Entrepreneurship in national economics: significance and potential of development

Предпринимательство в национальных экономиках: значимость и потенциал развития

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Abstract

The purpose of the study was to develop proposals for the use of two comprehensive indexes to assess the social significance and the existing potential for entrepreneurship development in different countries. The study used information provided in the report on the Global entrepreneurship monitoring project. At the same time, the opinions of residents of 48 countries for 2018 were considered. The first index included four indicators, and the second index included five indicators. Mathematical models were developed and the values of these two complex indexes were calculated. The average values of the indexes and their ranges of change for most countries are determined. Lists of countries with high and low index values are given. A comparative analysis of the values of complex indexes typical for Russia and other countries is presented. The results of research are new and original, have scientific and practical significance.

Keywords: social significance, potential of development, countries, Global monitoring of entrepreneurship, complex indexes.

Annotación

Целью исследования являлась разработка предложений по использованию двух комплексных индексов для оценки социальной значимости и сложившегося в различных странах потенциала развития предпринимательства. В процессе исследования использовалась информация, представленная в отчете по проекту Глобального мониторинга предпринимательства. При этом рассматривались мнения жителей 48 стран за 2018 год. Первый индекс включал четыре показателя, а второй индекс пять показателей. Были разработаны математические модели и проведены расчеты значений указанных двух комплексных индексов. Определены средние значения индексов и диапазоны их изменения по большинству стран. Приведены перечни стран с высокими и низкими значениями индексов. Представлен сравнительный анализ значений комплексных индексов, характерных для России и других стран. Результаты исследований обладают новизной и оригинальностью, имеют научное и практическое значение.

Ключевые слова: социальная значимость, потенциал развития, страны, Глобальный мониторинг предпринимательства, комплексные индексы.

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Introduction

The role of entrepreneurship in modern economies is very significant (Decker et al., 2014; Pinkovetskai et al., 2019; Pinkovetskai et al., 2020). Due to the development of the business sector, the production of goods and services increases, created jobs, competition develops and innovations are introduced (Litan & Schramm, 2012; Wiklund & Shepherd, 2003). All this indicates the need for accelerated development of the business sector in most national economies, which puts forward an understanding of the factors that influence the promotion of new business structures. These factors include the assessment by the population of each country of the role and importance of entrepreneurship, as well as their intentions to participate in this activity.

The attitude to entrepreneurship in society is considered in a number of studies by foreign and domestic scientists. Let's focus on the most interesting foreign scientific publications. In the article (Anderson & Miller, 2003), it was pointed out that entrepreneurship is based on the social environment that has developed in society, since entrepreneurs are its product and perceive business opportunities under the influence of the corresponding social background. The paper (Downing, 2005) emphasizes that entrepreneurship, like the rest of economic life, is a joint social achievement. The links between social values and entrepreneurial activity, as well as the influence of social entrepreneurial attitudes on the intention to create new firms, were discussed in the article (Rantanen & Toikko, 2013). Social prerequisites for people creating their own businesses are associated with the presence of an appropriate business climate in a particular country that facilitates these processes (Eckhardt & Shane, 2003). The article (Padovez-Cualheta et al., 2019) states that work is central to people's lives, given the amount of time and energy invested in it. It is certainly important for the formation of positive social relations that arouse respect in society. This article proves that entrepreneurs have higher job satisfaction rates than employees. Therefore, in an effort to improve the quality of life, entrepreneurship can be considered a good career choice for people. A similar conclusion is made in (Summers, 2015), which shows the relationship of entrepreneurship with an increase in family income. The study (Binder & Coad, 2013) showed that entrepreneurs are more satisfied with their activities than employees. Especially strongly approve of the choice of such a career option, those whose parents and relatives were entrepreneurs (Burton et al., 2016). The article (Van der Zwan et al., 2018) indicates that a person's career transition from an employee to an entrepreneur is directly due to satisfaction with independent work. That is, people make a sharp turn in their careers to increase their social status. The paper (Barazandeh et al., 2015) examines the impact of positive coverage of business activities in the media on the population's assessment of the feasibility of developing entrepreneurship in their country. The article (Korsgaard & Anderson, 2011) deals with the issues of promoting entrepreneurship in the media. The study (Podgayskaya & Ignatov, 2018) presents the results of content analysis of information presented in the Belarusian media in 2018. This work analyzed the frequency and nature of published materials on entrepreneurship. The study of the problem showed that in the media with the largest audience coverage, entrepreneurship is presented in a generally positive or balanced way. By increasing the social status of entrepreneurs, the number of people who want to create their own business increases.

Among the domestic studies on the problem of attitudes to entrepreneurship in society, the following can be noted. According to the author of the study (Kleimenova, 2016), there are two ways to assess the success of an entrepreneur's career: economic, related to profitability and other economic indicators, as well as the degree of implementation of the entrepreneur's personal professional opportunities, that is, accumulated competencies. An entrepreneurial career is formed, as indicated in article (Demin et al., 2017), under the influence of the environment and a sufficiently large number of social factors, such as dissatisfaction with the previous job or change of residence. Social aspects of the role of entrepreneurs and the meaning of entrepreneurial activity are considered in (Ponomarev, 2015). It draws attention to the importance of such a phenomenon as entrepreneurship in the social development of modern society. The author concludes that entrepreneurs always try to enter the social elite, using their opportunities to implement vertical mobility and increase their social status. The article (Zhukov et al., 2017) notes that the wide coverage of small and medium entrepreneurship problems in the media helps to unite the community of entrepreneurs, reflect the accumulated positive experience, and help establish a dialogue between them and the authorities. At the same time, this article concludes that the Federal media do not pay
enough attention to the problems of small and medium enterprises. They focus on the activities of large businesses and financial organizations. The classification of the main administrative barriers that need to be overcome at the beginning of business activity in Russia is given in the article (Chepurenko, 2017). In (Medvedeva & Kutsova, 2017), the results of a survey of people's entrepreneurial opportunities are presented on the example of Moscow. It is shown that the development of entrepreneurship is hindered due to high taxes, corruption, and administrative barriers.

An analysis of previous studies has suggested that a high level of public assessment of assumptions about a good career option for entrepreneurs and their significant social status, a positive attitude to entrepreneurship in the media, as well as the ease of creating a new business, has a positive impact on the emergence of new entrepreneurs.

The problem of self-assessment of expediency and desirability for adults to create their own businesses, that is, individual perception of their own entrepreneurial activity, has also been reflected in scientific research. Let's look at the most interesting of them. Opportunities for people to create their own businesses are associated with the presence in a particular country of legislative, organizational, institutional and other prerequisites that facilitate this process (Eckhardt & Shane, 2003). Entrepreneurial opportunities are closely intertwined with the abilities of potential entrepreneurs, their intuition, and information obtained from previous experience (Gorgievski & Stephan 2016). In the study (Kibalchenko & Eksakuto, 2015), it was concluded that the emergence of new entrepreneurs is directly proportional to the availability of abilities for this activity, as well as the corresponding intentions, due to internal motivation to conduct business independently. The article (Alexandrova & Verkhovskaya, 2015) examines the positive impact on people's entrepreneurial activity of having an acquaintance with existing entrepreneurs. In addition, this article shows the negative impact on people's entrepreneurial activity of fear of unsuccessful activities.

Analysis of previous research has suggested that the availability of opportunities and abilities for entrepreneurship, familiarity with entrepreneurs, as well as the appearance of people's entrepreneurial intentions have a directly proportional impact on the emergence of new entrepreneurs. In turn, the fear of failure in business constrains the entrepreneurial potential of people.

In general, above mentioned research allows us to conclude that it is appropriate to study the existing social values of entrepreneurship in various countries and the potential intentions of its development. Based on this, the purpose of the study presented in this article was to develop proposals for using the corresponding complex indexes for each country to assess these social values and potential business intentions.

**Methodology and design**

To assess the opinion of the population about the role of entrepreneurship in socio-economic and social life, as well as the feasibility and desirability for adults to create their own businesses in different countries, the author suggests using two fundamentally new complex indexes, respectively: the index of the social significance of entrepreneurship and the index of the potential for entrepreneurship development.

An analysis of previous studies, some of which are discussed in the previous section, showed that the social significance of entrepreneurship can be characterized by the following four indicators:

- the first indicator is entrepreneurship as a good career option. It describes the percentage of adults who believe that their country's business careers are generally more successful than those of employees;
- the second indicator is the high status of successful entrepreneurs. This indicator describes the percentage of adults in the country who believe that these entrepreneurs have a high social status in society;
- the third indicator is a positive attitude to entrepreneurship in the media. It describes the percentage of adults who believe that most of the materials published with the media positively describe the activities of entrepreneurs;
- the fourth indicator is an easy start of a new business. The indicator describes the percentage of adults in the country who believe that starting a business in their country is not associated with any difficulties.

The potential for entrepreneurship development can be characterized by the following five indicators:
the first indicator is the perceived opportunities for starting a business. It describes the percentage of adults who see good prospects for starting a business in their country; 
- the second indicator is self-assessment of entrepreneurial abilities. This indicator describes the percentage of adults in the country who, in their own opinion, believe that they have enough necessary skills and knowledge to start a business; 
- the third indicator is the fear of failure in business. It describes the proportion of adults who view their business opportunities positively, but are afraid to be entrepreneurial, that is, they are afraid of failing along the way; 
- the fourth indicator is the relationship with the business community. The indicator describes the percentage of adults in the country who are personally familiar with at least one person who started a business in the last two years; 
- the fifth indicator characterizes the presence of the population of the country's intentions to start their own business. It describes the percentage of adults who are not entrepreneurs who expect to join this activity in the next three years.

Socio-economic research conducted in accordance with the Global entrepreneurship monitor project is of great importance in the study of modern entrepreneurship in different countries. These surveys include a large number of indicators that describe the activities of people who are the creators of their business. The indicators that were collected during the monitoring process included indicators describing the social significance of entrepreneurship and its development potential. We are talking about the results of surveys of adults (aged 18 to 64 years), which show the values of each of the nine indicators considered above for different countries.

Our study used the information provided in tables 8 and 10 of the corresponding project for 2018 (Global Entrepreneurship Monitor, 2019). This project presents data for 48 countries, which is almost a quarter of the total number of independent countries. These countries are distributed by region as follows: Europe - 20 countries, Latin America-9 countries, Asia and Oceania-12 countries, Africa-5 countries, North America-2 countries. They belong to one of three main income groups: 30 countries had high incomes, 11 countries had average incomes in 2018, and 7 countries had low incomes. For each country, at least 2000 randomly selected adults were interviewed during the survey.

The index of social significance of entrepreneurship \( I_1 \) is proposed to be calculated based on the values of four indicators given in table 8 (Global Entrepreneurship Monitor, 2019) using the formula:

\[
I_1 = \left( \frac{S_{11} + S_{12} + S_{13} + S_{14}}{100} \right) / 4
\]

(1)

where \( S_{11} \) - an indicator of entrepreneurship as a good career option; \( S_{12} \) - an indicator of the high status of successful entrepreneurs; \( S_{13} \) - an indicator of a positive attitude to entrepreneurship in the media; \( S_{14} \) - an indicator of an easy start of a new business.

It is taken into account that the growth of each of the indicators has a positive effect on the value of the first complex index.

It is proposed to calculate the business development potential index \( I_2 \) based on five indicators listed in table 10 (Global Entrepreneurship Monitor, 2019) using the formula:

\[
I_2 = \left( \frac{S_{21} + S_{22} + S_{23} + S_{24} + S_{25}}{100} \right) / 5
\]

(2)

where \( S_{21} \) - an indicator of perceived opportunities to start a business; \( S_{22} \) - an indicator of self-assessment of entrepreneurial abilities; \( S_{23} \) - an indicator of fear of failure in business; \( S_{24} \) - an indicator of communication with the business community; \( S_{25} \) - an indicator of intentions to start your own business.

It is taken into account that the growth of the first, second, fourth and fifth indicators included in the index of social significance has a positive effect on it. The growth of the indicator, which reflects
the fear of failure in business, affects the second complex index negatively.

The values of both proposed indexes can vary from 0 to 1.

Three hypotheses were tested during the study:

− hypothesis 1 - currently, there are significant differences in the values of the first and second complex index in different countries;
− hypothesis 2 - the values of each of the complex indices are not determined by the geographical location of countries;
− hypothesis 3 - the values of each of the complex indices do not depend on the level of economic development of countries.

These hypotheses were based on the modeling of empirical data using the density function of the normal distribution. The development of these functions, as shown by the author's previous work, allows us to obtain unbiased characteristics of the studied economic processes. The methodology for using normal distribution density functions to estimate specific indicators is given in the article (Pinkovetskaia et al., 2019b).

At the final stage of the study, a comparative analysis of the values of complex indices for Russia and foreign countries was carried out.

Results

This paper presents models developed by the author. The development of these models was based on the results of calculations of the values of the complex indexes proposed by the author according to the global entrepreneurship monitoring data for 2018. As models, we developed functions \( y \) that characterize the normal distribution of the values of the complex indexes \( I_1 \) and \( I_2 \) for 48 countries under consideration:

\[
y_1(I_1) = \frac{3.67}{0.10 \times \sqrt{2\pi}} e^{-\frac{(I_1-0.58)^2}{2 \times (0.10)^2}} ;
\]

\[
y_2(I_2) = \frac{3.85}{0.11 \times \sqrt{2\pi}} e^{-\frac{(I_2-0.44)^2}{2 \times (0.11)^2}} .
\]

Three tests were used to check the quality of the developed models (3) and (4). The corresponding calculations showed that the calculated values of the Kolmogorov-Smirnov test statistics are 0.047 and 0.076, respectively. These values are smaller than the table value of 0.152 (significance level 0.05). The calculated values for the Pearson test are 0.94 and 2.25, which is significantly less than the table value (9.49). The calculated values of statistics for the Shapiro-Fork test exceed the table value of 0.93 (with a significance level of 0.01). Econometric analysis of these three tests showed high quality of functions (3) and (4).

Using the density functions of normal distribution (3) and (4), estimates were obtained showing the values of complex indices that characterize the social significance of entrepreneurship and its development potential in various countries achieved in 2018 (table 1). The average values are shown in column 2 and column 3 of this table shows the intervals for changing index values for most (68%) countries.

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Average value</th>
<th>Values specific to most countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social significance of entrepreneurship</td>
<td>0.58</td>
<td>0.48-0.68</td>
</tr>
<tr>
<td>Potential development of entrepreneurship</td>
<td>0.44</td>
<td>0.33-0.55</td>
</tr>
</tbody>
</table>

Note: Developed by the authors
As shown in table 1, the average value of the index of social significance of entrepreneurship in the countries under review is significantly higher (by 32%) than the average value of the index of potential for business development. This indicates that the opinion of respondents surveyed in the survey about the social values of entrepreneurship is higher than their desire and ability to create their own business.

The average value of the index of social significance of entrepreneurship in 2018 was 0.58. That is, more than half of the people surveyed in 48 countries believed that the social value of entrepreneurial activity in their countries is quite high. At the same time, in most (68%) countries, the index of social significance of entrepreneurship was in the range from 0.48 to 0.68. The level of this index higher than the upper limit of the interval (from 0.68 to 0.75) shown in column 3 of the table was observed in countries such as the United Arab Emirates, the Netherlands, Poland, Egypt, Saudi Arabia, Angola, Sudan, Indonesia, and Thailand. That is, in these countries, more than two-thirds of the population have a positive perception of business activity. Values of this index smaller than the lower limit of the interval (from 0.46 to 0.40) occurred in Japan, Croatia, Uruguay, Iran, Argentina, Puerto Rico, Slovakia, Panama, Spain. Note that even in these countries, there is a fairly high level of public approval of entrepreneurship.

The average percentage of people who have the desire, ability and opportunity to start a business in accordance with self-assessment in the countries under review was 0.44. Consequently, just under half of adults in 48 countries reported in the survey that they were potentially ready to start their own business. At the same time, in most (68%) countries, the business development potential index was in the range from 0.33 to 0.55. The level of this index higher than the upper limit of the interval (from 0.55 to 0.74) shown in column 3 of the table occurred in 2018 in countries such as Indonesia, Guatemala, Colombia, Chile, Peru, Sudan, Angola, and Saudi Arabia. Low index values (from 0.20 to 0.33) were observed in Italy, Greece, Russia, Bulgaria and Japan.

The above data showed significant differences in the values of each index by country. The values of the index of social significance of entrepreneurship were in the range from 0.40 to 0.75 for various countries. And the values of enterprise development potential index ranged from 0.20 to 0.74. This large differentiation in the values of this index may be due to different requirements for the knowledge and personal qualities of entrepreneurs in different countries. In General, the significant differentiation of the values of the first and second indices confirms the hypothesis 1 put forward earlier.

Analysis of the values of the index on social significance of entrepreneurship showed that these values are not related to the territorial location of countries. For example, high levels of the index are observed in Europe (Netherlands, Poland), Asia (Indonesia, Thailand, Saudi Arabia, UAE) and Africa (Angola, Egypt, Sudan). Low values of this index occurred in Europe (Croatia, Slovakia, Spain), Asia (Japan, Iran, Uruguay) and Latin America (Argentina, Puerto Rico, Panama). A similar situation is noted in the index of business development potential. The highest levels of the index were in Asia (Indonesia, Saudi Arabia), Latin America (Colombia, Chile, Guatemala, Peru), and Africa (Sudan, Angola). Low index values were observed in Europe (Italy, Greece, Russia, Bulgaria) and Asia (Japan). Thus, hypothesis 2 was confirmed.

Analysis of the values of the index social significance of entrepreneurship showed that these values are not related to the level of economic development of countries. Thus, the highest values of the index were in countries with high (UAE, Netherlands, Poland, Saudi Arabia) and low (Egypt, Angola, Sudan, Indonesia, Thailand) incomes. The lowest values of this index were in countries with high (Japan, Croatia, Spain) and low (Iran) incomes. A similar situation was observed in the business development potential index, which had the highest values in both high-income countries (Saudi Arabia, Colombia, Chile) and low-income countries (Indonesia, Sudan, Angola). The lowest values of the index were in Japan and Italy-high-income countries and Bulgaria, where the population’s incomes are low. Thus, hypothesis 3 was confirmed.

At the final stage, a comparative analysis of the values of the considered complex indexes for Russia and foreign countries was carried out according to the data for 2018 (table 2). For comparative analysis, column 3 of the same table shows the average values for each of the indicators for foreign countries.
Table 2. Comparative analysis of complex indexes

<table>
<thead>
<tr>
<th>Indexes</th>
<th>In Russia</th>
<th>Average values in all countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social significance of entrepreneurship</td>
<td>0.52</td>
<td>0.55</td>
</tr>
<tr>
<td>Potential development of entrepreneurship</td>
<td>0.28</td>
<td>0.44</td>
</tr>
</tbody>
</table>

Note: Developed by the authors

The data shown in table 2 show the similarity of the values of the index of social significance of entrepreneurship in Russia and foreign countries. At the same time, there is a relatively low value of the index of business development potential in Russia. The corresponding value is almost 1.6 times lower than the average value of the index for foreign countries. This situation is largely due to the fact that, as indicated in article (Ponomarev, 2015), most people in our country have no idea about the meaning of business and its role in modern society.

Conclusion

The tasks set in the course of the study were completely solved. The conclusions of the study, which contain scientific novelty and originality, are as follows:

- it is proposed to use the corresponding complex indexes for evaluating the opinions of residents of different countries about social values and potential intentions of entrepreneurship;
- proposed methodology and calculation formulas for calculating the values of indices of social significance of entrepreneurship and the potential of entrepreneurship development;
- calculations of values of indexes of social significance of business and potential of business development for 48 countries were carried out;
- the average values and intervals of change for most countries of the indices of social significance of entrepreneurship and the potential for entrepreneurship development are estimated;
- countries that are characterized by high and low values of these indices have been identified;
- it is shown that the average value of the index of social significance of entrepreneurship in the countries under consideration is significantly higher than the average value of the index of the potential for business development;
- it is proved that the values of each index are significantly differentiated by 48 countries considered;
- confirmed that there are no dependencies between the values of each index and factors such as the level of income of the population in specific countries and their geographical location;
- the similarity of the values of the index of social significance of entrepreneurship in Russia and foreign countries is shown, as well as the lower value of the index of the potential for business development compared to most of these countries.

The results of the study have a certain theoretical and applied value. The proposed indexes and formulas for their calculation can be used in subsequent studies. The new knowledge obtained can be used in the educational activities of higher and secondary special educational institutions. The government, regional and municipal authorities can apply the results of the study in the development and implementation of projects and programs for the development of entrepreneurship.

References