Anatomy of entrepreneurial activity and challenges of the new century

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Abstract

Recent research of entrepreneurial activity is undoubtedly among the most dynamically developing areas of socio-economic studies and this is well maintained by the number of published papers, researchers attending panel discussions on entrepreneurial activity, and the growing lists of international peer review journals and conferences. However, along with the entrepreneurship legitimization problems, so far, prospects for development of entrepreneurial activity research remain uncertain. Changes in methods and structure of this research mostly relate to the fact that Russia is undergoing a large-scale development of statistical methodologies to ensure consistency of the country's statistics with international standards, and those of OECD as such, improve National Accounts System along with demographic data and National Healthcare statistics, design methodology for basic tables "costs-output", and for statistical surveys of workforce, quality of life and households. In order to align with the business-logic and obtain timely and reliable statistical data on entrepreneurship, we find the conducted work critically important to meet current challenging issues. From this perspective, the research of anatomy of entrepreneurial activity can become a key element of the economic development evaluation and address the challenges of the modern society.

Keywords: statistics, entrepreneurship, entrepreneurial activity, economy, challenges.

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1 Introduction.

Entrepreneurial activity has proved to be a critical index to measure economic efficiency; indeed, businessmen form a social group that plays a crucial role in building economic well-being of a society. The very term of entrepreneurship implies exploration, search for optimal conditions, and maximizing resources, all of which are vital in our dynamically developing 21st century, and as a result, this area of studies has gained increased relevance in the modern world. This research aims at evaluating changes of entrepreneurial activity in Russia in 2008-2016, spreading the knowledge about indicators of entrepreneurial activity in the country and

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defining attitude to entrepreneurs and entrepreneurial activity in the society.

2 Methodology (materials used, description of the subject, methods and techniques of research).

Today, the best approach to define entrepreneurial activity in compliance with statistics is presented by S. Voinova and I. Savelieva "Evaluation of entrepreneurial activity: identification and types of economic activities" (Voinova and Savelieva, 2012), the authors were the first to tackle entrepreneurial activity as a specific economic indicator (indicators of entrepreneurial activity, grouped by types of economic activity and Russian Federation regions). According to the authors, the index of entrepreneurial activity evaluates entrepreneurship and intensity of its performance. Moreover, analysis of other definitions of entrepreneurial activity (Smelov et al., 2017; Sibirskaya et al., 2015; Stroeva et al., 2015; Harrisson et al., 2012; Joel and Bogers, 2014; London et al., 2010; Moss, 2005), leads to the following inferences: entrepreneurial activity can be measured, it is related to the population, and it fulfills its own functions, shows intensity of entrepreneurship, and drives the economy.

This research approaches entrepreneurial activity based on the information by Russia's information database - Statistical Register of Economic Entities of Federal State Statistics Service of the Russian Federation (Rosstat). The register is a database of economic entities, established and registered on the territory and under the law of the Russian Federation. In 2014, according to the recommendations of Statistical Office of the European Union (Eurostat) and Organization for Economic Co-operation and Development, Rosstat developed the official statistical methodology to produce indicators of business demography purposed at studying entrepreneurial activity as the number of high-growth enterprises and the number of their employees in the framework of demographic events (birth and death of enterprises).

Once the methodology was approved, Federal State Statistics Service released the initial business demography indicators (pilot project for 7 regions), from 2017 general information on Russian Federation is regularly updated with growth indicators evaluating the number of employees especially highlighted (high-growth enterprises; high-growth enterprises, including "mice enterprises"; enterprises with high growth potential; enterprises with high growth potential, including "gazelles"[5] enterprises) and growth evaluation by turnover in the same

[5]Enterprises with high growth potential are the enterprises, which maintain employees' growth or turnover rate at 10% a year within three years. High growth enterprises are the enterprises with an average annual growth higher than 20% within three years. "Gazelles" are a subgroup of high growth enterprises of five years and younger, i.e. all enterprises of four or

group. This paper applies the method of statistical observation of 2008-2016 business demography data. The tool for researching entrepreneurial activity in the world economy is Global Entrepreneurship Monitor (GEM 2015 Global Entrepreneurship Monitor (2016). The leading scientists of the UK, the USA, Finland and Ireland launched this project for country-specific studies of entrepreneurship and information exchange in 1997, and in 2016, it involved 66 countries with 69% of the world's population and 85% of the world's GDP. Russia has been carrying out these studies since 2006.

Two methods of collecting information were utilized: 1) surveys of adult working-age population with specially designed questionnaires (Adult Population Surveys — APS); 2) expert surveys (National Expert Surveys — NES), i.e. interviews of entrepreneurs and entrepreneurship experts.

3 **Findings.**

The indicators such as the overall number of enterprises and the number of sole proprietors can describe the country's level of entrepreneurial activity, since the individual entrepreneurship provides a more comprehensive understanding of the level of entrepreneurial activity among population. Table 1 shows the trends in the number of enterprises in the Russian Federation by Rosstat data. Table 1 shows that the number of enterprises in the Russian Federation decreased in 2007-2012, with 2008 plunge stemming from the world economic and financial crisis. The year of 2013 also demonstrates a drop in the number of organizations in the Russian Federation. However, Rosstat data in Table 2 shows a slight increase in the number of sole proprietors in 2016.

Table 2 also shows a fall in the entrepreneurial activity in Russia in 2008-2011, while in 2012 there was an increase in the number of individual entrepreneurs, 2013-2014 also witnessed a decrease of the indicator. In 2016, the situation levelled off and then showed an upward trend. The key indicators of entrepreneurial activity in the Russian Federation are the above-mentioned coefficients of birth and death of businesses per 1000 organizations. As can be seen from Fig.1, the average birth rate is 102 with that of death at 70. However, 2016, first for the period of the study, witnessed the death index higher than the birth figure (by 53 companies). Prospects for birth are lower than in 2015 when 102 companies were registered

five years with an average annual growth of 20% and up within three years, should be identified as "Gazelles". An average number of employees and turnover measure the growth. In addition, to avoid the undercount of a large number of high growth enterprises, they are identified within the group of enterprises with five to ten employees at the beginning of the growth period. These enterprises are called "mice".

per each 1000 existing organizations (Simonova et al., 2016).

Table 1. Changes in the number of enterprises and organizations (business entities) in the Russian Federation in 2008-2016 (Rosstat, 2018).

Years	Indicator, unit	Growth ratechained, %	Growth rate, basic, %	Rate of increase chained, %	Rate of increaseb asic, %	Absolute value of one percent of the increase
2008	94341.00	-	-	-	-	-
2009	93707.00	99.33	81.49	-0.67	-18.51	943.41
2010	92007.00	98.19	80.01	-1.81	-19.99	937.07
2011	90745.00	98.63	78.92	-1.37	-21.08	920.07
2012	89868.00	99.03	78.15	-0.97	-21.85	907.45
2013	92242.00	102.64	80.22	2.64	-19.78	898.68
2014	86471.00	93.74	75.20	-6.26	-24.80	922.42
2015	84222.00	97.40	73.24	-2.60	-26.76	864.71
2016	83333.00	98.94	72.47	-1.06	-27.53	842.22

Table 2. Operating sole proprietors in the Russian Federation in 2008-2016[6] (Rosstat, 2018).

Years	Indicator, ‘000 people	Growth rate chained, %	Growthr ate, basic, %	Rate of increase chained, %	Rate of increaseb asic, %	Absolute value of one percent of the increase
2008	2742.00	-	-	-	-	-
2009	2663.90	97.15	97.15	-2.85	-2.85	27.42
2011	2505.10	94.04	91.36	-5.96	-8.64	26.64
2012	2602.30	103.88	94.91	3.88	-5.09	25.05
2013	2499.00	96.03	91.14	-3.97	-8.86	26.02
2014	2413.80	96.59	88.03	-3.41	-11.97	24.99
2016	2523.60	104.55	92.04	4.55	-7.96	24.14

In 2016,the business demography data reflected a sharp increase in the number of liquidated companies compared to the newly registered ones. This new trend emerged for the first time from 2009, and, therefore, was not observed even in the recession of 2008-2009. However, it should not be interpreted as a negative trend only. The table below shows a selective analysis of entrepreneurial activity among “Gazelles”, data collected in a pilot project according to ROSSTAT information. “Gazelles” appear to be an illustrious example

[6] Data for 2010 and 2015 are not available; a statistical survey was not conducted.

of a healthy and mass-scale Russian business that today has affected the country's economy both in quantitative, gauged by GDP and employment growth, and qualitative, with launched and transferred innovations, factors.

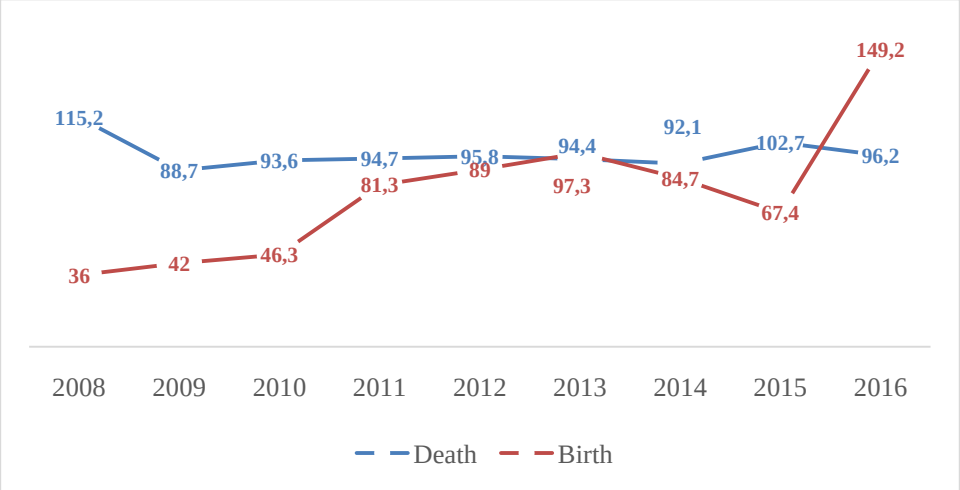

Fig.1. Trends in birth and death rates. (National report. Global Entrepreneurship Monitor. Russia 2016/2017, 2018).

Table 3. "Gazelles" enterprises (evaluation by turnover) in 2016 (Rosstat, 2018).

Region of the Russian Federation	Gazelles
Astrakhanskaya oblast	56.00
Belgorodskaya oblast	44.00
Vologodskaya oblast	54.00
Novosibirskaya oblast	923.00
Permskiy kray	60.00
Republic of Tatarstan	289.00
Sverdlovskaya oblast	610.00

Analysis of Table 3 reveals that in 2014 Novosibirskaya oblast boasted the top position among 7 regions of the Russian Federation by the number of "gazelles" enterprises (923 companies) with wholesale and retail trade as the most popular type of business (30% of all gazelles), while education was defined as the least popular. Fig. 2-5 show life style and interaction types of enterprises by the pilot project data as a study of the anatomy of entrepreneurial activity. However, the model of Global Entrepreneurship Research suggests

dividing indicators of entrepreneurial activity by individual and national characteristics showing how entrepreneurs are perceived and valued in a society (Shirokova et al., 2014).

In 2016 estimation of opportunities for opening a business was indicated as 17.9%. while perception of the business environment in the place of residence as favorable dropped if compared to 2014. when more than a quarter of the respondents estimated it positively. also slightly more than a quarter (28.4%) believed that their knowledge and experience were sufficient to start their own business. This indicator remained stable during the period of studies fluctuating from 22.7 in 2010 to 33.2 in 2011.

Fig.2. Trends in individual entrepreneurship characteristics[7]. (National report. Global Entrepreneurship Monitor. Russia 2016/2017.2018).

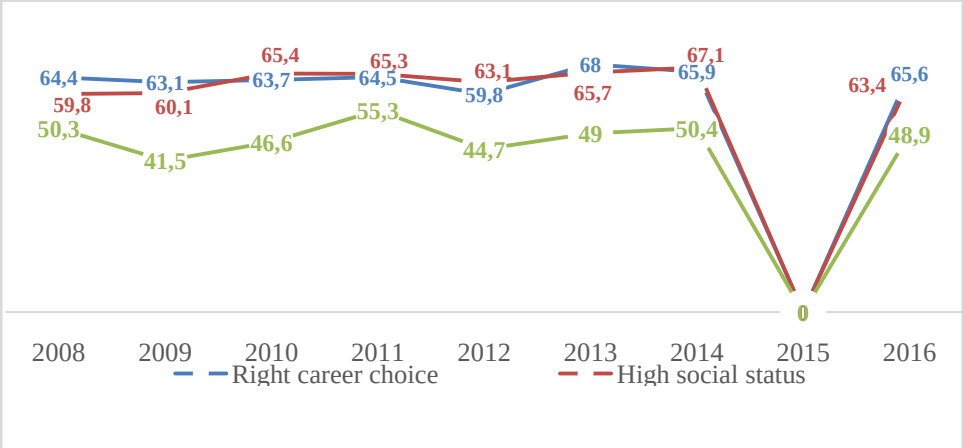

Fig.3. Trends in individual entrepreneurship characteristics. (National report. Global Entrepreneurship Monitor. Russia 2016/2017.2018).

[7] No research was conducted in 2015 and official data are not available(Fig. 3-6).

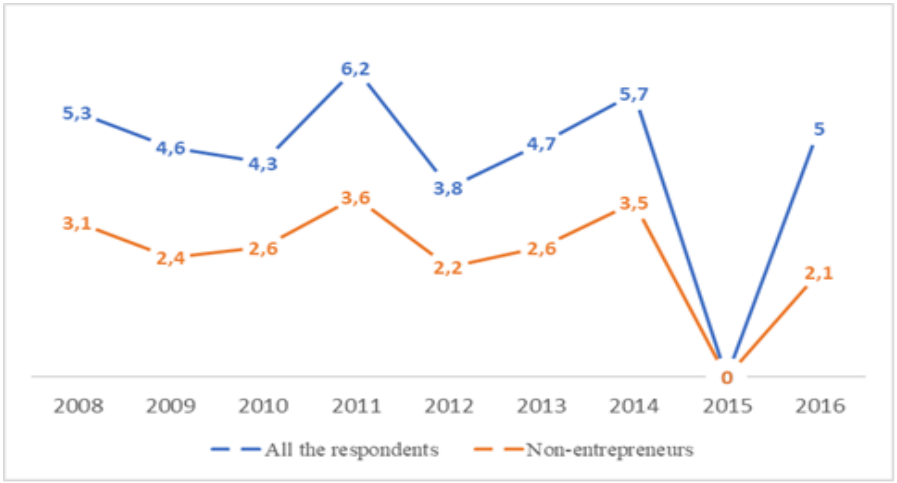

Fig.4. Trends in national entrepreneurship characteristics. (National report. Global Entrepreneurship Monitor. Russia 2016/2017. 2018).

Compared to 2014. 2016 saw a decrease of respondents deterred from starting their business by the fear of failure (from 59.1 to 55.3). However. the largest part of the surveyed noted that it was the fear of failure that kept them from going into entrepreneurial activity. During the period of studies. the majority of Russians highly valued an entrepreneur's status and deemed entrepreneurial career appealing. In 2016 65.6 and 63.4% of Russian citizens agreed with this opinion. which is 1.5 and 2.5% fewer than in 2014.

Also fewer than half of the respondents stated that mass media fairly often released informative publications about entrepreneurs who were able to start their business from scratch and became leaders in their industry. if referred to numbers. the highest figure of "Media attention to entrepreneurship" was recorded in 2011 (55.3) and the lowest in 2009 (41.5). As for the indicator of "entrepreneurial intentions". Fig. 5 illustrates the trends among all the interviewees and a group of non-entrepreneurs.

The carried out study demonstrates that there was a decrease in the birth rate of enterprises in the Russian Federation with a fluctuation of the death rate indicator and its slight upward trend. i.e. the key business demography indicators experienced a downward trend showing a decline in the entrepreneurial activity in the country.

The above-mentioned indicators are very important for cross-country comparisons for Global Entrepreneurship Monitor (GEM 2015 Global Entrepreneurship Monitor. 2016). which is used as an international information database. and. at present. it has become one of the most reliable and influential sources of information on entrepreneurial activity (Table 4).

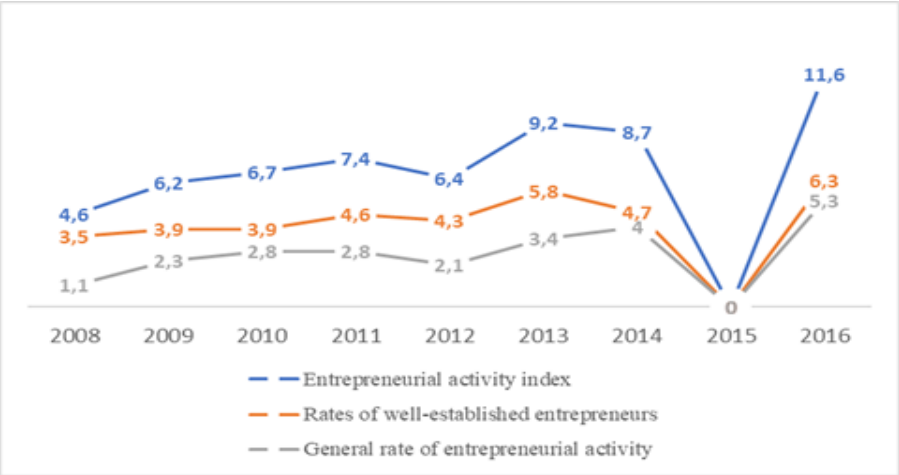

Fig. 5. Trends in entrepreneurial intentions. (National report. Global Entrepreneurship Monitor. Russia 2016/2017.2018).

Table 4. GEM countries by types of economy. (GEM 2015 Global Entrepreneurship Monitor. 2016).

Economy type	Economy factors	Countries
Factor-driven economy	Prices. traditional economy factors	Angola. Bolivia. Bosnia and Herzegovina. Columbia. Ecuador. Egypt. India. Iran
Efficiency-driven economy	Efficient production. labour intensity. education system aligned with economy. new markets and technologies	Argentina. Brazil. Chile. Croatia. Dominican Republic. Hungary. Jamaica. Latvia. Republic of Macedonia. Mexico. Peru. Romania. **Russia**. Serbia. South Africa. Turkey. Uruguay.**Kazakhstan**
Innovation-driven economy	Innovations. high-tech manufacturing and markets	Belgium. Denmark. Finland. **France. Germany.** Greece. Iceland. Ireland. **Israel.** Italy. Japan. Korea. Holland. Norway. Slovenia. Spain. **Switzerland**. **the UK**. **the USA**

Conclusion.

According to the "great challenges" logic and high expectations from the development of science, technology and innovations, we expect entrepreneurs not only to adequately address existing problems but also rather to boost quality of life and humanity development beyond

the limits of the present day. Comprehension of the anatomy of entrepreneurial activity by scientific and research community from the perspective of business demography as a structure (high-growth enterprises; high-growth enterprises. including "mice enterprises"; enterprises with high growth potential; enterprises with high growth potential. including "gazelles" enterprises), a composition (indicators of entrepreneurial activity grouped by the types of economic activity and Russian Federation regions), life style (indicators split by individual and national characteristics) and a type of interaction (how entrepreneurs are perceived and valued),enables to beneficially utilize this knowledge and enhance the quality of life.

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