

## The Impact of Institutional Factors on Economic Dynamics in the Regions



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**Abstract.** The article is devoted to the problem of combining institutional and economic features in regional research and forecasting. We substantiate that the importance of institutional factors, including those in the regional context, manifests itself under significant differences in the institutional conditions for business that make it possible to receive stable institutional rent; this leads to the stratification of business by levels of alpha, beta and gamma business. The object of the study is top large business in the region. The distribution of major global and federal companies in the context of regions, as well as the presence of an established group of leaders in the regional economy, requires their separate monitoring and forecasting. We propose our own approach to determining the features of consolidation of large business. We show that the range of dispersion of their levels among regions and over time is significant and can be tens of percent and/or percentage points, which urges researchers to focus on these indicators.

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By comparing the features of consolidation of large business in the regions and using the constructed quantitative estimates, we substantiate the typology of methods (models) of economic growth in regions, depending on the presence or absence of major global, federal, and regional companies in them and their role in regional economy. Theoretical significance of this approach consists in combining the institutional analysis of the architecture of regional markets with the cost and physical aspects of the analysis; this will help improve the quality of diagnostics of regional and interregional problems and the validity of forecasts. Practical significance is determined by the possibilities of taking into account the architecture of regional markets in regional economic policy.

**Key words:** institutions, institutional conditions, institutional rent, alpha business, consolidation of large business, economic growth of regions, institutional geography.

### Introduction

In the analysis and forecasting of spatial development of economy, the focus is usually on macroeconomic, social, and technological indicators. One also considers development trends in infrastructure and mineral resource base, as a rule, in physical indicators. The cultural, historical, climatic, environmental, and geographical characteristics are taken into account. Depending on the objectives of the study, regions are divided into more or less homogeneous groups on the named features, and then are compared with each other (Granberg, 2000; Leksin, Shvetsov, 2012; Mikheeva, 2021).

Institutional factors contributing to regional development are not included in macroforecasts and “gravitate” rather to political science formulations about federalism, electoral preferences or geopolitics or are analyzed in the context of budget, tax, customs, monetary policy (Ilyin, Povarova, 2017; Kuvalin, 2019), issues of reforming various spheres of activity. In this framework, there are disputes between proponents of supporting regions as engines of growth or the need to equalize levels of the territories’ development, agglomerations’ development, and stimulating shifts in the structure of productive forces and the settlement system (Marchenko, Machul’skaya, 2000; Savel’eva,

2012; Zubarevich, 2014). In the same paradigm, the Strategy for the spatial development of the Russian Federation for the period through to 2025 was developed and approved<sup>1</sup>.

From the economic point of view, the institutional space of the country is usually perceived as generally homogeneous (taking into account the separation of powers between the federal, regional and municipal levels), and its change – depending on the political will of the legislative and executive powers. Within the framework of the existing institutions, the current management system and its strategic lines of development are characterized by a large weight of “core–periphery” links and relatively weak transregional interaction (Barbashova, Gerasimova, 2018; Klimanov et al., 2021).

However, presenting the institutional space of the country as homogeneous is a strong simplification, because of which institutions are usually considered separately from other factors contributing to economic development. Institutional space, on the other hand, is usually presented as a metaphor not connected to the territory. At the same time, in economic science there is an established opposition of geographical and institutional aspects in determining the most significant factors influencing economic growth.

<sup>1</sup> Strategy for the spatial development of the Russian Federation through 2025: RF Government Order 207-r, dated February 13, 2019.

D. Frolov points to the incorrectness of this opposition caused by historical scientific specialization: “Economic geographers for many years massively neglected to take into account the role of institutions in spatial development. For their part, institutional economists, while emphasizing changes in institutions over time, ... have largely abstracted from the territorial specificity of individual institutions and the institutional environment as a whole” (Frolov, 2015).

A number of foreign works consider institutional differences from a country perspective (Busenitz et al., 2000; Freeman, 2002; Wind et al., 2017). Institutional differences between regions within one country tend to be significantly less pronounced (Lugovoy et al., 2007). Institutional differences between regions are mostly studied in the aspect of heterogeneity of the cultural environment to form regional approaches to governance (Schlevogt, 2001; Peterson, van Iterson, 2015).

We should note that there is no certainty about what constitutes the content of spatial economics and what is its place in economics. The existing approaches within the regional economy do not meet the need to describe the spatial aspect of multi-dimensional economic systems in modern conditions (Minakir, Dem’yanenko, 2010). Even more these problems relate to institutional economic geography, which is still in its infancy (Sheppard, 2008). Therefore, the development of the methodological basis and the formation of new approaches to institutional research in the spatial context seem to be urgent tasks.

P. Minakir believes that the dichotomy of institutional space is similar to the “wave–particle” duality in quantum mechanics and should be considered in the case of an explicit transition in management practice to the position of spatial dichotomy: “space – set of places – space – system of relations” (Minakir, 2016). But for using such properties, in particular to design strategies for regional development, it is necessary to develop

approaches to its study, including the allocation of institutional factors contributing to spatial development and their analysis. Here we can refer to the experience of geographical science, where it is customary to speak of such properties of geographical space as continuity and discreteness, equally inherent in the objects of geography (Armand, 1969). By the first is meant the absence of discontinuities of space, and the second is expressed in the presence of discontinuities, the localization of habitats. And P. Baklanov talks about their varying degrees in all types of geosystems (Baklanov, 2015), with the universality of such properties of geographical space applies to both natural and socio-economic territorial complexes. Thus, we can divide the institutional space in the framework of the named dichotomy into regions (areas) with approximately homogeneous institutional environment, that is, with a characteristic value of the institutional indicator. It is possible to consider the territory under study as a continuous field of values of such indicators. The use of one or other approaches, as well as their combination for mapping the institutional space can become a methodological basis for the development of institutional geography.

The article substantiates that institutional analysis can and should play a major role in the study and forecasting of the spatial development of the Russian economy. Expanding the scope of its application and combining it with the cost, social and material aspects of analysis, as well as the formation of methodological approaches to the study of institutional factors in the spatial aspect will improve the quality of assessment of regional and interregional problems, the validity of forecasts and the overall effectiveness of regional policy.

#### **Institutional heterogeneity of the economy in the regional context**

When studying the institutional space, the focus should be on the existing differences in the institutional conditions for business in the regions,

rather than comparing the existing institutions to some “reference” ones. This approach is consistent with the ideas of economic dominance theory in a multilevel economy (Blokhin, 2019; Blokhin et al., 2019; Vertogradov, 2020). According to this theory, businesses operating in the best institutional conditions receive institutional rents and, because of this, dominate the rest. The differences in conditions are manifested primarily in the availability of cheap funding, government support, more modern technology, any other quality resources. Yaremenko (Yaremenko, 1981) wrote about the replacement of quality resources by mass resources in the Soviet economy, but similar patterns apply to all major economies and even to the global economy (Blokhin, 2019).

Receiving institutional rent as an additional income and source of its development, business grows ahead of others, invests more, including in changing the rules and institutions that consolidate its leadership position. According to this theory, the economy is “stratified” into levels of alpha-, beta-, and gamma-businesses depending on the institutional conditions of their existence. Barriers are formed between the levels, which can become insurmountable – “locking” businesses in their level as in “institutional traps” (Polterovich, 1998).

In the regional context, the significance of institutional factors is determined by how they change differences between regions – strengthening or weakening them, creating conditions for institutional rents and the dominance of some business groups over others and, possibly, of some regions over others. In “neglected” cases, such interregional traps can become the reasons for the formation of depressive territories or other zones of ineffective development.

In its entirety, the task of describing interregional channels for obtaining institutional rent is too complicated, since the natural regional ways of domination: the federal center over the federal constituent entities, the capital over the periphery,

large cities over the suburbs, etc., are superimposed on a complex system of domination in the respective territories by large and large businesses over medium and small businesses. At the same time, the “grid” of such relations depends on the geographical distribution of business not directly, but through the consolidation of large Russian and foreign businesses from various industries in specific regional markets. The relocation of this business activity to new regions, whether it is the relocation of headquarters or the creation of large production units, the formation of growth poles (Perroux, 1968) or the development of related technological chains (Lukin, 2022), sometimes fundamentally changes the regional and interregional system of dominance associated with the architecture of the respective markets (Bourdieu, 2005; Radaev, 2011; Fligstein, 2013).

Thus, one should consider the heterogeneity of institutional space in a combination of three aspects:

- the difference between internal institutions, the conditions they create for business and external, foreign ones;
- delineation of political and administrative conditions in the country related to tax, budgetary, and other financial and economic powers;
- the difference in the architecture of regional markets on the consolidation of large businesses, in the formation by market leaders of their preferred zones, and in the barriers to entry into these market zones for other market participants.

It is likely that they are all interconnected, and the behavior of the largest businesses plays a leading role in this “triad”, as they have the power and ability to influence federal and regional political institutions. From the point of view of Ya. Pappé and Ya. Galukhina, it is the possibility of such influence that is the fundamental distinction of superlarge business (Pappé, Galukhina, 2009). However, without going into the intricacies of the interaction between the state and business, in this article we will limit ourselves to an analysis of the

third aspect of these, while understanding its more significant role in the formation of the institutional space of the regions.

We should note that in recent years there have been created a lot of ratings that characterize the institutional indicators of regional development, including Credit ratings of regions, National rating of investment climate in the regions of the Russian Federation, Rating of management efficiency in the regions of the Russian Federation, Rating of regions on the level of promotion of competition, Rating of investment attractiveness of Russian regions (RAEX). All these and many similar ones confuse the three aspects of institutional heterogeneity mentioned above, or single out particular narrow aspects related, for example, to innovation or public-private partnerships. A convenient and, consequently, a source of aggregated information for assessing the differences between regions in terms of market architecture has not yet been created. Perhaps it can be built on the basis of the approach proposed in the article to compare regions by institutional features.

Constructing such a rating can create a system of assessments of the institutional profile of the region both for use in monitoring and comparing regulatory influences with regional specifics, and for the development by business of its regional strategies. Suggestions for creating such a ranking are not a direct task set forth in the article, but may subsequently become its additional result. It seems that the key characteristics of describing the markets architecture are the stability of their leading business groups and the consolidation of the market around this leading group. In any case, even their analysis, as the article shows, yields profound substantive and quantitative results.

A number of institutional indicators associated with the concentration of business in the economy sectors and its consolidation around the market-leading group of companies may reflect qualitative changes in the architecture of markets, the

strengthening of explicit or implicit dominance, the formation of institutional barriers and traps. Other institutional factors associated with regional or sectoral tax policies, export support, development of federal infrastructures or branch networks of banks, intermediary organizations, and other institutional factors may also manifest themselves in such an analysis.

Many of the factors mentioned are sustainable and should therefore be used in forecasting both institutional transformations and economic dynamics. And vice versa, factors different in their degree of sustainability should be included in the corresponding forecasts in different ways, taking into account their horizon and the accuracy of their estimates. At the same time, to include institutional factors that do not have high stability, but significantly determine the development of certain business groups, it is necessary to build alternative scenarios for the development of the economy as a whole or its individual sectors. We should add that transformations in the architecture of markets associated with the outstripping growth of large business have a significant impact on industry dynamics and structural shifts, but they are not synchronized across industries and are uneven over time, which complicates the task of analyzing and forecasting them.

Taking into account the above mentioned, the article aims to substantiate the significance of institutional heterogeneity of the spatial structure of the economy and to propose an approach to its description and consideration in forecasting.

#### **Consolidation characteristics of large business in the regions**

We used the following methodological approach for our calculations. For each region, we took data from SPARK-Interfax on the 1,000 largest Russian companies in terms of revenues for 2010–2019. As the leader in each region, we identified a group of the 10 largest companies in terms of revenues for the corresponding year. We took data until 2019 to

exclude the effects of “pandemic” years. The rest of the region’s companies were not taken into account. The method is convenient for express analysis of structural dynamics, because the revenue of the first 1,000 companies in the regions according to SPARK correlates closely with the revenue of the entire regional business according to Rosstat (correlation coefficient – 0.98). Hereinafter, when talking about the consolidation of large businesses in the regions, we will use these data, unless otherwise specifically stated. We calculated consolidation as the ratio of the revenues of the 10 largest companies in a region to the revenues of the first 1,000 companies.

Consolidation indicators of large businesses in the regional market can be assessed by the share of the top 5, top 10 companies in the overall performance, such as revenue or other selected number of market leaders. For more specific calculations, you can take their variable number for each regional market, taking into account the stability of the leading group formed in it. However, for simplicity, we will limit ourselves to singling out the top 10 companies in each region.

The differentiation of institutional conditions by region manifests itself differently in economic development indicators. Large business influences the volume and proportion of products simply because it produces more than others, becomes a development leader or “pumps out” resources

from the region, creates high multipliers for other industries, not only in inter-regional product flows, but also through the wages and demand of its workers, the diffusion of technology, the formation of standards and regulations, the development of market and material infrastructure for regional markets, as well as through other direct and indirect influences. Besides, large business sets the balance of interregional economic relations. In this article we will consider only some of such factors, but we believe it is necessary to outline their wide range for research.

The data obtained on the consolidation of large business confirm (*Tables 1–3*) the high differentiation of regions by selected parameters.

As we can see from Table 1, the core of regions with high consolidation is fairly stable, although its composition has changed. In particular, by 2019, the Astrakhan, Tomsk, Magadan and Murmansk oblasts ousted the Karachay-Cherkess Republic, the republics of Sakha (Yakutia), Tyva and Ingushetia from the group of “leaders of 2010”. The other six regions remained on the list, although they changed their position. Such changes occurred primarily under the influence of sectoral shifts in the economy, as well as the development of all-Russian infrastructures. We should note that a high/low level of consolidation by itself does not indicate a higher or lower development of the region’s economy.

Table 1. Regions with the highest consolidation of large business in 2010 and 2019, %

Region	2010	Region	2019
Chukotka AO	84.1	Komi Republic	76.2
Republic of Ingushetia	67.1	Chukotka AO	75.9
Komi Republic	64.8	Astrakhan Oblast	70.0
Tyva Republic	63.7	Vologda Oblast	66.21
Republic of Sakha (Yakutia)	62.2	Republic of Khakassia	58.3
Republic of Buryatia	60.1	Magadan Oblast	55.5
Karachay-Cherkess Republic	59.5	Republic of Buryatia	55.2
Vologda Oblast	57.2	Orenburg Oblast	53.6
Republic of Khakassia	55.4	Tomsk Oblast	52.7
Orenburg Oblast	55.2	Murmansk Oblast	52.4

Source: SPARK-Interfax, own calculation.

Table 2. Regions with the lowest consolidation of large business in 2010 and 2019, %

Region	2010	Region	2019
Ivanovo Oblast	18.9	Voronezh Oblast	16.7
Voronezh Oblast	19.1	Sevastopol	17.7
Rostov Oblast	20.0	Ivanovo Oblast	19.7
Penza Oblast	21.8	Moscow Oblast	19.9
Kirov Oblast	22.1	Kirov Oblast	21.7
Primorsky Krai	22.4	Omsk Oblast	23.5
Novosibirsk Oblast	23.1	Rostov Oblast	23.7
Moscow Oblast	24.7	Chuvash Republic	23.8
Altai Republic	25.3	Crimea	24.1
Tver Oblast	25.5	Smolensk Oblast	24.3

Source: SPARK-Interfax, own calculation.

Table 1 includes both economically more developed regions and “lagging” regions. Similarly, Table 2 shows the regions with the lowest rates of business consolidation in the country.

The core of regions with low consolidation of large business is also quite stable, although its composition has changed by 2019: only five regions have remained, while Crimea and Sevastopol have been added, which means that not only industry, but also geopolitical processes have appeared.

Table 3 presents data on the regions with the strongest dynamics of business consolidation indicators.

As the data in Table 3 indicate, very different regions – from different federal districts, with different levels of economic potential and economic growth, and different social structures of the population – were among the leaders in the growth/

decline of consolidation. In general, high or low rates of business consolidation can demonstrate both the presence/absence of strong large business in a region and the diversification of the economy, such as in Moscow.

Full tables with all regions of the country are not included here for space reasons. The leaders of growth, decline, and business consolidation levels are presented to show a wide range of variation in the relevant parameters. It amounts to tens of percentages or percentage points, both over time – over a decade – and in interregional comparison. This alone underscores the need for their careful study, especially the qualitative analysis of the institutional factors underlying such changes and their possible impact on the regional structural shifts and institutional transformations in the future.

Table 3. Leaders of growth and decline in the relative level of consolidation of large businesses

Regions-leaders of consolidation growth	2019 to 2010, %	Regions-leaders of consolidation decline	2019 to 2010, %
Primorsky Krai	45.7	Karachay-Cherkess Republic	-76.9
Altai Republic	38.3	Republic of Ingushetia	-52.0
Novosibirsk Oblast	37.6	City of Moscow	-51.5
Krasnodar Krai	37.5	Chechen Republic	-48.1
Tomsk Oblast	29.9	Omsk Oblast	-45.1
Pskov Oblast	29.8	Tula Oblast	-31.5
Murmansk Oblast	27.3	Chuvash Republic	-28.2
Astrakhan Oblast	24.8	Tyva Republic	-27.5
Republic of North Ossetia–Alania	24.5	Moscow Oblast	-23.9
Magadan Oblast	20.8	Republic of Sakha (Yakutia)	-20.8

Source: SPARK-Interfax, own calculation.

We emphasize that the decomposition of macroeconomic regional and industry indicators by business size, such as revenue, value added, capitalization and others, has not yet been applied in economic analysis and forecasting. The proposed approach makes it possible to build an array of relatively accurate data on the level and trends of business consolidation by industry and region of the country in relatively economical ways. The analysis of such an array expands the possibilities of studying economic processes and helps to assess the influence of institutional factors on the economic dynamics in regions, industries, and individual markets.

#### **Institutional features of economic growth in the regions**

The characteristics of leadership group sustainability and big business consolidation by industry or region may reflect different ways (or models) of economic development.

- Market dominance of foreign companies, including global ones.
- Market dominance of Russian companies at the federal or global level (possibly from other regions), supported by the state or belonging to the public sector.
- 10–20 large companies competing for the position of market leaders in the absence of obvious dominance (in this case, the formation of the leading group in the market can only be predicted, but its dynamics may already differ from the rest of the population).
- Lack of obvious market leaders and potentially forming their group (in this case, the market can develop due to the growth of segments of medium or small businesses or related industries/regions, the sustainability of such dynamics is determined by the potential development of its growing segments).

Combinations of these methods (models) of regional economic development are also possible.

For all constituent entities of Russia, we investigated the dynamics of business growth in terms of revenue over 10 years (from 2010 to 2019) for two clusters: from 1 to 10 (the first 10 companies in the region – the leaders of regional business) and from 11 to 1,000 (the next 990 companies). Here we make a reservation that these clusters are characterized by more or less stability of their composition. Some companies during this period for one reason or another leave the cluster – they close, reorganize, are absorbed by others or merge with them, while others companies appear. In a certain sense, the first ten and the following 990 companies are abstract, because they are not so much about specific companies, but rather about their commonalities (the leading group and the rest). In this logic, a company is not only a specific organization, but also a “place in the market”, filled by its corresponding organizations or their subdivisions. This approach gives us a characteristic of the two zones of the market, rather than specific companies in it.

For both clusters, the compound annual growth rate is calculated using the formula CAGR (Compound Annual Growth Rate), that is, the geometric mean growth rate by year.

As a rule, the growth of companies slows over time, large businesses are less likely to grow by tens of percent per year over a long period, due to both the higher base and the characteristics of fast-growth companies, which are commonly associated with innovative businesses, medium-sized businesses, often represented by technology companies – “gazelles”. The faster growth of the largest businesses may be an indicator of significant structural changes taking place in the region, and the faster rates of the “others” cluster may be due to both organic business growth of these 990 companies and a decline in the growth rates of the leaders due to market conditions or institutional changes. It is supposed that these growth scenarios may have common features for different regions that are not similar in sectoral specialization.



If we distribute all the regions from those where the leading group's growth was the highest ahead of the other companies to those where, on the contrary, it turned out to be the highest ahead of the other companies, the most pronounced effect of institutional factors will be seen at the "edges" of the scale. Accordingly, the less pronounced the differences in these indicators, the lower the need to take them into account when making economic forecasts. *Table 4* shows the regions characterized by the greatest outperformance of large businesses relative to other companies.

Taking into account the data in *Table 4*, as well as the results of the analysis of Russian regions with outperforming growth of the top 10 companies over the rest, not presented in

the table, the following scenarios of economic dynamics can be defined.

- Outpacing growth of federal business headquartered in the region (Krasnodar Krai, Novosibirsk Oblast). In this case a large regional business belongs to global or all-Russian alpha-companies, its development is determined by factors external to the region and should be forecasted separately.

- Outpacing growth of subsidiary business of federal companies in the region (Astrakhan Oblast, Komi Republic, Murmansk Oblast). Large regional business is dependent on the external structure, its costs, profits and revenues are formed outside the region. Its dynamics and the development of the rest of the economy should be forecast separately, and then combine them into a general forecast.

Table 4. Regions with the highest growth rates of the top 10 companies compared to the rest

Region	Difference in CAGR between the 10 largest and other companies, %	Notes
Primorsky Krai	11.2	Entry of federal-level business in the region due to the reorganization of the DNS group (50 legal entities were merged into DNS Retail with an office in Vladivostok)
Krasnodar Krai	9.7	Outperforming growth of federal-level business with head office in the region (JSC Tander – 21.5% per year with regional GRP growth of 10.6%)
Astrakhan Oblast	9.5	Outperforming growth of a federal-level business subsidiary (OOO Lukoil-Nizhnevolzhskneft – from 15th place to 1st in the rating of the largest companies in the region for 10 years)
Altai Republic	8.1	The scale of business and the economy of the region as a whole is small, so in the absence of stable, pronounced leaders, the emergence of a growing business ensures its outpacing growth compared to other
Tomsk Oblast	7.9	Outperforming growth of federal-level business with head office in the region (OOO KDV Group – one of the largest Russian food holdings) and growth of federal-level subsidiary (JSC Tomskneft VNK – PJSC Gazprom Neft – 50%, NNK-Oil – 50%)
Murmansk Oblast	7.2	Outperforming growth of the subsidiary (JSC MMC Kola) of the federal level business (PJSC MMC Norilsk Nickel)
Novosibirsk Oblast	6.9	Outperforming growth of federal-level business with head office in the region: JSC NPK Katren (one of the largest pharma-distributors in Russia), JSC Siberia Airlines (the second largest airline in Russia)
Komi Republic	6.7	Outperforming growth of federal-level business with head office in Moscow (subsidiaries of PJSC Lukoil and PJSC Gazprom)
Republic of North Ossetia–Alania	6.5	Leaders of regional business – newly created companies
Magadan Oblast	6.1	Outperforming growth of federal-level business subsidiaries: JSC Polyus Magadan (PJSC Polyus), JSC Magadan Silver (PJSC Polymetal)
Source: SPARK-Interfax, own calculation.		

- The outstripping growth of large regional businesses. In this case, it can “pull down” the resources of the region and, possibly, of other, nearby territories. Its development is determined by the use of the region’s higher-quality resource base, while the rest grows using lower-quality resources.

- Emergence of a leader in the region due to reorganization (Primorsky Krai). In this case the new large business grows differently, not as before, but it is possible to predict this growth only when the new trajectory becomes stable, until then it is reasonable to apply scenario forecasts.

*Table 5* shows the regions that are characterized by opposite trends.

Taking the above into account, one can set the following scenarios for the development of regions with the outstripping growth of companies of the second or third echelon.

- Federal/global businesses headquartered in the region show a low growth rate (Moscow). Its development within the region is determined by factors external to the region.

- The subsidiary business of a federal company in a region shows a low growth rate; its costs, profits, and revenues are formed outside the region and depend on the parent company.

- Bankruptcy or reorganization of a large regional business (Omsk Oblast). There is a change

Table 5. Regions with the greatest lag in the growth rate of the top 10 companies compared to the rest

Region	Difference in CAGR between the 10 largest and other companies, %	Notes
Chuvash Republic	-4.0	The absence of a stable group of leaders in a highly diversified regional economy
Republic of Sakha (Yakutia)	-5.3	Increasing diversification of the region’s economy due to the investment activity of businesses at the federal level (the beginning of commercial operation of PJSC “Rosneft” Srednebotuobinsk oil and gas condensate field)
Tula Oblast	-5.6	The development of regional business due to the investment activity of the largest companies of the federal business level
Omsk Oblast	-6.1	Bankruptcy of the largest regional business by revenue (SPA “Mostovik”, the largest business in the region by revenue in 2010); consolidation of leadership by a federal-level business subsidiary (JSC “Gazpromneft – Omsk Refinery”, a subsidiary of PJSC “Gazprom Neft”)
Chukotka Autonomous Okrug	-6.4	The emergence of a federal-level business subsidiary among the leaders (the start of gold development in 2013 by OOO “Mayskoye” – gold mining company, PJSC “Polymetal”, has brought the company to the 2nd place in the region in terms of revenues)
Tyva Republic	-7.7	Low sustainability of leaders – the largest regional business is losing leadership, showing low growth rate, and its place is taken by foreign business
Moscow	-8.8	The growth of the largest federal businesses lags behind the dynamic growth of large and medium-sized businesses, including subsidiaries
Karachay-Cherkess Republic	-12.2	The lack of an established and growing group of regional business leaders in the region of “crisis post-industrialization”; which “layer” of companies supports economic growth in the region should be specified
Republic of Ingushetia	-12.7	The lack of an established and growing group of regional business leaders in the region of “crisis post-industrialization”; which “layer” of companies supports economic growth in the region should be specified
Chechen Republic	-13.8	Lack of an established and growing group of regional business leaders in the region of “crisis post-industrialization”; a subsidiary of a federal-level business shows a low growth rate (OAO “Grozneftegaz” – PJSC “Rosneft”)

Source: SPARK-Interfax, own calculation.

in the composition of leaders in the region, and not only because this company leaves, but also because other leaders redistribute the market. As a result, the situation becomes unstable and can only be predicted as new trends emerge, prior to which it is reasonable to make scenario forecasts.

- Growth diversification of the regional economy (Chuvash Republic). In this case, the forecast for the region should probably be built separately by segments with different growth rates, and then combine them into an overall forecast.

- The low business resilience of “crisis post-industrialization” regions (Klyuev, 2010) determines the economic dynamics. In such regions, it is better to make scenario forecasts and switch to traditional extrapolation forecasts only as new sustainability factors related to the formation of their architecture emerge.

In addition to those listed above, other scenarios with their own ways of forecasting can be realized, for example:

- large projects are implemented in the region, investments come from other regions, from large regional, federal or international business or other similar sources; in this case, the trends of regional development “break” and the new dynamics will be determined by the development of a new major player against the background of previous processes; before they become stable, it is only reasonable to make scenario predictions;

- small and medium-sized businesses are degrading or “leaving” the region; the shadow, informal economy is growing; more and more value created by companies in the region is being transferred to other regions through technological chains; in these cases, as in the previous one, we should rely on scenario forecasts or assess the dynamics of the official and informal economy separately, and then combine them into a general forecast.

In all of these variants, economic growth in the region is heterogeneous – there are specifics of

forecasting and planning, its own typology of stable and growing segments, its own growth models and “production functions” for the more dynamic segments and the rest of the population. If there are no clear differences in the sustainability of segments within a region or industry, their dynamics can be predicted as for a homogeneous population. Each of the above examples and many similar ones are largely determined by institutional factors. At the same time, groups of regions with approximately the same set of such factors can be combined into a general forecast structured by institutional features.

### Conclusion and findings

1. When analyzing and forecasting economic processes in the regional context, it is necessary, along with macroeconomic and physical characteristics, to take into account institutional factors, more precisely – interregional institutional heterogeneity of the spatial structure. They are associated primarily with changes in the architecture of regional markets, created by the largest businesses in the region.

2. The theory of economic dominance in a multilevel economy (Blokhin, 2019; Blokhin et al., 2019), which determines the patterns of “stratification” of companies by levels of alpha-, beta- and gamma-business and the receipt of institutional rents by the “higher” levels of this hierarchy, allows to analyze the specified institutional factors.

3. Assessments of the sustainability of the leading group of businesses in the regions and the consolidation of the largest businesses vary significantly by region and are changing dynamically. Structural and temporal differences between them can reach tens of percent or percentage points, and they are not related to the level of economic development of the regions.

4. Regularities in the formation of methods (models) of economic growth in the regions are associated with the dominance of large global, federal, regional business in them or in the

constituent entities interacting with them. They can be identified using large business consolidation data.

5. A comparison of the outperforming/delaying growth of the leading group in the region and the rest of the companies makes it possible to forecast economic growth taking into account the sustainability, structure and dynamics of the largest business in the region. At the same time, forecasts for the leading group and other companies, with significant differences in their parameters, should be built separately, and then combined into a general forecast. Thus, in 19 regions the difference in the growth rates of the leading and the lagging group amounted to more than 5 percentage points, and in four of them – more than 10.

6. In regions with an unstable group of leading companies it is necessary to build scenario forecasts of economic growth and structural dynamics or at least to check them for such a need. The analysis has shown that in 33 regions 5–6 companies in the top ten leaders have been replaced. At least 7 companies changed in 17 subjects of the country.

7. Given the importance of institutional factors in regional development, a methodology of institutional economic geography can be formed, covering the regularities of spatial change of institutions, their impact on the socio-economic indicators of regions, as well as institutional transformations occurring depending on the economic and social processes in the regional context.

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