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ECONOMIC STRUCTURE AND GROWTH POTENTIAL

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CONTENT

EXECUTIVE SUMMARY

Almost throughout the last 25 years, there have been expert discussions regarding structural changes needed by the Russian economy to switch to a new model of economic growth – growth driven by innovations rather than the production and sale of resources. In recent years, the most active discussion has had to do with the key role of cities and metropolitan areas - as territories currently accommodating 70% of Russia's population - in the transition to a new economic growth model. This process is heavily dependent on major cities and metropolitan areas as centers of human capital development providing the best opportunities for education, scientific activities, cultural development, and entrepreneurship.

In our opinion, a serious discussion of the role of major cities and metropolitan areas in the country's further socioeconomic development requires a thorough analysis of past and current processes in their economies. The following key questions need to be answered:

What kind of economic structure is specific of major cities and metropolitan areas and whether it is consistent with the modern trends of economic growth?

Can any positive structural changes be seen in the economies of individual major cities and metropolitan areas despite their lack in the economy of the country as a whole? If yes, where exactly?

What government support measures are needed for different types of major cities and metropolitan areas based on their current and prospective role in supporting Russia's economic growth?

In 2016, the Institute for Urban Economics developed a unique methodology for measuring the gross urban product (GUP) of cities and metropolitan areas[1], which was used to calculate GUP values for the period from 2000 to 2015 for twenty major metropolitan areas with populations exceeding 1 million, to evaluate the contribution of these areas to the Russian GDP, and to draw international comparisons.[2]

In 2018, taking into account the expanded statistical data in the Rosstat (Federal State Statistics Service) Municipal Entity Database (MEDB) and Rosstat's cessation of data updates with a breakdown by urban settlement, the

Institute for Urban Economics updated the GUP measurement methodology. This update was based on a transition from using data by city (urban settlement) to using data by municipal entity. Additionally, the number of metropolitan areas was substantially expanded, to 45 major metropolitan areas with populations exceeding 300,000.

The most important analytical achievement in 2018 was the extensive measurements of the economic structure of 45 metropolitan areas across the full range of industries [3] based on which the sectoral structure of Russia's GDP is measured. This suggested conclusions regarding the qualitative processes happening in the economies of metropolitan areas, whether they differ from the processes across the country, and, most importantly, whether any structural shifts are happening in the economies of metropolitan areas allowing us to improve their competitive strength globally, accelerate economic development in their territories, and increase their contribution to the Russian GDP.

The main conclusions of the study are as follows:

1) Out of the 45 metropolitan areas reviewed, 11 areas (5 macroregional centers and 6 metropolitan areas of regional significance) are even now characterized by a developed modern economy and a high potential for further natural structural shifts. These areas have created the necessary framework for socioeconomic development, while the best type of government support for such areas includes financial support for infrastructural projects in their territories and raising the level of independence of municipal administration, to help enhance the role of such areas in Russia's economic growth..

2) Eight other metropolitan areas are of importance for the country's economic development, as they support the current resource-based macroeconomic development model. The diversification of the economies of these metropolitan areas is a difficult and as yet impractical task, whereas government support is advisable for maintaining the necessary level of their social development.

3) The largest group (21 metropolitan areas) consists of areas with industrial economies and a moderate potential for structural shifts. Their development model is based on a single specific manufacturing sector (and supporting industries) or on government expenditures. Due to Russia's poor

competitive performance in manufacturing, the role of these areas in GDP growth is low, though important for diversifying the economy. The economies of these areas primarily require direct support for restructuring, i.e. a set of both financial and non-financial measures of such restructuring.

4) Five metropolitan areas have no role in the country's economic growth today; their economic model is focused on satisfying the most basic local needs of their populations and demonstrates little growth prospects due to the gap between the private and the public sector (extremely high share of undisclosed incomes). A priority for the government policy in respect of these areas is a dramatic reduction of the share of shadow economy in their territories.

The series of publications of the basic indicators of economic development of Russian cities and metropolitan areas, "The Economy of Russian Cities and Metropolitan Areas", was launched by the Institute for Urban Economics in 2017. The project is funded from the special-purpose capital of the Institute for Urban Economics. This issue uses some of the calculations made in 2018 at the order of the Center for Strategic studies

1. 45 METROPOLITAN AREAS RANKED BY GUP AND GUP PER CAPITA IN 2016

This analysis studies 3 groups of metropolitan areas (see Table 1):

- Major metropolitan areas that are interregional centers (Group A) – 6 areas;
- Metropolitan areas – regional centers with capitals of constituent entities of the Russian Federation as their cores (Group B) – 29 areas;
- Metropolitan areas – local centers whose cores are not capitals of constituent entities of the Russian Federation (Group C) – 10 areas.

Table 1

Groups of 45 considered metropolitan areas

Metropolitan areas			
Group A	Group B		Group C
1. Moscow	1. Samara-Togliatti	15. Bryansk	1. Kavminvodsk
2. Saint-Petersburg	2. Nizhniy Novgorod	16. Barnaul	2. Nizhny Tagil
3. Ekaterinburg	3. Kazan	17. Makhachkala	3. Naberezhnye

			Chelny
4. Novosibirsk	4. Chelyabinsk	18. Tomsk	4. Sterlitamak
5. Rostov	5. Ufa	19.Kirov	5. Almetyevsk
6. Vladivostok	6. Volgograd	20. Cheboksary	6. Stary Oskol
	7. Krasnoyarsk	21. Izhevsk	7. Zlatoust-Miass
	8. Voronezh	22. Lipetsk	8. Orsk
	9. Perm	23. Stavropol	9. Surgut
	10. Krasnodar	24. Vladikavkaz	10. Novokuznetsk
	11. Saratov	25. Murmansk	
	12. Omsk	26.Yuzhno-Sakhalinsk	
	13. Irkutsk	27. Abakan	
	14. Tula-Novomoskovsk	28. Yaroslav-Rybinsk	
		29. Ulyanovsk-Dimitrovgrad	

Source: Fund IUE according to "Rosstat"

The GUP of metropolitan areas is measured as the sum of GUP values of urban districts and municipal districts included in such areas [4]. As the MEDB does not contain the necessary data with a breakdown by urban and rural settlement, the measurements of the GUP of those areas were based on the data from municipal districts where the urban and rural settlements included in the areas are located.

The total GUP of 45 metropolitan areas in 2016 was RUB 37.7 trillion, or 43.7% of the GDP (RUB 86.1 trillion), whereas the share of the population of these areas is 47.3% of the country's population.

Thus, the per capita GUP in 45 metropolitan areas is 7.6% lower than Russia's per capita GDP in 2016: RUB 544,000 to the Russian average of RUB 589,000[5].

Metropolitan areas – macroregional centers account for RUB 23.5 trillion, or 27.3% of the GDP, accommodating 21.1% of Russia's population (30.8 million).

In metropolitan areas – regional centers, the yearly GUP in 2016 was RUB 11.5 trillion, or 13.3% of the GDP. The share of this group of metropolitan areas in the Russian population is 21.9% (31.8 million).

In 2016, the total population of 10 metropolitan areas – local centers was only 6.3 million (4.34% of the Russian population), with a GUP of RUB 2.68 trillion (3.11% of GDP).

The five leaders are the Moscow, Saint Petersburg, Yekaterinburg, Samara-Togliatti, and Nizhny Novgorod metropolitan areas. These areas account for over 27% of the GDP produced.

Out of the 45 areas reviewed, only three boast a GUP exceeding RUB 1 trillion in 2016 **(see Table 2):**

1. Moscow metropolitan area (RUB 16.3 trillion, or 19% of the GDP).
2. Saint Petersburg metropolitan area (RUB 4.1 trillion, or 4.7% of the GDP).
3. Yekaterinburg metropolitan area (RUB 1.1 trillion, or 1.2% of the GDP).

It should be noted that, in terms of GUP per capita, the Moscow area is ranked 3rd, Saint Petersburg 2nd, and Yekaterinburg 7th.

Table 2

Ranking of 45 metropolitan areas by GMP level and their place in the ranking of GMP per capita and population in 2016.

Rank	Metropolitan areas	GMP, Milliards RUB	Population	Rank	GMP per capita Thousands RUB	Rank
1	Moscow	16 353,1	16 980,4	1	963,1	3
2	Saint-Petersburg	4 063,1	6 259,0	2	649,2	5
3	Ekaterinburg	1 059,6	2 201,4	5	481,4	7
4	Samara-Togliatti	943,8	2 737,9	3	344,7	25
5	Nizhny Novgorod	904,8	2 087,0	6	433,5	10
6	Surgut	898,1	642	33	1398,9	1
7	Novosibirsk	819,9	2 228,6	4	367,9	19
8	Rostov	675,4	2 083,6	7	324,1	28
9	Kazan	661,6	1 645,2	8	402,2	14
10	Ufa	590,7	1 449,2	11	407,6	13

11	Krasnodar	589,9	1 403,0	13	420,5	11
12	Chelyabinsk	569,6	1 593,9	9	357,4	22
13	Krasnoyarsk	555,7	1 348,4	15	412,1	12
14	Voronezh	525,8	1 535,8	10	342,4	26
15	Vladivostok	490,2	1 045,8	20	468,7	8
16	Irkutsk	464	927	27	500,5	6
17	Omsk	458	1 416,8	12	323,3	30
18	Volgograd	446,4	1 390,5	14	321	32
19	Novokuznetsk	427,9	1 152,3	18	371,4	18
20	Yaroslavl-Rybinsk	393,4	1033,8	21	380,5	17
21	Perm	385,5	1 340,6	16	287,6	35
22	Saratov	380,9	1 231,0	17	309,4	33
23	Naberezhno-Chelny	378,7	960,9	24	394,1	16
24	Izhevsk	359,8	978	23	367,9	19
25	Tula-Novomoskovsk	353,7	1 016,6	22	347,9	24
26	Yuzhno-Sakhalinsk	321	284,1	45	1129,9	2
27	Ulyanovsk-Dimitrovgrad	273	951,8	25	286,8	36
28	Tomsk	261,5	663,1	32	394,3	15
29	Murmansk	250,3	343,2	44	729,4	4
30	Stavropol	227	933,1	26	243,2	40
31	Barnaul	225,1	826,8	28	272,3	37
32	Kirovsk	220,8	683,9	31	322,9	31
33	Lipetsk	215,6	589,2	34	365,9	21
34	Cheboksary	195,9	770,8	30	254,1	38
35	Nizhiy-Tagil	181,8	535,2	37	339,6	27
36	Almetyevsk	174,3	396,3	43	439,7	9
37	Bryansk	171,7	574	35	299,1	34
38	Kavminvodsk	157,5	776,3	29	202,9	42
39	Starooskolsk	144,4	409,4	40	352,7	23
40	Makhachkala	139,4	1 076,4	19	129,5	45
41	Abakan	128,5	397,2	42	323,6	29
42	Zlatoust-Miass	123,3	499,7	38	246,8	39
43	Vladikavkaz	88,7	486,7	39	182,2	43
44	Orsk	87,9	405,5	41	216,9	41
45	Sterlitamak	84,4	564,5	36	149,5	44

Source: Fund IUE according to "Rosstat"

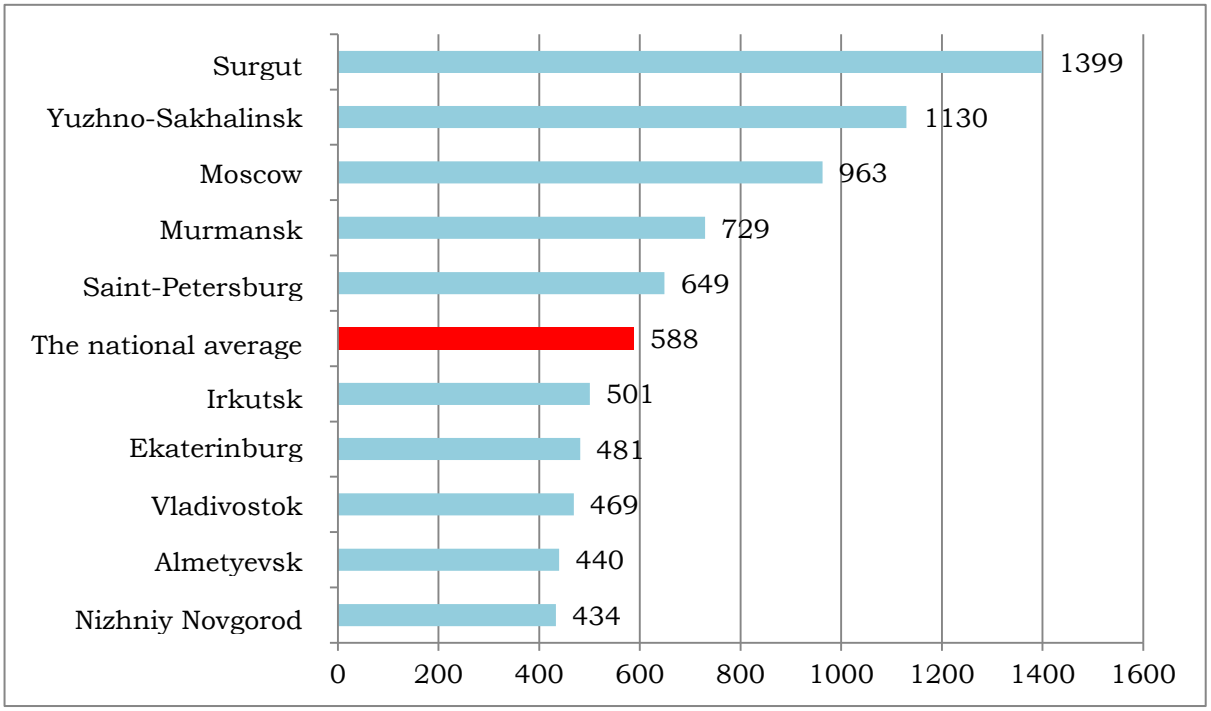
Notably, only five areas demonstrate better performance in total economic output than in Russia on average: Surgut, Yuzhno-Sakhalinsk, Mocsow, Murmansk, and Saint Petersburg (see Figure 1).

The lowest GUP per capita was registered in the Makhachkala (RUB 129,600), Sterlitamak (RUB 149,500), and Vladikavkaz (RUB 182,200)

metropolitan areas. The gap between the richest (Surgut) and the poorest (Makhachkala) areas in terms of this indicator is a factor of nearly 11.

Figure 1

10 METROPOLITAN AREAS WITH THE HIGHEST GMP PER CAPITA RANKING, THOUSAND RUBLES, 2015 (FOR RUSSIA, THE NATIONAL AVERAGE GDP PER CAPITA)



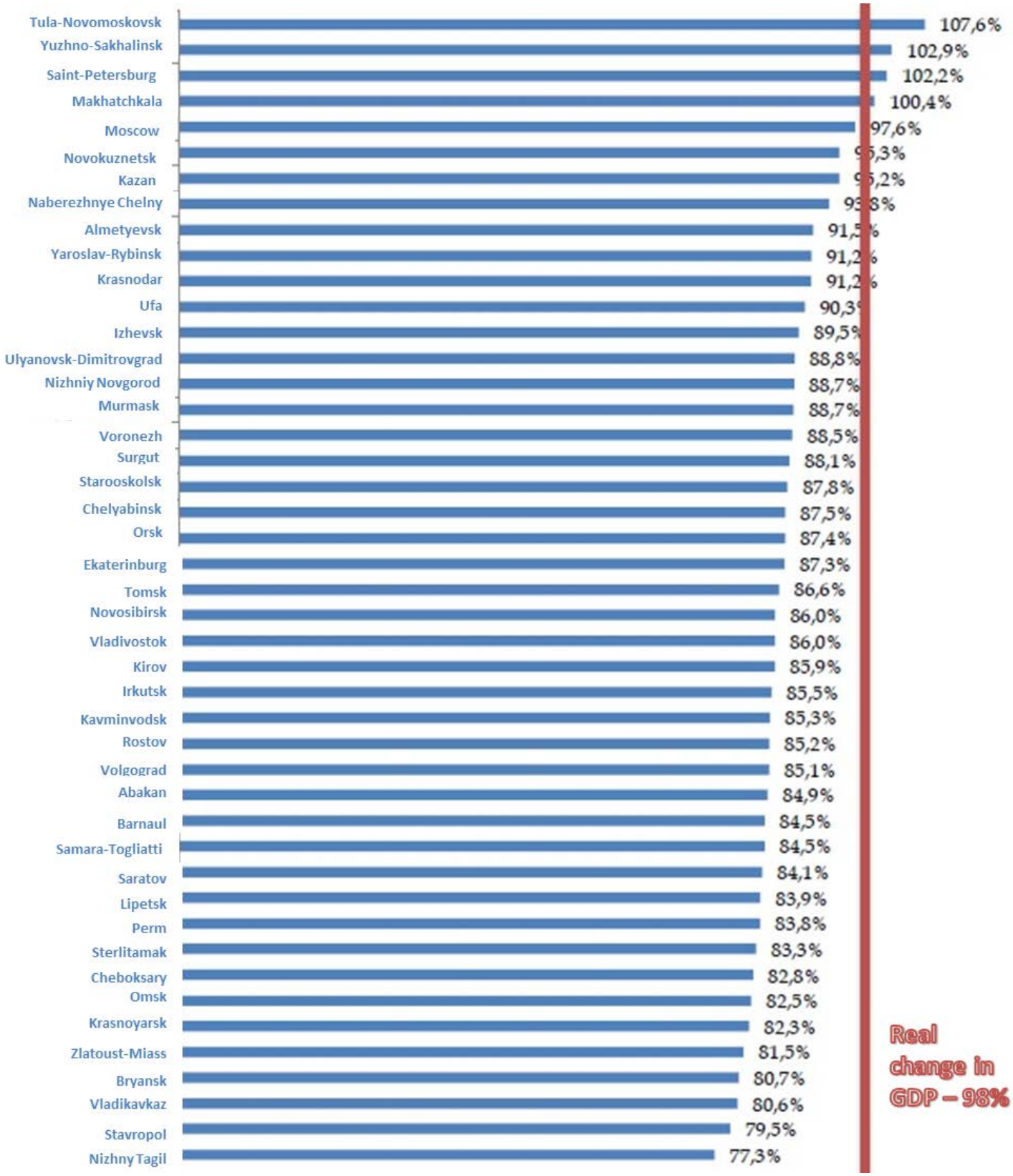
Source: Fund IUE according to "Rosstat"

From 2013 to 2016, the metropolitan areas' real GUP was reducing twice as fast as the GDP: 2.3% per year against 1.1% per year. The real GUP increased only in the Tula-New Moscow, Yuzhno-Sakhalinsk, Saint Petersburg, and Makhachkala (see Figure 2) areas. This indicates not only the procyclical development of major metropolitan areas, but also the lower fall of their economies as compared to the overall economy. It should be noted that, during the period of economic growth between 2000 and 2008, metropolitan areas exceeding 1 million in population also demonstrated growth rates higher than the Russian average.

Figure 2

THE DYNAMICS OF REAL GMP OF 45 METROPOLITAN AREAS 2013-2016, % FOR A PERIOD

RED MARK –the change in Russia's GDP in the same period



Source: Fund IUE according to "Rosstat"

2.THE ECONOMIC STRUCTURE OF 45 METROPOLITAN AREAS

2.1. THE METHODOLOGY FOR MEASURING THE ECONOMIC STRUCTURE OF METROPOLITAN AREAS

For the purpose of measuring the GUP structure, the Institute for Urban Economics suggests the same methodological approach as for measuring the GUP level, i.e. to measure the GUP produced by an industry based on the Total Company Payroll Fund indicator. Thus, an industry's share in the GUP of a municipal entity is determined as that industry's share of the total company payroll fund in the total company payroll fund in that municipal entity. This approach was chosen (as in the case with GUP measurement) due to the availability of Rosstat data with a breakdown by municipal entity.

An important specific feature of the analysis of the GUP structure and its comparison with the GDP structure is the use of the two different methodological approaches to measuring the GDP structure –the production method, and to measuring the GUP structure – the income determination method. The GDP calculated using the production method includes the sum of gross values added (GVA) by industry, as well as taxes and product subsidies.

For example, in 2016, the total GVA across all sectors of the Russian economy is 90.08% of the GDP while the net product tax (tax less subsidies) is 9.92% of the GDP. The GUP measurement is based on the income determination method; therefore, the measurements based on the production method include net product tax. A correct comparison of the GUP structure (using the income generation method) with the GDP structure (using the production method) requires data on the distribution of net product tax between industries (the share of such net product tax in the part of the GUP attributed to each industry). However, no such data exist even in respect of the overall Russian GDP structure.

Due to the lack of data on the distribution of net product tax between industries, for the purposes of this study we assume that the tax is evenly distributed between industries (i.e. in proportion to their contribution to the GDP); accordingly, the GVA structure and the GDP structure are congruent. Then, the term "gross value added" (GVA), used in connection with an industry

at the level of municipal entities and metropolitan areas, is interpreted as the total gross value added (in basic prices) and net product tax, unless defined otherwise (i.e. we are dealing with gross value added in market prices).

This calculation represents measurements of the sectoral economic structure of Russian metropolitan areas based on the classification of types of economic activity (OKVED 2007), "OK 029-2007 (NACE Rev. 1.1). Russian Classification of Types of Economic Activity", approved by Order No. 329-st of the Russian Service for Technological Supervision dated 22 November 2007)[6].

2.2. THE ECONOMY OF MAJOR METROPOLITAN AREAS AND THE RUSSIAN ECONOMY: ARE THERE ANY STRUCTURAL DIFFERENCES?

Based on the obtained measurements of the GUP structure of each of the 45 metropolitan areas, we conducted a benchmark analysis of the average economic structure of the 45 areas with the Russian GDP structure and of the average economic structure of each of the three groups of metropolitan areas reviewed with the Russian GDP structure (see Table 3).

Thus, **"urban industries"**, i.e. industries whose contribution to the total output of goods and services in the metropolitan areas under review **is higher on average than across the Russian economy** include:

- manufacturing;
- electric power, gas, and water production and distribution;
- financial operations;
- real estate operations and other services;
- education;
- healthcare;
- state administration and security;
- other utility services.

Notably, the largest section both in terms of forming the GDP and GUP structure in the metropolitan areas under review and in terms of Russia's GDP is the K industry (real estate operations, lease, and other services), whose GVA

accounts for 15.5% of the country's GDP (while the contribution of the 45 metropolitan areas in the sector's total share is 45.2%). The high performance of this sector can be attributed to the fact that, according to the OKVED 2007, the K industry includes a broad range of activities, including research and development in natural, humanitarian, and technical sciences, information technology services, other consulting services, lease, real estate operations, publishing, etc. At the same time, the share of this sector in the GUP of metropolitan areas of macroregional significance is substantially higher than in other metropolitan areas. We will return to the interpretation of this interesting observation below.

In turn, **"non-urban industries",** i.e. industries whose contribution to the total output of goods and services in the metropolitan areas under review is **lower on average than across the Russian economy** include:

- agriculture;
- fishery;
- mining and minerals;
- construction;
- wholesale and retail.

While the relatively low contribution of the so-called resource-based industries in the economies of metropolitan areas is quite predictable, the relatively low contribution of construction and commerce seems unexpected at first.

The lower share of wholesale and retail trade in the GUP of metropolitan areas as compared to the share of this sector in the GDP can be attributed to the high contribution to this indicator made by wholesale and other purchases of non-consumer nature, including as part of government procurement (e.g., military procurement and procurement of other non-consumer goods), which are mostly concentrated in Moscow (the sector's share in the GUP of the Moscow metropolitan area is 13.7%) or may even be omitted from municipal income statistics due to various restrictions (in GDP measurement, the respective value can be obtain through additional measurements).

The relatively low share of construction in the economic structure of the metropolitan areas reviewed is presumably the result of the accounting

specifics of large trunk infrastructure construction and government procurement projects that are not reflected or only partly reflected in municipal statistics (only at the country level).

Thus, the results obtained can be considered quite predictable: large urban economies are, on average, more focused on services (market and social consumer services, business services) but retain a large share of the manufacturing and state administration sectors.

At the same time, even now we can note the structural differences between the metropolitan areas reviewed.

Metropolitan areas – macroregional centers demonstrate generally positive structural shifts (in terms of modern trends of economic development): a growing share of the sector of intellectual and business services (the K sector), accompanied by a reduction of the manufacturing industry that possesses weak competitive ability in the global market, reduction of the share of budget-funded sectors, and a growing share of market services.

At the same time, metropolitan areas of regional and local significance demonstrate structural stagnation: their economic structure is still focused on either the prevalence of old industry or on the production of natural resources, while the market sectors of the economy are represented mostly by consumer sectors lacking high innovative potential.

Table 3

COMPARISON OF GDP STRUCTURE AND ECONOMIC STRUCTURE OF 45 METROPOLITAN AREAS (IN GENERAL AND BY GROUP), 2016, %

Orange color indicates the weighted average of greater than the value in the GDP structure, GREEN - below the value in the GDP

Domain	∑GVA/ ∑GDP Russian Federation	∑GVA/ ∑GDP 45 m.a.	∑GVA/ ∑GDP group A	∑GVA/ ∑GDP group B	∑GVA/ ∑GDP group C
A. Agriculture	4,02	0,66	0,35	1,23	0,89
B. Fishing	0,25	0,14	0,07	0,32	-

C. Mining	8,48	2,19	0,21	1,63	21,99
D. Processing industries	12,36	14,53	11,00	20,59	19,94
E. Production and distribution of electricity, gas and water	2,81	3,75	2,96	4,98	5,56
F. Construction	5,56	3,33	3,31	2,91	5,30
G. Wholesale and retail trade	14,40	10,08	12,32	6,91	3,82
H. Hotels and restaurants	0,75	0,87	1,04	0,57	0,71
I.Transport and communications	7,05	9,41	9,14	10,10	8,93
J. Financial activities	4,02	8,64	11,07	5,22	1,77
K. Real estate and services	15,47	16,07	20,63	9,03	5,77
L. Public Administration and Security	7,09	8,60	6,91	12,71	6,05
M. Education	2,34	4,56	4,34	5,10	4,21
N. Healthcare	3,39	4,09	3,84	4,63	3,91
O. Other community services	1,55	1,96	2,21	1,63	1,08
Total	**90,08**	**88,88**	**89,39**	**87,57**	**89,94**

Source: Fund IUE according to "Rosstat"

2.3. METROPOLITAN AREAS LEADING IN STRUCTURAL SHIFTS

Strictly speaking, a new standard urban economic structure that would enable producing economic growth cannot be defined either theoretically or practically. On the contrary, the economic structure changes in the wake of spontaneous innovations.

However, in order to isolate different types of metropolitan areas based on their level of economic development and potential for structural shifts in the economy, we propose using the following methodological assumptions:

1) a standard structure of a modern urban economy is a diversified economy without industries based on resource production (balance between the private and the public sector and a relatively even distribution of the GUP between industries in these sectors);

2) since the most developed cities in the world are characterized by none other than a standardized economic structure, it offers a relatively greater potential for economic growth (or is a result of economic growth, a sign of a well-developed economy).

3) Based on the obtained measurements of the contributions of various industries in the GUP of the metropolitan areas under review and on the comparison of those measurements with the average GUP structure of all

metropolitan areas and the GDP structure, we created the following typology of the areas reviewed in terms of their structural characteristics:

- metropolitan areas with developed modern urban economies and a high potential for structural shifts;
- metropolitan areas with resource-based economies and a low potential for structural shifts;
- metropolitan areas with industrial economies and a moderate potential for structural shifts;
- metropolitan areas with depressed economies and unclear prospects for structural shifts.

At the same time, we proceed from the fact that, in terms of socioeconomic development prospects, the highest potential for economic growth corresponds to an urban economic structure (which we call a modern urban economy) that lacks a high concentration of of the GUP in resource industries and, at the same time, has developed sectors of market and non-market intellectual (research and development, information technology services, professional consulting services) and social services (education, healthcare).

The results of the analysis are reviewed in detail below.

For the purpose of further review, we use the following terms:

First echelon industries are industries that are the most characteristic of the economies of large metropolitan areas at the current stage of global socioeconomic development and offer the highest potential in terms of economic growth (innovative potential). In the OKVED 2007 system, these industries include:

1. Manufacturing (D).
2. Financial operations (J).
3. Real estate operations, leasing, and services (K). **Such other services include research and development in natural, humanitarian, and technical sciences, IT services, and other intellectual services.**
4. Transportation and telecommunications (I).
5. Education (M).
6. Healthcare and social services (N).

The above 6 industries can be conventionally divided into three institutional sectors (based on whether a given type of economic activity mostly belongs to the private, public, or mixed sector):

1. Private sector: D, J, K industries.
2. Mixed sector: J industry.
3. Public sector: M and N industries.

Second echelon industries include industries that are either not typical for an urban economy (e.g. mining and minerals, agriculture) or are typical for an urban economy but offer no potential for economic growth (innovative potential). In the OKVED 2007 system, these industries include:

1. Agriculture, hunting, forestry (A).
2. Fishery, fish farming (B).
3. Mining and minerals (C).
4. Construction (F).
5. Wholesale and retail, repairs of road vehicles, motorcycles, personal articles (G).
6. Hotels and restaurants (H).
7. Electric power, gas, and water production and distribution (E).
8. Other utility, social, and personal services (O).
9. State administration and military security; social security (L).

An urban economy highly concentrated only in second echelon industries may be an indication of either the “Dutch disease” (prevalent industry of specialization (e.g., mining and minerals) and respective development of only market (commerce, construction) and social (state administration) consumer sectors) or of a deep recession where nearly the entire economy is concentrated in the consumer sectors of both the first and the second echelon (and, accordingly, the lacking own income-generating industries are replaced with external sources, i.e. government spending).

Thus, the criteria for isolating different types of economies of metropolitan areas are summarized in **Table 4.**

Table 4

CRITERIA FOR ISOLATING DIFFERENT TYPES OF ECONOMIES OF METROPOLITAN AREAS BY THE LEVEL OF SOCIAL AND ECONOMIC DEVELOPMENT AND THE POTENTIAL OF STRUCTURAL SHIFTS

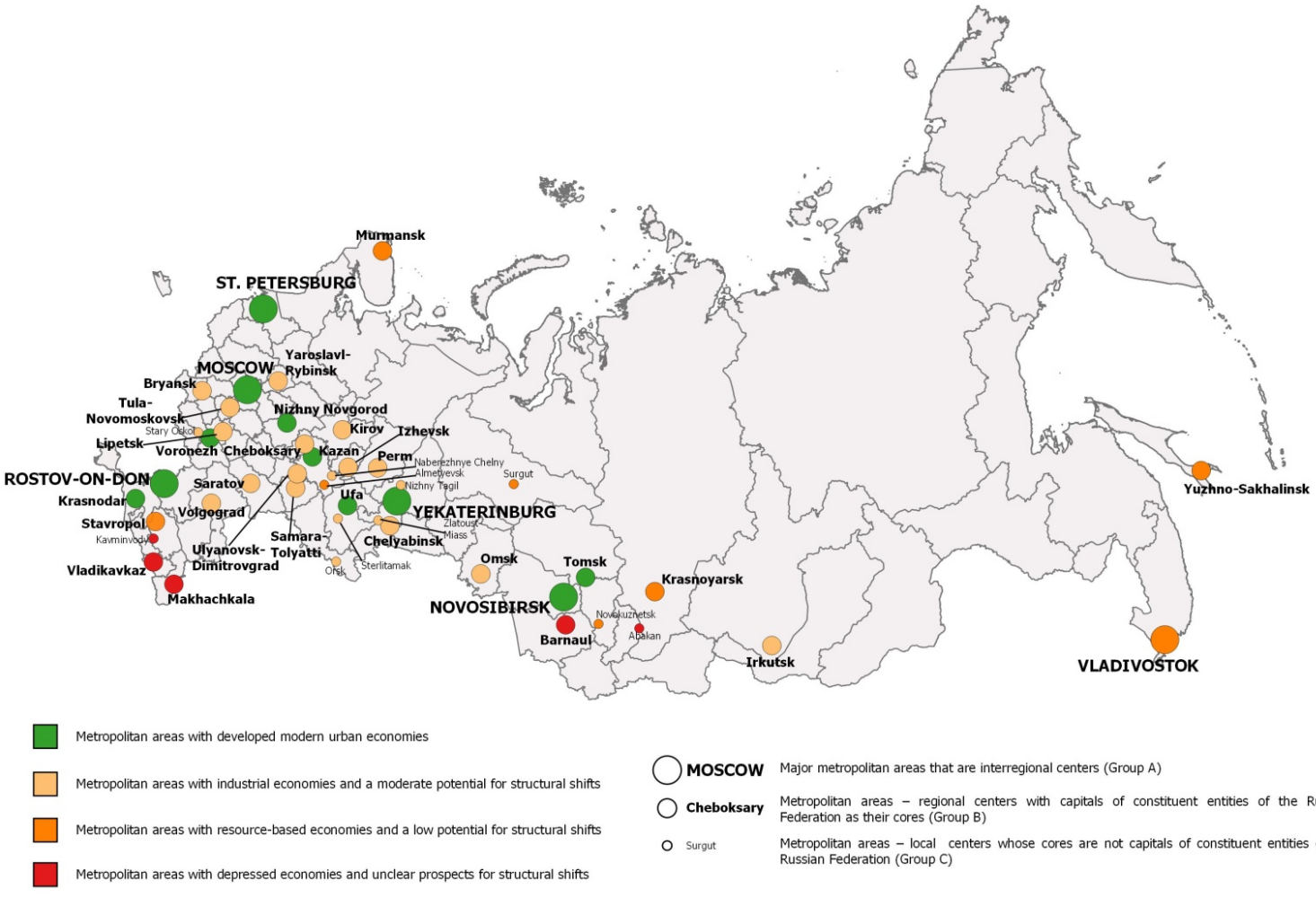
Types of metropolitan area	Processing industries (D)	Financial Sector, Research and Intellectual cervices (J, K)	Healthcare, education (M, N)	Resource Economics (A,B,C)	Consumer Services (G, F, H, O)	Public Administration and Security (L)
1.Metropolitan areas with developed modern urban economies and high potential for structural shifts						
2. Metropolitan areas with industrial economies and a moderate potential for structural shifts						
3. Metropolitan areas with resource-based economies and a low potential for structural shifts						
4. Metropolitan areas with depressed economies and unclear prospects for structural shifts						

Source: Fund IUE according to "Rosstat"

Thus, based on the obtained measurements of the contributions of various industries in the GUP of the metropolitan areas under review and on the comparison of those measurements with the average GUP structure of all metropolitan areas and the GDP structure, we created the following typology of the areas based on their structural characteristics **(Figure 5).**

Figure 5

METROPOLITAN AREAS BASED ON THEIR STRUCTURAL CHARACTERISTICS



Source: Fund IUE according to "Rosstat"

Below is a detailed description of the characteristics of the metropolitan area types obtained.

1. Metropolitan areas with developed modern urban economies *Existing economic structure*

- High share of the financial sector, research and development, and intellectual services – over 15% of the GUP.
- Relatively low share of healthcare, education, state administration, and security – not exceeding 15%-20% of the GUP.
- We can see the significantly advanced structure of the economy of the Moscow metropolitan area

Role in the country's economic development

Sustainable economic processes allow the market industries of the modern economy to develop, instead of using the development model based on a single specific industry or on government spending, – **the highest potential for innovative growth.**

Potential for structural shifts

- Further natural structural shifts not requiring special government policy measures (except for improving the general financial position).
- Moscow metropolitan area – stabilization of the existing economic structure consistent with the metropolitan area's role in economic growth.
- The other 10 metropolitan areas: gradual shifts of the GUP structure towards the GUP structure of the Moscow metropolitan area (creating the required investment support in infrastructural areas, stimulating the development of all market industries).

2. Metropolitan areas with industrial economies and a moderate potential for structural shifts

Existing economic structure

- The economy of the metropolitan areas clearly demonstrates specialization in the manufacturing industry (over 30% of the GUP).
- High share of the state administration and security sector in the GUP.
- Low diversification of the economy in the first echelon market sectors.

Role in the country's economic development

The development model is based on a single specific industry (and supporting industries) or on government spending – **due to Russia's poor**

competitive position in manufacturing, the role of these areas in GDP growth is low, though important for diversifying the economy.

Potential for structural shifts

- In 15 metropolitan areas – regional centers, the potential for natural structural shifts is moderate – with the distribution of resources in the public sector from current spending (for state administration) to spending in non-market first echelon industries (education, healthcare) for the purpose of development of the first echelon market sectors, which requires financial support on the federal level.
- In 6 metropolitan areas – local centers, the potential for natural structural shifts is weak, and the economic structure is more likely to remain unchanged.

3.Metropolitan areas with resource-based economies and a low potential for structural shifts

Existing economic structure

- The economy of the metropolitan areas has a clear geographic specialization in resource industries.
- High share of the state administration and security sector in the GUP.
- Low diversification of the economy in the first echelon market sectors.

Role in the country's economic development

Their development model is based on a single specific industry (and supporting industries) or on government spending – **an important role in resource-based economic growth (export development model).**

Potential for structural shifts

- The Vladivostok metropolitan area, as a macroregional center, has an especially strong need for economic restructuring, e.g., based on the model of a growing share of the manufacturing industry and subsequent growth of the shares of the financial and intellectual services sectors. Special direct government support measures are required for restructuring.
- In other metropolitan areas, the potential for natural structural shifts are very weak against the background of a remaining general macroeconomic resource-based model and the need of its implementation in those metropolitan areas.

4. Metropolitan areas with depressed economies and unclear prospects for structural shifts

Existing economic structure

- Lack of dominating manufacturing or resource first and second echelon industries.
- Healthcare, education, and state administration sectors account for extremely high shares in the economy (between 30% and 50%).
- Taking into account the critically low GUP per capita values (4-5 times lower than the country average), conclusions can be made as to the extremely high share of shadow economy (undisclosed income).

Role in the country's economic development

At the moment, these metropolitan areas have no role in the country's economic growth today; their economic model is focused on satisfying the most basic local needs of their populations and demonstrates no growth prospects due to the gap between the private and the public sector.

Potential for structural shifts

The potential for structural shifts is hard to estimate, while the priority task is to dramatically reduce the share of the shadow economy.

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[1]Methodology for measuring the gross urban product of cities and metropolitan areas. The Institute for Urban Economics, 2017. Available at: http://www.urbaneconomics.ru/sites/default/files/metodvgp.pdf
[2]The Economy of Russian Cities and Metropolitan Areas. Issue No. 1: are city assets working towards urban development? The Institute for Urban Economics, 2017. Available at: http://www.urbaneconomics.ru/sites/default/files/ekonomika_rossiyskih_gorodov_i_gorodskih_aglomeraciy_vypusk_1_iyul_2017.pdf
[3] Except for the R industry (household activities), in respect of which no data is available at the municipal level.
[4] These values are calculated based on the total company payroll fund, its additional measurement to obtain the "Payrol" indicator and then switch to the GUP indicator according to the methodological approach developed earlier by the Institute for Urban Economics and described in the Methodology for Measuring the Gross Urban Product of Cities and Metropolitan Areas. Available at:http://www.urbaneconomics.ru/sites/default/files/metodika_ocenki_vgp_gorodov_i_gorodskih_aglomeraciy_iue_2017.pdf
[5] Russian national accounts from 2011 to 2016: Collected Statistics/Rosstat. – M., 2017. – 263 p.
[6] This OKVED was in effect from 1 January 2008 till 1 January 2017. The new OKVED (OKVED 2) was put into effect from 1 January 2017 – "OK 029-2014 (NACE Rev. 2). Russian Classification of Types of Economic Activity", approved by Rosstandard Order No. 14-st dated 31 January 2014.Further comparable measurements of the GUP structure will be possible unless Rosstat issues methodological instructions on converting OKVED 2007 indicators into OKVED 2.

Structural section: Real estate market