

Structural Analysis of the Sector of High-Performance Enterprises and Gazelles in Russia in the Context of New Industrialization

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Abstract—The paper analyzes the structure of the sector of high-performance enterprises and gazelles in Russia. The analysis was based on theoretical and methodological studies of gazelles and factors affecting their development. The sector of high-performance enterprises and gazelles is the basis of the new industrialization of the economy, since gazelles are emerging in the crisis phase, and their heyday and maturity coincide with the growth phase. An analysis of the statistical data has shown the conformity of the size of the gazelle sector in Russia and abroad. Evaluation of the sector of high-performance enterprises and gazelles was carried out based on turnover and employment indicators. An analysis of the branch structure of this sector has shown the predominance of gazelles in both parameters in the services sector. A significant proportion of high-performance enterprises are in the field of information and communication, scientific and technical activities, which confirms the role of this sector in the implementation of new industrialization. The findings are consistent with the results obtained in other countries in the study of gazelles. The great importance of gazelles for the country's economy determines the need to create economic and institutional conditions for the development of this sector.

Keywords—*high-performance enterprises, gazelles, economic development, institutional conditions, new industrialization.*

I. INTRODUCTION

Worldwide, small and medium-sized enterprises are seen as a source of development and innovation. SME create a competitive environment in the markets and contribute to employment growth. Small and medium-sized enterprises are flexible and respond quickly to crises and changing business conditions. Since the current stage of economic development is associated with the processes of new industrialization, high-performance medium-sized companies, which have been

called “gazelles” in economics and practice, are of particular interest.

Gazelles not only conduct research activities themselves, but they are also R&D integrators of domestic and foreign companies. The increase in the number of gazelles is observed during economic crises, and the growth and high business activity of these companies occur in and provide for the growth phase of the national economy. Since the new industrialization is a transition to a new technological order and involves the formation of the innovative type enterprises, reliance on gazelles may become the main industrial policy of the country. Overall, the dynamics of gazelles and the sustainability of this sector determine the prospects for the development of the national economy and the efficiency of its industry, and hence the effectiveness of the new industrialization of the Russian economy.

The purpose of the paper is to study the function of gazelles and the dynamics of their development in Russia for the subsequent determination of measures of State support for the sector.

II. REVIEW

The term “gazelles” first appeared in the research of D.L. Birch [1]. He found that new jobs are created mainly in high-performance small and medium-sized enterprises—“gazelles”. Traditionally, “gazelles” have the following features:

- the turnover is not less and the turnover growth rate should be 10-30%;
- number of employees and employment growth rate are 20%;
- sustainability of growth—the company's growth should be annual for 4-5 years;

- innovative activity in the market, including the ability to sustainably generate a stream of innovations over several years.

Currently, statistics of most countries have data on the development of the gazelle sector: statistical observations are being conducted in the EU [2], OECD [3], Canada, and the USA. This has been confirmed in other studies. D.-R. Petersen, N. Ahmad [4] investigated the growth and employment thresholds used by the OECD and Eurostat in defining high-performance enterprises and gazelles and confirmed the following criteria: a growth threshold of 20% and employment of 10 or more employees.

The first group of studies is aimed at studying the nature of gazelles. A.M. Moreno and J.C. Casillas (2000) were among the firsts to identify the qualitative features of gazelles [5] in the light of three different theoretical foundations: the growth model of a company; strategic analysis and the sphere of entrepreneurship, and they also proposed a model for analyzing the growth of gazelles based on the analysis of external and internal variables. T.D. Boston and L.R. Boston (2007) presented a classification of growing and non-growing companies and noted the strategic features of gazelles [6]. Researchers E. Autio, W. Hözl (2008) note that the gazelle sector is small and ranges from 3% to 10% of active companies, but they matter because they are the drivers of economic growth: their contribution to economic development ranges from 50% to 80% [7]. S. Janczak, F. Bares (2010) [8] examined the influence of organizational and institutional factors on the dynamics of gazelles. A. Bornhäll, S.-O. Daunfeldt, N. Rudholm (2014) [9] defined the concept of sleeping gazelles that appear in local markets, markets with greater uncertainty of profits, and highly concentrated markets, while regional conditions are not important for the appearance of sleeping gazelles.

The second group of studies is related to the analysis of the development of gazelles in national economies. M. Krošláková, V. Kubičková, L. Jurkovičová, N. Kubinyi (2015) investigated the gazelle sector in the Czech Republic [10]. The study noted that during the recession, gazelles demonstrated a counter-cyclical reaction. R.L. Clayton, A. Sadeghi, D.M. Talan, J.R. Spletzer (2013) [11] analyzed the sector of high-performance companies in the United States. S. Côté, J.M. Rosa (2017) investigated the sector of high-performance enterprises in Canada during the period 2009-2012 [12]: the sector of high-performance enterprises found a disproportionate contribution to the overall change in net employment. The specifics of the development of Russian gazelles are reflected in the studies of A.Yu. Yudanov [13], I.V. Burenina, Ye.A. Byl [14], A. Dolgina [15], A.V. Barsukova [16].

In accordance with the concept of techno-economic waves of C. Perez (2009) [17], the source of development is the formation of new and dynamic technological and product clusters. It is gazelles that correspond to this understanding of economic development.

Thus, the role of gazelles in the economy can be shown in Figure 1. Despite the fact that gazelles are a small sector, they are focused on market success, which determines their innovativeness in solving economic and technological problems.

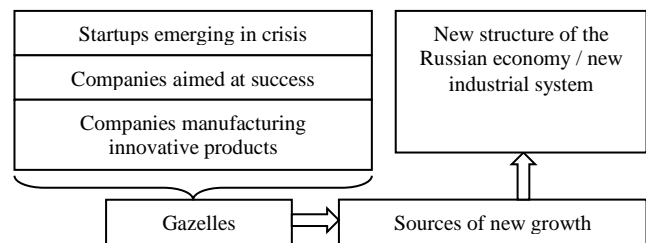


Fig. 1. Gazelles as a source of new growth

The modern Russian economy is already in the initial stages of a new industrialization, in building new industrial policy. New industrialization in research of V.M. Kulkova [18], Y.P. Silina, Ye.G. Animitsa, N.V. Novikova [19], A.I. Popov [20], S.S. Gubanov [21], Ye.B. Lenchuk, V.I. Filatov, G.A. Vlaskin, A.Ye. Ivanov et al. [22] is considered as a long-term strategic industrial renewal based on the technological, innovative, and research business activity. The role of gazelles in new industrialization is determined by the areas in which these companies operate, and under the appropriate institutional conditions, including industrial policy, have the potential to ensure economic development.

Studies of gazelles in developed countries have confirmed general ideas about the small size of the gazelle sector, the small size of high-performance enterprises, and the lack of any sectoral specialization in this sector—high-performance companies have been in very different industries, but they have contributed significantly to employment growth in the services sector.

The third group of research is aimed at studying the conditions for the emergence of gazelles, stimulating their growth. A. Bornhäll, S.-O. Daunfeldt, D. Wikström (2014) have concluded that it is more profitable for the State to focus its policy on small companies and sleeping gazelles, rather than on large companies that have reached growth limits [23]. In the study of V.A. Barinova, A.V. Sorokina, A.M. Shestoporov (2015) [24] considers the formation of a system for financing projects of gazelles, which makes it possible to ensure the continuous management of innovative projects, their information support and maintenance by specialized development institutions. A.Yu. Yudanov, A.A. Yakovlev (2018) note the need to improve the efficiency of public administration and support for the sector of high-performance companies [25].

Thus, the study of gazelles is associated with the inaccuracy of national criteria for evaluating high-performance enterprises, and methods for supporting gazelles should take into account national conditions.

III. METHODS

To achieve this goal, several methods have been used. For the analysis of theoretical and methodological approaches to the analysis of high-performance enterprises and gazelles, we have applied content analysis of research in domestic and foreign literature.

The comparison method and quantitative methods are based on statistical data from the Russian Federation. We have used them to characterize and analyze the sectoral and regional structure of high-performance enterprises and gazelles. The main sources of statistical data that we have used for this purpose are the statistical databases of Rosstat,

submitted for 2017. In order to provide a comprehensive presentation of the results of the comparative analysis, we have applied the method of a graphical review, completed by tables.

To conduct an empirical analysis, there were indicators of active companies, calculated on the basis of employment growth and growth in turnover in all sections of the All-Russian Classification of Economic Activities and regions of the Russian Federation. The number of high-performance enterprises in the Russian statistics is substituted by three groups of high-performance enterprises with high growth potential of “gazelles”.

IV. RESULTS

The analysis of the number of gazelles is shown in Table 1. In Russia, the number of gazelles is small and in 2017, it amounted to 0.06% of the total number of active enterprises according to the employment criterion and 0.14% according to the turnover criterion. The reasons for the decline in the gazelle sector are the unfavorable macroeconomic conditions, the fall in real incomes of the population.

TABLE I. THE NUMBER OF HIGH-PERFORMANCE ENTERPRISES IN RUSSIA, 2017

Indicator	Growth estimate by staff growth		Growth estimate by turnover	
	Number of enterprises	Proportion, %	Number of enterprises	Proportion, %
Active enterprises, total	3,802,007	100 ^a	3,802,007	100 ^a
High-performance enterprises, including “mice” enterprises	67,035	1.76	145,722	3.83
Enterprises with high growth potential	48,268	1.27	115,260	3.03
Gazelles	2,385	0.06	5,493	0.14

^a. Calculated according to Rosstat

Analysis of the structure of growing enterprises shows that, in general, the sector of growing enterprises is quite high in the Russian economy and amounts to 6.6% of the total number of active enterprises by the criterion of employment growth and 14.2% of the total number of active enterprises by the criterion of turnover growth. This is consistent with global trends. The dynamics of the sector of high-performance enterprises is determined by the national characteristics and the phase of the business cycle that the economy has reached.

The sectoral structure of the gazelle sector, calculated by staff growth is shown in Figure 2. The analysis demonstrates the predominance of wholesale and retail trade enterprises (26.7%), manufacturing industries (16%), construction enterprises (12.8%), and the share of enterprises in the service sector amounted to 57.6%. Indicators of the sectoral structure, obtained on the basis of calculation by the growth of turnover of gazelles, amounted to 33.0% for wholesale and retail trade enterprises, 15.9% for manufacturing industries, 11.7% for construction, the share of agricultural gazelles accounted for

5.2%, and the share of enterprises in the services sector—59.6%. The structure of Russian gazelles by type of economic activity is consistent with global trends in the development of this sector: gazelles in a crisis are moving from the manufacturing sector to the services sector.

A positive point is the high proportion of gazelles in the manufacturing industry, as well as the presence of high-performance information and communication companies—3.8% in terms of employment (3% in terms of turnover). In the field of scientific and technical activities, high-performance enterprises account for 7% of enterprises in terms of employment and 6.6%—in terms of turnover, respectively. The share of Russian gazelles in the field of information and communication, as well as in scientific and technical activities, is small and amounts to 3% and 6.5% (in terms of employment) and 2.3% and 5.6% (in terms of turnover), accordingly. The availability of gazelles in high-tech industries associated with new industrialization and the transition to a new technological paradigm demonstrates a possible relationship between new industrialization and the availability of the high-performance enterprises’ sector, including gazelles. However, the lack of statistical information does not allow tracing the dynamics of this sector in Russia and revealing multiplicative effects.

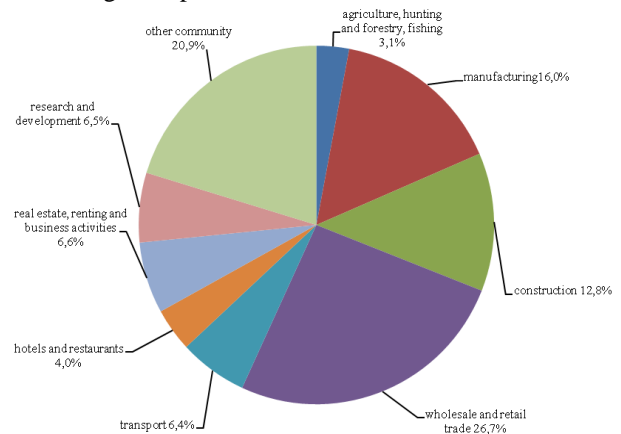


Fig. 2. Sectoral structure of the gazelle sector in Russia in terms of turnover 2017

The share of high-performance enterprises in the total number of active companies in the Russian economy in 2017 is shown in Figure 3. The share of high-performance enterprises by type of economic activities differs significantly when calculating growth in turnover and employment. The largest share of high-performance enterprises accounts for agriculture (21% for turnover growth and 5% for employment growth); 16% of the growth in the turnover of the sector of active enterprises are high-performance enterprises in the manufacturing industry, mining, and education. The share of high-performance enterprises in terms of turnover growth exceeds the share of enterprises in the same sectors, but calculated on the basis of employment growth.

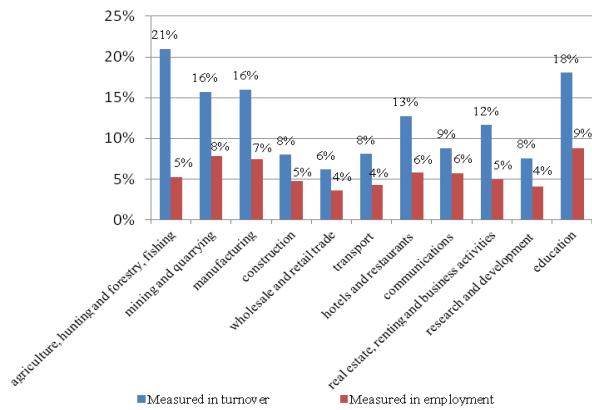


Fig. 3. The share of high-performance enterprises in the total number of active companies by economic activities, 2017

This trend may be due to two factors. Firstly, the growth rate of turnover in high-performance enterprises should exceed the rate of employment growth, which will ensure the growth of incomes of employees engaged in this sector and will help keep entrepreneurs in this area. Secondly, high-performance enterprises can reach the optimal size and go into the category of sleeping gazelles. This leads to a decrease in the number of companies attracting new labor.

An analysis of the ratio of high-performance enterprises and gazelles has shown that the gazelle sector is very small. The share of gazelles in the total number of high-performance enterprises was 0.95% for employment growth and 1.02% for turnover. Analysis of the dynamics of gazelles by selective research conducted by A.Yu. Yudanov [25] has shown a decline in this sector in the Russian economy, which is due to the crisis.

Analysis of the regional structure of gazelles and high-performance enterprises allows us to distinguish two groups of regions. The first group of regions is characterized by a high level of high-performance enterprises with a small number of gazelles; the second group of regions is characterized by a high number of gazelles, with a relatively small number of high-performance companies. Differentiation of regions by the number of gazelles is caused not only by the specialization of regions, but also by the availability of different institutional conditions for business development.

V. DISCUSSION

High-performance companies and gazelles in most economies are rather small. In Russia, the statistics of this sector is in its infancy, which makes it impossible to analyze the dynamic development of the sector of high-performance enterprises and gazelles. The analysis of statistical data is fully consistent with global trends and confirms the prevalence of gazelles in the services sector. Unlike the data of the European Union, Russian gazelles yield higher rates based on turnover criteria. Thus, the problem of the formation of the sector of high-performance enterprises and gazelles is relevant.

The level of differentiation in the sector of high-performance enterprises and gazelles by industries and region in the Russian Federation is quite large. In our opinion, the reason for this situation is the difference in the external conditions of the companies, which also agrees with the general theoretical model of analysis of gazelles. The

conditions for the development of gazelles and high-performance enterprises include not only economic, such as the availability of financial resources, but also organizational and institutional conditions.

The latter include the creation of innovative territorial clusters, which will allow a qualitative change in the structure of demand for gazelle products, as well as the formation of institutional conditions for the development of partnerships between medium-sized and big enterprises, which, as noted in the study of O.V. Komarova, S.A. Chernov, may have significant stability and lead to synergistic interaction effects [26].

Accelerating the innovative development of gazelles in Russia can create in the industry conditions conducive to the emergence of new gazelles, rather than consolidate existing ones, therefore, one of the directions of State policy in the sector of high-performance companies and gazelles should be maintaining a competitive environment.

Improving the competitiveness of gazelles through integration effects and especially the use of the resource base of large corporations for the implementation of favorable business opportunities also creates positive conditions. Examples of this kind correspond to theoretical assumptions: for companies belonging to large structures, greater access to resources leads to an increase in the ability to use development opportunities; hence the main goal of institutional development should be to provide financing for innovation and investment activities of companies.

Institutional support for the high-performance enterprises, including gazelles, will create the basis for new industrialization not only in the basic industries of the new technological paradigm, but also to extend new technologies to the traditional sectors of material production and services.

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