Saint Petersburg State University
Graduate School of Management

Master in Management

THE IMPACT OF THE INSTITUTIONAL ENVIRONMENT ON ENTREPRENEURIAL ASPIRATIONS FOR GROWTH: EVIDENCE FROM GEM DATA

Master's Thesis by the 2nd year student
Concentration — Master in Management
Eduard Tsybenko

Research advisor:
Associate Professor, Olga R. Verkhovskaya

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Цыбенко Эдуард Артурович, студент второго курса магистратуры направления «Менеджмент», заявляю, что в моей магистерской диссертации на тему «Влияние институциональной среды на предпринимательские устремления к росту: выводы из данных 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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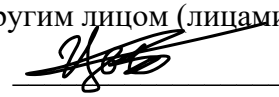
Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».



05.06.2020

STATEMENT ABOUT THE INDEPENDENT CHARACTER OF THE MASTER THESIS

I, Eduard Tsybenko, (second) year master student, program «Management», state that my master thesis on the topic «The impact of the institutional environment on entrepreneurial aspirations for growth: 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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05.06.2020

Аннотация

Автор	Цыбенко Эдуард Артурович
Название ВКР	Влияние институциональной среды на предпринимательские устремления к росту: выводы из данных GEM
Образовательная программа	Менеджмент
Направление подготовки	Master in Management
Год	2020
Научный руководитель	Верховская Ольга Рафаиловна
Описание цели, задач и основных результатов	Цель данной работы — выявить факторы институциональной среды, которые влияют на предпринимательские устремления, а именно увеличивают долю предпринимателей с устремлениями к росту. В ходе работы была проанализирована существующая литература на тему предпринимательства и институциональных факторов, которые влияют на устремления предпринимателей к росту. В результате был сформирован пул гипотез для каждой группы институциональных факторов. Для проверки выдвинутых гипотез был сформирован датасет, объединяющий базу GEM и отдельные показатели из таких источников, как Doing Business, Economic Freedom, и т.д. Для анализа был применен МНК, в результате чего было выявлено, что регулятивные институты имеют наибольшее влияние на предпринимательские устремления, при этом эффект нормативных и когнитивных факторов оказался смешанным. При этом набор факторов, оказывающих статистически значимое влияние на предпринимательские устремления, различается в зависимости от региона: Европа, Восточная Европа, страны мира.
Ключевые слова	Предпринимательство, институты, устремления

Abstract

Master Student's Name	Tsybenko Eduard
Master Thesis Title	The impact of the institutional environment on entrepreneurial aspirations for growth: evidence from GEM data
Educational Program	Management
Main field of study	Master in Management
Year	2020
Academic Advisor's Name	Olga R. Verkhovskaya
Description of the goal, tasks and main results	The purpose of this work is to identify factors of the institutional environment that affect entrepreneurial aspirations, namely, the share of entrepreneurs with aspirations for growth. In the course of the work, the existing literature on the topic of entrepreneurship and institutional factors that influence the aspirations of entrepreneurs to grow was analyzed. As a result, a pool of hypotheses was formed for each group of institutional factors. To test the hypotheses stated, a dataset was formed that combines the GEM data and individual indicators from sources such as Doing Business, Economic Freedom, etc. For analysis, the OLS model was used, as a result of which it was revealed that regulatory institutions have the greatest influence on entrepreneurial aspirations, while the effect of normative and cognitive factors turned out to be mixed. Moreover, the set of factors that have a statistically significant impact on entrepreneurial aspirations varies depending on the region: Europe, Eastern Europe, and countries of the world.
Keywords	Entrepreneurship, institutions, aspirations

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Introduction

Exploring the relationship between country characteristics and different aspects of entrepreneurship is one of the relevant topics of contemporary scientific research. A significant part of this research considers the relationship between the number of people involved in the entrepreneurial process, the qualitative characteristics of entrepreneurship and economic growth. Economic growth of a country (in terms of GDP, number of jobs, and, hence, productivity) largely depends on entrepreneurship, and the success of entrepreneurship depends on two factors: the availability of people who are ready to start their career as an entrepreneur and external factors that influence this decision and determine the probability of success of entrepreneurs. These external economic factors can be described as factors of production, but it is not enough to improve just these factors. A good quality of infrastructure is also needed to support economic growth and entrepreneurship.

Nevertheless, not all SMEs make significant impact on national economy. While some start-ups have high level of labor productivity and create rising number of jobs, majority of SMEs are not innovative, do not create a lot of jobs, and, subsequently, do not generate significant amount of value added for economy. That is why policymakers' focus should be on these high growth start-ups, not on the mass stimulation of small entrepreneurship.

In the contemporary entrepreneurial studies, it is common to separate different entrepreneurial aspirations. According to GEM methodology, there are four possible aspirations: growth (in terms of the number of employees), innovation (in terms of developing new products, that are not present on the market at the moment, competitive landscape, use of new technologies, and activities in the high tech industries), market expansion (increasing market share and targeted markets) and international activity (in terms of share of revenue coming from abroad). High growth entrepreneurs are characterized by the significant importance for the economy, because they drive economic growth much faster than average entrepreneurs. At the same time, aspiration towards innovation, market expansion, and internationalization all lead to company's growth, which is represented by growth in number of employees. Because of this, understanding the factors that determine the structure of aspirations leads to understanding the factors that affect the complexity and the level of growth that is generated by entrepreneurial activity.

The purpose of the paper is to analyze institutional factors that influence the share of high growth entrepreneurs. Many works study the influence of institutional factors on entrepreneurial activity and on various aspects of the aspirations of entrepreneurs. At the same time, insufficient attention to individual regions and the difference in institutional factors among regions allow us

to find a gap in research and expand our understanding of these processes. In addition, the limited sample does not allow authors to compare effects among different countries, which additionally opens up opportunities for research.

Additional focus of this study: compare factors that shape entrepreneurial aspirations among regions. Namely, peculiarities of Eastern Europe will be examined and compared to that of Western Europe and world as a whole. Eastern Europe is the region of focus because it has deferred growth potential which is due to the fact that the region entered the free-market economic system later than the rest of Europe. In addition, Eastern Europe exemplifies the region where conditions for a free-market economy are lacking. This paper also contributes to the research of entrepreneurship in the regions where institutional incentives and institutional factors are underdeveloped, which leads to the weak institutional environment.

What is more, in Eastern Europe entrepreneurship for a long time was perceived criminalistic activity, while making profit was considered ideologically wrong. Because of this, high level of bureaucracy, weakness of formal institution enforcement, high importance of informal norms, and low level of property rights created the environment that is drastically differ from that of Western Europe. This environment combined with hidden economic potential creates promising basis for the study.

Object of the study is the motivation of entrepreneurs with growth aspirations.

The objectives of the study are:

- Comparing the levels of entrepreneurial activity between the countries;
- Analysis of the literature related to entrepreneurs with growth aspirations;
- Analysis of the literature related to the impact of entrepreneurship on the economy and institutional factors influencing this impact;
- Identification of institutional factors that affect the number of entrepreneurs with growth aspirations;
- Constructing the regression models;
- Consideration of the influence of factors and analysis of the obtained results;
- Determining the differences in the factors that influence high growth entrepreneurs in different economies;

The secondary data will be collected for the analysis and regression models will be build. Quantitative method will be used because this is the only method that is appropriate for the study's objectives mentioned above. Data sources: GEM consortium, World Bank, Transparency International, and Heritage Index of Economic Freedom.

Research questions are the following:

- What institutional factors influence the share of entrepreneurs with growth aspirations?
- Is there a difference in the influence of institutional factors in different economies (world, Europe, Eastern Europe)?

The paper consists of three main parts. The first chapter presents theoretical framework and describes the influence of entrepreneurship on the economy and the influence of institutional factors on the entrepreneurs. The second chapter presents the research methodology. Hypotheses are stated in the second chapter as well. The third chapter shows empirical part, namely regression models used and final results: rejected and approved hypotheses. This chapter discusses the results of the analysis and practical contributions for officials and policymakers.

The work contributes to the understanding of the factors that could increase efficiency of economic growth: by focusing on the factors that have the greatest impact on the share of entrepreneurs with growth aspirations policymakers could stimulate GDP growth. The study of factors of influence will be conducted using regression analysis and results from three economies will be presented: world, Europe, and Eastern Europe for the last 10 years. The comparison of different economies will provide relevant information about the factors that influence growth aspirations and, hence, how to focus these factors.

Chapter 1. Theoretical background

Entrepreneurship plays significant role in the modern economy. In the OECD area, SMEs are the predominant form of enterprise. They provide about 70% of jobs and generate about 55% of value added[1]. At the same time, not all firms contribute to the economic growth equally: some companies manage to survive and thrive (hence, generate GVA, jobs, drive innovation, etc.), while others cannot last more than a year. From the policymakers' point of view this fact poses important questions: what companies make bigger impact on the economic growth and how to stimulate creation and prosperity of such companies? This thesis is an attempt to address these questions.

The first paragraph of this chapter is related to an overview of extant knowledge about entrepreneurship, its impact on economic growth and institutional factors that affect entrepreneurship. Firstly, the economic impact is discussed, then institutional factors.

The second paragraph contains a review of major research components in extant studies of entrepreneurial aspiration — research questions and hypotheses, theoretical frameworks, data and variables used, and research models.

Research gap is presented in the third paragraph. In order to formulate this gap, findings, approaches, and limitations of the extant researches are reviewed.

1.1. Entrepreneurship and types of entrepreneurship

1.1.1. Impact of entrepreneurship on economic growth

The importance of entrepreneurship as a whole and SMEs in particular are popular subjects for management research for a long time. Since the days of Schumpeter (Schumpeter, 1934), economists agreed on the fact that entrepreneurs are important for economic growth (Acs, Autio, & Szerb, 2014). Early literature, for example (Kirzner, 1973), examined the role of entrepreneurs in stimulating economic growth. Consequently, researchers identified entrepreneurship as an important driver of economic growth.

First of all, the difference between entrepreneurship and small business should be mentioned. Entrepreneurship is a type of behavior concentrating more on the opportunities than on the resources (Stevenson & Gumpert, 1991). The important note is that this type of behavior can happen not only in small firms but also in large firms. At the same time, small businesses serve as

[1] https://www.oecd.org/industry/C-MIN-2017-8-EN.pdf

vehicle for Schumpeterian entrepreneurs introducing new products and processes (Wennekers & Thurik, 1999).

Subsequently, researchers came up with a huge variety of economic benefits that are generated by the small firms and entrepreneurs. For example, (Acs & Audretsch, 1988) argued that entrepreneurs are generate significant benefit for the innovative process. Using number of innovations per industry, authors compared innovation activity of small firms (below 500 employees) and large firms (above 500 employees). In addition, authors analyzed R&D expenditures and compared it between small and large firms as well. As a result, authors concluded that lower concentration in an industry leads to higher innovation activity, innovation activity of small and large firms responds to considerably different technological and economic environment. While addressing other variables (e.g. unionization, R&D expenditures, etc.), authors highlighted the importance of the start-ups and entrepreneurship in such industries as manufacturing, electronic computer equipment, semiconductors, etc.

In terms of the connection between entrepreneurship and growth, (Klepper, 1995) examines the connection between the number of new firms entering the industry and making product innovation effort and prosperity of the industry. According to the author, when industries are new, there is a lot of entry and firms offer many different product innovations and versions of the product. In other words, when a new product is introduced, there is an uncertainty about user preferences and the best technological way to satisfy such preferences. Entering firms try different approaches towards these two questions, focus on product innovations and, as a result, set up a de facto product standard, which leads to economic growth that is due to increased consumer spending.

In addition, important step in understanding of the impact of small firms on the economy took (Acs Z. J., Small business economics: A global perspective, 1992). He examined consequences of the shift of economic activity from large firms to small firms and distinguished four major effects of such a shift:

- Entrepreneurship;
- Routes of innovation;
- Industry dynamics;
- Job generation;

He claims that small firms play a crucial role in terms of economic growth, because they serve as agents of change: they are the source of considerable innovative activity, stimulate industry evolution, and create an important share of the newly generated jobs.

For example, author states that firm growth rate decreases with firm size: small firms grow faster than their larger counterparts. In addition, small firms create additional jobs because of investment and R&D outlays. He compares number of innovations per employee and found that while large firms on average introduced 225 innovations per employee, small firms introduced 322. As a reason behind this, author name geographically mediated knowledge spillovers: university research appears to generate more innovation for small firms than for large ones. In addition, author states that employment generated by small firms grow faster than in the US economy as a whole.

Another research by (Fritsch, New firms and regional employment change, 1997) showed that higher start-up rates lead to direct employment creation. By studying 75 Western German regions, authors found statistically significant rise in regional employment growth in 1 year that is explained by increased number of start-ups. In this context, it is important to notice that this effect is observable in the short-term, but mid term effect is negative to zero in some regions. On the other hand, the research studying Swedish regions by (Foelster, 2000) that also took a look at regional employment rates studied the relationship between number of self-employed and employment rates. This time, authors were able to find significant correlation between variables of interest.

Then, a group of researchers addressed the same topic: the impact of entrepreneurship on firm growth (i.e. which firms grow faster). What make this analysis valuable is that these researchers are spread across Europe. For example, (Calvo, 2006) studied a sample of Spanish manufacturing companies in the 90s, (Konings, 1995) studied a sample of UK production plants, (Oliveira & Fortunato, 2006) studied a sample of Portuguese manufacturing firms, and (Hart & Oulton, 1996) studied a sample (50441) of UK firms from different industries. All of these researchers came up with the same result: it is statistically significant to say that smaller firms grow faster. Noticeable thing is that according to Gibrat's law ("the probability of a given proportionate change in size during a specified period is the same for all firms in a given industry regardless of their size at the beginning of the period", see (Mansfield, 1962)) this should not be the case. If assume this law true, small firms consistently outperform the market.

There is also a block of papers devoted to analysis of the impact of entrepreneurship on innovation activities. For example, (Arvanitis, 1997) analyzed R&D expense per employee in Switzerland. Despite in general Swiss companies did not invest a lot in R&D (compared to the German companies for example), author argued that R&D expense per employee decreases with size.

Same results were obtained in (Love & Ashcroft, 1999). Researchers analyzed Scottish manufacturing plants, using as a measure of innovation number of production or technological innovations per employee. According to the authors, number of innovations decreases with plant size. Interestingly enough, in the paper authors found that absolute number of production or technological innovations actually increases with plant size.

But there are other papers that state that entrepreneurship negatively affects number of innovations. For example, (Almeida & Kogut, 1997) concluded that new entrants to the market generate fewer patents than incumbent firms based on the analysis of the semiconductors industry in the US in the 90s. Similar results were also obtained by (Sørensen & Stuart, 2000) who analyzed not only semiconductors industry, but also biotech. They found that in the US in the industries mentioned above time between patents decreases with time and age of the company. At the same time, this approach does not necessarily mean that number of new entrants to the market harms the industry: new companies, even with a smaller number of patents, may still improve overall innovativeness of the industry by competing with incumbents.

But (Acs & Gifford, 1996) found more definitive results. Authors studied more than 600 US companies from various industries and measured innovation by the share of radical innovations. According to authors, this measure increases with size, which means that product improvement (radical innovation) reduces the positive effect of firm size (smaller companies have advantage) on new product innovation and sufficient product improvement may reverse the negative effect of monopoly profits.

But the issue of quality of innovations differs from analysis of quantity of innovations. For example, in the paper mentioned before, (Arvanitis, 1997) assessed importance of innovations (ordinal variable, 1 to 5 where 1 is very low importance to the company/industry). According to the model that incorporates, besides importance of innovation, R&D expenditures, input requirements (e.g. research, development, engineering, design, etc.), number of patents, innovation projects, and economic assessment of innovation, author concluded that large firms generate innovations that are more important. (Sørensen & Stuart, 2000) also measured quality of innovations in their research. As a proxy for quality, they used number of patent citations. They found that time between patent citations increases with size and age of the company, so, according to authors, small firms generate more “useful” patents.

Another point of view on entrepreneurial innovation is commercialization potential of the inventions. For example, (Brouwer & Kleinknecht, 1996) analyzed Dutch manufacturing and service companies in terms of commercialization of their innovations and used two variables to measure this: sales with innovations and share of sales from innovation. Authors defined entrepreneurs

on the basis of number of employees in the company (i.e. entrepreneurs — small firms in terms of workforce). Researchers obtained the following results: sales with innovations increase with firm size (evidence that large firms contribute more towards innovations) but share of sales from innovation decreases with firm size (which can be explained by the fact that large firms have more diversified portfolio and tend to secure their cash flow by engaging with low risk and low innovative activities).

Same results were obtained by (Czarnitzki & Kraft, 2004). By analyzing a sample of EU companies, authors compared the share of sales from innovations of small and large firms (in terms of number of employees). Researchers used several variables in order to assess whether small firms are more innovative (e.g. share of revenues resulting from significantly improved products, number of employees, R&D activities, pressure of competition, etc.) and concluded that share of revenues from innovations decreases with the firm's size.

(Lowe & Ziedonis, 2006) addressed the issue from another angle: they compared which companies commercialize university innovations better. Bu analyzing a sample of university inventions, authors concluded that new entrants to the market generate royalties better. But what is more important, authors found evidence that entrepreneurs continue unsuccessful development efforts for longer periods of time than do larger firms (and they explain this by entrepreneurial over optimism). In addition, start-ups may serve as a transitional organizational form in the market for technology commercialization (because economic returns associated with technologies are often realized after the start-up has been bought by a larger firm).

Another block of research of entrepreneurial impact on the economy addresses the growth of economic value (i.e. value added and labor productivity). For example, (Brouwer, Kok, & Fris, 2005) studied Dutch manufacturing firms and measured two variables: value added and value added divided by cost of factor inputs. Using firm size (measured in wage bill) as definition of entrepreneurship, authors concluded that size relates negatively to value growth. The very same results were obtained by (Rodríguez, Molina, Pérez, & Hernández, 2003), who studied value added by Spanish firms (but they measured firm size using number of employees). They also concluded that firm size relates negatively to value growth.

(Carree & Thurik, 2008) in their paper, among other variables that will be mentioned later, studied the effect of the firm size on the value added. In their analysis of OECD countries, authors found that higher start-up rated lead to direct GDP growth in the long run. Before that, Carree studied the consequences of the shift towards small firms (Carree, 2002). Analyzing the change in value added index, he argued that a shift towards small firms leads to increased growth in value.

Value growth by definition related to labor productivity. (Carree & Thurik, 2008) in their research of OECD countries by analyzing changes in business ownership rates concluded that higher start-up rates lead to direct labor productivity growth in the long run. Another example of such a research is (Disney, Haskel, & Heden., 2003). Focusing on UK manufacturing plants, authors argued that new entrants to the market (i.e. plants that are younger than a year) contribute to the industry-wide productivity growth, measured in output per person hour.

(Brouwer, Kok, & Fris, 2005) also concluded that apart from higher value growth, small firms also have higher labor productivity growth (measured in gross output divided by wage bill).Finally, (Robbins, Pantuosco, Parker, & Fuller, 2000) concluded that small firms (defined as having less than 20 employees) have higher labor productivity growth in the US.

What is more, (Thurik, 1995) examined other consequences of smallness in context of some European countries. It was found that an increase in the share of small firms leads to a lower orientation towards exports, a lower propensity to export employment, a qualitative change in the demand for capital and consultancy inputs, more variety in the supply of products and services or in the manner and aims of conducting research and development. In addition, a rise in the share of smallness in an economy, respectively a high share of smallness in a certain industry may generate additional output in the entire economy.

Additionally, (Wennekers & Thurik, 1999) conducted a research on linkages between entrepreneurship and economic growth. In order to examine the relationship between economic growth and number of entrepreneurs and small firms, authors considered various aspects of historical development (e.g. historical views; management literature; growth theory; evolutionary economics) of an entrepreneurial notion and eventually discussed various links, such as role of an entrepreneur in carrying out innovations and role of an entrepreneur in enhancing rivalry.

In their review of historical views authors found that starting from Schumpeter entrepreneurship is explicitly relevant for the economic growth's explanation. The endogenous growth theory, on the other hand, offers new theoretical perspectives for entrepreneurship. In conclusion, management literature (e.g. (Porter, 1990) offer several important starting points for an entrepreneur in explaining economic growth and development and (Eliasson, 1995) considers entrepreneurship crucial for economic growth as well).

Moreover, theoretical framework from (Thurik, 1995) was later used in order to assess direct impact of the entrepreneurship on the national economy. The first work that tried to investigate whether differences in the entrepreneurial activity and number of young firms have an impact on the economic performance is (Van Stel, Carree, & Thurik, 2005), where several entrepreneurial-related factors were tested in terms of their impact on the GDP.

Authors try to address the issue whether the impact of entrepreneurship depends upon the stage of economic development and so build their ideas on that, for example high rates of young firms in a developing country is less a sign of economic strength when compared to that rates in a developed economy. Given that, authors argue that importance of entrepreneurial activity should result in high economic growth of the countries that have high entrepreneurial activity rates. Main variables of interest examined by the authors are TEA[2], GCI[3], and GNIC[4]. GCI captures technology, public institutions and the macroeconomic environment, so TEA in this study represents peculiar impact of entrepreneurship. Researchers concluded that entrepreneurial activity by nascent entrepreneurs affects economic growth, but this effect strongly depends upon the level of GDP per capita.

At the same time, other specific benefits of the entrepreneurship were examined by researchers. For example, (Blanchflower, 2000) examined the relationship between self-employment and unemployment across different countries. Based on the thorough research of various aspects of the self-employment in Eastern Europe, author concluded that for the most countries negative relationship between self-employment and unemployment is typical. Author argues that the explanation behind this trend is that small firms (that are captured by self-employed people) generate new jobs more effectively that large firms. But most importantly, author states important finding for our research: the probability of being self-employed is higher for men and the probability is higher for the least educated. At the same time, the most educated people tend to have relatively high probability. Noticeably, author could not find the positive relationship between the self-employment rate and real economic growth. Another study, that highlighted the differences between Eastern Europe and Western Europe in term of institutional factors is (Williams & Vorley, 2015).

In 2008 a number of papers addressed effect of entrepreneurship on mid-term regional employment. For example, (Mueller, Stel, & Storey, 2008) studied UK regional start-ups rates, (Acs & Mueller, Employment effects of business dynamics: Mice, gazelles and elephants, 2008) studied employment statistics in the US regions, (Fritsch & Mueller, 2008) studied regional employment growth in German regions, (Baptista, Escária, & Madruga, 2008) studied Portuguese employment statistics, (Van Stel & Suddle, 2008) studied Dutch regions and compared it to the employment statistics in other European countries by using the number of new firm start-ups per

[2] Total Entrepreneurial Activity

[3] Growth Competitiveness Index

[4] Gross national income per capita

1000 labor years, and (Carree & Thurik, 2008) conducted a cross-regional study, comparing changing in ownership rates as a measure of national employment growth. In each of papers mentioned authors concluded that higher start-up rates lead to employment creation, directly and indirectly, in the long run. Same results were obtained, for example, by (Bowen & Clercq, 2008).

Nevertheless, other researchers found strong evidence of the positive effect of entrepreneurship on productivity. (Van Praag & Versloot, 2007) reviewed the recent research and studied the overall impact of entrepreneurship on the economy. Answering the question whether entrepreneurship has an important economic value, authors analyzed the contribution of entrepreneurs to employment, innovation, productivity growth, and individuals' utility level. Unique approach taken by the authors is to compare entrepreneurs' contribution with that of their counterparts. By entrepreneurs' counterparts authors understand firms that employ more than 100 employees or are older than 7 years or incumbent firms. In contrast, by entrepreneurs authors assume firms that employ less than 100 employees or younger than 7 years or are new entrants to the market. As a result, authors conclude that in the recent literature the dominant point of view is that entrepreneurship positively affect employment (mainly by employment generation) and productivity and economic growth (by growth of value added and growth of value added and total factor productivity). The positive impact of entrepreneurship on innovation, according to authors' review of the literature, remains "questionable".

As an intermediate conclusion, we could say that existing research shows positive effect of entrepreneurship on economic growth. More specifically, this effect concentrated on the following aspects:

1. Employment generation;
2. Innovation;
3. GDP growth;

At the same time, we should not forget that not all SMEs generate equal benefit to the national economy. First of all, if the goal of a policymaker is to increase GDP by increasing the number of firms, productivity of these firms must be higher than that of existing companies, but this is not the case. For example, (Haltiwanger, Lane, & Spletzer., 1999) examined the relationship between productivity of a company and its age. They found that productivity increases with age, which means that on average it is easier to achieve economic growth by expansion of existing firms, given the fact that typical SME is dead within the first 5 years of operations.

This is also a question of entrepreneurial motivation. Since necessity-driven entrepreneurs are less likely to achieve significant growth and just interested in stable income. In wealthy countries the rate at which new firms are established goes down because average income is higher that

that in less developed economies. In addition, as shown by (Noorderhaven, Thurik, Wennekers, & Van Stel, 2004), in developed countries increased wages resulted in replacement of hand work with machinery. Since machinery is affected by economy of scale, increased labor productivity leads companies to grow in size and hire people who would start their own SMEs otherwise. This effect of high wages also increases opportunity costs of starting a business.

Economic growth is generally connected with declining rates of establishing of new firms. There are several reasons for that:

1. Opportunity cost of starting a business goes up because the amount of money that person could have earned working in a corporation;
2. Source of economic value shifts toward activities where SMEs are less common (e.g. manufacturing) from activities where SMEs are more common (e.g. agriculture). As a result, the proportion of people running their own businesses drops (Blau, 1987);
3. Number of new firms opening annually decreases in countries with high economic growth. The correlation between real GNP growth rates and the rate of SMEs creation in France, Germany, and 19 more OECD countries between 1953 and 2015 is negative[5];
4. According to (Johnson, 2004), when a government promote SMEs' creation, majority of people start business in competitive industries with lower barriers to entry and high rates of failure. The reason behind this is that a typical entrepreneur chooses industries that are easiest to enter, not the ones that are best for start-up. As a result, most entrepreneurs pick industries in which most start-ups fail. By providing incentives for people to start businesses in general, government provides incentives for people to start the typical business, which is gone in a few years.
5. Finally, because unemployed people are more likely to start a business, broad entrepreneurship stimulation attracts the worst entrepreneurs, since unemployed people perform worse when starting a business than people who quit their jobs to start a business.

It is evident that focused stimulation of high-growth entrepreneurship could lead to economic growth and employment. The next question that should be addressed: if entrepreneurship is so important, how can policymakers stimulate its development and facilitate growth of entrepreneurs? In order to answer this question, we will examine the impact of institutional factors.

[5] Calculated based on OECD data

1.1.2. Impact of institutional factors on entrepreneurial activity

Starting from (Schumpeter, 1934) and (Leibenstein, 1968), a large amount of literature addressed the topic of institutions and economic growth. Unfortunately, most of the works addressed entrepreneurship and institutions separately. Then, (Swan, 1956) and (Solow, 1956) discerned three factors of economic growth: capital, labor, and productivity. Despite there are several other models of economic growth (e.g. AD-AS model, based on (Keynes, 1936), that incorporates investment, labor productivity, labor force, interest rates, taxes, etc.), in this study Solow's model will be used as a basis because of its close connection to the topic of entrepreneurship.

In his initial research, Solow found that only 13% of US growth in GDP was attributed to the increase in measured inputs, labor, and capital. Author explained the remainder, that was not explained by the factors in the model, by the technological change. Still, entrepreneurship and institutions were not mentioned in the context of economic growth yet.

But later, in an article by Martin Weitzman (Weitzman, 1970), author compared the economic growth of the US and USSR, and concluded that the difference between these two countries was not in the accessibility of new technology, but in the institutional structure and the incentives for entrepreneurs (or their absence in USSR). This idea was later developed by (Baumol, 1996). According to the author, institutional structure determines the distribution of productive and unproductive activities even if the number of entrepreneurs is the same. So, countries with weak institutions would not be able to stimulate productive entrepreneurship. Noticeable, these trends persisted, and even former socialist economies continued to suffer from low productive entrepreneurial activity (Aidis, Estrin, & Mickiewicz, 2008).

First of all, we have to define institutional environment. According to (Scott, 1995), institutional environments "are characterized by the elaboration of rules and requirements to which individual organizations must conform in order to receive legitimacy and support". Institutions itself are rules, norms of behavior, expected values that form human interactions (North, 1989). North argues that they can be formal (e.g. laws, regulations, etc.) and informal (e.g. traditions).

During the long history of research of institutional factors that affect entrepreneurship, several institutional frameworks were developed. (Scott, 1995) was one of the first authors, who described institutions three forms: cultural-cognitive (i.e. beliefs, values), regulative (i.e. societal, federal, state, local, administration), and normative (i.e. work norms, habits). The key component of regulatory factors that affect entrepreneurship are laws and policies that affect the ease of starting a business and operating it (e.g. by strong property rights, protection from corruption, etc.).

Often state agencies provide help for entrepreneurs or launch special programs devoted to facilitation of entrepreneurial growth. Cultural-cognitive dimension affects the access to knowledge and skills that are necessary for an entrepreneur. In the context of this research social networking with people who are already operating business is extremely important. Normative dimension forms the perception of an entrepreneur by society. Country's norms, traditions, beliefs affect entrepreneurial activity.

Next step in understanding of institutional factors took (Kostova, 1997). Main focus of her work was country institutional profile that consists of three dimensions: cognitive function, normative function, and regulative function. The idea of country institutional profile is to understand the way how government (through policies, shared knowledge, and value systems) affects entrepreneurial activity in a country. This work is now a common basis of majority of papers on institutional factors that affect entrepreneurial activity motivation. Difference in institutional arrangements using this approach was later studied by many researchers, for example (Fuentelsaz, González, Maícas, & Montero, 2015).

The idea of country institutional profile was further researched by some authors. For example, (Busenitz, Gomez, & Spencer, 2000) addressed the country institutional profile from entrepreneurial point of view: they explored how and why entrepreneurial activity varies across countries. They also developed and validated a measure of a country institutional profile for the domain of entrepreneurship. Most importantly, authors deepened the understanding of CIP by increasing the number of factors in each dimension.

In 2010th researchers continued to link entrepreneurship and institutions, for example (Braunerhjelm, Acs, Audretsch, & Carlsson, 2010), who examined the relationship between economic growth and spillover of knowledge. According to their findings, policies that facilitate entrepreneurship also help to enhance knowledge diffusion and promote economic growth. The idea is that the stronger the entrepreneurial ecosystem and institutions, the more productive technology and technological impact on economic growth (Autio & Fu, 2015). In this setup, entrepreneurs act as a middleman who transform knowledge and technological advantages into economic growth (i.e. GDP, number of jobs, etc.). At the same time, this transmission process can be facilitated by the institutional environment (Baumol & Strom, 2007). In this thesis we measure dependence of entrepreneurial activities (i.e. share of high-growth entrepreneurs) on institutional arrangements.

There are a lot of studies that summarize the results of research on institutional factors that affect entrepreneurship (e.g. (Urbano, Aparicio, & Audretsch, 2019)), but one of the most important and recent studies in the field is (Stenholm, Acs, & Wuebker, 2013). Authors examined

how differences in institutional arrangements influence entrepreneurial activity and its type. Authors added new dimension to the previous three — conducive, that measures how a country can support high-impact entrepreneurship and defined it as a combination of ICT laws, university collaboration, availability of venture capital, and technology availability. Authors concluded, that institutional arrangements do influence entrepreneurial activity (number of entrepreneurs and their type). In addition, authors stated that for the development of high-impact entrepreneurship regulative environment doesn't matter. On the other hand, knowledge spillovers and the capital availability are crucial for high-impact entrepreneurship. Same results were obtained by (Stephan, Uhlaner, & Stride, 2015).

In the studies mentioned before there are huge variety of definitions of entrepreneurship. While some researchers address small firms as entrepreneurship regardless of their age, some researchers address not legal entities (firms) but people. There are several ways to approach entrepreneurship at the national level:

- Self-employment (Reynolds, et al., 2005);
- Firm-level behavior (Lumpkin & Dess, 1996);
- Individual-level cognitive behavior (Shane & Venkataraman, 2000);

Given the fact that it is a challenge to define entrepreneurship on a country level, as well as to define it as an individual-level phenomenon, we use GEM's approach: TEA (total early-stage entrepreneurial activity) — the percent of working age population both about to start an entrepreneurial activity, and that have started one from a maximum of 3 years and half.

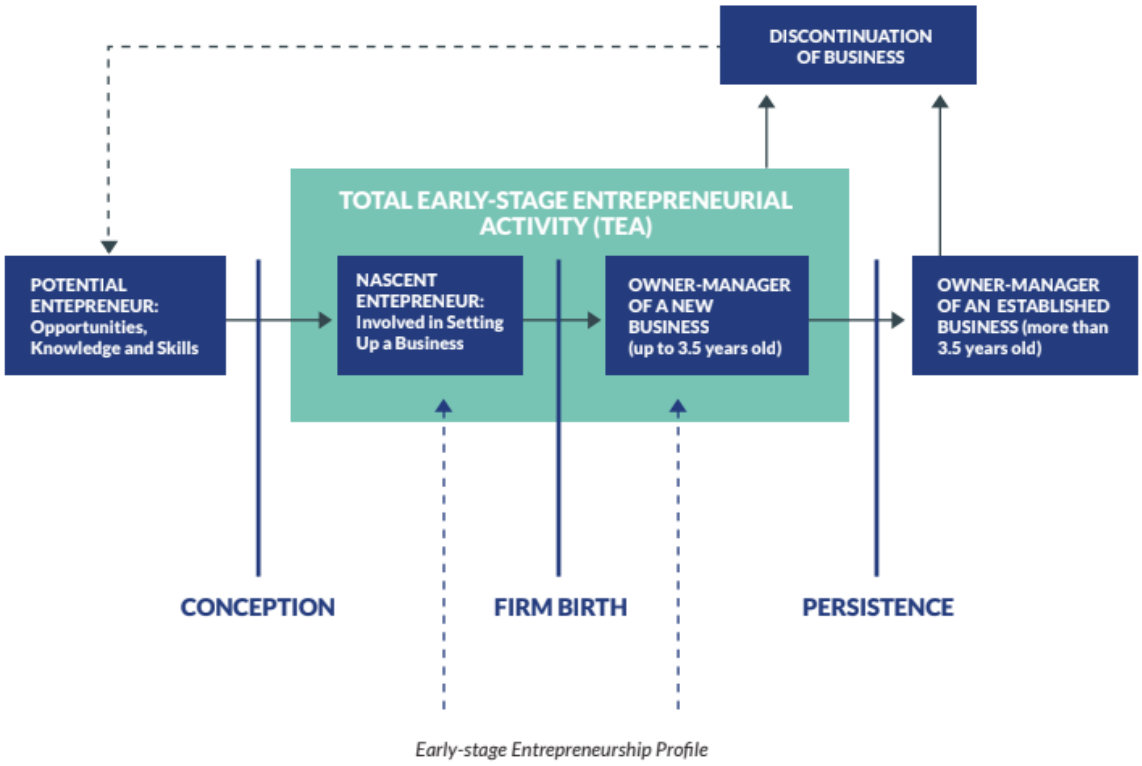

Figure 1. GEM Entrepreneurship Indicators

Using this definition of entrepreneurship, we will analyze existing literature on entrepreneurial aspirations. It is evident that not only entrepreneurship makes significant impact on economic growth directly and indirectly via employment and innovation, but also that institutional factors affect entrepreneurship, and right governmental policy could stimulate growth of high-impact entrepreneurs: entrepreneurs who are going to affect economic growth even more.

By high-impact entrepreneurs we understand entrepreneurs with high growth aspirations, who will be analyzed in the next paragraph.

1.2. Research of entrepreneurial aspirations

Research papers in this review are concentrated across the factors that influence entrepreneurial aspirations and other aspects of entrepreneurship, such as early-stage entrepreneurial activity. Most of the studies are devoted to revealing these factors and studying relationships across them. According to GEM methodology, there are three types of entrepreneurship that are generally discerned using GEM data:

- Entrepreneurship with high growth expectations;
- Entrepreneurship with (self-reported) innovative characteristics;
- Entrepreneurship with (self-reported) international orientation;

Because, as mentioned in the first part of this literature review, entrepreneurial impact on the economy is mostly generated by employment and innovation, in this paper we focused on the first type — high growth expectations (i.e. entrepreneurs who are planning to create more than 10 jobs in five years). In order to examine the factors that influence entrepreneurial aspirations, several groups of factors were considered.

Some papers provided a methodology and/or framework that for determination of the factors that affect entrepreneurial activity (e.g. number of firms, motivation, aspirations, etc.), but majority of the papers that study institutional factors that influence entrepreneurship use Scott's pillars of institutions (Kostova, 1997; Scott, 1995;).

The most relevant and recent papers were examined in the first turn: they are devoted to the analysis of the factors (macroeconomic, cultural, cognitive, etc.) that influence entrepreneurial aspirations in different regions. In addition to that, we considered research papers, that slightly differ in research subjects (namely, different dependent variables) and hence cover broader research areas. Finally, some papers that study entrepreneurial aspirations not from institutional point of view were also examined in order to get better understanding of methodology used.

They used data on entrepreneurial aspirations from GEM dataset and analyzed three-year period across 29 countries. As variables that represented entrepreneurial aspirations researchers used the following figures:

1. Percentage of TEA (i.e. Total early-stage Entrepreneurial Activity) who expect to employ at least five employees five years from now;
2. Percentage of TEA who indicate that their product or service is new to at least some customers;
3. Percentage of TEA who indicate that at least 25% of the customers come from other countries;

These variables represented growth, innovation and international orientation. Researches compared mean and median of these variables in 2008 and 2011 (crisis and post-crisis years) using Mann-Whitney-Wilcoxon test to compare means. As a result, none statistically significant difference was detected.

Despite the fact that researchers did not find any relationship between macroeconomic factors and entrepreneurial aspirations during the financial crisis of 2008, macroeconomic conditions play significant role in the entrepreneurial aspirations. According to GEM dataset, early entrepreneurs from developed countries are more active in the technological sector.

Researchers also tried to investigate human capital factors of entrepreneurial aspirations. For example, (Capelleras, 2019) studied the impact of human capital on the entrepreneurial aspirations. At the same time, they involved institutional perspective and studied social acceptance (regional entrepreneurial culture). In order to investigate the effect of specific human capital attributes on entrepreneurial growth aspirations, researches used the following factors:

1. Educational attainment (Hypothesis: Entrepreneurial growth aspirations will be higher for individuals with higher educational attainment). As a variable, researchers used years of schooling;
2. Prior entrepreneurial experience (Hypothesis: Entrepreneurial growth aspirations will be lower for individuals with prior entrepreneurial experience). Researchers used dummy variable that takes value 1 only for the entrepreneurs in the sample who already own and manage another established existing business;

In order to investigate the moderating effect of regional entrepreneurial culture on entrepreneurial growth aspirations, researches used the following factors:

1. Social acceptance of entrepreneurship (Hypothesis: A high level of regional social acceptance of entrepreneurship will strengthen the positive impact of educational attainment on growth aspirations). Researchers measured this factor as the proportion of individuals in the province who consider that starting a new business is a desirable career choice;
2. Entrepreneurial role models (Hypothesis: A high level of regional entrepreneurial role models will strengthen the positive impact of educational attainment on growth aspirations). Researchers measured this factor as the proportion of individuals in the province who personally know an entrepreneur who started up in the last 2 years;

Author concluded that social approval and role models tend to increase entrepreneurs' growth aspirations.

Very recent study by (Leković & Berber, 2019) examined the factors of influence on growth aspirations in the SEE[6] region. Main focus of the study was to explore, which factors lead to the increased number of high-growth entrepreneurs. Authors considered following groups of factors:

- National culture (measured by such variables as how many people consider entrepreneurship desirable career choice, whether entrepreneurship is associated with high level of social status and respect, what media image of an entrepreneur exists, etc.);

[6] South East Europe

- Entrepreneurial motivation (was a person involved in a start-up to take advantage of a business opportunity or because he has no better choices for work);
- Entrepreneurial aspirations (whether the product is new to all or some customers, whether more than 25% of the customers are from outside the country);

As a dependent variable, authors used expected number of jobs created, as control variables authors used age, gender, level of education, and number of household members. Authors concluded, that entrepreneurial motives, innovation, and internationalization of new business significantly affect the high-growth aspirations among entrepreneurs in the region.

At the same time, (Kaya, 2017) examined the impact of macro-economy (namely, "Recession Push" and "Prosperity Pull"[7] hypotheses) on entrepreneurial aspirations using GEM data. Author studied the relationship between entrepreneurial aspirations/attitudes and economic expansion. By entrepreneurial attitudes author understands entrepreneurial intention, entrepreneurship as desirable career choice, fear of failure rate, high status successful entrepreneurship, know startup entrepreneur rate, media attention for entrepreneurship, perceived capabilities, and perceived opportunities.

Author measured average level of variables representing entrepreneurial aspirations during the period of 2003–2007 (the period of economic expansion) and using Mann-Whitney-Wilcoxon test compared the means. As a result, author did not find any evidence to prove that during the period of economic expansion entrepreneurial aspirations affected in any way.

Later, (Kaya, The Impact of the 2008-2009 Global Crisis on Entrepreneurial Aspirations and Attitudes., 2019) studied the impact of the global financial crisis of 2008 on the entrepreneurial aspirations and motivation and again did not find any significant change in any of the aspiration variables. If in the previous study she examined the period of economic expansion, this time author took a closer look at economic crisis. However, no significant evidence was found.

Moreover, (Tominc & Rebernik, 2007) analyzed the difference in entrepreneurial aspirations across several post-socialist countries with focus on such factors as cultural support, opportunity recognition, and self-efficacy. Authors concluded that a higher degree of alertness to unexploited perceived opportunities and cultural support are the cause of higher growth aspirations among early-stage entrepreneurs.

[7] First hypothesis states that recessions push people into entrepreneurship because of lack of jobs, hence the increase in entrepreneurial aspirations during a crisis is expected. Second hypothesis states that the risks are lower for entrepreneurs in good times, hence the decrease in entrepreneurial aspirations during a crisis is expected

Education as an institutional factor was studied by (Dilli & Westerhuis, 2018). Authors examined the role of the differences in STEM education between men and women and tested whether the effects of gender differences in education is moderated by the nature of the institutional environment. Researchers found that countries with greater gender equality in science education are characterized by higher entrepreneurial activity in knowledge-intensive sectors and high-growth aspirations, and level of education obtained also affected entrepreneurial aspirations.

Laws and regulations were examined in detail by (Estrin, Mickiewicz, & Rebmann, Prospect theory and the effects of bankruptcy laws on entrepreneurial aspirations, 2017). Authors examined the effect of bankruptcy law on entrepreneurial aspirations by analyzing the difference in entrepreneurial aspiration across countries with different bankruptcy law and found strong relationship between such laws and overall level of high-growth expectations.

1.3. Research gap for empirical study and hypotheses statement

From the analysis in the previous paragraph, it can be seen that there are a lot of works that study both institutional factors and entrepreneurial aspirations. Unfortunately, these researches either test not all institutional pillars or address wide range of entrepreneurial topics, without clear focus on entrepreneurial aspirations. While some works take into account only one pillar (e.g. normative pillar and focus on entrepreneur's perception by society), majority of the works do not use institutional factors at all. Our work contributes to the existing literature by analyzing all three institutional pillars and by focus on high-growth expectations.

In addition, despite some papers study selective countries from east European region, there is no research that analyze all post-soviet countries (including Russia), and such an analysis would definitely contribute to the understanding of the entrepreneurial nature in the region.

In order to fill the research gap that was stated before, several hypotheses will be tested. These hypotheses are grouped on the bases of the institutional pillar they relate to.

Regulative pillar builds on insights from institutional theory (with focus on regulations, policies, and rules) (Scott, 1995) and its influence on economic growth (Veciana & Urbano, 2008). (Aidis, Estrin, & Mickiewicz, 2012) argue that corruption will decrease overall efficiency of entrepreneurship and corruption and inadequate enforcement of laws and regulations can impede entrepreneurial behavior. Also, they present a case where the return to entrepreneurship is lower, when corruption is higher, but do not consider how the impact may vary depending on the type of entrepreneur (Aidis, Estrin, & Mickiewicz, 2008). Thus, in less developed countries with unstable regulatory mechanisms, the opportunity costs for entrepreneurship may increase significantly due to the uncertain legal framework and the potential for corruption (Boettke & Coyne., 2003), so

high-growth entrepreneurs at some point may attract unwanted attention from corrupt officials. According to (Bowen & Clercq, 2008), the level of corruption can impede growth orientation among entrepreneurs, and if institutions do not guarantee that individuals are compensated for their efforts to create value for society, incentives for entrepreneurship and innovation are too low (Dutta & Sobel, 2016). Thus, corruption can be seen as a tax, discourage economic activities, including high-aspiration businesses that suffer from higher transaction costs in the more corrupt environment (Anokhin & Schulze, 2009). Corruption can also be more serious for new firms than for mature ones. Firms that survive in a corrupt environment adapt their behavior to relevant informal norms in order to limit the negative consequences of corruption (Choi & Thum, 2005) and they will develop contacts and social networks to mitigate the effects of corruption. Since entrepreneurs do not have relevant business experience, they will need to develop these strategies and contacts, and in the meantime, they will work at a disadvantage. This concept of corruption as an informal social norm that provides benefits for existing firms may be associated with the concept of rent seeking (Desai & Acs., 2007), in which officials share private benefits with public administrators at the expense of newcomers (Aidis, Estrin, & Mickiewicz, 2008). At the same time, (Murphy, Shleifer, & Vishny., 1993) argue that restraining the consequences of corruption will be especially serious for entrepreneurs with high growth rates; while corruption is harmful for entrepreneurship with high added value, this will not affect subsistence entrepreneurship. They represent a formal model exploring compromise between entrepreneurship and the pursuit of rents (redistribution of existing wealth, often through corrupt practices) and the dispute that the latter is rewarded higher than the former in many institutional contexts.

In addition to that, high-growth entrepreneurs more often that regular ones are affected by property rights. Since their need of capital for growth and frequent contracts with suppliers are due to fast growth of their firms, security of property rights is an important issue for the. In addition, lack of intellectual property rights can prevent people from specializing or taking full advantage of their capabilities (Autio & Acs., 2010). (Acemoglu, Johnson, & Robinson., 2005) highlight two interrelated aspects of property rights: the vertical, the risk expropriation by arbitrary government, and horizontal, related to the quality of contracting institutions. The first aspect is more fundamental: effective restrictions on the executive branch ensure the protection and stability of property rights; in particular, (Weingast, 1995) considers the restrictions placed on the government's ability to confiscate wealth as constitutional entrepreneurship fund. Property rights from this point of view are akin to a related but slightly broader concept «Rule of law» in the sense that it corresponds to a stable institutional structure that restrains the arbitrary use of power by politicians and public administrators. The lack of reliable property rights poses a more serious threat of

expropriation. High-growth entrepreneurs, if successful, may potentially lose more, and may also attract the attention of potential expropriators due to the higher cost of their assets. Consequently, insecure property rights are likely to have a greater demotivating effect on fast-growing entrepreneurs. Also, (Tversky & Kahneman, 1979) state that the influence of stronger property rights will more for new businesses than for established ones. This follows from the two principles of the theory of prospects, which are consistent with observed behavior: a reference point is important in assessing prospects, and different attitude to risk play an assessment of profit-versus loss strategies (risk aversion in terms of growth and risk search for disadvantage). However, for new and young enterprises, the starting point will be instead related to the valuation of their assets in the initial position (preliminary launch) and the theory of perspective assumes that while established enterprises can take more risky (and therefore more entrepreneurial) strategies in response to threats (potential losses) of property rights, the effect may be exactly the opposite for new businesses that can choose safer strategies for limited growth.

Moreover, high-growth entrepreneurs are mostly opportunity driven, hence will pursue newly noticed business niche. Because of that, the process of starting a business plays a crucial role in promoting high growth aspirations among entrepreneurs. Regulatory processes promote or slow down entrepreneurship by shaping the level of risk involved in the start of a business, and entrepreneurial behavior is influenced by the rules (Baumol & Strom, 2007). The strong presence of administrative burdens, procedures and bureaucracy associated with the formation or closure of a business can negatively affect the intentions of individuals to participate in the creation of a new company (Veciana & Urbano, 2008). Empirical research offers two ways in which regulations affect the business process. Firstly, some rules and delays in obtaining the necessary permissions and licenses may increase the duration of the startup process. This can reduce the number of new companies since the window of opportunity can pass by the time all the rules are followed. The rules also allow officials to micro-manage industries by blocking or delaying entry for personal or political reasons (Levie & Autio, 2007). Authors, for example, reported a negative relationship between the number of licenses and permits required for entry and the pace of new firms and regulatory licensing policies influence entrepreneurial decision-making. Secondly, the unpredictable and vigorous application of regulations increases the cost of compliance with regulations, thereby increasing the cost of launching and adversely affecting the profitability and ability of firms to use their retained earnings to stimulate growth. In this sense, legal acts constitute a tangible application of public policy, which is felt in the immediate operating environment of entrepreneurial firms. A particularly important cost factor for regulatory compliance depends on the fiscal environment of firms. There is evidence that properly applied tax policies can stimulate innovation

and firm growth. The most commonly reported results focus on negative relationships, as taxes impose direct financial costs on firms, affecting their profitability and growth (Baumol, 1996).

As was mentioned by (Stenholm, Acs, & Wuebker, 2013), availability of the capital is an important factor that affects high-growth entrepreneurs. Regulatory acts and laws also affect the level of access to resources needed to create new enterprises (Busenitz, Gomez, & Spencer, 2000). Empirical work, which examines institutional entrepreneurship, finds that the small business sector is larger in countries with low startup costs and that the availability of private and public financial resources increases the likelihood of using previously opened business opportunities (Ayyagari, Demirgüç-Kunt, & Maksimovic., 2008). Non-entrepreneurs regularly point to inadequate funding as an obstacle to starting a business (Kouriloff, 2000), and there is some evidence that if competition is limited in banking and government credit control that can limit access to the non-financial sector for entrepreneurs. Finally, access to finance is included as an entrepreneurial framework condition in the GEM model labeled Financial. Because of this, we hypothesize:

Hypothesis 1. The higher the level of corruption, the lower the share of high-growth entrepreneurs.

Hypothesis 2. The more secure property rights, the bigger the share of high-growth entrepreneurs.

Hypothesis 3. The easier it is to start a business, the bigger the share of high-growth entrepreneurs.

Hypothesis 4. The easier it is to get funding, the bigger the share of high-growth entrepreneurs.

At this point, we proceed to another institutional pillar — cognitive. As was mentioned by (Tominc & Rebernik, 2007), variety of cognitive factors influence entrepreneurship in terms of growth. Its influence and legitimacy in society is based on a common system of views or interpretations of a specific situation, which is accepted and shared between people. (Scott, 1995). Entrepreneurial scholars have relied on these ideas to suggest that perceptions of general and technological uncertainty, as well as attitudes toward risk, influence entrepreneurial activity (Dickson & Weaver., 2008). Based on these ideas, scientists also explored the role that social norms and personal cognitive patterns play at the level of entrepreneurship in a country. Among entrepreneurial people, cognitive patterns directly address their ability to identify new opportunities (Baron, 2007).

Hence, it makes sense to examine whether factors, that influence entrepreneurship in general influence entrepreneurial aspirations.

In addition, new opportunities can be legitimized through the perception by entrepreneurs of the knowledge and skills necessary to create a new business (Busenitz, Gomez, & Spencer, 2000). Perceptual assumptions (for example, vigilance to opportunities or confidence in one's own business starting skills) are positively related to the level of new business startups (Arenius & Minniti, 2005). Thus, the entrepreneur's beliefs about the relevance of the knowledge and skills that they possess can affect the recognition and use of opportunities (Shane & Venkataraman, 2000). Special attention was paid to entrepreneurial university education by (Premand, Brodmann, Almeida, Grun, & Barouni, 2016). Opportunity perception as one of the main institutional drivers of entrepreneurship was later studied by (Bjørnskov & Foss, 2016). Authors found strong relationship between different aspects of opportunity perception and entrepreneurial motivation.

Some studies suggest that a regional cultural environment may influence perceived entrepreneurial opportunities more than the political environment (Mai & Gan, 2007) at least in part because of the presence of entrepreneurial networks and their ability to promote and support a platform through which people participate in reflection activities (Owen-Smith & Powell, 2008), and entrepreneurial clusters and startup aggregators can be examples of such platforms. Social capital and social networks are seen as important determinants of recognizing and exploiting entrepreneurial opportunities (De Carolis & Saparito, 2006). Researchers studying entrepreneurial networks and the impact of role models find that networks and actors influence capacity recognition and entrepreneurial intentions (Aidis, Estrin, & Mickiewicz, 2008). Because of this, we hypothesize:

Hypothesis 5. The higher the opportunity perception, the bigger the share of high-growth entrepreneurs.

Hypothesis 6. The bigger the share of people who know an entrepreneur, the bigger the share of high-growth entrepreneurs.

Hypothesis 7. The higher the estimation of own skills by entrepreneur, the bigger the share of high-growth entrepreneurs.

Finally, we proceed to the normative pillar. Normative dimension incorporates social norms, traditions, beliefs, etc. (Leković & Berber, 2019) emphasize that in countries where entrepreneurship is a desirable career option and are often connected to high status and respect bigger share of high-growth entrepreneurs are seen. Values and norms outline human behavior mainly

through background influence, as they represent rarely questioned, firm underlying assumptions of the area (Hofstede, 1980). These points of view are shared socially, embedded, and transmitted by individuals (Kostova, 1997), and their community is established by adopting such behavior (Veciana & Urbano, 2008). The inclusion of these ideas in the business environment, norms, and values affect the relative social desirability of entrepreneurship as a professional choice. (Krueger Jr, Reilly, & Carsrud, 2000) emphasize that attitudes, beliefs, and expectations of a social reference group influence people's entrepreneurial intentions. If entrepreneurship accepts expectations and beliefs, their impact on entrepreneurial intentions will be positive.

(Casson, 2003) emphasizes that a country seeking economic growth will give high status to entrepreneurs compared to countries whose values maintain stability. In the same way, the values that support entrepreneurship help to avoid legal restrictions and cultural norms that impede entrepreneurial activity (Cuervo, 2005). In addition, the amount and time given to successful entrepreneurs to publicly establish their identity and legitimacy can dramatically change the perception of the entrepreneur in the public eye (Lounsbury & Glynn, 2001). Later, this may facilitate the access of entrepreneurs to the necessary resources when they start new enterprises. Similarly, although a country can influence entrepreneurial norms and create a favorable impression of entrepreneurial activity through the education system and the media (Verheul, Wennekers, Audretsch, & Thurik, 2002), differences in entrepreneurial aspirations are also more likely in individualistic countries compared to collectivist cultures (Dickson & Weaver., 2008). In cultures where uncertainty and unknown outcomes of human behavior are negatively perceived, entrepreneurship is lower (Bowen & Clercq, 2008). In the same way, public recognition of entrepreneurial activity can be positive if an entrepreneurial activity is of ordinary nature and creates the same personal condition and income as paid work. Nevertheless, if entrepreneurs achieve greater relative success with lower labor costs or ultimately face bankruptcy, this can radically change the image of the entrepreneur in society. Because of this, we hypothesize:

Hypothesis 8. The higher the perceived status of an entrepreneur, the bigger the share of high-growth entrepreneurs.

Hypothesis 9. The better the image of entrepreneurship in media, the bigger the share of high-growth entrepreneurs.

The second part of the work will show the methodology and empirical analysis, which will identify significant factors in the regression model.

Chapter 2. Methodology and empirical evidence

2.1. Research methodology

In the first chapter thorough analysis of extant knowledge and theoretical base was completed. As was mentioned in the last part of the first chapter, there are various of institutional factors that can influence entrepreneurial aspirations. In order to fill the research gap, we are going to provide the statistical analysis of the relationship between institutional factors and entrepreneurial aspirations (high-growth entrepreneurs and innovative entrepreneurs).

The methodological base of the work — Scott's institutional pillars (Scott, 1995). We use elements of the theoretical approach (namely, regulatory, normative, and cognitive pillars) in order to complete the set of specific research tasks. At the same time, some revision of previously completed methodological approaches is needed (e.g. choosing different set of variables that represent pillars' arrangements). The aim of the study is to examine the impact of institutional factors on entrepreneurial aspirations, but most importantly, to provide additional guidance to policymakers in terms of effectiveness of policies aimed at different pillars (i.e. how to achieve the increase in high-growth entrepreneurs as efficient as possible).

The method that will be carried out in this work is quantitative research. Set of hypotheses will be stated, gather the data that is necessary in order to test these hypotheses, and deductively obtain the proof (or not) of the hypotheses stated. Common understanding of the quantitative data is the data that measures values and expressed as numbers. The qualitative approach is not the best fit for answering the research questions stated in this thesis for a number of reasons:

1. In order to analyze institutional factors that influence entrepreneurial aspirations, cross-country data is needed. In the current context it is impossible to conduct interview with entrepreneurs and experts in this field from every country in Eastern Europe. If we to use qualitative approach, sample size would be significantly less, which would decrease practical usefulness of the thesis;
2. Even if we could conduct interviews with representatives of every country of interest, the problem of bias occurs. First of all, entrepreneurs from one particular country can not objectively assess economic situation in the whole region (e.g. if to say, a polish entrepreneur would say that the situation with the corruption in Poland improved, it does not necessarily mean that overall level of corruption in Poland is lower than in the other countries in the region). Additional bias from the interpretation of the results occurs from the researcher's point of view;

3. Finally, the purpose of the research is not to find out the reasons behind the entrepreneurial behavior, but to assess the impact of fixed factors.

For the reasons stated above, quantitative research is the most suitable method for answering the research questions stated in the paper. That study uses regression analysis (OLS) as the main tool to test the hypotheses that were formed based on the analysis of the theoretical base.

We used grounded theory approach in order to determine factors that are going to be tested. For testing the hypotheses, we use survey approach. But in order to avoid the problem of bias and increase trustworthiness of the gathered data, as the main source of the empirical data we will use Global Entrepreneurship Monitor (GEM) data.

The Global Entrepreneurship Monitor is the first internationally conducted regular survey on the topic of entrepreneurship. This project was launched in 1999 by partnership of Babson College (USA) and London Business School (UK). Number of countries in the survey are growing every year, and in 2019 GEM reported profiles of 49 economies. Using this data gives us a number of benefits:

1. This survey collects primary data;
2. GEM uses the same consistent approach across all countries, which allows us to compare results of different countries and trach changes in time;
3. GEM collects data on two stages of entrepreneurship: young firms and experienced firms (>3,5 years in business);

Survey, used by GEM, consists of two parts: APS (Adult Population Survey) and NES (National Expert Survey). First one addresses entrepreneurial attitudes and behavior, second one addresses socio-economic environment of the country. In this paper we use APS as a main source of information for building the model and analysis. National level data for the countries in Eastern Europe for population aged 18–64 years and country rates (e.g. share of high-growth entrepreneurs among all entrepreneurs) will be used.

For the research we refer to the Eastern European countries. Unfortunately, there is no consensus on what countries are belong to the region. Some scholars define the region as cultural entity, while during the Cold War this region was named Eastern Bloc and list of countries in the bloc was political. Another way to describe the region is to assign formerly communist European countries outside the Soviet Union. In order to avoid these difficulties, we use the definition of the United States Statistics Division[8]. In order to capture dynamics of indicators we will use the period since the economic crisis — 2008–2019. As a result, the list of countries:

[8] https://unstats.un.org/unsd/methodology/m49/#geo-regions

- Belarus
- Bulgaria
- Czechia
- Hungary
- Poland
- Republic of Moldova
- Romania
- Russian Federation
- Slovakia
- Slovenia
- Ukraine

Total number of observations for the Easter Europe is 47.

2.2. Research design

In this paragraph we will describe variables used for testing the hypotheses. Firstly, we start with dependent variables, then we continue with independent variables. We conclude with control variables.

Since the main goal of this paper is to figure out what factors affect entrepreneurial aspirations and to what extent, dependent variable is the share of high-growth entrepreneurs among all entrepreneurs, capturing the intentions of newly established entrepreneurs to increase employment over a five-year horizon. We calculate the entrepreneur's employment growth aspirations as the difference between the expected level and the current level of employment. Calculated from GEM APS data.

Exact variables that will be used in order to test stated hypotheses were chosen based on the literature review. In the most recent and relevant studies GEM data is combined with data from other sources, such as Ranking Doing Business. For example, (Estrin, Mickiewicz, & Rebmann, 2017), (Stenholm, Acs, & Wuebker, 2013) use ease of starting a business and other sub rankings from Doing Business report. In this paper overall Doing Business ranking was not used in order to eliminate the problem that arises when pre-defined integrated ratings (Busenitz, Gomez, & Spencer, 2000).

For obtaining finance and corruption variables GEM EPS study was not used because of relative character of experts' opinions: for example, if in some country corruption situation had improved, an expert would assess this particular improvement, but not country's position in the

global economy. Hence, objective rankings were used. This approach is typical for comparison of different countries (see (Acs, Szerb, & Autio, 2017)).

Despite the fact that Transparency International was criticized for its methodology by some scholars, this ranking was chosen because of the amount of data it combines. As a result, CPI is calculated for almost every country in every year. The changes in methodology were mitigated by using the position in the ranking instead of raw score.

Independent variables used are presented in the table.

Table 1 Independent variables in the model

Block	Factor	Description	Name	Source
Regulative pillar	Ease of starting up a business	Variable that measures how easy it is to launch a new business from a legislative point of view	EASE	Rating "Starting a business" from Doing Business
	Property rights	Variable that measures the degree of security of property rights	RIGHTS	Economic Freedom Rating
	Level of corruption	Variable that measures the level of corruption in a country	CORR	Transparency International
	Obtaining finance	Variable that measures how easy it is to get credit	FIN	Rating "Getting credit" from Doing Business
Cognitive pillar	Opportunity perception	Variable that measures the percentage of the non-entrepreneurial adult population who see good opportunities for starting a business	PERC	GEM APS
	Knows an entrepreneur	Variable that measures the percentage of the non-entrepreneurial adult population who knows an entrepreneur personally who started a business in the previous two years	KNOW	GEM APS

	Skills	Variable that measures the percentage of the non-entrepreneurial adult population who believe that they have the required skills and knowledge to start a business.	SKILL	GEM APS
Normative pillar	High status	Variable that measures the percentage of the adult population who agree with the statement that in their country people attach high status to successful entrepreneurs	STAT	GEM APS
	Media attention	Variable that measures the percentage of the adult population who agree with the statement that in their country they will often see stories in the public media about successful new businesses	MEDIA	GEM APS

The study was conducted in three steps:

1. The model for all countries[9] in the sample was created;
2. The model created during the previous step is applied to the European countries;
3. The model created during the first step is applied to the Eastern European countries;
4. Differences among the results are analyzed.

When building the models, several adjustments has been made: first of all, each observation — unique combination of a year and a country (e.g. Russia 2007 and Russia 2006 are separate observations). If for at least one variable we did not have data, this combination of the country and the year were eliminated (e.g. if we have all data for Russia in 2006 except for ranking in Doing Business, we eliminate this observation).

This model is typical for this kind of research. Since we study regional effect and do not focus on individual countries, standard OLS model is used. Same approach is used by (Ayyagari, Demirgüç-Kunt, & Maksimovic., 2008), (Baptista, Escária, & Madruga, 2008) and others.

[9] Countries that are present in the GEM dataset, WEF dataset, and DB dataset

We did not use panel data because the focus of this study is regional (i.e. different economic regimes, such as Western and Eastern Europe) differences, not differences among countries. At the same time, because the main source of data is GEM, we completed log transformation of variables that by nature are percentages (e.g. share of people who think that the media image of entrepreneurs in their countries is positive).

Dependent variable in the model — the share of entrepreneurs with growth aspirations (entrepreneurs who expect to employ at least five employees five years from now, while increasing overall number of employees by more than 50%).

Some independent variables are the position of a country in a ranking. We could not use countries' scores in the model, because organizations that create rankings of interest changed methodology several times for the last ten years, which makes these scores incomparable. Also, for such variables negative coefficients are expected: the less country's position in the ranking, the better. It was impossible to reverse rankings in order to transform variable for positive coefficients, because the number of countries in these rankings changed over time (e.g. Austria took the first place in the corruption perception index for two years in a row, but at the first year the number of countries in a ranking was 100, and at the following year 115. In that case, if we transformed the variable, the value would increase by 15, which would make the model worse).

The equation for the first model is the following:

$$LNteajob = \beta_0 + \beta_1 LNknow + \beta_2 LNskill + \beta_3 Starting\ a\ business + \beta_4 Getting\ credit + \beta_5 CPI\ value + \beta_6 Property\ rights + \beta_7 LNmedia + \varepsilon_i$$

It is important to mention that this equation is the first one and in order to analyze the differences the model will be adjusted for different regions. For example, this equation fits data well when all countries are considered, but it need to be adjusted when Europe or Eastern Europe are considered.

Chapter 3. Empirical study

3.1. Models

As mentioned in the previous section, the first model uses all countries in the sample. As a result, the model is the following:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460	.211	.196	.62606

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	38.949	7	5.564	14.196	.000
Residual	145.413	371	.392		
Total	184.362	378			

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.833	.653		4.336	.000
LNknow	-.486	.131	-.220	-3.721	.000
LNskill	.257	.141	.114	1.816	.070
Rank-Starting a business	-.004	.001	-.277	-4.310	.000
Rank-Getting credit	-.002	.001	-.115	-2.296	.022
CPI Value	-.005	.002	-.317	-3.149	.002
Property Rights	-.007	.003	-.232	-2.311	.021
LNmedia	.410	.130	.157	3.156	.002

As can be seen from the output, all institutional pillars' elements are statistically significant. For the better interpretation, we used natural logarithm of some variables (e.g. media attention — LNmedia).

Overall, the model is significant (ANOVA p-value is 0,000). Adjusted R^2 is 0,203, which is acceptable. Since the sample size is significant (379 observations), we can interpret individual variables.

First of all, all elements of the regulative pillar are statistically significant: ease of starting a business, ease of getting credit, corruption perception and level of property rights all have positive effect on the share of high-growth entrepreneurs. Negative coefficients are explained in the following way: since methodology of calculating these scores changed several times in the last 10 years, not the score is used, but rank of a country among all countries, where 1st place (value = 1) is the best. So, if the country moves down in the ranking by 1 place, share of high-growth entrepreneurs decreases. In this regard, corruption has the biggest impact (β = -,317) on high-growth entrepreneurs. Nevertheless, all part of regulative pillar affects the share. What can be considered surprising is negative coefficient for LNknow (share of respondents who know an entrepreneur).

Then, same model was applied to the European countries (EU and non-EU countries located in the region, such as Russia and Ukraine). Initially, model was significant as well, but most of variables were not statistically significant (189 observations).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.462[a]	.214	.183	.48538

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	11.589	7	1.656	7.027	.000
Residual	42.642	181	.236		
Total	54.230	188			

Dependent Variable: LNteajob

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.411	1.064		1.327	.186
LNknow	.162	.167	.073	.968	.335
LNskill	.228	.214	.084	1.064	.289
Rank-Starting a business	-.004	.001	-.280	-3.347	.001
Rank-Getting credit	-.003	.001	-.251	-3.759	.000
CPI Value	-.006	.003	-.326	-2.266	.025
Property Rights	-.012	.004	-.507	-3.446	.001
LNmedia	.326	.199	.127	1.644	.102

Despite the appropriate adjusted R^2, some variables (LNknow, LNskill, LNmedia) are not significant. If LNskill is excluded, LNmedia will become statistically significant with p-value < 0,1.

The equation for the second model is the following:

$$LNteajob = \beta_0 + \beta_1 Starting\ a\ business + \beta_2 Getting\ credit + \beta_3 CPI\ value + \beta_4 Property\ rights + \beta_5 LNmedia + \beta_6 LNknow + \varepsilon_i$$

As a result, the model for European countries:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.457[a]	.209	.183	.48555

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	11.322	6	1.887	8.004	.000
Residual	42.909	182	.236		
Total	54.230	188			

Dependent Variable: LNteajob

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,034	,889		2,287	,023
Property rights and credit.Rank-Starting a business	-,003	,001	-,245	-3,182	,002
Property rights and credit.Rank-Getting credit	-,003	,001	-,252	-3,779	,000
CPI.Value	-,006	,003	-,352	-2,484	,014

Property.Property Rights	-,013	,004	-,535	-3,693	,000
LNmedia	,342	,198	,133	1,724	,086
LNknow	,223	,157	,101	1,419	,158

If LNknow is excluded from the model, adjusted R^2 will drop significantly, so it was decided to keep this variable in the model.

What can be concluded from the model is that in Europe perceived skills are not that important compared to the model that incorporated wider range of countries. At the same time, property rights, corruption, and getting credit have somewhat bigger influence on the high-growth entrepreneurs. For example, upper bound of the 95% confidence interval for B for property rights is -,006, which is less than the value of B for property right in the whole world model (-,007).

Finally, the original model was applied to the Eastern European countries, which led to the following results:

Model	R Region = Eastern Europe	R Square	Adjusted R Square	Std. Error of the Estimate
4	.616[a]	.379	.262	.52944

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.342	7	.906	3.232	.009
Residual	10.371	37	.280		
Total	16.714	44			

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.840	2.664		-.691	.494
LNknow	.602	.580	.176	1.038	.306
LNskill	.904	.517	.340	1.749	.089
Rank-Starting a business	-.009	.003	-.505	-3.275	.002
Rank-Getting credit	-.007	.002	-.524	-3.166	.003
CPI Value	-.005	.004	-.242	-1.123	.269
Property Rights	-.014	.007	-.356	-1.895	.066
LNmedia	.251	.496	.073	.506	.616

First thing to notice is adjusted R^2 — it is ,379, which means strong connection among variables. Overall, the model is statistically significant as well with ANOVA p-value 0,009. At the same time, individual variables are not significant. In order to improve the model (in terms of individual significance), some variables were excluded. The equation for the third model is the following:

$$LNteajob = \beta_0 + \beta_1 Starting\ a\ business + \beta_2 Property\ rights + \beta_3 LNopport + \beta_6 LNskill + \beta_6 LNstat + \varepsilon_i$$

As a result, R^2 increased to ,432:

Model	R Region = Eastern Europe	R Square	Adjusted R Square	Std. Error of the Estimate
5	.658[a]	.432	.363	.48289

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.284	5	1.457	6.248	.000
Residual	9.561	41	.233		
Total	16.845	46			

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.444	2.625		3.216	.003
Property rights and credit.Rank-Starting a business	-.009	.002	-.533	-4.061	.000
Property.Property Rights	-.022	.006	-.548	-3.560	.001
LNopport	.756	.228	.482	3.316	.002
LNskill	1.036	.366	.389	2.831	.007
LNstat	-2.463	.615	-.521	-4.004	.000

The main concern regarding the last model — sample size. There are 47 observations in Eastern Europe, because not all countries participate in the GEM survey and other rankings used in the model. Nevertheless, with overall significance of the model and significant individual variables comparison of Eastern European model with both European and world model could provide interesting findings.

Next, we go back to our hypotheses statement and summarize which hypotheses are rejected and which are proved.

Table 2 Approved and rejected hypotheses

Hypothesis	Variable	Economy	Significance	Conclusion
The higher the level of corruption, the lower the share of high-growth entrepreneurs	CPI Rank	World	**	Approved
		Europe	**	Approved
		Eastern Europe	-	Rejected
The more secure property rights, the bigger the share of high-growth entrepreneurs	Property rights rank	World	**	Approved
		Europe	***	Approved
		Eastern Europe	***	Approved
The easier it is to start a business, the bigger the share of high-growth entrepreneurs	Doing Business Rank	World	***	Approved
		Europe	**	Approved
		Eastern Europe	***	Approved
The easier it is to get funding, the bigger the share of high-growth entrepreneurs	Doing Business Rank	World	**	Approved
		Europe	***	Approved
		Eastern Europe	-	Rejected
The higher the opportunity perception, the bigger the share of high-growth entrepreneurs	GEM	World	-	Rejected
		Europe	-	Rejected
		Eastern Europe	**	Approved
The bigger the share of people who know an entrepreneur, the bigger the share of high-growth entrepreneurs	GEM	World	***	Rejected
		Europe	-	Rejected
		Eastern Europe	-	Rejected
The higher the estimation of own skills by entrepreneur, the bigger the share of high-growth entrepreneurs	GEM	World	*	Approved
		Europe	-	Rejected
		Eastern Europe	**	Approved
The higher the perceived status of an entrepreneur, the bigger the share of high-growth entrepreneurs	GEM	World	-	Rejected
		Europe	-	Rejected
		Eastern Europe	***	Rejected
The better the image of entrepreneurship in media, the bigger the share of high-growth entrepreneurs	GEM	World	**	Approved
		Europe	*	Approved
		Eastern Europe	-	Rejected

3.2. Results

Based on the hypothesis's analysis presented in the table 2, some hypotheses are approved only in certain economies. Based on this, following conclusions are made:

Corruption influences the share of high-growth entrepreneurs only in the global and European samples. In Eastern Europe CPI variable is not statistically significant, which can be explained by the higher level of corruption in Eastern Europe. Because of this, in the region individual differences in CPI among countries do not make much difference. This can be interpreted in the following way: in order to increase level of high-growth entrepreneurs, significant improvements in CPI are needed, not minor steps.

Property rights, on the other hand, is one of the most significant factors in the model (because of individual statistical significance of the variable plus beta coefficient). This supports hypothesis that regulative pillar has significant impact on the entrepreneurial climate in Eastern Europe.

Interpretation of Doing Business' variables shows that while ease of starting up a business is a significant factor in the model in all economies, funding plays lesser role in Eastern Europe. It worth noticing that getting credit in Eastern Europe is easier than in Europe in general:

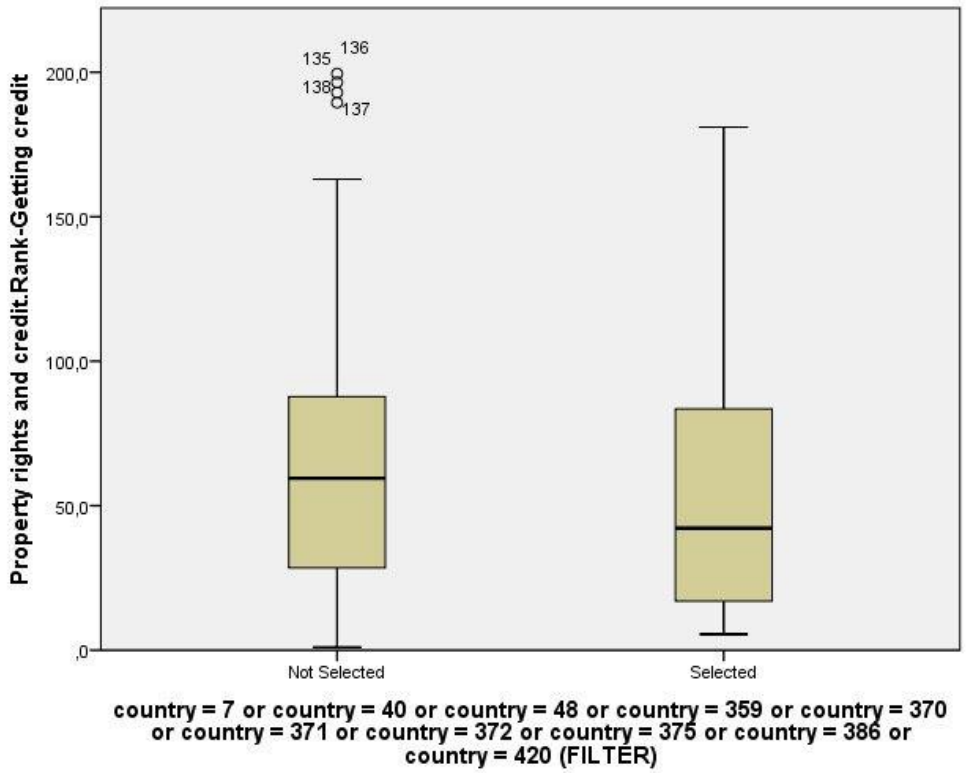

Figure 2 Getting credit rank

In the figure above we can see that mean level in the selected group (Eastern Europe) is lower than that of in the not selected group (where variable measures the position in the ranking, so the lesser the better). Median level of getting credit rank in Eastern Europe is also lower than that of not selected group. Overall, this result can be interpreted in the following way: availability of funds plays significant role in the share of high growth entrepreneurs, but not in Eastern Europe.

Opportunity perception is not significant variable in the model. Surprisingly, in Eastern Europe this variable is significant. This fact cannot be interpreted since there is no statistically significant correlation between the share of high growth entrepreneurs (teajob) and share of entrepreneurs who recognize opportunity in the nearest future (opport).

The fact of being familiar with an entrepreneur does not play significant role as well. Despite the fact that in Eastern Europe share of entrepreneurs who know another entrepreneur is higher, this difference appears not significant in terms of share of high growth entrepreneurs.

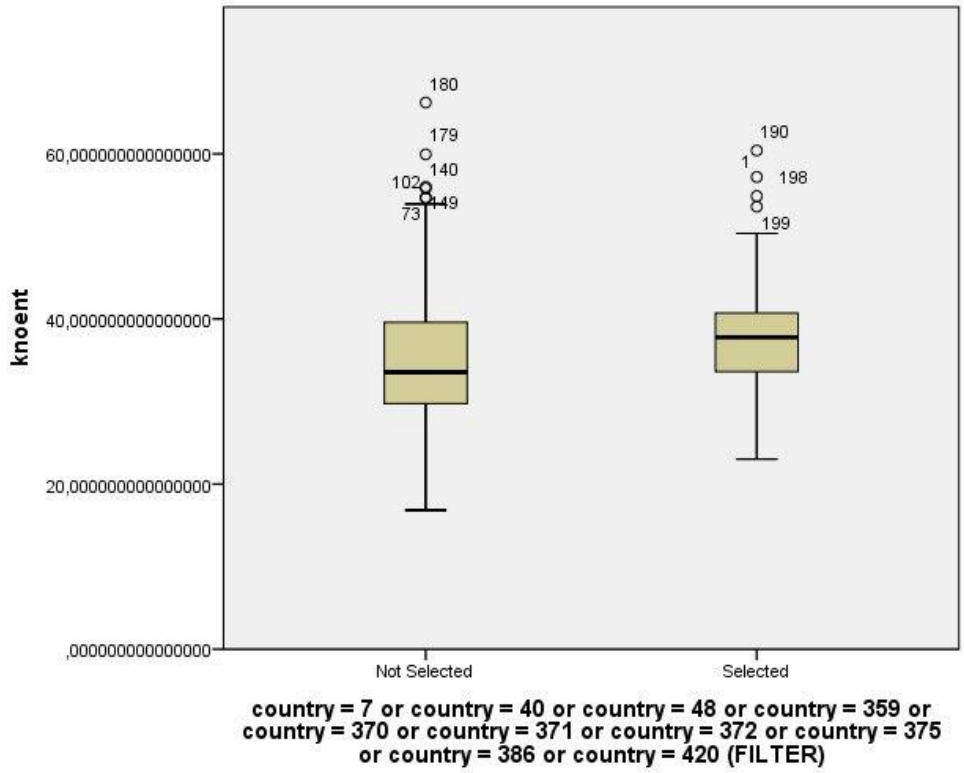

Figure 3 Share of entrepreneurs who know an entrepreneur

As can be seen on the figure above, despite the fact that mean and median share of respondents who know an entrepreneur is higher in Eastern Europe, the difference is not statistically significant, and this variable is not significant in the model. What is worth noticing, is that in the global model the effect of this variable is actually negative and statistically significant, which could be interpreted that the bigger the share of respondents who know an entrepreneur, the less the share of high growth entrepreneurs. Since this interpretation is questioning, just absence of positive relation can be stated.

The hypothesis that perceived status of entrepreneurship in society positively affects the share of high growth entrepreneurs is also rejected: in the Eastern European model the relationship is negative and statistically significant, while in the European and global models this variable is not statistically significant.

Finally, the hypothesis that image in the media positively affects the share of high growth entrepreneurs is partially approved: in the global model and European models this variable is statistically significant and has positive effect.

In conclusion, regulative pillar appears to have the strongest effect on the share of high growth entrepreneurs: such variables as property rights, ease of starting a business, corruption perception and ease of obtaining funding have statistically significant effect.

In terms of cognitive and regulative pillar, the effect is blurred: only assessment of entrepreneurial skills and positive media image have statistically significant relationship with the share of high growth entrepreneurs.

3.3. Discussion

This paper uses a multidimensional measure of an entrepreneurial environment and analyzes its effect on the type of entrepreneurial activity — entrepreneurs with growth aspirations. It analyzes three different institutional dimensions linked to the entrepreneurial activity in a country.

Our results link the variance between various institutional arrangements and the entrepreneurial aspirations within a country. If the goal of policy makers is to increase the share of growth aspirations in a country, our findings suggest that their focus should be on the regulative pillar, namely creation of supporting regulative institutional arrangements (e.g. protection of property rights). We found regulative arrangements that support entrepreneurial activity (e.g. via low level of corruption, high level of protection of property rights, etc.) matter more than other institutional features: cognitive and normative pillars.

The results regarding the association between the cognitive dimension and growth aspirations (i.e. lack of one) may be related partially to the variables that were used in the model, since these variables are sensitive to necessity-based entrepreneurial activity. Nevertheless, higher impact of regulative arrangements in Eastern Europe compared to that in European and global models and significance of opportunity perception and assessment of entrepreneurial skills suggest that less-developed countries may have hidden potential in terms of high growth entrepreneurship that could play a significant role in the Eastern European economy (Baumol & Strom, 2007). Future work may explore this potential in great detail using panel data.

In contrast to previous studies mentioned in the literature review section, this thesis reveals the complicated nature of economic growth in developing countries. For example, density of entrepreneurial network (measured by the share of respondents who know an entrepreneur) may negatively affect the growth aspirations. In addition, this can be explained by the fact that type of entrepreneurship may be negatively affected by the well-functioning societal framework (Bowen & Clercq, 2008). The possible explanation for low impact of media image and perceived status is that society praises entrepreneurs for little work, which could slow down the entrepreneurial appetite and, hence, diminish growth aspirations.

In terms of economic development policy, findings suggest that a regulative pillar (i.e. supportive regulative arrangements) is the most important factor in both developed and developing economies. These findings also suggest that there may be a difference in terms of arrangements of focus between developed and developing economies: CPI rank, for example, is not significant in Eastern Europe.

Conclusion on property rights is directly consistent with (Williamson, 2000), which emphasizes that they underlie formal institutional order. Although he does not emphasize corruption, following (North, 1989), he also attaches importance to the informal institutions, and we suggested that corruption is an embedded model of informal norms of behavior that becomes institutionalized as part of a slowly changing informal order. A more active government, although it can also make the environment relatively less stable due to policy changes, is best seen as the introduction of additional, but predictable costs for enterprises that entrepreneurs should consider when forming their aspirations (Estrin, Korosteleva, & Mickiewicz, 2013).

This study compliment previous works on the relationship between institutions and entrepreneurship. This thesis is an attempt to achieve better understanding of this relationship in particular regional context and analyze the process of allocation of entrepreneurial activity in different ways by institutional factors.

In addition, this study provides the ground for future discussion, namely the longitudinal changes in the factors. The model for high-income countries is likely to remain relatively stable over time, while the analysis of the institutional changes in developing countries (i.e. Eastern Europe) seems to require further investigation. Due to possible changes in the institutional arrangements and their relationship with growth aspirations, this relationship might not be linear, which requires additional analysis. Further research on how the cognitive and normative factors deviate from the averages might expand the understanding of entrepreneurial responses to institutional pressures.

What is more, particular changes in the variables might affect overall results of the modeling. Models in this study are based heavily on global indices such es Doing Business, Economic Freedom, etc. These rankings offer opportune variables for the modeling and analysis, but these data sources have assumptions of positive relationship between economic growth and development. These assumptions were criticized before, but they are not the only source of possible limitations. For example, Global Competitiveness Index has been subject to critique because, according to critiques, this index has limited exploration of unique national characteristics.

In addition, this study uses national-level data, so the mechanisms influencing the decisions of individual entrepreneurs and individual factors (e.g. level of education, gender, region). Comparison of results obtained using national model could be compared to the results obtained from analysis of start-up incubators, and that would provide additional insight into the success factors and individual decision-making process of entrepreneurs.

An additional problem is the analysis of regional clusters and mega-regions. When considering data at the national level (especially in countries where economic activity is particularly concentrated in certain cities), consideration of institutional mechanisms becomes difficult. Indeed, the data for Moscow separately from Russia will differ significantly, just as the economic situation and the regulative arrangements in Moscow separately and in Russia as a whole differ. A potential solution to this problem would be either to consider the country separately, which may be difficult due to the representativeness of the sample (and, rather, its absence) in certain regions, or the use of individual data rather than aggregated at the national level. It is expected that there are significant differences at the country level in the level and type of entrepreneurial activity. A potentially interesting area of research is entrepreneurial activity at the regional level. Some works already address this issue, and link differences between regions with the spread of knowledge and the quantity and quality of human capital. This affects regional economic performance. In future work, we could study the role of institutional factors that help stimulate economic growth in the country, explain the differences within the country, and the key factors for the development of institutions at the country level.

3.4. Conclusion

The purpose of the paper is to analyze institutional factors that influence the share of high growth entrepreneurs as main drivers of GDP growth. Entrepreneurs with growth aspirations are extremely important and relevant, because typical entrepreneurs actually harm the economy: in their typical small firms labor productivity is lower than that in big mature companies, and their generate less jobs. This situation creates the problem for policymakers: should government stimulate all entrepreneurship (no) and how to selectively stimulate entrepreneurs with high growth aspirations? This paper addresses this very question by analyzing the institutional environment.

Regional context is important as well: Eastern Europe has difficult past, since Entrepreneurship was not appraised in Soviet Union. In addition to that, countries in this region have hidden growth potential, that can significantly accelerate economic growth if realized fully and correctly. Eastern Europe entered the free-market economic system later than the rest of Europe. In addition, Eastern Europe exemplifies the region where conditions for a free-market economy are lacking.

Based on the literature review, we used Scott's institutional pillars (Scott, 1995) as a main framework for analyzing the institutional factors that could affect entrepreneurship. By analysis of each pillar separately (regulative, normative, and cognitive) we determined the set of factors from each pillar that could affect entrepreneurial aspirations (e.g. corruption, property rights, entrepreneurial network, etc.). These factors laid down the ground for hypotheses, that we tested using quantitative approach.

We used OLS method in order to analyze the dataset, that consists of GEM APS data, Doing Business, Economic Freedom, and Transparency International. Global Entrepreneurial Monitor (GEM) conducts annual survey across the wide range of countries. The survey is consistent in terms of methodology, so results from different years of this survey can be analyzed together. We used national-level data and used the share of entrepreneurs who are planning on increasing the stuff of their firms by more than 50% in the nearest 5 years (high-growth entrepreneurs) as the dependent variable.

The results of the analysis showed that the regulatory, normative, and cognitive factors of the institutional environment affect both the structure of entrepreneurial aspirations. Also, this impact differs among regions. Entrepreneurs with growth aspirations are considered more valuable for economic growth than typical entrepreneurs because of their higher labor productivity and potential to become a successful mature company (e.g. Veeam — recent example of one of the largest IPO in the VC industry). During the crisis and in periods of economic stagnation issues of removing barriers to starting a business acquire a special significance in determining the priorities of economic policy.

High-growth entrepreneurs are sensitive to regulatory factors of institutional environment, primarily to the corruption, property rights, and ease of starting a business. In that sense this study is consistent with other works in this area, for example (Aidis, Estrin, & Mickiewicz, 2008), (Anokhin & Schulze, 2009), (Stenholm, Acs, & Wuebker, 2013). What is important, easiness of getting funding and corruption perception are significant in the models for Europe and world, but not for the model for Eastern Europe. This finding highlights the importance of special institutional environment and infrastructure for young start-ups. The fact that corruption perception is not significant in the model for Eastern Europe can be explained by (Tonoyan, Strohmeyer, Habib, & Perlitz, 2010): those who are more motivated by opportunities more easily perceive the need for corrupt payments than forced entrepreneurs, especially in developing countries.

Analysis of the impact of normative and cognitive factors indicates that an individuals' assessment of his knowledge and skills as sufficient positively affects the share of high-growth entrepreneurs, despite the fact that this effect is different across the models. This indicates the need

for educational programs for entrepreneurs (nevertheless, the goal to promote high-growth entrepreneurship, but not typical entrepreneurship should not be forgotten) and the wide access of potential entrepreneurs to information on the possibility of creating a business (e.g. start-up aggregators, such as Skolkovo Ventures). Further study of the cognitive component of the institutional environment may be associated with a clearer definition of the nature of influence of cultural characteristics of countries on the entrepreneurial aspirations.

The normative aspect would be better studied if it included factors describing entrepreneurship with respect to risk and uncertainty that affect entrepreneurship at the country level. The elements used in measuring the normative dimension are biased towards the level of entrepreneurship and it is impossible to cover other aspects that describe norms and values. In addition, cognitive and regulatory issues have focused exclusively on entrepreneurship, and in the future, it will be possible to take into account the impact of human capital, social capital, or networks in the format of cognitive and normative dimensions. Finally, changes caused by external factors, such as social movements and changes in people's opinions that can create new entrepreneurial opportunities, were not covered in this study. However, these factors affect both entrepreneurial activity and recognition of opportunities.

Concerning other limitations of the study, aspirations for growth and actual growth is not the same thing. For the future research, comparison of aspirations for growth and actual increase in number of employees could give additional insight into the success rate of entrepreneurs. Also, another measures of growth could be explored (e.g. sales, profits, number of units sold, etc.). In the current economic environment labor productivity plays the greater role, which means that increased number of employees is not always constitutes success and growth of a firm.

References

Acemoglu, D., Johnson, S., & Robinson., J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of economic growth, 1*, 385-472.

Acs, Z. J. (1992). Small business economics: A global perspective. *Challenge, 35(6)*, 38-44.

Acs, Z. J., & Audretsch, D. B. (1988). Innovation in large and small firms: an empirical analysis. *The American economic review*, 678-690.

Acs, Z. J., & Gifford, S. (1996). Innovation of entrepreneurial firms. *Small Business Economics, 8(3)*, 203-218.

Acs, Z. J., & Mueller, P. (2008). Employment effects of business dynamics: Mice, gazelles and elephants. *Small Business Economics, 30(1)*, 85-100.

Acs, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43(3)*, 476-494.

Acs, Z., Szerb, L., & Autio, E. (2017). The global entrepreneurship index. *Global Entrepreneurship and Development Index 2016*, 19-38.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of business Venturing 23(6)*, 656-672.

Aidis, R., Estrin, S., & Mickiewicz, T. M. (2012). Size matters: entrepreneurial entry and government. *Small Business Economics, 39(1)*, 119-139.

Almeida, P., & Kogut, B. (1997). The exploration of technological diversity and geographic localization in innovation: Start-up firms in the semiconductor industry. *Small Business Economics, 9(1)*, 21-31.

Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, innovation, and corruption. *Journal of business venturing, 24(5)*, 465-476.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small business economics, 24(3)*, 233-247.

Arvanitis, S. (1997). The impact of firm size on innovative activity–an empirical analysis based on Swiss firm data. *Small Business Economics, 9(6)*, 473-490.

Autio, E., & Acs., Z. (2010). Intellectual property protection and the formation of entrepreneurial growth aspirations. *Strategic Entrepreneurship Journal, 4(3)*, 234-251.

Autio, E., & Fu, K. (2015). Economic and political institutions and entry into formal and informal entrepreneurship. *Asia Pacific Journal of Management, 32(1)*, 67-94.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic., V. (2008). How important are financing constraints? The role of finance in the business environment. *The world bank economic review, 22(3)*, 483-516.

Baptista, R., Escária, V., & Madruga, P. (2008). Entrepreneurship, regional development and job creation: the case of Portugal. *Small business economics, 30(1)*, 49-58.

Baron, R. A. (2007). Behavioral and cognitive factors in entrepreneurship: Entrepreneurs as the active element in new venture creation. *Strategic entrepreneurship journal, 1(1-2)*, 167-182.

Baumol, W. J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of business venturing 11(1)*, 3-22.

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic entrepreneurship journal, 1(3-4)*, 233-237.

Bjørnskov, C., & Foss, N. J. (2016). Institutions, entrepreneurship, and economic growth: what do we know and what do we still need to know? *Academy of Management Perspectives, 30(3)*, 292-315.

Blanchflower, D. G. (2000). Self-employment in OECD countries. *Labour economics, 7(5)*, 471-505.

Blau, D. M. (1987). A time-series analysis of self-employment in the United States. *Journal of political economy, 95(3)*, 445-467.

Boettke, P. J., & Coyne., C. J. (2003). Entrepreneurship and development: Cause or consequence? *Advances in Austrian Economics, 6(1)*, 67-87.

Bowen, H. P., & Clercq, D. D. (2008). Institutional context and the allocation. *Journal of International Business Studies, 39(4)*, 747-767.

Braunerhjelm, P., Acs, Z. J., Audretsch, D. B., & Carlsson, B. (2010). The missing link: knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34(2)*, 105-125.

Brouwer, E., & Kleinknecht, A. (1996). Firm size, small business presence and sales of innovative products: a micro-econometric analysis. *Small Business Economics, 8(3)*, 189-201.

Brouwer, P., Kok, J. D., & Fris, P. (2005). Can firm age account for productivity differences? *EIM SCALES-paper N, 200421*, 1-49.

Busenitz, L. W., Gomez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management journal, 43(5)*, 994-1003.

Calvo, J. L. (2006). Testing Gibrat's law for small, young and innovating firms. *Small business economics, 26(2)*, 117-123.

Capelleras, J.-L. (2019). Entrepreneurs' human capital and growth aspirations: The moderating role of regional entrepreneurial culture. *Small Business Economics 52(1)*, 3-25.

Carree, M. A. (2002). Industrial restructuring and economic growth. *Small Business Economics, 18(4)*, 243-255.

Carree, M. A., & Thurik, A. R. (2008). The lag structure of the impact of business ownership on economic performance in OECD countries. *Small Business Economics, 30(1)*, 101-110.

Casson, M. (2003). Entrepreneurship, business culture and the theory of the firm. *Handbook of entrepreneurship research*, 223-246.

Choi, J. P., & Thum, M. (2005). Corruption and the shadow economy. *International Economic Review, 46(3)*, 817-836.

Cuervo, A. (2005). Individual and environmental determinants of entrepreneurship. *The International Entrepreneurship and Management Journal, 1(3)*, 293-311.

Czarnitzki, D., & Kraft, K. (2004). Firm leadership and innovative performance: Evidence from seven EU countries. *Small Business Economics, 22(5)*, 325-332.

De Carolis, D. M., & Saparito, P. (2006). Social capital, cognition, and entrepreneurial opportunities: A theoretical framework. *Entrepreneurship theory and practice, 30(1)*, 41-56.

Desai, S., & Acs., Z. J. (2007). A theory of destructive entrepreneurship. *Jena economic research paper*.

Dickson, P. H., & Weaver., K. M. (2008). he role of the institutional environment in determining firm orientations towards entrepreneurial behavior. *nternational Entrepreneurship and Management Journal, 4(4)*, 467-483.

Dilli, S., & Westerhuis, G. (2018). How institutions and gender differences in education shape entrepreneurial activity: a cross-national perspective. *Small Business Economics, 51(2)*, 371-392.

Disney, R., Haskel, J., & Heden., Y. (2003). Restructuring and productivity growth in UK manufacturing. *The Economic Journal, 113(489)*, 666-694.

Dutta, N., & Sobel, R. (2016). Does corruption ever help entrepreneurship? *Small Business Economics, 47(1)*, 179-199.

Eliasson, G. (1995). Economic growth through competitive selection. *In 22nd EARIE-conference, Juan les Pins.*

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of business venturing, 28(4)*, 564-580.

Estrin, S., Mickiewicz, T., & Rebmann, A. (2017). Prospect theory and the effects of bankruptcy laws on entrepreneurial aspirations. *Small Business Economics, 48(4)*, 977-997.

Foelster, S. (2000). Do entrepreneurs create jobs? *Small business economics, 14(2)*, 137-148.

Fritsch, M. (1997). New firms and regional employment change. *Small business economics, 9(5)*, 437-448.

Fritsch, M., & Mueller, P. (2008). The effect of new business formation on regional development over time: the case of Germany. *Small Business Economics, 30(1)*, 15-29.

Fuentelsaz, L., González, C., Maícas, J. P., & Montero, J. (2015). How different formal institutions affect opportunity and necessity entrepreneurship. *BRQ Business Research Quarterly, 18(4)*, 246-258.

Haltiwanger, J. C., Lane, J. I., & Spletzer., J. (1999). Productivity differences across employers: The roles of employer size, age, and human capital. *American Economic Review, 89(2)*, 94-98.

Hart, P. E., & Oulton, N. (1996). Growth and size of firms. *The Economic Journal, 106(438)*, 1242-1252.

Hofstede, G. (1980). Motivation, leadership, and organization: do American theories apply abroad? *Organizational dynamics, 9(1)*, 42-63.

Johnson, P. (2004). Differences in regional firm formation rates: A decomposition analysis. *Entrepreneurship theory and practice, 28(5)*, 431-446.

Kaya, H. D. (2017). Economic Expansions, Entrepreneurial Aspirations and Entrepreneurial Attitudes. *Journal of Management Research, 17(4)*, 219-231.

Kaya, H. D. (2019). The Impact of the 2008-2009 Global Crisis on Entrepreneurial Aspirations and Attitudes. *Studies in Business and Economics 14(1)*, 111-126.

Keynes, J. M. (1936). *The general theory of employment, interest, and money.* London: Palgrave Macmillan.

Kirzner, I. M. (1973). *Entrepreneurship and competition.* Chicago: University of Chicago Press.

Klepper, S. (1995). Entry, exit, growth, and innovation over the product life cycle. *The American economic review*, 562-583.

Konings, J. (1995). Gross job flows and the evolution of size in UK establishments. *Small Business Economics, 7(3)*, 213-220.

Kostova, T. (1997, August). Country institutional profiles: Concept and measurement. *Academy of Management Proceedings, Vol. 1997, No. 1*, 180-184.

Kouriloff, M. (2000). Exploring perceptions of a priori barriers to entrepreneurship: a multidisciplinary approach. *Entrepreneurship Theory and Practice, 25(2)*, 59-80.

Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of business venturing, 15(5-6)*, 411-432.

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

Leković, B., & Berber, N. (2019). Determinants of early stage high-growth entrepreneurship: Evidence from South East Europe region. *JEEMS Journal of East European Management Studies, 24(2)*, 347-369.

Levie, J., & Autio, E. (2007). Entrepreneurial Framework Conditions and National-Level Entrepreneurial Activity: Seven-Year Panel Study . *Third Global Entrepreneurship Research Conference*, (pp. 1-39). Washington D.C.

Lounsbury, M., & Glynn, M. A. (2001). Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources. *Strategic management journal, 22(6-7)*, 545-564.

Love, J. H., & Ashcroft, B. (1999). Market versus corporate structure in plant-level innovation performance. *Small Business Economics, 13(2)*, 97-109.

Lowe, R. A., & Ziedonis, A. A. (2006). Overoptimism and the performance of entrepreneurial firms. *Management science, 52(2)*, 173-186.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management Review, 21(1)*, 135-172.

Mai, Y., & Gan, Z. (2007). Entrepreneurial opportunities, capacities and entrepreneurial environments. *Chinese Management Studies*.

Mansfield, E. (1962). Entry, Gibrat's law, innovation, and the growth of firms. *The American economic review, 52(5)*, 1023-1051.

Mueller, P., Stel, A. V., & Storey, D. J. (2008). The effects of new firm formation on regional development over time: The case of Great Britain. *Small Business Economics, 30(1)*, 59-71.

Murphy, K. M., Shleifer, A., & Vishny., R. W. (1993). Why is rent-seeking so costly to growth? *The American Economic Review, 83(2)*, 409-414.

Noorderhaven, N., Thurik, R., Wennekers, S., & Van Stel, A. (2004). The role of dissatisfaction and per capita income in explaining self–employment across 15 European countries. *Entrepreneurship Theory and Practice, 28(5)*, 447-466.

North, D. C. (1989). Institutions and economic growth: a historical introduction. *World Development, 17 (9)*, 1319-1332.

Oliveira, B., & Fortunato, A. (2006). Firm growth and liquidity constraints: A dynamic analysis. *Small Business Economics, 27(2-3)*, 139-156.

Owen-Smith, J., & Powell, W. W. (2008). Networks and institutions. *The Sage handbook of organizational institutionalism*, 596-623.

Porter, M. E. (1990). *Competitive advantage of nations.* New York: Free Press.

Premand, P., Brodmann, S., Almeida, R., Grun, R., & Barouni, M. (2016). Entrepreneurship education and entry into self-employment among university graduates. *World Development, 77*, 311-327.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., & Chin, N. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small business economics, 24(3)*, 205-231.

Robbins, D. K., Pantuosco, L. J., Parker, D. F., & Fuller, B. K. (2000). An ampirical assessment of the contribution of small business employment to US State economic performance. *Small Business Economics, 15(4)*, 293-302.

Rodríguez, A. C., Molina, M. A., Pérez, A. L., & Hernández, U. M. (2003). Size, age and activity sector on the growth of the small and medium firm size. *Small Business Economics, 21(3)*, 289-307.

Schumpeter, J. A. (1934). *The Theory of Economic Development.* New Brunswick: Transaction Publishers.

Scott, W. R. (1995). *Institutions and organizations (Vol. 2): Sage Thousand Oaks.*

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review, 25(1)*, 217-226.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics 70(1)*, 65-94.

Sørensen, J. B., & Stuart, T. E. (2000). Aging, obsolescence, and organizational innovation. *Administrative science quarterly, 45(1)*, 81-112.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28(1)*, 176-193.

Stephan, U., Uhlaner, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies, 46(3)*, 308-331.

Stevenson, H., & Gumpert, D. (1991). *The heart of entrepreneurship, entrepreneurship creativity at work.* Harvard Business Review Paperback.

Swan, T. W. (1956). Economic growth and capital accumulation. *Economic record, 32(2)*, 334-361.

Thurik, A. R. (1995). Small firms, entrepreneurship and economic growth. *Tinbergen Institute*.

Tominc, P., & Rebernik, M. (2007). Growth aspirations and cultural support for entrepreneurship: A comparison of post-socialist countries. *Small business economics, 28(2-3)*, 239-255.

Tonoyan, V., Strohmeyer, R., Habib, M., & Perlitz, M. (2010). Corruption and entrepreneurship: How formal and informal institutions shape small firm behavior in transition and mature market economies. *Entrepreneurship theory and practice, 34(5)*, 803-832.

Tversky, A., & Kahneman, D. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47(2)*, 263-291.

Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned? *Small Business Economics, 53(1)*, 21-49.

Van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small business economics, 29(4)*, 351-382.

Van Stel, A., & Suddle, K. (2008). The impact of new firm formation on regional development in the Netherlands. *Small Business Economics, 30(1)*, 31-47.

Van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small business economics, 24(3)*, 311-321.

Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. 365-379.

Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). An eclectic theory of entrepreneurship: policies, institutions and culture. *Entrepreneurship: Determinants and policy in a European-US comparison*, 11-81.

Weingast, B. R. (1995). The economic role of political institutions: Market-preserving federalism and economic development. *Journal of Law, Economics, & Organization*, 1-31.

Weitzman, M. L. (1970). Soviet postwar economic growth and capital-labor substitution. *The American Economic Review 60(4)*, 676-692.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small business economics, 13(1)*, 27-56.

Williams, N., & Vorley, T. (2015). Institutional asymmetry: How formal and informal institutions affect entrepreneurship in Bulgaria. *International Small Business Journal, 33(8)*, 840-861.

Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of economic literature, 38(3)*, 595-613.