that could influence the motivation of formers will be very different in comparison to the latter.

1. Theoretical research on factors of institutional environment influencing opportunity-motivated entrepreneurs

1.1 Role of entrepreneurship in today's economy

In recent years there is a growing interest how entrepreneurship affects economic growth. Subject of entrepreneurship is interesting and very important for the present time. Economists are not satisfied with the traditional approach to entrepreneurship as a process of organizational design innovation, social psychologists study the typical signs of entrepreneurial personality, social anthropology conducts research of rootedness business cultures and customs of different societies, sociologists concerned with social context - network structures, norms and practices, motivational and other characteristics of different business strategies, economic geography is compared settler and territorial factors that significantly affecting the business. On that basis, modern science has made considerable progress in understanding the causes, driving forces, constraints and challenges for the development of entrepreneurship. This work is now in the context of the ongoing financial and economic crisis, more than relevant. The first studies of impact entrepreneurship on economic growth were in 1950s. First movers in that field were Solow (Solow, 1956) and Swan (Swan, 1956), who said that there are 3 main factors that explain economic growth: capital, labor and productivity. In 1990s, for example North (North, 1990) said that that institutions are able to explain the economic growth in terms of difference between the countries. One of the most important studies which demonstrated the relationship between institutional environment and entrepreneurship was the article of Kostova in 1997. She claimed that the environment should be divided into three dimensional institutional profile: regulatory, cognitive and normative spheres. Further, almost all studies will take that approach as the basis for their works. In 2008 Acemoglu and Robinson (Acemoglu, Robinson, 2008) created the “development process” which is based on several countries institutional settings. However, not everyone considers entrepreneurship as a positive way of economic growth. For instance, S. Shane (Shane, 2009) in his work was claiming, “entrepreneurship is a bad policy. Encouraging more and more people to start businesses won't enhance economic growth or create a lot of jobs because start-ups, in general, are not the source of our economic vitality of job creation”. Therefore, it can be said that everyone sees entrepreneurship in a different way. It depends on the individuals, which goals they want to achieve and what are the drivers for the progress in their sense.

Over the past 200 years humanity did not know any more or less successfully developing state, where the entrepreneur would not play moving role. All civilized nations owe their prosperity is not command and administrative, and market economic system, a powerful engine

economic and social development which is entrepreneurship. As international experience shows that without the freedom of the market economy, without amateur producer, without any business activity prosperity can not be. To exit from the crisis and accelerate economic growth in order to overcome egalitarianism and its negative socio-economic impact is important not turn off your business, and create all favorable conditions for its functioning and development.

The concept of an entrepreneur has its own story. Going deeper to the history of the definition entrepreneur, it could be said that the first scholar in that field was Englishman Richard Cantillon. He introduced the economic analysis of the concept "entrepreneur" (Cantillon, 1755) as a "non-fixed income earners who pay known costs of production but earn uncertain incomes, due to the speculative nature of pandering to an unknown demand for their product." Also, he defined the term of entrepreneurship all in all as a "process of bearing the risk of buying at certain prices and selling at uncertain prices".

There are various definitions and opinions of the role of entrepreneur in the society. Some of the scholars determined them in a positive way, some of the in the negative. For example, the French economist Jean Baptiste Seius characterized the entrepreneur as follows: "The entrepreneur moves economic resources from area with lower to the area with higher performance and effectiveness". I. Schumpeter brought one of the greatest contributions to development of the theory of an entrepreneurship, a research of its nature and functions. He called the entrepreneur of that organizer of production who lays new ways, performs new combinations: "To be an entrepreneur - means, to do not that do others... and not as do others". (Schumpeter, 1982). K. Marx saw in the entrepreneur only the capitalist who invests the capital in own entity and on a difference between the cost of products created by hired employees and the amount of the salary paid to them has profit.

On the other hand, founders of classical political economy did not see a special sense in the entrepreneur as, in their opinion, economic process is performed in itself, because of the principle of "an invisible hand". According to their scheme, the entrepreneur can act in quality either the owner (A. Smith), or the investor (D. Ricardo). They did not recognize other functions for the entrepreneur.

Entrepreneur - a person who thinks about how to make things better, how to adapt and benefit society. For him, it is important to develop, to dream, to create something new. Entrepreneur task is to change, to invent, to grow, to dream. A distinctive feature or entrepreneurship is innovation, but not all entrepreneurship characterizes with it. Further, the paper will examine the detailed analysis with the difference between the kinds of entrepreneurs.

The entrepreneurship is a business basis since the entrepreneur is a person who, having estimated advantage that undertakes the risk and responsibility connected with the organization

of the new entity or development of the new idea (products) or the services offered society (consumers). The author defined entrepreneurship as an any attempt to create a new business or a new business - for example, self-employment, the establishment of a new enterprise structure or expansion of an existing business undertaken by an individual, group of individuals or an existing business - structure.

After the term of entrepreneur was defined, it is important to highlight the role of entrepreneurial activity as a whole in today's world. Some economists recognized crucial importance of an entrepreneurship for economic progress. A. Marshall added to three classical production factors - work, the earth, the equity - the fourth - the organization, and I. Schumpeter in the book "Theory of Economic Development" (1912) gave this factor its modern name - an entrepreneurship. Representatives of the New Austrian school do not associate entrepreneurial activity with a particular form of property, denying the causal relationship between them. Entrepreneurial activity can be realized with joint-stock, group and private (individual) forms of ownership. However, entrepreneurship within the framework of joint-stock and group ownership is carried out only to the extent that it is possible to give workers the opportunity to take the initiative.

It also could be mentioned that the rate of the entrepreneurial activity significantly varies across the countries, as many researches believed that countries are different not only from the point of view of entrepreneurial activity, but also in its structure. Kostova defined that it is very crucial to measure country in terms of "country institutional profile" (CIP) as comparing countries with different development level. Further research was continued by Busenitz, Gomez and Spencer, which main idea was to develop and validate a measure of a CIP for the domain of entrepreneurship. It was also defined that the rate of the entrepreneurship can be represented as a high-impact entrepreneurship and replicative (Shane, 2008 Stenholm et al., 2013). Scholars separated these two kinds of entrepreneurship because they play different role in the economic development. Replicative entrepreneurship could be explained as the entrepreneurship that helps people to be employed, so it gives some places, but it doesn't offer new or innovative products, thus it is considered as the type that doesn't influence on economic growth, whereas high-impact entrepreneurship is the complete opposite.

The entrepreneurship assumes creation of own business, and it is always connected with risk and overcoming resistance arising in case of the birth of all new. The international experience and practice convince that an important element of market economy is existence and interaction of big, medium and small enterprises. According to various estimates, entrepreneurs make up approximately 10-20% of the population. For instance, according to GEM (Global entrepreneurship monitor) (GEM, 1999) in 2014 Uganda was the first country with the highest

indicator-28.1%, China-10.2%, USA had only 4.3%, Europe varied from 1 to 5% and Russia 3% (the rankings were based on calculated percentages of the adult population in each country that either owns or co-owns a new business and has paid salaries/wages for at least three months, GEM 2014 Global Report).

Therefore, from the written above it can be considered that the main characteristics of the entrepreneurship are:

- initiative activities;
- activities for the organization and production management;
- risk activities;
- receipt of the entrepreneurial income.

Entrepreneurs are the engine of any modern developed economy, because they create the majority of jobs, innovate, stimulate the growth of the well-being of the middle class and lay the foundation of civil society and political freedom.

Despite widely acknowledged opinion on that, that the entrepreneurship is the economy engine, the mechanism of interaction between an entrepreneurship and economic growth remains not completely studied. One of the main obstacles for deep studying of this interaction is the lack of empirical data. For completion of this gap in the project progress annually updated database which is information source for the comprehensive analysis of an entrepreneurship at the national and global levels is created unique (on a methodological comparability).

Even with a manor of such large number of information on entrepreneurship, there is a big question what kinds of an entrepreneurs exist or all of them are identical and there is no accurate division into groups?

1.2 Difference between opportunity-driven and necessity-driven entrepreneurs

Many entrepreneurs forget or aren't able, accurately be determined in the business. They don't try to understand what place they take in own business. The entrepreneur owns and manages business that assumes considerable responsibility for risks and results of work of the entity.

Decision about starting a business is an individual and is influenced by economic and institutional factors. For some - the creation of their own business - a voluntary decision, they associate with independent business benefits of greater earnings or implement their own ideas. For others - the decision on choosing entrepreneurial career is forced - they open their business, because there is no other income opportunities.

One of the first scholars who started to differ entrepreneurs were Amit R. and Muller E. In 1995 they discussed the difference between “push” and “pull” entrepreneurship. Also, Global Entrepreneurship Monitor (GEM, 1999) distinguish two kinds of entrepreneurs as: opportunity-driven and necessity driven. Opportunity-driven (innovative individuals) are those who are trying to seize opportunities and get the benefits of entrepreneurial activity, while necessity-driven are entrepreneurs who are trying to start a business due to the fact that they have no other impact opportunities to generate income. Thus, pull and opportunity-driven entrepreneurs become synonyms and push and necessity-driven also mean the same in that paper.

The motivation is the main trigger to differentiate two definitions. In today’s world there are many factors why people decide to become entrepreneurs: to introduce something new to the people, to become world-famous, to earn millions of dollars, to become self-employed or even to survive. In some countries, mostly Third World countries, there is no other opportunity to earn more money, how not to begin the business. These entrepreneurs are motivated not so much with the launch of some new product or service, as in the increase in income, there is no any innovative idea behind. Because of that, these entrepreneurs are called as necessity-driven. The factors that convince people to become entrepreneurs are also called as “push” factors. For instance, some people want to have more flexible operating schedule, in terms of not depending on someone. Those who are trying to associate themselves with the venture initiation are called opportunity-driven. The factors that are behind opportunity-driven entrepreneurs are called “pull” factors. Therefore, there are some peculiarities of how various factors affect both kinds of the entrepreneurs.

Reynolds (2001) was one of the first authors who was defining how the age patterns effect on both kinds of entrepreneurs. Further, the study of Giacomini (2007) showed that age affects start up of a business in a positive way, due to the fact of “exit from unemployment”, it is directly connected with the fact that older entrepreneurs have lower employability. Also, some authors found that opportunity entrepreneurs are older than necessity.

Block and Wagner (2007) mentioned in their work that labor market and education influence well on the earnings of opportunity-driven, but not on necessity entrepreneurs. The study

One more factor which has been deeply studied is gender. In these studies, authors were differentiating more female and male entrepreneurs, rather than necessity and opportunity driven entrepreneurs. Men are more pay attention on money, while women are into stabilizing economic goals and balancing social part. Women also draw great attention on independence and work-family balance (Borgas, Filion and Simard, 2008). In a recent study of Kirkwood and

Campbell-Hunt it was found that women are more subject under the influence of “push” factors, rather than “pull” one, while men are affected by both of them.

One more interesting fact is that opportunity-driven entrepreneurs in difference from necessity, are more motivated not in money, but in other factors that are standing behind the idea and also they have higher opportunity cost.

Acs and Varga (2005) were describing that opportunity entrepreneurs have much more impact on technological aspect, rather than necessity doesn't have it at all. Also, in the GEM annual report it was mentioned that opportunity-driven entrepreneurs are able to exert impact on the technological change, as the idea which lies in the creation of business has novelty and innovation. Therefore, opportunity entrepreneurs have higher impact on country GDP as innovative ideas and products make higher contribution to the economy than product modifications and conventional businesses.

In the studies of Block and Wagner (2007) it has been also mentioned that the opportunities exploited by opportunity entrepreneurs on average are more profitable than those exploited by necessity entrepreneurs, the earnings could be 15-20% higher.

To conclude, mentioned above had shown that demographical factors are able to differentiate opportunity and necessity-driven entrepreneurs in two different ways. As well as to explain what impact these factors exert on push and pull factors. Therefore, both kinds of the entrepreneurship have clear impacts on post-creation characteristics of the firm they(entrepreneurs) create. GEM data shows that the level of opportunity entrepreneurship is higher in countries with higher levels of economic development, where there are more alternatives for economic activity. Voluntary(opportunity) entrepreneurship has a high economic potential in creating more jobs and showing a higher growth of labor productivity.

If we come back to the mentioned above about what motivates entrepreneurs, it could be noticed that there is a question which is faced behind them “Do you want to start up new business of getting a competitive advantage or there is no better opportunity for work?”. This is the trigger for differentiating opportunity-driven and necessity entrepreneurs. The figure 1 confirms the assumption that most part of entrepreneurs are motivated by opportunity.

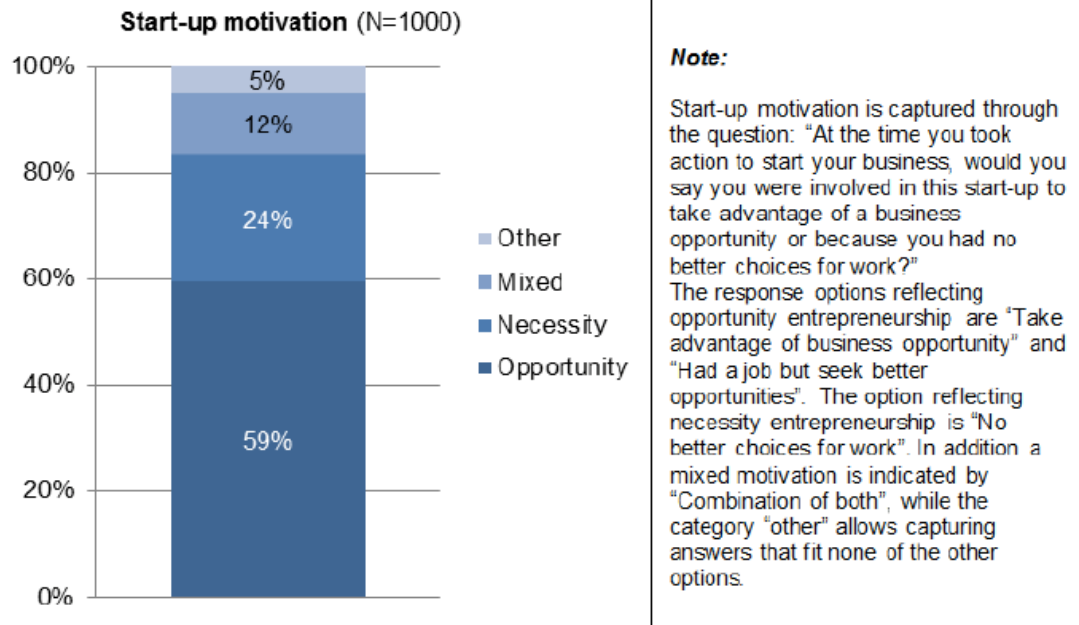


Figure 1. Opportunity and necessity start-up motivation. Source: Entrepreneurial Motivation Survey (2014)

Entrepreneurial motivation is usually measured through several dimensions:

- income security and financial success;
- independance;
- achievment and challenge;
- status and recognition;
- family and roles;
- dissatisfaction;
- community and social motives.

These dimensions include all kinds of factors. But is there a difference between demographical, economical, social or institutional, as they could influence motivation on entrepreneurs in a different way. Therefore, the purpose of the study is to define influence of specifically institutional factors on motivation of opportunity-driven entrepreneurs.

The factors of the institutional environment capable to influence behavior of forced entrepreneurs are studied insufficiently. As it was noted, most of authors of researches connect distinctions in motivation with the level of economic development of the country. At the same time the research will pay special attention to influence of the institutional environment on an entrepreneurship which will be in turn focused on studying of entrepreneurs with high potential of growth, that is on innovative entrepreneurs.

Institutional approach became increasingly accepted among all the economists. It helps to analyze the development of the economy, taking into account factors of institutional changes.

In the third paragraph there can be seen detailed description about institutional environment, what are they key factors and definition of key models on which the author will lean in that work.

1.3 Institutional environment and its influencing factors on opportunity-motivated entrepreneurs

Today one of the most interesting studies in the field of entrepreneurship is influence of institutional environment on entrepreneurs. Only some works are devoted to studying of influence of the institutional environment on entrepreneur's motivation. The insignificant number of observations limits authors in the choice of the models allowing to analyze a large number of factors of the institutional environment. Institutional theory explains why and how individuals start new businesses and what contributes to their long-term success (Bruton, 2010). The institutional environment makes essential impact on development of entrepreneurial business.

What is institutional environment? People used to understand as that the institutional environment factors, most significantly influence the formation of the social environment of entrepreneurship, that should identify the factors directly related to the regulatory function of the state - a fiscal and tax policy of the state and mechanisms of state regulation of market relations, various formal and informal rules and agreements, regulation of individual markets, the regulatory environment. In this case, the excess outside formal institutions, including the institution of power, economic regulation and so forth., produces in the social environment enterprise many bureaucratic, legislative, social issues. The above it is only one of many factors in institutional theory. Not only financial and accessible components are important, but also cultural norms, motivation that forces individuals to come to a particular decision and special regulations of a given environment are very crucial factors. To define institutions, we will mostly focus on the work of Scott (1995). He was one of the first authors, who described institutions in three forms: cultural-cognitive, regulative and normative (Pic 1). The main components of regulatory factor are laws, policies (government), everything that helps to create a new business and reduces the risks of fear for individuals. Every government provides entrepreneurs with the special programs, which can be received by everyone. The cognitive dimension includes access to knowledge and skills, which can be provided by people who, in turn, has already opened the business and they promote it in a successful way. The normative dimension consists of people's attitudes to entrepreneurship, creativity and innovation as a whole. The studies show that country's culture, people's beliefs and norms affect an entrepreneurial activity in the country.

Kostova (1997) continued the studying of Scott. In her work, she introduced country institutional profile in a three-dimensional scaling: cognitive function, normative and regulative functions. She summarizes everything that was said by Scott (1995) about three main functions of institutional environment and considered everything in terms of country's institutional profile. Moreover, she was explaining, "how a country's government policies (constituting a regulatory dimension), widely shared social knowledge (a cognitive dimension), and value systems (a normative dimension) affect domestic business activity".

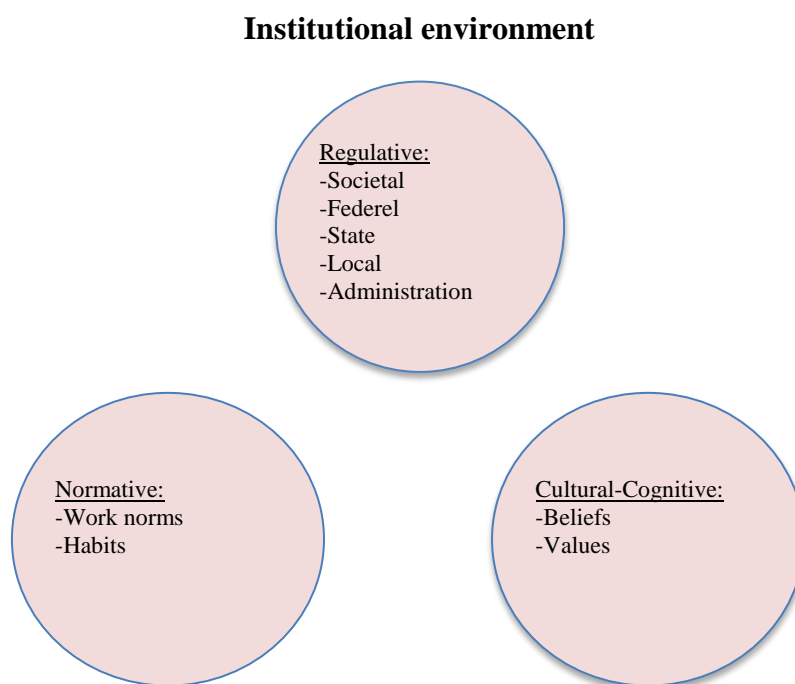


Figure 2. Institutional environment according to W.R. Scott. Source: Scott (1995)

Work results:

- The market can be described in terms of country institutional profile;
- All three dimensions are specifying on each domain;
- The framework (instrument) that was developed by Kostova is mostly used in the field of qualitative management;
- The study was the trigger for future works in terms of defining entrepreneur's motivation.

One more famous study in the field of institutional theory is the study of Buzenitz Gomez, Spencer (2000). There she based her work on the same approach (three-dimensional profile) of Kostova to describe, "how and why levels of entrepreneurship vary by country". The difference with the Kostova study was that Busenitz, Gomez and Spencer were describing the

same idea of country institutional profile according to the domain of the entrepreneurship. Also, authors consider providing a more complete profile of country differences with the respect to entrepreneurial activities. Manolova T. S., Eunni R. V., Gyoshev B. S. (2008) in their study also provided the confirmation of theory Busenitz and Kostova. Previous studies had shown little about the effects on the process of CIP (country institutional profile). Therefore, Buzenitz found the value in separating all these dimensions. Moreover, these findings can be used in emerging markets and as the institutional factors have a straight influence on firm performance, it also can be applied on micro level, before it was relevant only for macro level. Institutional environment is the crucial factor that is influencing start-ups of entrepreneurs. More detailed analysis can be seen in Appendix 1.

Study of Stenholm P., Zoltan J., Wuebker R. (2013) was also very important for the today's development in that field. His primary research was to measure the influence of regulative, normative, cognitive and conducive pillars on opportunity entrepreneurs. Stenholm introduced one more dimension that could affect entrepreneurship motivation-conducive. This pillar demonstrates external support to the entrepreneurship, such as ICT laws, university collaboration with the business research sphere, availability of venture capital and availability of latest technology. Unfortunately, there were no positive findings between conducive dimension on motivation of opportunity entrepreneurs. Moreover, he found a positive correlation between regulatory dimension and opportunity entrepreneurs. There were some more findings that found the positive influence of regulative dimension on opportunity entrepreneurship. For instance, McMullen et al. (2008) and Veciana and Urbano (2008). Moreover, in the finding of Sambharya R., Musteen M. (2014) was clearly stated that regulative dimension and uncertainty avoidance don't impact much on necessity entrepreneurs, but low regulatory quality vice versa can stimulate opportunity-driven entrepreneurship.

Based on the deep analysis of the literature regarding to institutional environment and opportunity-motivated entrepreneurs, it is necessary to demonstrate the research methods and tools that were used in the analyzed literature. As the table that was constructed is rather big, which is presented in appendix 1, it was decided to shorten the table and show the factors and methods, which were taken in each work.

Table 1. Literature review analysis

Author	Methods and tools	Independent variables	Sphere
Kostova T. (1997)	Survey instrument was developed. Regression analysis	Three dimensional institutional profile: 1) regulatory rules about quality of products and services; 2) shared social knowledge about quality and quality management; 3) quality-related social norms and values.	Theory about institutional environment (TIE)
Busenitz L. et al (2000)	On the basis of Kostova's approach. Empirically validated survey with undergraduate students for measuring CIP across six countries. Regression analysis	Three dimensional institutional profile*: 1) regulatory 2) cognitive 3) normative	TIE
Manolova T.S. (2008).	254 observations. Online survey Factor analysis Regression analysis	Three dimensional institutional profile: 1) regulatory 2) cognitive 3) normative	TIE
Volchek D. (2013).	188 Russian SMEs Questionnaire Regression analysis	Doesn't use CIP, not relevant for Russia. Cognitive environment (home); Normative environment (home); Institutional distance; Innovation capability; International and innovation propensity; International experience.	TIE
Dau L.-A. (2014).	Different models for running factor analysis	Three dimensional institutional profile: 1) regulatory 2) cognitive 3) normative	TIE

Reynolds. (2002).	1) surveys of 74 000 individuals 950 respondents on one hour face to face interviews Regression analysis	1) real GDP growth in 2000; 2) good opportunity in next 6 months 3) skill and experience to do startup 4) annual informal investment per GDP	Theory about opportunity entrepreneurs (TOE)
Block JH, Wagner M. (2007).	Interview people who were self-employed and asked how they get there.	1) educated in the profession 2) male 3) German 4) labor market experience	TOE
Williams C. (2007).	Based on case studies	Interview 70 informal entrepreneurs	TOE
Block J, Sandner P. (2009).	Data from German Socio-Economic Panel Study Regression analysis	1) male 2) German 3) Age 4) married 5) children 6) education duration 7) education in this profession 8) household income	TOE
Stenholm P., Zoltan J., Wuebker R. (2013).	Gathering the data from different sources Regression analysis	4 pillars: 1) regulatory; 2) cognitive; 3) normative; 4) conducive.	TOE
Sambharya R., Musteen M. (2014).	Gathering the data from different sources Regression analysis	GDP per capita; Market openness; Regulatory quality; Uncertainty avoidance practice; Power distance practice; Institutionalism-collectivism practice	TOE
Block J. Sandner P. Spiegel F. (2015).	Online survey Regression analysis	Measures of risk attitude Measures with Regard to Motivation	TOE

From the analysis above, it can be seen that there are a lot of works regarding institutional theory and some works related to opportunity-driven entrepreneurs. Therefore, the insufficient study about influence of institutional environment on exactly motivation of opportunity-driven entrepreneurs gives the limitation for the research. Moreover, the works that

are written on that topic are taking into account not all institutional pillars. Some of them are based only on regulative, normative or cognitive separately. Our work contributes the analysis for all pillars. Therefore, the factors that will be chosen will involve all levels of institutions.

Regulatory institutions refer to formal rules that regulate the behavior of organizations and individuals. These are rules of coercion as a key element in controlling the activities of individuals and organizations, and legitimacy institutions is determined by the laws prescribing the rules of activity. Regulatory institutions can limit the behavior of entrepreneurs. The fewer the barriers for creating a business, the higher the level of entrepreneurial activity. Entrepreneurs considering the business as an opportunity will not limit themselves in opening the business, but special government programs, ease access to loans or availability of venture capital can have a very positive impact on the creation of business. Only few factors can stop the creation of a business, as opportunity entrepreneurship carries innovative, new ideas which can simplify the life.

Hypothesis 1: There will be a positive relationship between government programs and opportunity-driven entrepreneurship

Standard measurement of institutional environment is linked directly with social values of individuals. Motivation of enterprise activity: role of the institutional environment behavior and perception of this or that behavior. It is very crucial for entrepreneurs to be understand that they have the support and the findings of Valdez and Richardson (2013) affirm the assumption about positive relationship between entrepreneurship and normative factors. As the main normative factors which can be prescribed to the opportunity-motivated group of entrepreneurs are turning new ideas into businesses and high status (Stenholm et al., 2013, Busenitz et al., 2000. Corruption also plays a significant role in a normative pillar. Some scholars claim that corruption positively affects the entrepreneurship (Dreher et al. 2013, Rose 2000), others are strongly against (Busenitz et al. 2000, Glaeser and Saks, 2006). The last are more into the idea that corruption is badly for the economic development. Wide use of bribery means for entrepreneurs an increase in the cost of creating the business, but opportunity-motivated entrepreneurs are going crazy about their ideas, therefore we can argue about the influence of corruption on pull entrepreneurs instead of the necessity ones. There is a little chance that corruption could stop them or even it can be looked from the side that there is a positive relationship of corruption on opportunity one.

Hypothesis 2: Corruption positively influence opportunity-driven entrepreneurs

The last group that should be analyzed is cognitive. Unlike the normative dimension, cognitive factors are connected with individual experience and beliefs of certain people, which are under the influence of the culture and traditions that exist in the society. For instance, culture is able to define attitude towards the risk to thinking which in turn is responsible for an initiative and decision-making of individuals.

Making the decision about business creation the individual calculates the benefits in terms of business costs (expenses), which are required for the organization in the exact business. Therefore, favorable external environment for starting the business can influence entrepreneurial activity in the country. At the same time perception of conditions as favorable, sometimes can not be reflected as a real economic situation and quality of institutes. Even in the conditions of rigid regulation and low availability of financial resources individuals can consider the environment favorable.

Hypothesis 3: There will be a positive relationship between ease access to loans and opportunity-driven entrepreneurship

Hypothesis 4: There will be a positive relationship between venture capital availability and opportunity-driven entrepreneurship

The factors which can be carried to the cognitive dimension are fear of failure, relevant skills for starting up the business and level of education. In our case fear of failure is not relevant, as opportunity entrepreneurs have accurately developed idea in the head, which follows to the exact opportunities on the market (Roman et al., 2016, Block and Sandner 2015). They have some kind of fear of failure, but it is not connected with income, such as with necessity one. Skills for starting up the business include many factors, but the most crucial for opportunity entrepreneurs is education. It could be mentioned that it is not important to have a high level of education for creating a business, but the author insist on the assumption that the more educated the individual is, the more innovative and new ideas can come to mind. This idea was already discussed in the study of Block and Wagner (2007) and Faisal et al. (2016). The study of Block et al. examines a positive correlation between education and opportunity-motivated entrepreneurs. After their research, more and more scholars were using education as one of the main triggers of starting up the business. They were claiming that the more educated the person is, the bigger the chances of offering innovative ideas and as a result opening a new business unit.

Hypothesis 5: There will be a positive relationship between education and opportunity-driven entrepreneurship

As it was noted, on cognitive factors the great influence is exerted by culture. Cross-cultural researches allow to talk about distinctions of value of business in different countries. Parameters of culture can exert various impact on the compelled and pull entrepreneur, i.e. they will influence not so much the activity level how many on a ratio of entrepreneurs with various motivation (Sambharya, Musteen, 2014).

Today technological aspect gains more and more stream in the sphere of entrepreneurship. Technological innovation has been considered crucial for economic growth and regional adaptation (Cookie and Morgan 1998, Acs et al. 2002, Acs and Varga 2005, Stenholm et al. 2013, Volchek). The study of Acs et al. in 2005 was one of the first study, that were proving the idea only opportunity-motivated entrepreneurs have a positive impact on technological change, whereas necessity does not. As it was mentioned earlier, Stenholm introduced one more dimension-conducive, which included the availability of latest technology and availability of venture capital. Later, Anokhin et al. (2016) had proven the idea of importance of corporate venture capital for innovation and in the following work together with Wincent J. they confirmed that technological aspect in terms of how much the company spend on R&D and availability of latest technology is very crucial for entrepreneurship.

Hypothesis 6: There will be a positive relationship between availability of latest technology factor and opportunity-driven entrepreneurship

From factors of the institutional environment, most significantly influence forming of a social environment of an entrepreneurship, it is necessary to allocate factors directly connected with regulating function of the state is the budget and tax policy of the state and state regulation machineries of the market relations, various formal and informal rules and agreements on to regulation of the separate markets, legal environment. At the same time, excess external formal institutes, including institute of the power, economic regulation and so forth, generates in a social environment entrepreneurs set bureaucratic, legislative, social problems. And than above their density, that a high probability also corrected emergence of contradictions in case of setting standards existence and functioning of a social environment and entrepreneurs in general. Specifics of the institutional environment any social economic system in which the entrepreneurship is performed, arises thanks to influence of various components social economic structure, such, as natural and geographical, social, technological conditions.

The purpose of the master thesis is to define which factors can influence opportunity-motivated entrepreneurs. According to the Appendix 1 and more publications in the sphere of the institutional theory it can be seen that mostly everyone relies on the concept of a three-dimensional profile. Most researchers focus only on regulative function, which is too narrow when it comes to the topic of factors of the institutional environment or some works include only culture (Hofstede's dimensions, 1980) as an influential factor when it comes to the discussion of the difference in the entrepreneurship in the specific country. Therefore, that paper is going to use three-dimensional scaling as a proof for the institutional environment, as that classification has already established itself in many works such as in Scott, Kostova, Busenitz, Busenitz, Gomez, Spencer and Manolova, and in turn it allows formulating and arranging institutional environment factors in a right way. Division in cognitive, normative and regulatory functions gives more detailed vision about what affects entrepreneurs when they decide to run their own business.

Through the wide range of literature, which has been studied previously it can be allocated six main factors that can influence the motivation:

- Regulatory quality (government programs)
- Corruption
- Availability of venture capital
- Ease access to loans
- Level of education
- Availability of latest technology.

The second part of the work will show the methodology and empirical analysis, which will identify significant factors in the regression model. It is also very important to mention that the analysis will be based on 78 countries all over the world. They will be divided into 2 main groups according to the Global entrepreneurship monitor reports: efficiency-driven and innovation-driven countries.

2. Methodology and empirical evidence

2.1 Methodology part

2.1.1 Description of methodological research process

The first chapter has shown the big base for the analysis of the theoretical base. As it can be seen from the first part of the work, there are many factors, which can influence the motivation of the entrepreneurs. Therefore, the author is going to provide the evidence, which will be based on the relationship between institutional factors and opportunity-motivated entrepreneurs.

The theoretical and methodological basis of the work consists of classical evolutionary theory. Combining elements of the theoretical approaches of various levels is carried out in accordance with specific research tasks. However, the new real situation demanded some revision of these methodological approaches and interpretations in the study, involving consideration of a common set of factors. It is necessary to study the impact of institutional factors on opportunity-motivated entrepreneurship, from a position which will allow to see not so much the chaotic influence of factors on a particular activity, how many ordered group of factors.

The research will be based on a **quantitative research**. Quantitative approach by itself is a deductive method the purpose of which is to state a hypothesis, to which data will be gathered so that a conclusion can be reached. Quantitative data is the empirical use of numbers which are used to express quantity. The data contains information about the world expressed in a numerical form (Punch, 2005). Easterby and Smith (2002) claim that a critical component of quantitative strategies is that procedures behind the information gathering get to be discrete from the analysis. Therefore, quantitative research is the most suitable method by which the analysis will be conducted. That study is going to use regression analysis as the main tool for obtaining the necessary information for planning and decision-making in the case when the necessary hypotheses about the behavior of entrepreneurs has already been formed with the help of qualitative methods.

2.1.2 Empirical study on the basis of quantitative research method

For empirical testing of our hypotheses, we are going to use the following equation, which is represented in the Figure 3.

$$ODE_{it} = \sum_j \alpha_j RC_{jit} + \sum_k \beta_k NC_{kit} + \sum_l \gamma_l CC_{lit} + \sum_m \theta_m CV_{mit} + f_t + \varepsilon_{it}$$

Figure 3. Equation for testing the hypotheses

where ODE represents the share of opportunity-driven entrepreneurship in the overall level of entrepreneurial activity, RC — regulatory factors of the institutional environment, NC — regulatory factors of the institutional environment, CC — cognitive institutional factors, CV — control variables, i — country, t — time, — the random component.

Resource that allows to evaluate the level of entrepreneurial activity and the structure of motivation is the database GEM (Reynolds et al, 2005). The dependent variable is aggregate — the ratio of the number of early opportunity entrepreneurs to the total level of early-stage entrepreneurial activity. In order to prove that the factors of institutional environment influence on the share of necessity-driven entrepreneurship, the result obtained is compared with the corresponding total level of entrepreneurial activity.

In accordance with the hypotheses that were stated in the first chapter about the factors of the institutional environment affecting motivation of entrepreneurial activity, dependent and independent variables were defined, the description of which is presented in Table. 2. In the table below variables are the indicators for each country that are calculated according to the methodology presented on the sites of the relevant sources indicated in column 2. The table demonstrates the scale of each factor with the interpretation of every unit.

Table 2. Descriptive statistics

	Description of variables in Stata	Units	Data source	Type of institutional environment factor
Dependent variable				
Opportunity-motivated entrepreneurs	Opp	Ratio of TEA* improvement driven opportunity to TEA necessity 0-100 scale	GEM APS	-
Independent variables				
Level of corruption	Corr	0-100 (1-highly corrupt, 100-very clean)	TI	Normative

	Description of variables in Stata	Units	Data source	Type of institutional environment factor
Entrepreneurial education at post school stage	Edu	1-9 (1-highly insufficient, 9-highly sufficient)	GEM APS	Cognitive
Government entrepreneurship programs	Govprog	1-9 (1-highly insufficient, 9-highly sufficient)	GEM APS	Regulative
Venture capital availability	Vencap	1-7 (1-very difficult, 7-very easy)	GCR	Conductive
Ease access to loans	Loans	1-7 (1-very difficult, 7-very easy)	GCR	Regulative
Company spending on R&D	Tech	1-7 (1-very difficult, 7-very easy)	GCR	Conductive

* TEA-Total Entrepreneurial Activity, motivation for early-stage entrepreneurial activity in the GEM economies in 2014-2016 (% of population aged 18-64)

The main source that will allow measuring the level of entrepreneurial activity is the GEM database. To justify the fact that the identified factors of the institutional environment influence precisely the share of forced entrepreneurship, the obtained results are compared with those for the level of early entrepreneurial activity. The institutional indicators were formed from the various databases, such as Transparency International community, World competitiveness reports and GEM reports.

Firstly, it is necessary to define what is GEM and why it was chosen as the main source of obtaining the information. GEM is Global Entrepreneurship Monitor (GEM, 1999), it is “the world’s foremost study of entrepreneurship”. It is a project of the leading business schools in the organization of country studies of entrepreneurship development of the world and exchange of information on the state of business activity. GEM represents annual assessment of the national level and scales of business. Today practically all countries of Europe, America and Asia take part in noncommercial project.

GEM object study is primarily entrepreneurs themselves, not only business in which they are involved. If the respondents were involved in entrepreneurial activity, they want to determine what they were guided by what sources of funding were used and what they expect from the business. The aim of GEM is to consider the entrepreneurial activity in different countries. In

other words, why one country is more effective for business development than the other. What factors influence the motivation of the entrepreneurs, and what types of the entrepreneurs exist and how they differ.

Uniqueness of such monitoring consists in a cross-country cultural approach to understanding of an entrepreneurship in the different countries, both providing with information and measurement of entrepreneurial activity in a global context.

The GEM project helps to increase awareness of the authorities in questions of an entrepreneurship and to correct their policy for development of an entrepreneurship in many countries of the world. In particular, influenced decision making on such questions as regional development, education, innovative policy, financing of small and medium business, decrease in administrative barriers concerning an entrepreneurship, and some other.

For the purposes of the research it is needed to conduct portfolio analysis. The key tool for that is ‘‘STATA’’ program, which will ease the process of calculating different variables and testing the hypothesis. Stata is a universal package for solving statistical problems. Stata is a package that is controlled by commands from the keyboard, and works in a graphical or windowed environment. Also, it is very important to mention that the program allows calculation based on panel data, which is not so easy to do in SPSS.

The more appropriate tool that was chosen for the analyzing the influence of institutional environment is constructing a regression model. As the time frames are defined from 2014-2016 and there are 6 independent variables, it can be mentioned that the model that is going to be used will be based on the panel model. Panel data consist of observations of the same economic units that are carried out in consecutive periods of time. The panel data consists of three dimensions: characteristics (variables) - objects - time. Special methods of analysis have been developed for them.

Institutional indicators were formed in the following databases:

1. a survey of the adult working population (GEM APS) and expert evaluation (NES GEM) the GEM procedure (<http://www.gemconsortium.org/data>);
2. world development indicators published by world Bank (WDI) (<http://data.worldbank.org/data-catalog/world-development-indicators>);
3. the global competitiveness report of the world economic forum (GCR) (<http://www.weforum.org>);
4. the global coalition against corruption "Transparency International" (TI) (<http://www.transparency.org>);

Taking into account the fact that not all countries participated in the GEM project, and also to cover the largest number of countries as the final database is used for the period of 2014-2016 the number of countries is 78 (Appendix 2).

Since in the analysis will be attended in 78 countries, then for a more accurate analysis it is necessary to split all countries into subgroups. The research paper will be based on the evidence from GEM reports. According to GEM they can be divided into three main groups:

- 1) factor-driven countries;
- 2) efficiency-driven countries;
- 3) innovation-driven countries.

The idea of the classification was taken from World Economic Forum, further it was adapted by GEM. The factor-driven economies could be described as those, which are dominated by subsistence agriculture and extraction businesses, with a heavy reliance on (unskilled) labor and natural resources. In the efficiency-driven phase, an economy has become more competitive with more-efficient production processes and increased product quality. As development advances into the innovation-driven phase, businesses are more knowledge intensive, and the service sector expands (<http://www.weforum.org/>).

GEM uses the typology proposed in the Global Competitiveness Report (2008), for descriptions of entrepreneurial activity in different countries. In accordance with it, countries are divided to countries with a resource-oriented economy (factor-driven countries), efficiency-driven economies (efficiency-driven countries) and innovation-driven economies (innovation-driven countries). . In fig.4 are presented countries participating in the project and describe the stages of economic development.



Figure 4. Type of the economy and country of the project participant. Source: GEM report (2013)

In our sample, there are 78 countries, which are distributed in the two groups efficiency-driven economies and innovation-driven economies (Appendix 2). This can be explained by the

fact that every year in the factor-driven economies it is presented around 4-5 countries, while in other groups it is more than 30 and every year they are switching from the previous step to the next, it was decided to take the countries from the factor-driven group and take them into the sample of efficiency-driven group. Moreover, the sample of 4-5 countries cannot be normally validated and measured.

Based on the deep theoretical analysis, it was decided to take six factors as independent variables that could explain the motivation on opportunity-driven entrepreneurs in the more precise way:

- 1) level of corruption (<http://www.transparency.org>);
- 2) entrepreneurial education at post school stage (<http://www.gemconsortium.org/data>);
- 3) government entrepreneurship programs (<http://www.gemconsortium.org/data>);
- 4) venture capital availability (<http://www.weforum.org>);
- 5) ease access to loans (<http://www.weforum.org>);
- 6) company spending on R&D (<http://www.weforum.org>).

The third chapter will describe the influence and relationship between those factors and motivation of opportunity-motivated entrepreneurs.

2.1.3 Summary

In order to investigate answers to the research questions a deductive approach will be the most relevant one to utilize. It involves the collection of data, analysis of the information found, and the development of a theory through tools to analyze the data. Both qualitative and quantitative research strategies will be utilized. For the purposes of the paper several research tools will be used:

- formulating the hypotheses;
- defining the variables;
- appraisal of secondary data with the evidence from GEM data and other sources;
- methodological triangulation to look at whether the discoveries of the research can be;
- linked with academic literature. Triangulation is a strategy which analyzes distinctive sorts of information and strategies to see whether they authenticate with each other.

All together those tools will lead to the understanding of the issue from the different perspective and we will be able to understand and to estimate the influence of the institutional factors on opportunity-motivated entrepreneurs.

2.2 Empirical part: definition and evaluation of the institutional factors influencing opportunity-motivated entrepreneurs

The previous parts provided with the literature review and methodology part. The deep insight of the theoretical basis helped to form the hypotheses that were stated in the first chapter.

This chapter is going to provide deep quantitative analysis and step-by-step regression analysis, which in order will present the confirmation or none confirmation to the hypotheses.

To run the regression analysis, firstly, it is necessary to define the factors that can influence the opportunity-motivated entrepreneurs. From the literature insight, the author identified six factors that will be included in the regression analysis, they are: level of corruption, level of entrepreneurial education at post school stage, government programs, availability of venture capital, ease access to loans and availability of latest technology.

At the end of this chapter, it will be possible to answer the research questions regarding to the interrelation between the institutional factors and the degree of influence.

The second step was to state the hypothesis, which will rely on the factors that were described above. The hypotheses that were stated are:

Hypothesis 1: There will be a positive relationship between government programs and opportunity-driven entrepreneurship

Hypothesis 2: Corruption positively influence opportunity-driven entrepreneurs

Hypothesis 3: There will be a positive relationship between ease access to loans and opportunity-driven entrepreneurship

Hypothesis 4: There will be a positive relationship between venture capital availability and opportunity-driven entrepreneurship

Hypothesis 5: There will be a positive relationship between education and opportunity-driven entrepreneurship

Hypothesis 6: There will be a positive relationship between availability of latest technology factor and opportunity-driven entrepreneurship

After the formulation of hypotheses, it is necessary to define the research method that will be used in the paper. As it was already mentioned the method that is going to be used to confirm the hypotheses is *quantitative*. It is based on processing data from an array of different database, which were described previously. In order to provide for the future understanding it is necessary to present the table with descriptive statistics.

Before starting with the evidence of the model, it is essential to remember about the division of countries into 2 groups. As it was already mentioned the groups will be divided according to GEM reports. In fact, there are three groups according to the GEM reports:

innovation-driven, efficiency-driven and factor-driven countries. GEM developed a conceptual model that defines the relationship between entrepreneurship and economic growth. The difference between this model is The fact that in determining the factors that influence the creation of a new business, the structural conditions for the development of entrepreneurship, as well as pre-entrepreneurial abilities and opportunities, are taken into account time as the general conditions of economic development determine the success of existing companies. GEM proceeds from the premise that economic prosperity of the country is closely linked to the dynamics of entrepreneurship in the entrepreneurship sector. And although this is true for all countries, the contribution and tasks of the business sector significantly different depending on the level economic growth. In economically backward countries and countries where there is a decline in employment, the business sector provides job creation. In developed countries, innovation creates opportunities for entrepreneurs receive a higher level of income and independence in decision-making.

As the sample is presented in a three-dimensional space and the analysis will be through 78 countries for the period from 2014 to 2016, it can be argued that the sample will be **panel**. **Panel data** consists of observations of the same economic units that are carried out in consecutive periods of time. The panel data consists of three dimensions: characteristics (variables) - objects - time. Special methods of analysis have been developed for them.

Before running the regression analysis, it is important to identify the model that is going to be used in the research paper as there are three models that can be used with the panel data:

1. Pooled data;
2. Random-effects model;
3. Fixed effects model.

The main differences between the models are in interpreting the results. The pooled model suggests that economic units do not have individual differences, and in some simple situations such an assumption is justified. Therefore, this model cannot be considered to that case, as in the sample the countries can demonstrate the individual differences that can be specified due to the culture, regulation and political differences.

The *fixed effect-model* is suitable specification for focus on a unique set of N firms and conclusions are limited to the behavior of only its representatives. In a model with fixed effects, there are too many parameters and loss of degrees of freedom can be avoided if individual effects are assumed to be random. Also, in fixed effects it is considered that each economic unit is “unique” and can not be considered as a result of a random choice from a certain general population.

While in the *random effects* it is assumed that in nature individual differences are random. In the model there is no need for thinking about the interception, it is considered from the point of view “as a result of a random deviation from some mean intercept” (Torres-Reyna O. 2013).

If there is a need to analyze the influence of variables that can vary over time, use fixed effect model. Random effects can be applied if it is assumed that the difference between the entities that can influence the opportunity-motivated entrepreneurs (dependent variable).

To decide which model should be taken, the author will rely on the model below:

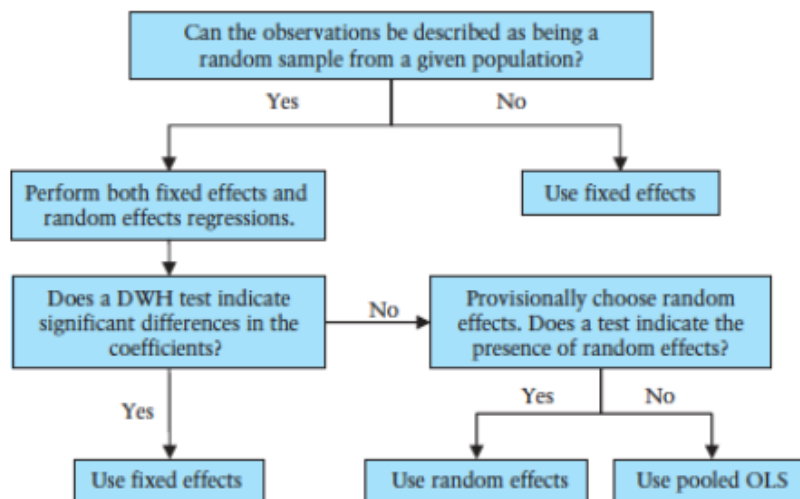


Figure 5. Choice of regression model for panel data. Source: Dougherty (2005)

The graph above demonstrates that before using the model it is essential to proceed through 2 tests. First test is Durbin-WU or Hausman, which help to choose between fixed and random effect model. STATA program proposes to run the Hausman test. As it was already mentioned there are two groups (innovation-driven countries and efficiency-driven countries), which will be analyzed separately. At the end of this chapter, it will be possible to answer the question about the influence of institutional environments in two different groups, as it is assumed that there is a difference in factors that motivate the opportunity-driven entrepreneurs in these two groups.

2.2.1 The analysis of the efficiency-driven group

The first group that is going to be analyzed is efficiency-driven countries. The sample presents the number of observations, which equals 138 and the number of groups (countries) is 46. As it was said previously, before running the regression analysis, we have to choose the model, which will fit more for that research.

The first step is to run both regressions fixed effects and random effects. After that, we can proceed to run the Hausman test. Null hypothesis: the model with random effects is optimal. The results of the test can be seen below (Table 3).

Table 3. The results of Hausman test for efficiency-driven countries

Coefficients				
	(b)	(B)	(b-B)	Sqrt (diag (V_b-V_B))
	fixed	random	difference	s.e.
Corr	0.0086425	.0711548	-.0625123	.1883045
Edu	0.001174	.0017996	-.0006257	.0008051
Govprog	-.0135231	-.0145309	.0010078	.0050809
Vencap	.0206755	.0375165	-.0168411	.0406438
Loans	.0146254	.0124939	.0021316	.0060655
Tech	.0169587	.0204724	-.0035138	.0279945

b=consistent under H_0 and H_a

B=inconsistent under H_a , efficient under H_0

Test: H_0 : difference in coefficients not systematic

$$\text{chi2}(6) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 1.15$$

Prob>chi² = **0.9794** (if it is <0.05 use fixed effects)

According to the Hausman test, if the chi² is less than 5% in this case the fixed effects should be taken. In our situation, chi² is much more than 5%, therefore we have to take random effects model. Since the p-level is >0.05, then we accept the null hypothesis. The results obtained allow us to conclude that a model with random effects is suitable from two models. This test indicates that there is a difference between the coefficients and countries. The premise about choosing the random-effects model was confirmed.

The next step will be to choose between the random effects model and pooled OLS. Despite the fact that we already know that the pooled model will not be appropriate in our case, because there is a difference between the countries in each group, it is necessary to make a mathematical proof. The test is called Breusch and Pagan Lagrangian multiplier test for random effects.

$$\text{Opp}[\text{Countries}, t] = Xb + u[\text{Countries}] + e[\text{Countries}, t],$$

where Opp is the dependent variable (opportunity-motivated entrepreneurs)

Table 4. Estimated results

	Var	Sd=sqrt (Var)
Opp	.0212136	.1456489
e	.0065349	.0808385
u	.0145637	.1206803

Test: $\text{Var}(u) = 0$

$\text{Chibar}^2(01) = 60.41$

$\text{Prob} > \text{chibar}^2 = \mathbf{0.0000} < 0.05$

From the Breusch and Pagan Lagrangian test it can be seen that the chibar^2 is tends to zero value. Therefore, according to the model if this index is less than 5%, we have to choose the random effects model.

According to the Fig. 4 we have proceeded through all tests to confirm the assumption about the random effects model. According to Hausman test and Breusch and Pagan Lagrangian test it was confirmed that in the first test the indicator was greater that the level of significance and in the second test lower, which confirms the premise of the work. It can be explained by the fact that he data is taken from the different sources and the survey was conducted in different countries.

The next step is to test the heteroscedasticity of the model, as our model used to be with the random effects there is no need to do it, as this model imply the heterogeneity of observations. Therefore, further to provide with the comprehensive analysis, it is important to check the multicollinearity of the model.

Multicollinearity is the presence of a linear relationship between the explanatory variables (factors) in the regression model. These coefficients allow excluding from the regression model the duplicating factors. Two variables are collinear, when they are in a linear relationship, if the correlation coefficient is greater than 0,7.

Since one of the conditions for finding the multiple regression equations is the independence of the action of the factors, the collinearity of the factors violates this condition.

The Table 5 will demonstrate the multicollinearity test from STATA program. The number of observations is 138 and the independent variables six.

Table 5. Results of the multicollinearity for the efficiency-driven group

	Corr	Edu	Govprog	Vencap	Loans	Tech
Corr	1					
Edu	-0.0722	1				

Govprog	0.1840	0.2586	1			
Vencap	0.0888	0.0999	0.2544	1		
Loans	0.0920	0.1910	0.2749	0.7186	1	
Tech	0.0817	-0.0417	0.1530	0.7632	0.5492	1

The table above demonstrates the multicollinearity between availability of venture capital and ease access to loans ($0.7186 > 0.7$) and availability of venture capital and availability of latest technology ($0.7632 > 0.7$) which duplicate each other. Between the factors there is strong dependence as it could be seen from the analysis, which can spoil the final model. This can cause the difficulties in using the regression model and interpreting the results. Since the dependence is seen between venture capital availability and two other factors, we will run the multicollinearity test without venture capital availability.

Table 6. Results of the multicollinearity for the efficiency-driven group without venture capital availability

	Corr	Edu	Govprog	Loans	Tech
Corr	1				
Edu	-0.0722	1			
Govprog	0.1840	0.2586	1		
Loans	0.0920	0.1910	0.2749	1	
Tech	0.0817	-0.0417	0.1530	0.5492	1

The second attempt of running the multicollinearity test is successful. In this model there is no strong dependence between the factors, since all of them are less than the level of significance < 0.7 . In this case, we will continue to use the model without the venture capital availability.

The next step will be to check the variables on availability of outliers and uniformity of units of measure. Outliers are the values differing from other values in a collected data set. They can have an adverse effect on the result of regression model. Therefore, they have to be excluded from the sample. It will help to come to more exact statistical results.

One more important thing is the need to take the logarithm. If there is no normal distribution in the variable, taking the logarithm will help to get rid from this. The box-plot analysis in fig. 7 demonstrates the in-depth analysis of the things that were mentioned above.

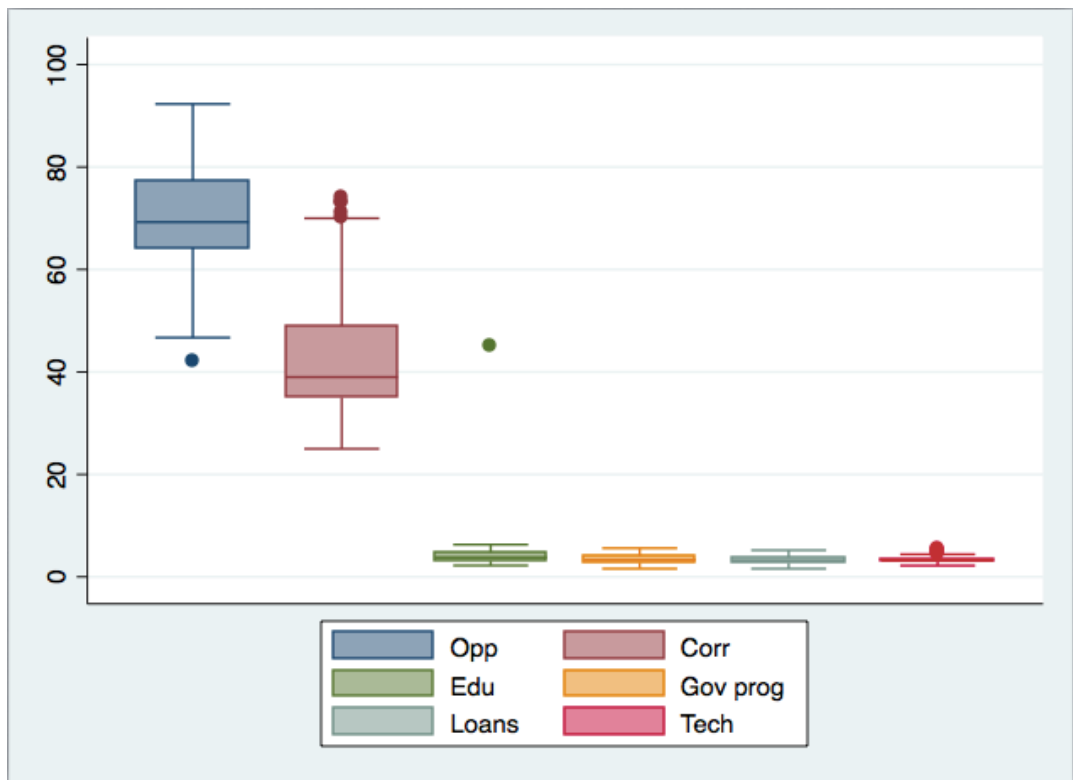


Figure 6. Box-plot analysis for variables

Outliers are indicated the anomaly in the dependent variable - opportunity-driven entrepreneurs and some independent variables: level of corruption and education at post grade school. With the help of the test “hadimvo” in STATA we will identify the countries-outliers. Test “hadimvo” will be provided for all variables to check for the outliers, this test creates a new column in the sample with 0 and 1 coding and therefore to identify which countries have an outlier just check on the existence of number 1. To check which countries presented the outliers, we will come back to the source fail with the list of countries. From this fail it was indicated that the outlier in the opportunity-driven variable is Burkina Faso in 2014 and Malaysia for all three years in education at post-grade school. For the more accurate analysis these countries will be excluded from the sample.

In the regression analysis there is no need to bring values into one unit of measure, but before we need to test the normal distribution of the variables. The distribution of all independent variables is presented at the end of the work in appendix 3.

According to the opportunity-driven variable it can be seen that before taking the logarithm there was insufficient normal distribution, therefore there was a need to see what will happen if we take the logarithm. After we took, it can be observed the normal distribution for the opportunity-driven variable. Thus, in the final regression model we will use the logarithm variable.

From the level of corruption variable, it could be seen the same situation as with the opportunity-driven entrepreneur’s variable. Before taking the logarithm it was observed no

normal distribution at all, but after it was taking the distribution became more uniform. Therefore, in the final model the level of corruption will be taken in the logarithm form. Further, we will check other variables on existence of normal distribution. In the distribution of education factor any significant anomalies haven't been revealed. There is no need to take the logarithm of every factor as it could bias the sample and the results can be significantly different to former one. To finish with the normal distribution analysis, we will show the last three factors in the model.

From the observation of normal distribution of the variables in the efficiency-driven group it can be concluded that government programs, education, ease access to loans and availability of latest technology the normal distribution is presented and further we will continue with the two logarithm variables: opportunity-driven entrepreneurs and level of corruption and the others will remain the same as they were in the beginning.

The last step before running the regression analysis is to demonstrate the box-plot of all variables after the changes.

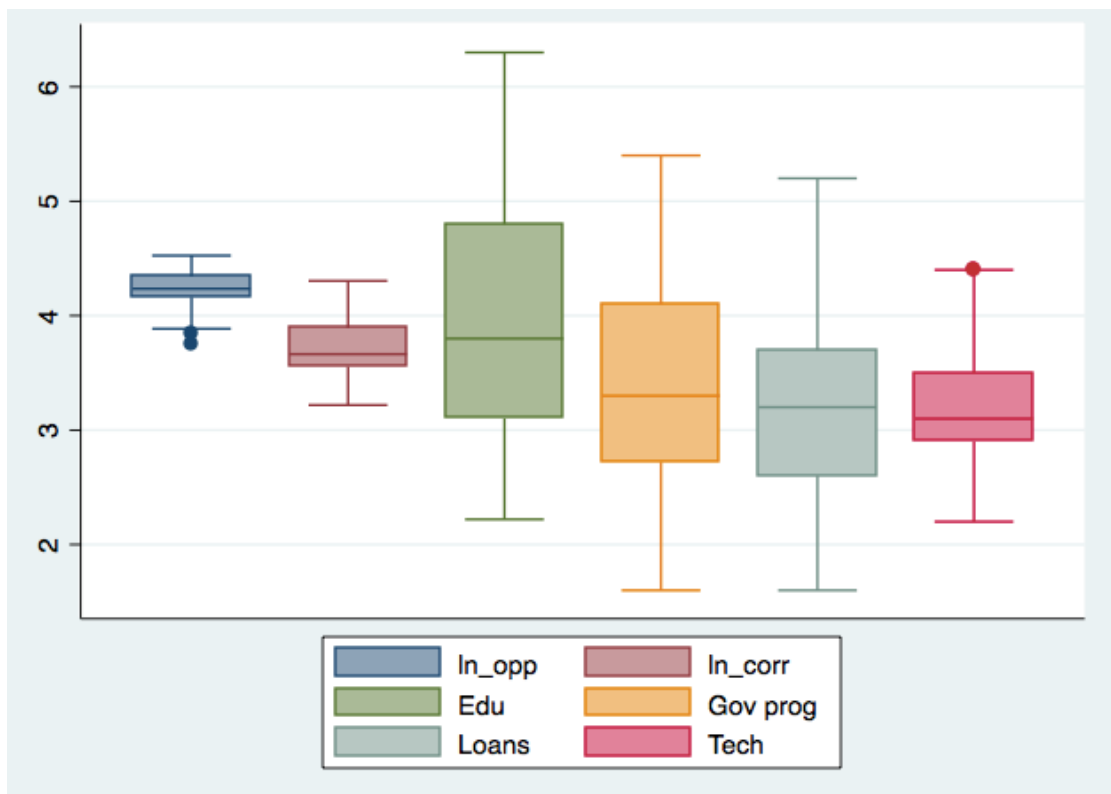


Figure 7. Box-plot analysis after the changes

The box-plot demonstrates the variables without outliers and moreover, owing to the previous with taking the logarithm now all of them are in one unit of measure.

Now we can run the regression analysis and check all assumptions and hypotheses that were stated in previous chapters.

Random-effects GLS regression	Number of obs	=	138
Group variable: Countries	Number of groups	=	46
R-sq:	Obs per group:		
within = 0.0291	min =		3
between = 0.1206	avg =		3.0
overall = 0.1000	max =		3
corr(u_i, X) = 0 (assumed)	Wald chi2(5)	=	7.93
	Prob > chi2	=	0.1599

ln_opp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
ln_corr	.0737243	.0686232	1.07	0.283	-.0607746 .2082233
Edu	.0018468	.0024042	0.77	0.442	-.0028653 .0065589
Govprog	-.013864	.0113407	-1.22	0.222	-.0360914 .0083634
Loans	.017365	.0132234	1.31	0.189	-.0085525 .0432824
Tech	.041447	.0291804	1.42	0.156	-.0157456 .0986395
_cons	3.80995	.2632112	14.47	0.000	3.294066 4.325835

Figure 8. Regression analysis results

As it was stated above in the final model we will use the logarithm dependent variable (opportunity-driven entrepreneurs) and logarithm one independent variable (level of corruption) others will remain the same. In our model we will rely on the p-value that equals 10%, we can assume this as in recent works in that field it was determined there is a 10% significance and the results that were interpreting were made with that significance. Therefore, our study will rely in p-value=10%.

In the fig.8, it can be seen that there are no significant variables. None of them doesn't fit into 10% significance model. Despite the fact, that the outliers were excluded and the logarithm was taken to the variables with no normal distribution, still our model is not good and doesn't demonstrate any result.

As the regression model is supported with the theoretical background, we will insist on the idea of our model, but there is a question what can be made with the model. The random effect model already assumes the heteroskedasticity, still there is one function that can be applied and will clean all roughness in model. In STATA it is "robust" function. It can help with the alignment of the model. Therefore, we will try to apply it in our model. The fig. 9 will demonstrates the regression model with "robust" function.

Random-effects GLS regression	Number of obs	=	138
Group variable: Countries	Number of groups	=	46
R-sq:	Obs per group:		
within = 0.0291	min =		3
between = 0.1206	avg =		3.0
overall = 0.1000	max =		3
	Wald chi2(5)	=	71.76
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

(Std. Err. adjusted for 46 clusters in Countries)

	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
ln_opp						
ln_corr	.0737243	.0629843	1.17	0.242	-.0497227	.1971713
Edu	.0018468	.0004871	3.79	0.000	.000892	.0028016
Govprog	-.013864	.0104445	-1.33	0.184	-.0343348	.0066068
Loans	.017365	.0155951	1.11	0.266	-.013201	.0479309
Tech	.041447	.0247999	1.67	0.095	-.0071599	.0900538

Figure 9. Regression analysis results (robust)

In the table above it could be seen that after running the model with “robust” function it is observed two significant factors: education and availability of latest technology. As we choose factors on significance value of 10 %, there are only two factors. Now the model is applicable in our study. The hypotheses number 2 and number 6 are confirmed in the study. As the p-value is <0,01 we accept two hypotheses about the influence of education at post grade school and availability of latest technology on opportunity-motivated entrepreneurs.

Hypothesis 5: There will be a positive relationship between education and opportunity-driven entrepreneurship

Hypothesis 6: There will be a positive relationship between availability of latest technology factor and opportunity-driven entrepreneurship

All relationships are very logic, as we can say that in recent works of Block and Wagner (2007), they already found this relationship on opportunity-motivated entrepreneurs, but not in all countries, as in our sample. Also, the availability of latest technology demonstrates the assumption that in countries with efficiency-driven economies this availability plays significant role, as sometimes it is difficult to find the support from this part. Opportunity-driven entrepreneurs are those who consider the innovative idea behind the business and for them this aspect is more crucial in terms of motivation, if they don't find it, it is difficult to launch or implement everything.

This part demonstrated only the efficiency-driven group, now we have to compare it with the results of innovation-driven. We assume that they can differ to those group of entrepreneurs. In the next paragraph we will present the research of innovation-driven group.

2.2.2 The analysis of innovation-driven group

In the innovation-driven group, the hypotheses will remain the same as to efficiency-driven. All steps of the model and all assumptions will be applied in this group.

As with the efficiency-driven group the first step is to run the Hausman test for using the appropriate model. Firstly, we will show the choice between the random effect and fixed effect model. Null hypothesis: the model with random effects is optimal. The results of the test can be seen below (Table 7).

Table 7. The results of Hausman test for innovation-driven countries

	(b)	(B)	(b-B)	Sqrt (diag (V_b-V_B))
	fixed	random	difference	s.e.
Corr	-.1375094	.079372	-.2168814	.3129233
Edu	2.861249	1.485543	1.375706	.8811938
Govprog	-1.464871	-.4946856	-.9701855	.944723
Vencap	3.216234	3.113357	.1028767	2.868509
Loans	..2222055	.1504595	.0717461	.5309752
Tech	-4.299915	-.7332295	-3.566686	3.004417

b=consistent under H₀ and H_a

B=inconsistent under H_a, efficient under H₀

Test: H₀: difference in coefficients not systematic

$$\text{chi2}(6) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 4.11$$

$$\text{Prob} > \text{chi}^2 = \mathbf{0.6617} > 0.05$$

The results of the Hausman test show that the chi² 0.6617 is bigger than 0.05 and according to the test we can say that between random effect model and fixed effect the former one has to be chosen, due to the results of the test. The null hypothesis that was stated above is confirmed. It is also important to notice that the logic about the decision to use the random effects model is traced, as initially it was meant that all countries are different and moreover, the

list is supplementing and changing from year to year that confirms the fact about heterogeneity of initial data.

As we follow the table that was demonstrated in the fig. 4, the next step will be to run the Breusch and Pagan Lagrangian test, by means of which it can be define to choose between the random effects model and pooled model. The table 8 will demonstrate the results of the test.

$$\text{Opp}[\text{Countries}, t] = Xb + u[\text{Countries}] + e[\text{Countries},t],$$

where Opp is the dependent variable (opportunity-motivated entrepreneurs)

Table 8. Estimated results

	Var	Sd=sqrt (Var)
Opp	40.16163	6.33732
e	13.61616	3.690009
u	21.53798	4.640902

Test: $\text{Var}(u) = 0$

$\text{Chibar}^2(01) = 21.61$

$\text{Prob} > \text{chibar}^2 = \mathbf{0.0000} < 0.05$

According to the chibar^2 value that equals 0.0000, it can be noted that the result is lower than the $p\text{-value}=0.05$, we can say that this test confirms the assumption of the using the random-effects model. Again the assumption about the heterogeneity of the sample was plausible.

After running the test for the innovation-driven group, it could be mentioned that random-effects model is used for both groups: innovation-driven and efficiency-driven. The results were expected as those, as in the beginning of the research, it was mentioned about the random sample data.

After defining the appropriate model for the innovation-driven group, it is necessary to consider about the dependence of the factors. We will run the multicollinearity test and define which factors can be excluded for better fit in model. For a reminder, those factors which are considered to be >0.7 should be excluded, due to the high dependence. The results of the test can be seen in the table 9.

Table 9. Results of the multicollinearity for the innovation-driven group

	Corr	Edu	Govprog	Vencap	Loans	Tech
Corr	1					
Edu	0.0998	1				
Govprog	0.2578	0.4581	1			
Vencap	0.6188	0.2226	0.2068	1		
Loans	0.5658	0.2948	0.3346	0.7825	1	
Tech	0.6131	0.2264	0.3053	0.7216	0.6277	1

As in the efficiency-driven group the high dependence is observed between availability of venture capital and ease access to loans and availability of latest technology. The results are higher >0.7 and for more accurate analysis, venture capital should be excluded from the model. Table 10 will demonstrate the results with running the same test, but without the factor “availability of venture capital”.

Table 10. Results of the multicollinearity for the innovation-driven group without venture capital

	Corr	Edu	Govprog	Loans	Tech
Corr	1				
Edu	0.0998	1			
Govprog	0.2578	0.4581	1		
Loans	0.5658	0.2948	0.3346	1	
Tech	0.6131	0.2264	0.3053	0.6277	1

The results of the table 10 confirms the assumption about excluding the venture capital from the model. Now there is more accurate analysis and there is no dependency between the factors, as all of them are lower than the 0.7. Therefore, the factors could be interpreted as reliable.

The next step, as in the research with the efficiency-driven group, will be to look at the normal distribution of each factor and understand, which variables should be logarithm and which not. As it was already said that logarithm all variables may harm the final model and the results can be distorted. The histograms below will show the distribution of each factor in isolation, but firstly it is necessary to build the boxplots for all variables and identify the outliers, if they are presented.

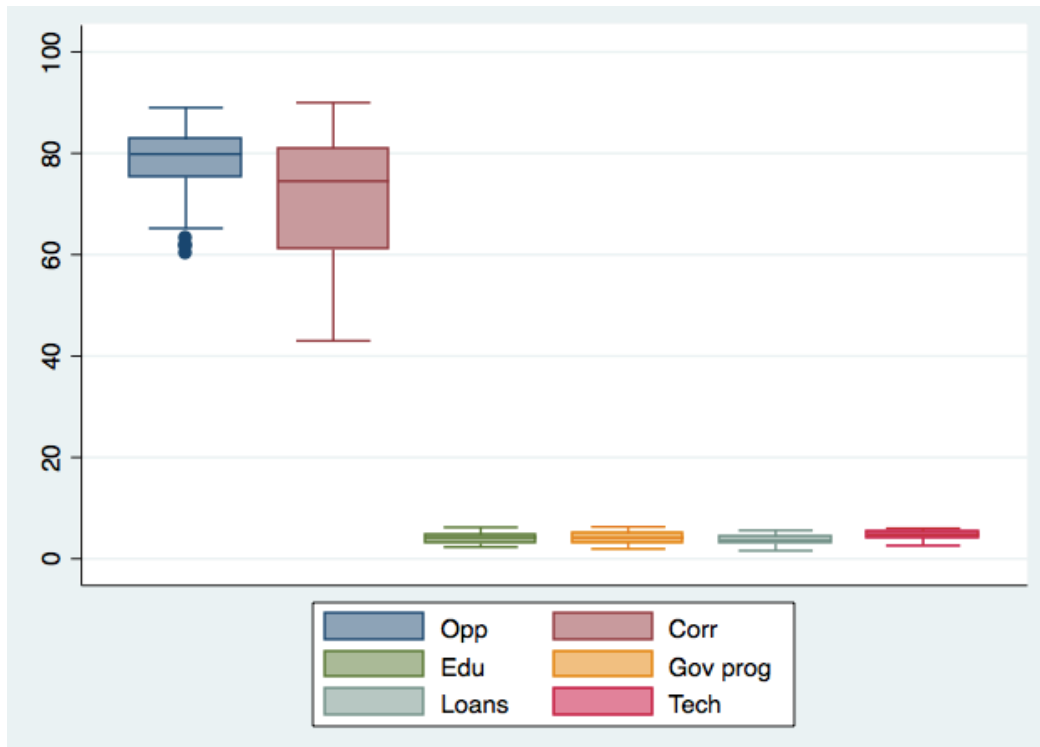


Figure 10. Boxplots for all factors in the innovation-driven group

In the fig.10 above it could be seen that there are some dots in the opportunity-driven group, which can present the outliers. To check for the outliers, we will run the “hadimvo” test in Stata

Table 11. Results of “hadimvo” test for variable opportunity-driven entrepreneurs

Beginning number of observations:	78
Initially accepted:	2
Expand to $(n+k+1)/2$:	40
Expand, $p= .05$:	78
Outliers remaining:	0

The outliers were not detected in the opportunity-driven variable. Other variables are also clean and don’t contain outliers. Therefore, we can assume that the sample is cleared from everything that could affect on the results of the model. The last step before running the regression analysis is to look at the normal distribution of the variables (Appendix 4)

In all variables there is a normal distribution of values. Thus, it is assumed the data is presented in the uniform way and we can continue to work with it. The only one variable, which raised doubts was the level of corruption. We will logarithm the variable and observe what distribution will be.

After the logarithm of the factor, the situation seems better than the former one. Therefore, in the final regression we will use the only one factor-level of corruption as `corrln` for more accurate analysis.

Now we can proceed to the final step of running the regression analysis and interpreting the results. As in the efficiency-driven, firstly we will try to run the analysis without the “robust” function, if there will not be the significant values, we will optimize the model with the “robust” to decrease the level of heterogeneity in the final model.

```

Random-effects GLS regression                Number of obs   =           78
Group variable: Countries                   Number of groups =           26

R-sq:                                       Obs per group:
  within = 0.1357                           min =           3
  between = 0.2579                          avg =           3.0
  overall = 0.2259                          max =           3

corr(u_i, X) = 0 (assumed)                  Wald chi2(5)    =           15.45
                                           Prob > chi2     =           0.0086

```

Opp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Corrln	9.346882	6.308628	1.48	0.138	-3.017802	21.71156
Edu	1.725065	1.10979	1.55	0.120	-.4500833	3.900214
Govprog	-.7621551	1.098934	-0.69	0.488	-2.916026	1.391716
Loans	.7909086	.6777795	1.17	0.243	-.5375149	2.119332
Tech	.1995774	1.525278	0.13	0.896	-2.789913	3.189067
_cons	31.09788	23.88932	1.30	0.193	-15.72433	77.92009

Figure 11. The results of the regression analysis

In the final model there are no significant factors, which can be explained by the fact that there still some uneven nesses in the model, which can be decreased with the function “robust”. The next step will be to run the final model with his function.

According to the results of both regressions, we can mark that level of education motivates entrepreneurs in both groups, in innovation-driven group corruption becomes essential factor, whereas in efficiency-driven group availability of latest technology. All these factors are very logic, as in innovation-driven economies the technology is available and there is no need to think about it beforehand. Efficiency-driven group thinks oppositely, due to the fact that the technology in their countries is not so available and to get to him, we assume that the level of corruption can be very high due to this fact. Therefore, according to the previous sentence we can explain why level of corruption was not significant in efficiency-driven group. Also, low level of corruption in developed countries stimulate the business, as it was mentioned before. The qualities of the business are much better in innovation-driven group.

The next paragraph will show the discussions and comparison of our study to the studies of the scholars that were mentioned in the first chapter.

3. Analysis of the obtained results

3.1 Theoretical contribution

According to the results of the study it is necessary to note, which hypotheses were supported. The study contributes 2 regression models for innovation-driven countries and efficiency-driven countries. The tables below will demonstrate the evidence of the study.

Table 12. Testing the hypotheses for innovation-driven group

Hypotheses	P>z*	Validity
H1	0.162	Not supported
H2	0.097	Supported
H3	0.458	Not supported
H5	0.095	Supported
H6	0.800	Not supported

*level of significance-10%

The table above demonstrates five hypotheses out of six, on which the regression model was constructed. The hypothesis four was excluded, due to the high multicollinearity between venture capital availability and ease access to loans. The regression model showed only two significant factors: corruption ($p>0.097$) and education ($p>0.095$). It can be interpreted as there is a positive relationship of influence of corruption and of education at post school stage on the motivation of opportunity-driven entrepreneurs in the innovation-driven group.

If we look at the list of the innovation-driven countries, we can note that the level of corruption is very low there, therefore, the lower it is the more opportunity it gives to the opportunity-driven entrepreneurs to run their own business. The works of Dreher, A. & Gassebner, M. (2013) and Rose-Ackerman, S. (2003) contributes the assumption of positive influence of corruption. At the same time works of Busenitz et al. (2000) and Glaeser and Saks (2006) were strongly against this idea. This study shows that corruption will not stop opportunity-driven entrepreneurs for launching the business, whereas the study of necessity-driven entrepreneurs contributes, that the crucial factor of not starting is corruption, because those entrepreneurs are not willing to spend money, as the motivational factor for them is to run the business with the least expenditures.

Education is the only factor, which was significant in both groups: innovation and efficiency-driven countries. The work that supports the assumption of positive relationship are Block J and Sandner P. (2009), Block and Wagner (2007) and Roman et al. (2016). The work of Block and Wagner demonstrates the influence of the education on motivation of opportunity-driven entrepreneurs, but on the evidence only for German countries. We applied the technic in

the 78 countries and found also a positive relationship. Again according to the necessity-driven group, education is not the motivational factor, as there they can start the business without in-depth study of the specific area. If entrepreneurs want to launch a business with the innovational idea, they need to know much more and there is a need for them to get a specific and qualified education before running the business. The more educated the person is, the more opportunity it gives to become an opportunity entrepreneur.

Hypotheses about the influence of government programs, ease access to loans and availability of latest technology are not confirmed in developed countries. Which can be explained by the logic that opportunity entrepreneurs proceed from their own ideas, and not based on the areas, which government programs operate and stimulate business and how ease they can get the money for the business. The availability of latest technology, doesn't have an influence, as in developed countries the access to technology can be gain in more simple way, rather that in efficiency-driven countries.

The results of the efficiency-driven group are presented below.

Table 13. Testing the hypotheses for efficiency-driven group

Hypotheses	P>z*	Validity
H1	0.242	Not supported
H2	0.266	Not Supported
H3	0.184	Not supported
H5	0.000	Supported
H6	0.095	Supported

*level of significance-10%

The efficiency-driven group demonstrates slightly different results in comparison with innovation-driven group. The significant factors, which were found in the regression models are education at post-school stage and availability of latest technology.

According to the analysis in the innovation-driven, nothing has changed in the efficiency-driven group. The assumption of the more educated the person is, the more chance to become opportunity-driven entrepreneur. Therefore, the idea is confirmed in the efficiency-driven group.

The second factor that is significant is availability of latest technology ($p > 0.095$). The hypothesis was based on the main findings of the work Stenholm et al. (2013). He demonstrated this factor as one of the four factors in the conducive dimension. Unfortunately, there was no evidence to prove that conducive dimension as a whole has an impact on opportunity-motivated entrepreneurs. Therefore, in our study author took one factor - availability of latest technology based on the work of Anokhin et al. (2016), to check the assumption that today one of the crucial factors for opportunity entrepreneurs is technology, how they can access to it and how much

resources they can involve in order for opening a business. The hypothesis is confirmed, which illustrates the idea, that in emerging countries it is more difficult to gain an access to the technology, than in developed, thus as the motivational factor for opportunity-driven entrepreneurs is to run the business with an innovative idea, which make a significant contribution to the economic growth, it is very important to have latest technologies in the country in order for promoting the business.

The hypotheses about influence of corruption, government programs and access to loans are not confirmed. Therefore, we can claim that these factors don't influence motivation of opportunity entrepreneurs in order for establishing the business in emerging countries.

The next paragraph is going to describe the practical contribution of the work for managers and scholars.

3.2 Practical contribution

Institutions play significant role in the context of entrepreneurship. Besides the internal factors as personal skills and experience, there are also external factors, which are also very important for the opening the business. Today it is not enough only to have an idea, there also should be a strict plan of how it could be implemented in the life, therefore external factors play crucial role in entrepreneurship. The institutional factors that affect entrepreneurship are different to opportunity and necessity entrepreneurs. The difference between the factors can be pointed out to certain points on which attention of policymakers, scholars, entrepreneurs and incumbents should be paid mostly. As opportunity entrepreneurs are those who contribute to the economic growth, with those factors that become significant policymakers and managers will be able to control the business and stimulate entrepreneurship more, in comparison with today's situation.

The master thesis provides the analysis based on the panel data with the three-dimensional scale of 78 countries, evidence from GEM data through period of 2014-2016. Institutional factors influencing the motivation of opportunity-driven entrepreneurs as a type of activity are different in innovation-driven and efficiency-driven countries. In innovation-driven (developed) countries, corruption and education are significant, whereas in efficiency-driven (emerging) countries are education and availability of latest technology.

Factor of education at post-grade school became significant in both groups. This examines the premise, which was based on the literature review, that education is one of the main factors that affect opportunity entrepreneurship. For innovative development, great attention must be paid to the state of fundamental and applied research. Fundamental and applied research are two forms of implementing science as a profession characterized by a unified

system of training specialists and a single body of basic knowledge. For the successful implementation of the projects they require "innovative literacy", the ability to think creatively, evaluate opportunities and apply problem-solving skills in a variety of business tasks, where education plays a crucial role in their development. Due to the fact that the requirements for incumbents become more stringent in the field of innovative knowledge, the ability to develop new ideas and projects, and, consequently, this leads to the growth of intellectual potential. Improvement of professional skills contributes to adaptation to changing conditions in all areas of activity, increasing the speed of scientific development, as well as accelerating the commercialization of research results, which has a significant impact on the pace of innovative development of the country and therefore for economic growth of the country. The more educated the entrepreneur is, the more chances to become an opportunity entrepreneur, who will open the business and increase the economy of the country. As many entrepreneurs are necessity in emerging countries it is important for countries to involve them in opportunity sphere, thus the government has to provide support for them.

Besides education in innovation-driven one more factor that motivates entrepreneur is the level of corruption. It is very logic, as in developed countries corruption is much lower than in emerging, that's why it positively affects opportunity entrepreneurs in these countries. Also, speaking about the positive influence, it could be mentioned that corruption doesn't matter much for opportunity entrepreneurs, as in order to achieve the goal in their business, they are ready to give bribes. Corruption was always a consequence of disagreements for scholars and policymakers, therefore, the author testes the assumption of positive influence of corruption on motivation of opportunity entrepreneurs.

In the efficiency-driven group corruption was not significant, but availability of latest technology became important in these countries. It could be explained by the fact that in innovation-driven group the access to the technology is easier, whereas in emerging countries it is a big problem. As we mentioned that education is very important for both groups and it stimulates the innovate idea of the business, the success of the company also depends on the latest technology that can be gained by entrepreneur. The introduction of innovations in small and medium-sized businesses can provide a competitive environment, which positively affects the growth of the economy as a whole. Access to availability of latest technology in today's world becomes an integral part for developing the business. Therefore, government, managers and held entrepreneurs should help of giving opportunity for entrepreneurs to gain more access to technology.

Other factors of the regression model were not proved, but this give a limitation for further research, we cannot affirm that there is no positive relationship on motivation of

opportunity entrepreneurs. Maybe it is negative, because they take it as a reality, that for them it makes no sense to rely on support of government programs and ease access to loans, due to the fact that it is easier and faster to do everything by themselves. It is not right way, as entrepreneurs should be supported and stimulated by the government and people, who could influence it in a more positive way.

The work contributes to be very useful in terms of understanding, what institutional factors could be improved in order of increasing the economic growth and also the possession of information about competitors, with knowing the factors, which have a power on the entrepreneurship as a whole.

The greater level of entrepreneurship the higher will be the economic growth in the country. This idea is based on the deep analysis of the literature review, which contributes the role of entrepreneurship as one of the main driving forces for the economy of each country.

The world practice testifies: without certain state preferences, including financial preferences, small innovative entrepreneurship can not develop. The development of small business in the country should acquire the status of a national project. For economic development of the country, innovative activity has always been and remains one of the important issues of national development. Thus, to ensure economic growth, it is necessary to focus on explaining, attracting entrepreneurs to participate in the implementation of innovative tasks set at the country level and therefore become opportunity entrepreneurs.

Conclusion

Entrepreneurship is a very complex sphere of relationships between entrepreneurs themselves and external factors that affect their motivation. External factors are distributed into 3 main groups: regulative, normative and cognitive. However, it is not always possible to achieve the situation when all these spheres function smoothly without any problems.

Presence of opportunity entrepreneurs is very important for today's economic growth. They (opportunity) instead of necessity increase the country's GDP, which is very crucial for nowadays development of the countries. Moreover, the factors that affect the motivation of opportunity entrepreneurs are different with necessity. There are a lot of works contributing the influence of institutional environment on entrepreneurs, but not enough in terms of influencing the motivation of opportunity entrepreneurs, which gives the gap for this study. Also, the works that are written on this topic are mainly directed on assessment of the personality and the impact of economic conditions on entrepreneurship as a whole. Taking into consideration countries all over the world gives value and uniqueness in this field to this work.

In this paper, a study was conducted, during which the goal was achieved of which factors affect the motivation of opportunity entrepreneurs. First of all, the theoretical aspects related to general information on entrepreneurship and institutional environment were considered. Classifications of the factors that are available today in the literature, mainly in the foreign literature, were presented. An important stage of the work is the consideration of research works by foreign authors who are studying institutional environment. It is very important to know what factors the authors of these works distinguish among others, which also affect the motivation of opportunity entrepreneurs, but not to such an extent. Moreover, their work is very informative, as each author presents his own methodology for conducting the analysis.

At the next stage of the work, it was extremely important to analyze the tools of econometric analysis, since it was with his help that the goal of the research was achieved. In particular, the paper considers the construction of various regression models using panel-type data in the econometric method, because this type of data was used in the study. Data for the study were taken from the GEM database, Competitiveness reports, World Bank and Transparency reports for 3 years for 6 factors. It should be noted that according to the data on the entrepreneurship GEM base is the largest.

The study was done according to all the rules of econometrics. The data was distributed into 2 groups of countries: efficiency-driven group and innovation-driven group. Before constructing the model, the dependent variable (opportunity-driven entrepreneurs), the relationship between the independent variables, was analyzed, which made it possible to remove

from the sample a part of the strongly correlated factors. Then the model was built. In the future, it was tested by various tests that revealed the correctness of its construction. Further, two models were constructed, which made it possible to more adequately assess the panel data. As a result, the two model were selected, which was also tested by the training sample method. Based on the results of the constructed model, it can be said that the most significant factors that influence the motivation of opportunity entrepreneurs are: corruption and education in innovation-driven group and education and availability of latest technology in efficiency-driven group. It was important that a education became significant in both groups, which confirmed the premise that the more educated the person is, the more chances he has to become opportunity entrepreneur, as the assumption of becoming opportunity is to introduce an innovative idea in the business.

The works solved all objectives that were stated in introduction part. The study showed the influence of not only regulative factors, but also cognitive and normative.

Although the model has been tested, it is possible in the future to conduct a similar study, but already to another period and for more data. Two studies can be compared with each other, and then compare with similar foreign studies. Comparison will give an incentive to identify the causes of differences or similarities of indicators. Undoubtedly, this will contribute to the accumulation of excessively important experience in the development of entrepreneurship.

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Appendix 1. Literature review analysis

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
Theory about institutional environment					
Kostova T. (1997).	Kostova T. (1997, August). Country institutional concept and measurment. In Academy of Management Proceedings (Vol. 1997, No. 1, pp. 180-184). Academy of Management.	Country institutional profiles concept and measurement.	Survey instrument was developed. 10 countries, 600 observations.	Three dimensional instituional profile*: 1) regulatory rules about quality of products and services; 2) shared social knowledge about quality and quality management; 3) quality-related social norms and values.	A certain market can be described in terms of country institutional profile(CIP). Each country has a certain institutional profile that will influence firms. Research in cognitive psychology has shown that cognitive, normative categories and countries regulations and government policies are domain specific. Kostova developed an instrument to assess quality management.
Busenitz L., Gomez C., Spencer W. (2000).	Busenitz L. W., Gomez C., Spencer J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. Academy of Management journal, 43(5), 994-1003.	Country institutional profiles: Unlocking entrepreneurial phenomena.	On the basis of Kostova's approach. Empirically validated survey with undergraduate students for measuring CIP across six countries.. (5 regulatory items ,4	Three dimensional instituional profile*: 1) regulatory 2) cognitive 3) normative	Main idea is to develop and validate a measure of a CIP for the domain of entrepreneurship. 1) The breadth of the concept of culture has led to overgeneralization in terms of both conceptual arguments and empirical results. 2) Usefulness of understanding the distinctions among the dimensions of a CIP. 3) Three dimensions of the IP appear to relate to different aspects of entrepreneurship across countries, the IP provides the opportunity to evaluatr the source of each country's strengths

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
			cognitive items, 4 normative questions) 636 observations.		and weaknesses more precisely. Были разработаны механизмы сравнения стран
Manolova T.S. (2008).	Manolova T. S., Eunni R. V., Gyoshev B. S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. <i>Entrepreneurship Theory and Practice</i> , 32(1), 203-218.	Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe.	254 observations. 3 emerging markets in Eastern Europe. Online survey Factor analysis	Three dimensional institutional profile:.* 1) regulatory-5 dimensions World Bank's World Development indicators 2) cognitive-4 dimensions 3) normative-4 dimensions	In recent studies there was a little about the mechanism about the effects. There was a value in separating out the three dimensions of CIP. The findings of Busenitz could be applied also for the emerging markets. The institutional environment for entrepreneurship may have a direct influence on firm performance. The institutions are relevant not only for macro level, but also micro level entrepreneurs.
Volchek D. (2013).	Volchek D., Jantunen A., Saarenketo S. (2013). The institutional environment for international entrepreneurship in Russia: Reflections on growth decisions and performance in SMEs. <i>J Int Entrep</i> , 11, 320-350.	The institutional environment for international entrepreneurship in Russia: Reflections on growth decisions and performance	188 Russian SMEs Questionnaire	Doesn't use CIP, not relevant for Russia. Cognitive environment (home); Normative environment (home); Institutional distance; Innovation capability; International and innovation propensity;	The main feature of the article is failure to use CIP model, as it doesn't fit on Russian market. The lack of relevant and sufficient knowledge for starting international business operations, which represents cognitive dimension, is the weak point in Russia. Lack of support from the Russian government is reflected in motivation of starting the businesses in the country.

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
		in SMEs.		International experience.	
Dau L.-A. (2014).	Dau L.-A., Moore E., Bradley C. (2014). Institutions and International Entrepreneurship. Academy of international business. Southeast Chapter V8.1.	Institutions and International Entrepreneurs hip.	<p>Feature: to rerun the confirmatory analysis first proposed by Busenitz. To make to more deeper and to test more models.</p> <p>Several models:</p> <p>1) hypothesized 3 factor structure;</p> <p>2) two factor structure(in which two of the hypothesized factors are collapsed into one</p> <p>3) one factor model</p> <p>4)second order model</p>	<p>Three dimensional instituional profile:</p> <p>1) regulatory</p> <p>2) cognitive</p> <p>3) normative</p>	<p>1) The item generation process originally used may have led to a biased set of items;</p> <p>2) Some of the factor loadings on the final model appear to be quite low</p> <p>The authors found invariance across groups and the model doesn't provide more than a modest fit, thus it can't be justified in using that measure in the future.</p>
Theory about opportunity-motivated entrepreneurs					
Amit R., Muller E. (1995).	Amit R, Muller E.1995. "Push" and "pull" entrepreneurship, Journal of Small	"Push" and "pull" entrepreneursh ip	-	-	Pull entrepreneurs are more successful; both in terms of venture success (sales per employee) and personal income. This result is similar when controlled for other relevant factors that may influence income.

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
	Business and Entrepreneurship 12 (4), 64-80.				
Reynolds. (2002).	Reynolds PD, Bygrave WD, Autio E, Cox LW, Hay M.2002. Executive forum: a study of informal investing in 29 nations composing the Global Entrepreneurship Monitor, Venture capital, 2003, vol.5, no 2. 101-116	Executive forum: a study of informal investing in 29 nations composing the Global Entrepreneurs hip Monitor	1)surveys of 74 000 individuals 2)29 nations 3)950 respondents on one hour face to face interviews	Dependent variable: 1)TEA(total entrepreneurial activity) opportunity entrepreneurs 2)TEA necessity entrepreneurs Independent variable: 1)real GDP growth in 2000; 2)good opportunity in next 6 months 3)skill and experience to do startup 4)annual informal investment per GDP	The distinction between push and pull motivations does not appear explicitly in the studies dealing with new venture creation decision-making factors anymore. The concepts of necessity (push) and opportunity (pull) entrepreneurs have replaced this distinction. He observed that age patterns are different for opportunity and necessity entrepreneurs.
Acs ZJ, Varga A. (2005).	Acs ZJ, Varga A.2005. Entrepreneurship, agglomeration and technological change, Small Business Economics 24,323-334.	Comment on Acs and Varga: Entrepreneurship, agglomeration and technological change	The investigation is based on Romer model of aggregate knowledge. European countries for 2001	Impact of agglomeration effects and entrepreneurial activity on technological change.	Whereas opportunity entrepreneurship has a positive impact on technological change, necessity entrepreneurship does not have an effect.
Block JH,	Block JH, Wagner	Opportunity	Unbalanced panel	1)educated in the	The analysis includes only Germany.

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
Wagner M. (2007).	M.2007.Opportunity recognition and exploitation by necessity and opportunity entrepreneurs: Empirical evidence from earnings equations, in: Solomon, George T. (ed.),Proceedings of the Sixty-Sixth Annual Meeting of the Academy of Management, ISSN 1543.	recognition and exploitation by necessity and opportunity entrepreneurs: Empirical evidence from earnings equations	data. Years 1984-2004 Interview people who were self-employed and asked how they get there. 256 necessity entrepreneurs 613 opportunity entrepreneurs	profession 2)male 3)German 4)labor market experince	The education and general labor market experience positively affect the earnings of opportunity entrepreneurs but not those of necessity entrepreneurs. On the other hand, specific vocational training boosts the earnings of necessity entrepreneurs but not those of opportunity entrepreneurs. Opportunities exploited by opportunity entrepreneurs on average are more profitable than those exploited by necessity entrepreneurs, i.e., the earnings of opportunity entrepreneurs are 15 percent higher than those of necessity entrepreneurs.
Williams C. (2007).	Williams C. (2007) Entrepreneurs Operating in the Informal Economy: Necessity or Opportunity Driven?, Journal of Small Business and Entrepreneurship 20, no.3(2007): pp. 309-320	Entrepreneurs Operating in the Informal Economy: Necessity or Opportunity Driven?	Based on case studies	Interview 70 informal entrepreneurs	The study has applied this distinction between necessity-push and opportunity-pull entrepreneurs to a particular group, namely those starting up businesses that operate either wholly or partly on an off-the books basis. The finding of this study is that necessity is by no means the predominant motive and that the same ratio of necessity to opportunity entrepreneurs prevails as amongst legitimate entrepreneurs. It also displays that squeezing individuals into one side or the other of this either/or dichotomy oversimplifies the complex motives for entrepreneurship in the informal economy.

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
					This paper reveals that not all entrepreneurs engaged in off-the-books transactions are simply necessity entrepreneurs. Given this, then perhaps a rather different approach is required in public policy towards this sphere.
Block J, Sandner P. (2009).	Block J, Sandner P. 2009. Necessity and Opportunity Entrepreneurs and Their Duration in Self-employment: Evidence from German Micro Data, Journal of Industry, Competition and Trade, 9(2), p. 117-137 Wagner J. 2005. "Der Noth gehorchend, nicht dem eignen Trieb" – Nascent necessity and opportunity entrepreneurs in Germany: Evidence from the Regional Entrepreneurship Monitor, IZA Discussion Paper No. 1608.	Necessity and Opportunity Entrepreneurs and Their Duration in Self-employment: Evidence from German Micro Data	Data from German Socio-Economic Panel Study 606 entrepreneurs	1)male 2)German 3)Age 4)married 5)children 6)education duration 7)education in this profession 8)household income	Found that opportunity entrepreneurs are older than necessity entrepreneurs.
Reza Zali	Reza Zali M., Faghih	The effect of	GEM data	Independent variables:	This paper Uses data from GEM 2010 surveys to

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
M., Faghih N., Ghotbi S., Rajaie S. (2013).	N., Ghotbi S., Rajaie S., The effect of necessity and opportunity driven entrepreneurship on business growth, Intl. Res. J. Appl. Basic. Sci. Vol., 7 (2), 100-108, 2013	necessity and opportunity driven entrepreneurship on business growth	53 countries: -factor -efficiency -innovation driven economies 17 913 entrepreneurs	1)Gender 2)Age Dependent variables: -involved in opportunity early-stage entrepreneurial activity - involved in necessity early-stage entrepreneurial activity	examine the effects of necessity and opportunity-driven entrepreneurship on business growth and business growth expectations in 53 countries corresponding to three contrasting economies(factor, efficiency and innovation-driven economies). This article contributes to this field by indicating different effects of necessity and opportunity driven entrepreneurship on business growth and business growth expectations. Several studies have explored that an owners' motivation for starting and running a business affect the growth of their firms. A business which has been set up to exploit an opportunity in the market is expected to have a higher propensity to grow than a business for which the main drivers are push factors such as unemployment, dissatisfaction with present employment or personal lifestyle reasons.
Stenholm P., Zoltan J., Wuebker R. (2013).	Stenholm P., Zoltan J., Wuebker R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity, Journal of Business Venturing Vol. 28(1), 176-193, 2013	Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity	63 countries	** 4 pillars: 1)regulatory; 2)cognitive; 3)normative; 4)conducive.	Introduction of new dimension-conducive. It represents the general support for a particular type of entrepreneurial activity. The article examines the positive correlation between regulatory side and entrepreneurial activity. There are no findings about the impact of cognitive dimension on opportunity entrepreneurs, it could be more relevant for necessity ones. Cognitive dimension seems to be over-sensitive for necessity entrepreneurs.
Sambharya R., Musteen	Sambharya R., Musteen M. (2014). Institutional	Institutional environment	43 countries 5 years	GDP per capita; Market openness;	An article represents the impact of institutional environment in terms of three dimensions (cognitive,

Authors	Sources	Title	Methods of analysis (Number of observations, special features)	Factors	Summary
M. (2014).	environment and entrepreneurship: An empirical study across countries. Springer Science+Business Media New York,314-330.	and entrepreneurship: An empirical study across countries.		Regulatory quality; Uncertainty avoidance practice; Power distance practice; Institutionalism-collectivism practice	normative and regulatory) on entrepreneurship. Necessity-driven entrepreneurship appears to be stimulated by less market openness, greater power distance and collectivism. Regulatory dimension and uncertainty avoidance don't impact much on necessity entrepreneurship. Low regulatory quality, low power distance and less market openness are stimulating opportunity-driven entrepreneurship. Institutional environment impacts push and pull entrepreneurship differently.
Block J. Sandner P. Spiegel F. (2015).	Block J. Sandner P. Spiegel F., How Do Risk Attitudes Differ within the Group of Entrepreneurs? The Role of Motivation and Procedural Utility, Journal of Small Business and Entrepreneurship (2015)53(1), pp. 183–206	How Do Risk Attitudes Differ within the Group of Entrepreneurs ? The Role of Motivation and Procedural Utility	Online survey 1 526 -970 male -556 female	Measures of risk attitude Measures with Regard to Motivation	To the authors knowledge, this is the first large-scale empirical study of the differences in risk attitude within the group of entrepreneurs. That study shows that there are strong differences in risk attitudes within the group of entrepreneurs. Necessity entrepreneurs were found to have a lower risk tolerance than other entrepreneurs. In some entrepreneurial decision-making situations necessity entrepreneurs have a higher risk tolerance than opportunity entrepreneurs.

*Reference 1- Busenitz L. W., Gomez C., Spencer J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. Manolova T. S., Eunn R. V., Gyoshev B. S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe.

Regulatory

- 1) Government organizations in this country assist individuals with starting their own businesses;
- 2) The government sets aside government contracts for new and small businesses;
- 3) Local and national governments have special support available for individuals who want to start a new business;
- 4) The government sponsors organizations that help new businesses develop;
- 5) Even after failing in an earlier business, the government assists entrepreneurs in starting again.

Cognitive

- 1) Individuals know how to legally protect a new business;
- 2) Those who start new businesses know how to deal with much risk;
- 3) Those who start new businesses know how to manage risk;
- 4) Most people know where to find information about markets for their products.

Normative dimension

- 1) Turning new ideas into businesses is an admired career path in this country;
- 2) In this country, innovative and creative thinking is viewed as a route to success;
- 3) Entrepreneurs are admired in this country;
- 4) People in this country tend to greatly admire those who start their own business.

**Reference 2- Stenholm P., Zoltan J., Wuebker R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity

Regulatory

- 1) Business freedom ;
- 2) Ease of starting up a business;
- 3) Ease of closing a business;
- 4) Property rights.

Cognitive

- 1) Opportunity perception;

- 2) Knows an entrepreneur (the percentage of the non-entrepreneurial adult population who see good opportunities for starting a business in the area in which they live);
- 3) Skills.

Normative

- 1) High status;
- 2) Media attention.

Conducive

- 1) ICT laws measures the assessment of country's laws related to the use of information technology;
- 2) University-Industry collaboration indicates the extent to which business and universities collaborate on research and development in particular country;
- 3) Availability of venture capital;
- 4) Availability of latest technology.

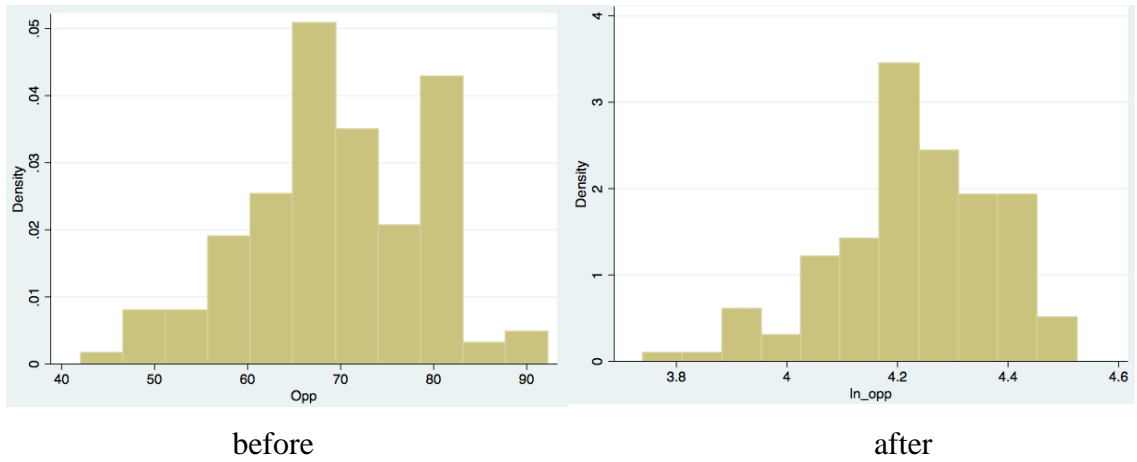
Appendix 2. Country distribution on innovation driven and efficiency-driven

	Efficiency-driven group	Innovation-driven group
1	Argentina	Australia
2	Bolivia	Austria
3	Botswana	Belgium
4	Brazil	Canada
5	Bulgaria	Cyprys
6	Burkina Faso	Denmark
7	Cameroon	Estonia
8	Chile	Finland
9	China	France
10	Colombia	Germany
11	Costa Rica	Greece
12	Croatia	Hong Kong
13	Ecuador	Ireland
14	Egypt	Israel
15	El Salvador	Italy
16	Georgia	Japan
17	Guatemala	Korea
18	Hungary	Luxembourg
19	India	Netherlands
20	Indonesia	Norway
21	Iran	Portugal
22	Jamaica	Qatar
23	Jordan	Singapore
24	Kazakhstan	Slovenia
25	Latvia	Spain
26	Lebanon	Sweden
27	Lithuania	Switzerland
28	Macedonia	Taiwan
29	Malaysia	Trinidad and Tobago
30	Mexico	United Arab Emirates
31	Morocco	United Kingdom
32	Panama	United States of America
33	Peru	-
34	Philippines	-
35	Poland	-
36	Romania	-
37	Russian Federation	-
38	Saudi Arabia	-
39	Senegal	-
40	Slovak Republic	-
41	South Africa	-

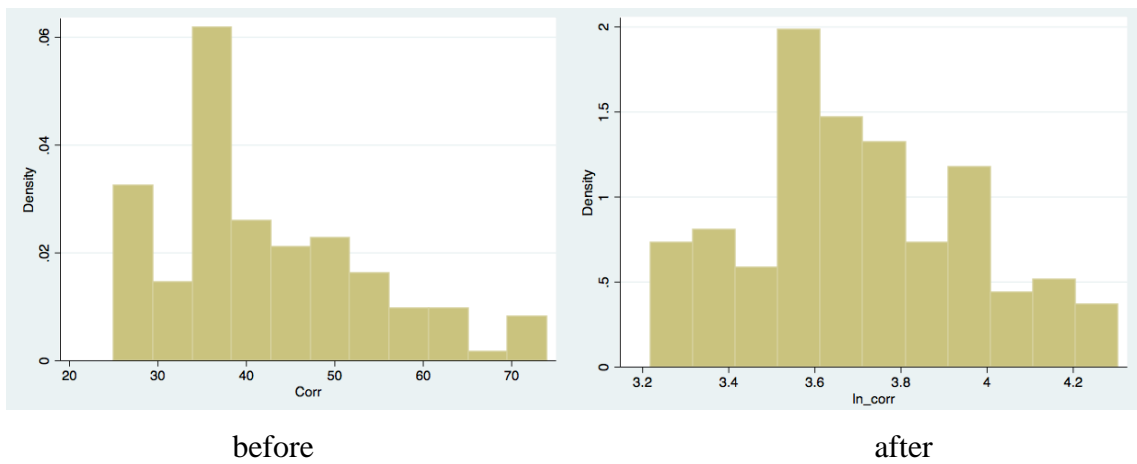
42	Thailand	-
43	Turkey	-
44	Uganda	-
45	Uruguay	-
46	Vietnam	-

Appendix 3. Normal distribution of independent variables in efficiency-driven countries

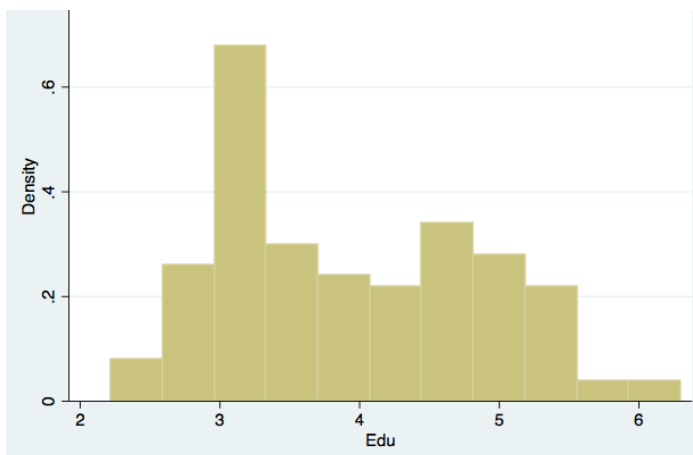
Opportunity-driven entrepreneurs variable



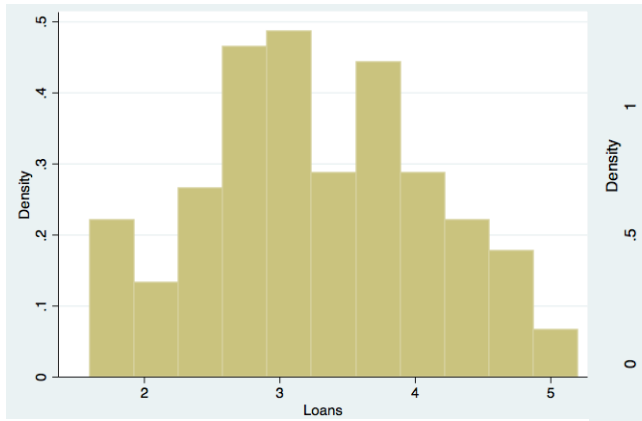
Level of corruption variable



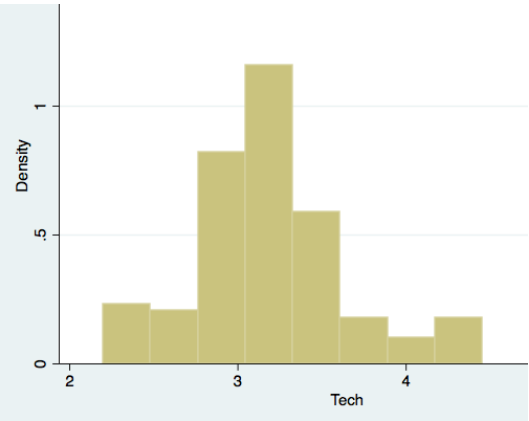
Education at post grade school



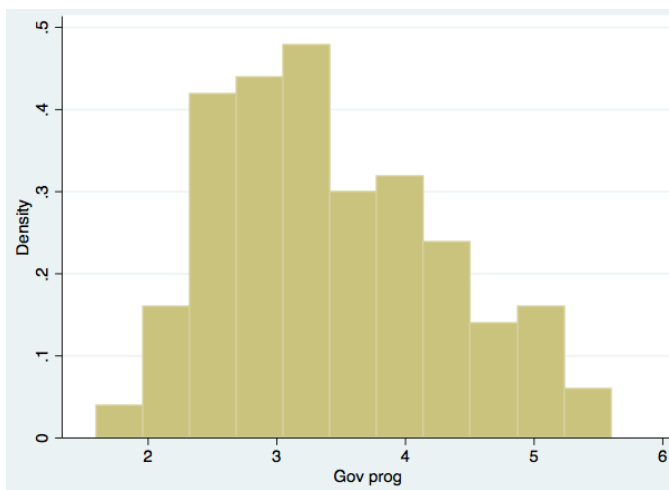
Ease access to loans



Availability of latest technology

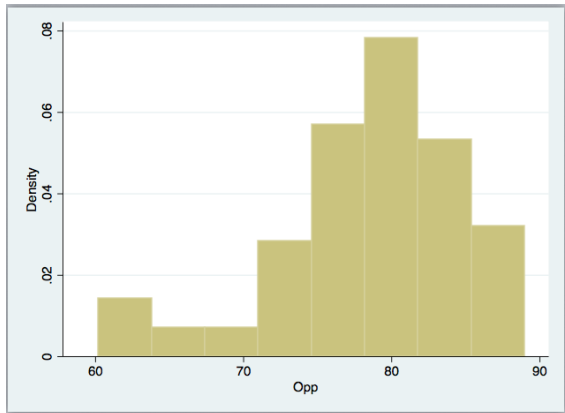


Government programs

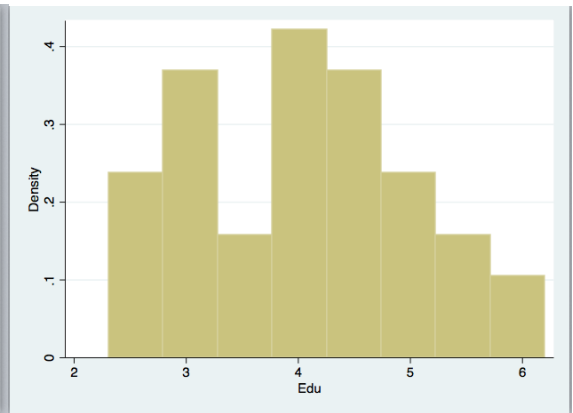


Appendix 4. Normal distribution of independent variables in innovation-driven countries

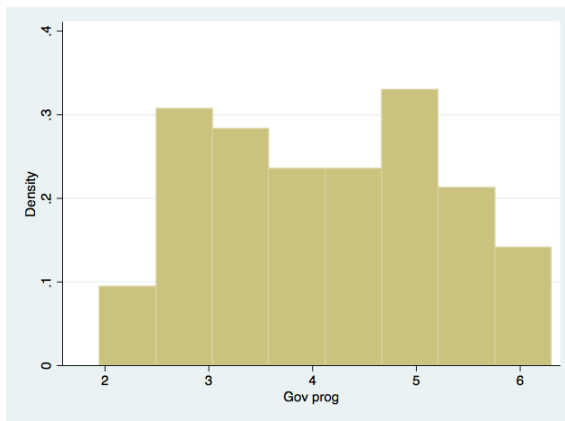
Opportunity-driven entrepreneurs



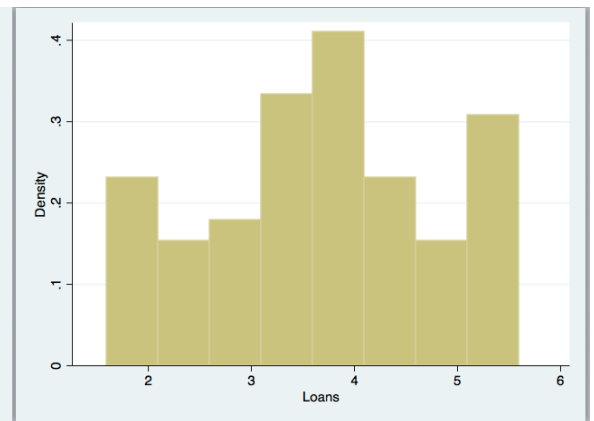
Education at post grade school



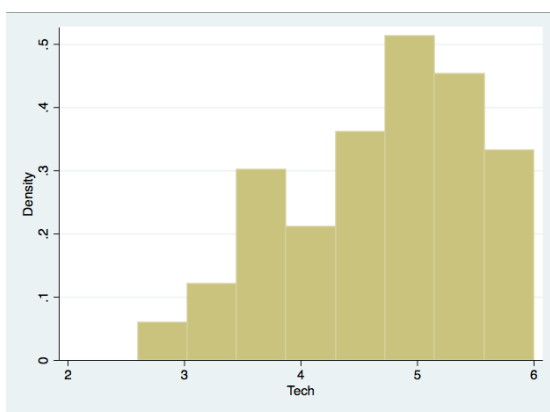
Government programs



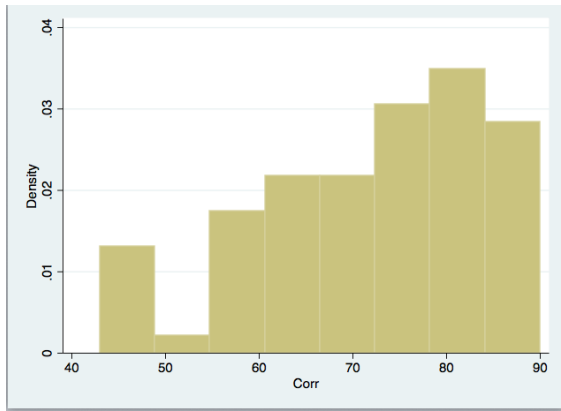
Ease access to loans



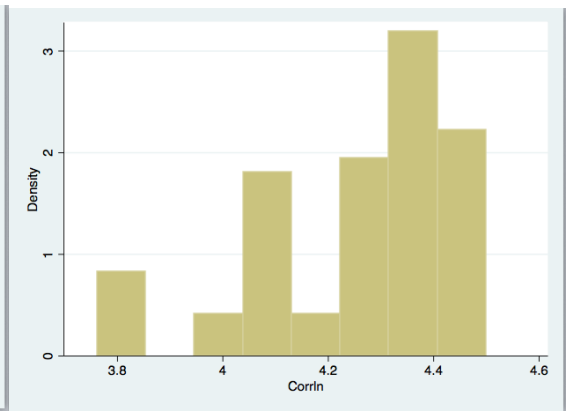
Availability of latest technology



Level of corruption variable



before



after