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Potential of Reindustrialization of Federal Districts of the Russian Federation: Assessment Issues and Practical Results

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Abstract

The article analyzes the proposed index "fixed assets and investments" in the aspect of the potential of reindustrialization processes in the economic systems of the Federal districts of the Russian Federation, which allows to ensure the comparability of the used absolute and relative statistical indicators. This work is the result of a study of the theory and practice of reindustrialization aimed at improving the efficiency-cy and competitiveness of the Russian economy in the face of negative external influences. The main theoretical approaches to the study of the concept of reindustrialization and its potential, its role and importance in ensuring the economic sovereignty of the country and economic growth are considered. The reindustrialization potential was estimated on the basis of 14 indicators and normalized indices calculated on their basis. The study of the dynamics of these indicators for 2005-2017 indicates the presence of certain positive changes in this area, but the structure of fixed assets and the nature of investment processes in the Russian Federation do not allow us to conclude that the predominance of the reindustrialization vector in this sphere of social production. At the same time, the economic policy currently being implemented in the Russian Federation does not promote reindustrialization, namely the renewal of fixed assets on a qualitatively new, modernizing basis. Based on the analysis of the integral index "fixed assets and investments" it can be concluded that the distribution of Russian Federal districts this index shows a certain stability, growth, analyzed the integral index was noted in all Russian Federal districts, except Urals FD, which indicates a certain improvement in the status and dynamics of basic assets and investments in the Russian economy. The approved methodology can be used to assess the potential of reindustrialization in individual regions, the totality of all Russian regions, as well as indicative planning of regional and Federal socio-economic development.

Keywords: reindustrialization, reindustrialization potential, fixed assets, investments, Federal districts, linear scaling method, integral index, state policy of reindustrialization, dynamics of fixed assets and investments, components of the index

1 Introduction

In the economic literature, it is noted that the term reindustrialization was first proposed in 1984 in relation to the policy of restoring the us manufacturing sector (14, 16, 25). At the same time, reindustrialization was understood as combining the efforts of the state, business and the education system in order to develop and implement a coordinated industrial policy aimed at restoring the country's industrial potential. In the EU countries reindustrialization is considered as a necessary condition for sustainable growth (4, 17). The reindustrialization strategy is also used at the municipal level (3, 18).

E.V. Kotov (2017) identifies the following fundamental prerequisites when considering the concept of "reindustrialization": 1) the Decisive importance of the state in the processes of formation and implementation of reindustrialization policy; 2) the Manufacturing industry as the locomotive of reindustrialization; 3) Innovation as the basis of reindustrialization processes; 4) the Special role of science and education in the effective implementation of reindustrialization processes (13). In turn, A.A. Maltsev, C. Mercier-Suissa and A.E. Mordvinova (2017) distinguish the following approaches to the analysis of reindustrialization, in which it is considered as a process (14):

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– Preservation of the traditional structure of the regional economy (10);

– Restoration of the integrity of the Russian economy, broken as a result of falling volumes and reducing the range of industrial production (15);

– The increase in the share of the manufacturing sector in the GDP structure as a result of the implementation of state policy in industry, energy and Finance, as well as the return of previously withdrawn production to other countries (9);

– Development of manufacturing industries due to the advanced development of industry (2, 14, 24);

– Restoration of production, technological systems, industries and individual enterprises, together with the solution of the main tasks of socio-economic development aimed at creating competitive national goods and services (20).

Of course, it was noted that reindustrialization should become a paradigm of the developing, not stagnating Russian economy, and its main goal is to restore the role and place of industry in the economy as its basic component on the basis of a new technological order and the solution of complex economic, organizational and other problems (2). Hence, the new objects of industrial policy should be the so-called related areas, that is, associations of people, things, technologies in the industrial system, structures based on such a special kind of business models as technological platforms, as well as human needs. The subject of the new industrial policy in the conditions of the fourth industrial revolution is the system of interaction of Federal and regional authorities with business associations and civil society institutions. And all this is realized in the conditions of rapid development of the digital economy (20). With regard to the personnel component of the process of re-industrialization was proposed the term "competence gap", which is manifested in the acquisition of information competencies of a universal character of multitasking as the main characteristics of the workplace, multicompetence as worker characteristics, the accelerated obsolescence of professional competences (12). As the main vector of reindustrialization processes, the position was substantiated that it should facilitate the transition to sustainable inclusive growth, contributing to the country's entry into new technological, product and service markets, respond to new global challenges, be environmentally oriented, reduce social stratification and generally lead to an increase in social welfare (19).

At the same time, the categories "reindustrialization" and "neo-industrialization" are considered separately, which, in our opinion, relate to each other as two interrelated stages in the development of the country's economy (27). The reindustrialization is aimed at addressing the negative effects of deindustrialization, and neoindustrialization – the creation of qualitatively new productive forces Technotronic-level, interconnected in the system of automated vehicles (21, 22). With regard to the regional level of O.S. Sukharev (2013) identifies the following main strategic directions of structural transformation, contribute to activation of processes of formation of new industrial spaces: 1) the formation of the actual neo-industrial segment of the economy; 2) modernizing traditional industries, especially primary industries; 3) formation in the region of a segment of creative industries; 4) the formation of the regional spatial structure of the dominant active-active structures (22). E.V. Sumina (2015) justifies priority in terms of re-industrialization, industrial and technological updates aimed at diversifying regional Economics (23). In modern conditions the policy of re-industrialization must take into account the peculiarities of regional development and conducted with the participation of the state (8). At the same time, the role of regions as "actors" of reindustrialization policy is increasing (26). In modern conditions, it is objectively necessary to carry out the processes of reindustrialization in order to maximize the realization of their positive effects purposefully and systematically within the framework of strategic and indicative planning. At the same time, long – term goals should be set as part of strategic planning, and specific indicators should be set as part of indicative planning.

Accordingly, the purpose of this article is to identify the features of the analysis of the potential of reindustrialization processes at the level of Federal districts and the Russian Federation as a whole using the index "fixed assets and investments" proposed by the authors, provided that the absolute and relative statistical indicators used in the study are comparable, which can and should serve as the basis for effective indicative planning.

2 Research Methodologies and Methodology

To analyze the potential of re-industrialization in the Federal districts of the Russian Federation was based on the official statistical data of Goskomstat of the Russian Federation for 2005-2017. This time interval allows to make certain conclusions about the state of fixed assets and investments, the dynamics of their quantitative and qualitative indicators in the Russian Federation and Federal districts. It should be borne in mind that the published absolute and relative statistical indicators do not allow an objective assessment of the qualitative level of the potential for reindustrialization, especially when conducting interregional comparisons (1, 7, 11). Therefore, it was previously proposed to use for these purposes the methodology for assessing the potential of reindustrialization in the regions of the Russian Federation, based on the calculation of its integral index (5, 6).

Based on the analysis of existing approaches to assessing the potential of reindustrialization of the Federal districts of the Russian Federation, we propose to use the following enlarged blocks of indicators characterizing its main components: fixed assets and investments, manufacturing, social block, computer technology, science and innovation. This article will analyze the first component of the potential of reindustrialization. In the unit " fixed assets and investments" in our view, should include the following indicators on the basis of which will be calculated 14 indices: the value of fixed assets per capita – the index I1; capital productivity of fixed assets – the index I2 (GRP / value of assets); the commissioning of fixed assets per capita – the index I3; the ratio of fixed assets commissioning – the index I4 (price entered fixed assets / value of assets); depreciation of fixed assets – the index I5, investments in fixed capital per capita – the index I6; the index of physical volume

of investments into fixed capital – the index I7; investments in machines, equipment, means of transport in the structure of investments in fixed capital – the index I8; investments in fixed capital at the expense of own funds – the index I9; investments in fixed capital at the expense of budget funds – index I10; gross fixed capital formation per capita – the index I11; gross regional product per capita – the index I12; spending on national economy in the structure of consolidated budget per capita – index И13; spending on the national economy per unit of GRP – the index I14.

When calculating the indexes I2 and I14, the forecast for 2017 of the gross regional product indicator was used, since the bodies of the state statistics Committee in 2017 provided up-to-date information on this indicator in the context of Federal districts only for 2016.Similarly, when calculating the index I12, the forecast for 2017 of the gross regional product per capita was used. Indicator I11 was not used in the calculation for 2017, as Goskomstat excluded the indicator gross fixed capital formation per capita from the regional statistics. When calculating the I3 and I4 indexes, the commissioning of fixed assets indicator has been used since 2010, due to the fact that Goskomstat has been providing this information in the regional context since 2010.

To ensure comparability of indicators developed technique was used the formula for linear scaling, the index I5 (degree of depreciation of fixed assets) determined by the formula inverse linear scaling when a smaller value of the index corresponds to a higher index value.

Table 1: Components of the rating of Federal districts on the value of the integral index "fixed assets and investments" in 2010

Federal districts	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14	Integral index
Ural	1	0	1	0,3647	0	0,982	0,3176	0,6054	1	0	0,9913	1	0,7263	0,2005	0,5848
Far-Eastern	0,4343	0,9734	0,2683	0	1	1	0,1149	0	0	0,3797	1	0,7304	1	0,9229	0,5589
North-Western	0,3685	0,8515	0,3489	0,4501	0,5461	0,5453	0,75	0,6703	0,031	0,2814	0,5496	0,5925	0,5597	0,501	0,5033
Siberian	0,1966	1	0,168	0,4986	0,7518	0,1913	0,6149	0,9838	0,9302	0,2034	0,2114	0,3636	0,1948	0,2164	0,4661
Central	0,4813	0,8868	0,3426	0,0883	0,6738	0,2329	0	1	0,438	0,3932	0,2948	0,7769	0,5602	0,234	0,4573
Russian Federation	0,3544	0,6633	0,2749	0,2536	0,4043	0,3352	0,1284	0,6973	0,5	0,261	0,357	0,5141	0,4065	0,3697	0,3943
Southern	0,145	0,6983	0,1429	0,6781	0,5355	0,3513	1	0,4432	0,2093	0,2576	0,3491	0,2248	0	0	0,3597
The North Caucasian	0	0,534	0	1	0,3901	0	0,5	0,2703	0,0271	1	0	0	0,0337	1	0,3397
Privolzhsky	0,2174	0,5413	0,0789	0,0028	0,1773	0,16	0,25	0,8324	0,7054	0,2237	0,1674	0,2916	0,3288	0,7129	0,3350

Finally, the basis for the analysis were taken the following gradation values of the indices: 1.0 is the highest (maximum) value of the index; 0.9999-0.9000 – very high values of the index; 0.8999-0.7000 – high values of the index; 0.6999-0.3000 – average values of the indexes; 0.2999-0.1000 low index values; 0.0999-0.0001 – very low indexes; 0.0 is the smallest (minimum) value of the index.

2.1 Dynamics of Fixed Assets and Investment Indexes in Federal Districts

The largest integral index "fixed assets and investments" in 2010, equal to 0.5848, was characterized by the Ural Federal district (UrFD). The distribution of indexes was as follows (table. 1): the highest values were present in indexes – I1 (1.000), I3 (1.000), I9 (1.000), I12 (1.000), very high values of the index – I6 (0.982), I11 (0.9913), high value of the index – I13 (0.7263), average values for indexes – I4 (0.3647), I7 (0.3176), I8 (0.054), a low value of the index – I14 (0.2005) and the lowest values of indexes – I2, I5, I10.

In second place is the far Eastern Federal district (FEFD) with an integral index of 0.5589, which had the highest values of the indexes – I5 (1.000), I6 (1.000), I11 (1.000), I13 (1.000). Very high values have the indexes I2 (0.9734), I14 (0.9229), high value indexes – I12 (0.7304), the average values of the indexes – I1 (0.4343), I10 (0.3797), low values of the index – I3 (0.2683), I7 (0.1149) and the smallest values of the indexes – I4, I8, I9.

The third place was occupied by the North-Western Federal district (NWFD). Integral index district made 0.5033, and private indexes settled in the following order: high values at indexes I2 (0.8515), I7 (0.750), average values of the indexes – I1 (0.3685), I3 (0.3489), I4 (0.4501), I5 (0.5461), I6 (0.5453), I8 (0.6703), I11 (0.5496), I12 (0.5925), I13 (0.5597), I14 (0.501), a low value at the index of I10 (0.2814), very low value – the index I9 (0.031).

In fourth place was a Siberian Federal district (SibFD) with integral index 0.4661, characterized by a maximum index value I2 (1.000), very high values of the index I8 (0.9838), I9 (0.9302), a high value for the index I5 (0.7518), the average values of the indexes I4 (0.4986), I7 (0.6149), I12 (0.3636), low values of the indexes I1 (0.1966), I3 (0.168), I6 (0.1913), I10 (0.2034), I11 (0.2114), I13 (0.1948), I14 (0.2164).

The Central Federal district (CFD) with integral index 0.4573, was on the fifth place with the maximum value of the index I8 (1.000), high values at indices indexes I2 (0.8868), I12 (0.7769), the average values of the indexes – I1 (0.4813), I3 (0.3426), I5 (0.6738), I9 (0.438), I10 (0.3932), I13 (0.5602), low values of the index I6 (0.2329), I11 (0.2948), I14 (0.34), a very low value of the index I4 (0.0883) and zero value of the index I7.

The Russian Federation ranks sixth with integrated index 0.3943 was characterized by average values of indexes I1 (0.3544), I2 (0.6633), I5 (0.4043), I6 (0.3352), I8 (0.6973), I9 (0.500), I11 (0.357), I12 (0.5141), I13 (0.4065), I14 (0.3697) and low values for indexes I3 (0.2749), I4 (0.2536), I7 (0.1284), I10 (0.261).

In seventh place is the Southern Federal district (SFD), which had the value of the analyzed index "fixed assets and investments", equal to 0.3597. This was due to the maximum value of the index I7 (1.000), average values of indexes I2 (0.6983), I4 (0.6781), I5 (0.5355), I6 (0.3513), I8 (0.4432), I11 (0.3491), low index values I1 (0.145), I3 (0.1429), I9 (0.2093), I10 (0.2576), I12 (0.2248) and zero index values I13, I14.

In eighth place was the North Caucasian Federal district (NCFD) with an integral index of 0.3397. From different maximum values of the indexes I4 (1.000), I10 (1.000), I14 (1.000), average values of indexes I2 (0.534), I5 (0.3901), I7 (0.500), low value of the index – I8 (0.2703), very low index values – I9 (0.0271), I13 (0.0337) and zero index values – I1, I3, I6, I11, I12.

Ninth place was occupied by the Privjlzhsky Federal district (PFO), an integrated index of "assets and investments" which was 0.335 and partial indexes were in the following groups: high values for indices – I8 (0.8324), I9 (0.7054), I14 (0.7129), average values at indexes I2 (0.5413), I13 (0.3288), low values of the indexes I1 (0.2174), I5 (0.1773), I6 (0.160), I7 (0.250), I10 (0.2237), I11 (0.1674), I12 (0.2916) and very low values at indexes I3 (0.0789), I4 (0.0028).

The maximum index value I1 in 2010 was characterized by a UrFD, I2 – SibFD, I3 – UrFD, I4 – NCFD, I5 – FEFD, I6 – FEFD also, I7 – SFD, I8 – CFA, I9 –UrFD, I10 – NCFD, I11 – FEFD, I12 – UrFD, I13 – FEFD, I14 – NCFD.

The minimum values of the partial indexes were observed in the following Federal districts: I1 – in the NCFD, I2 – in the UrFD, I3 – in the NCFD, I4 – in the FEFD, I5 – in the UrFD, I6 – in the NCFD, I7 – in the CFD, I8 – in the FEFD, I9 – also in the FEFD, I10 – in the UrFD, I11 – In the NCFD, I12 – again in the NCFD, I13 – SFD, I14 – again in the SFD.

The results of the comparative analysis of the components of the integrated index "fixed assets and investments" by Federal districts in 2017 are presented in table. 2.

*In 2017, the materials of the state statistics Committee of the Russian Federation did not contain data on gross fixed capital formation per capita in the regional context. Therefore, the index I11 is not used in the calculation of the index of fixed assets and investments in 2017.

The highest integral index in 2017 was observed in the Central Federal district-0.6224 (Fig. 1). In this district the highest index value is I5 (1.000), very high index value – I13 (0.9478), a high value of the index – I2 (0.8202), I8 (0.8713), I12 (0.739), I14 (0.8958), the average value of the indexes – I1 (0.4349), I3 (0.3725), I4 (0.587), I6 (0.3032), I7 (0.500), I9 (0.6969), I10 (0.5452) and the lowest value of the index is I11.

In second place is the North-Western Federal district with the integrated index 0.5866, which had the highest value of the index I8 (1.000), very high values of the index – I5 (0.9459), I14 (0.9271), high values of the indexes – I9 (0.7244), I13 (0.7999), average values of the indexes – I1 (0.4444), I2 (0.4719), I3 (0.3912), I4 (0.6356), I6 (0.4587), I7 (0.400), I10 (0.4127), I12 (0.6008) and the minimum value is at index I11.

Table 2: Components of the rating of Federal districts by value integrated index "fixed assets and investments" in 2017*

Federal districts	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14
Central	0,4349	0,8202	0,3725	0,587	1	0,3032	0,5	0,8713	0,6969	0,5452	0,739	0,9478	0,8958	0,6224
North-Western	0,4444	0,4719	0,3912	0,6356	0,9459	0,4587	0,4	1	0,7244	0,4127	0,6008	0,7999	0,9271	0,5866
Far-Easternt	0,6289	0,2247	0,3732	0	0,9514	0,8055	1	0,1345	0,4606	0,241	0,7169	1	1	0,5383
Ural	1	0	1	0,9514	0	1	0,3381	0	0,9173	0	1	0,4863	0	0,4781
Russian Federation	0,3451	0,5618	0,3081	0,6518	0,5838	0,3167	0,3952	0,5614	0,7205	0,3554	0,4874	0,5092	0,6354	0,4594
Siberian	0,1519	1	0,1807	1	0,8	0,1512	0,2	0,8421	0,8819	0,2349	0,3057	0,1475	0,224	0,4371
Southern	0,1826	0,3708	0,1542	0,5587	0,8919	0,1857	0,9667	0,2632	0	0,8373	0,2017	0,2717	0,8333	0,4084
Privolzhsky	0,1767	0,764	0,1515	0,5789	0,2865	0,1664	0	0,6433	1	0,3012	0,2878	0,2326	0,4635	0,3609
The North Caucasian	0	0,736	0	0,5547	0,5297	0	0,1952	0,2222	0,4016	1	0	0	0,651	0,3065

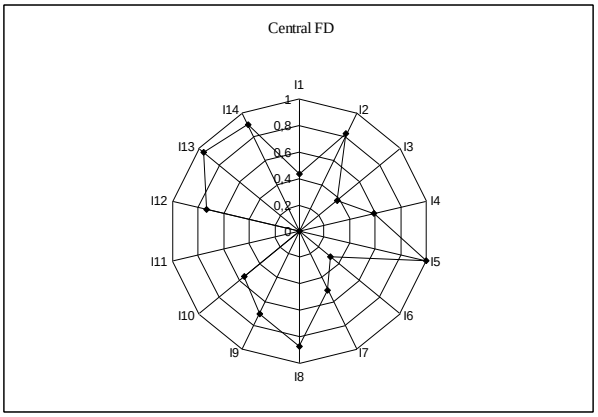

Figure 1: Components of the index "fixed assets and investments" in the Central Federal district in 2017

In third place was the far Eastern Federal district (0.5383) which had the highest values of the index I7 (1.000), I13 (1.000), I14 (1.000), a very high value of the index I5 (0.9514), high values of the index I6 (0.8055), I12 (0.7169), average values of the indexes I1 (0.6289), I3 (0.3732), I9 (0.4606), low values at indexes I2 (0.2247), I8 (0.1345), I10 (0.241) and smallest values of the indexes I4, I11.

Ural Federal district (0.4781 – 4th place) had the highest values of the indexes I1 (1.000), I3 (1.000), I6 (1.000), I12 (1.000), very high values of the index I4 (0.9514), I9 (0.9173), average values of the indexes I7 (0.3381), I13 (0.4863) and the lowest values at indexes I2, I5, I8, I10, I11, I14.

Russian Federation (0.4594 – 5th place) (Fig. 2) had a high index value – I9 (0.7205), the average values of the indexes I1 (0.3451), I2 (0.5618), I3 (0.3081), I4 (0.6518), I5 (0.5838), I6 (0.3167), I7 (0.3952), I8 (0.5614), I10 (0.3554), I12 (0.4874), I13 (0.5092), I14 (0.6354) and zero value of the index I11. Siberian Federal district (0.4371 – 6th place) was characterized by the highest values of the indexes I2 (1.000), I4 (1.000), high index values – I5 (0.800), I8 (0.8421), I9 (0.8819), the average value of the indexes I12 (0.3057), low index values I1 (0.1519), I3 (0.1807), I6 (0.1512), I7 (0.200), I10 (0.2349), I13 (0.1475), I14 (0.224) and zero value of the index I11.

In seventh place is the Southern Federal district, which had a value of analyzed index "fixed assets and investments" equal 0.4084 that was due to the very high value of the index I7 (0.9667), high index values I5 (0.8919), I10 (0.8373), I14 (0.8333), the average values of the indexes I2 (0.3708), I4 (0.5587), low index values I1 (0.1826), I3 (0.1542), I6 (0.1857), I8 (0.2632), I12 (0.2017), I13 (0.2717) and zero index values I9, I11.

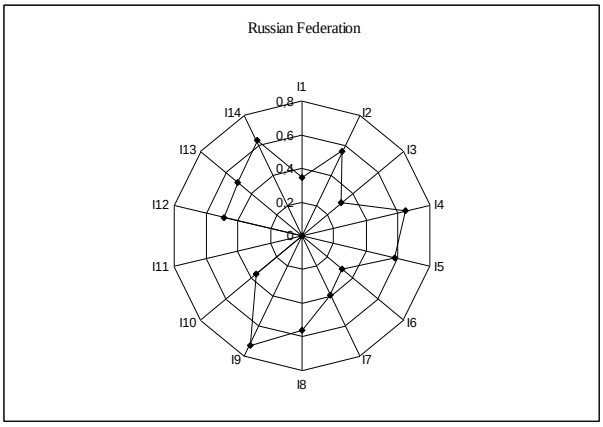

Figure 2: Components of the fixed assets and investments index in the Russian Federation in 2017

Privolzhsky Federal district (0.3609 - 8th place) (Fig. 3) had the highest value of the index I9 (1.000), a high value of the index I2 (0.764), the average values of the indexes I4 (0.5789), I8 (0.6433), I10 (0.3012), I14 (0.4635), low values of the indexes I1 (0.1767), I3 (0.1515), I5 (0.2865), I6 (0.1664), I12 (0.2878), I13 (0.2326) and zero index values I7, I11.

In ninth place is the North-Caucasian Federal district (0.3065) had the maximum index value of I10 (1.000), high value of the index I2 (0.736), average values of the indexes I4 (0.5547), I5 (0.5297), I9 (0.4016), I14 (0.651), low index values – I7 (0.1952), I8 (0.2222) and zero values for the indexes I1, I3, I6, I11, I12, I13.

The maximum index value I1 in 2017 was characterized by UrFD, I2 – SibFD, I3 – UrFD, I4 – SibFD, I5 – CFD, I6 – UrFD, I7 – FEFD, I8 – NWFD, I9 – PFO, I10 – NCFD, I12 – UrFD, I13 – FEFD, I14 – once the FEFD.

Minimum index values were in the following Federal districts: I1 – from NCFD, I2 – in the UrD, I3 – NCFD, I4 – FEFD, I5 – in the UrFD, I6 – NCFD, I7 – have a PFD, I8 – in the UrFD, I9 – SFD, I10 – UrFD, I12 – NCFD, I13 is also from the NCFD, I14 –UrFD.

3 Results and Discussion

Analysis of the state and processes occurring in the field of fixed assets and investments, allows us to draw the following conclusions.

During the analyzed period (2005 - 2017) the greatest growth of the integrated index of fixed assets and investments was observed in the Southern Federal district-0.1471 (table. 3). Further located: North-Western Federal district – 0.1399, far Eastern Federal district – 0.0855, Central Federal district – 0.0557, Russian Federation – 0.040, Siberian Federal district – 0.0153, North Caucasian Federal district – 0.0151, Privolzhsky Federal district – 0.0052. At the same time, the decrease in the analyzed indicator was noted only in the Ural Federal district – (-0.0839).

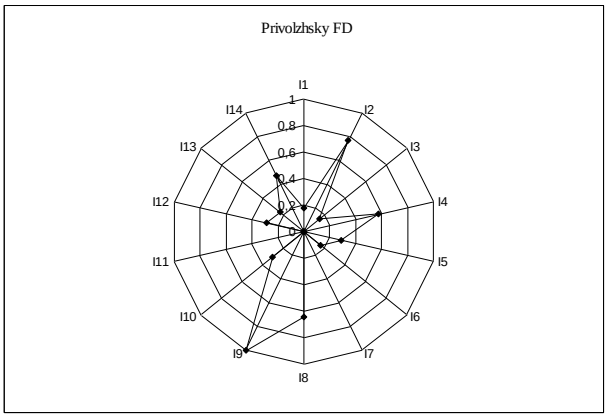

Figure 3: Components of the index "fixed assets and investments" in the Privolzhsky Federal district in 2017

Table 3: Indexes of fixed assets and investments in the Federal districts of the Russian Federation

Federal districts	2005	2010	2011	2012	2013	2014	2015	2016	2017
Russian Federation	0,4194	0,3943	0,4011	0,4368	0,45	0,4888	0,4147	0,4436	0,4594
Central	0,5667	0,4573	0,4804	0,5416	0,5622	0,5942	0,5478	0,5615	0,6224
North-Western	0,4467	0,5033	0,4758	0,5269	0,5086	0,5478	0,4436	0,6259	0,5866
Sothern	0,2613	0,3597	0,3001	0,3799	0,4538	0,3739	0,2561	0,3013	0,4084
The North Caucasian	0,2914	0,3397	0,2721	0,3467	0,315	0,3455	0,3267	0,2838	0,3065
Privolzhsky	0,3557	0,335	0,3195	0,3524	0,387	0,4485	0,3963	0,3572	0,3609
Ural	0,562	0,5848	0,5736	0,5887	0,5418	0,5958	0,5299	0,5473	0,4781
Siberian	0,4218	0,4661	0,4225	0,4616	0,4381	0,469	0,3666	0,4186	0,4371
Far-Eastern	0,4528	0,5589	0,6835	0,578	0,5903	0,6153	0,593	0,5729	0,5383

In turn, the relative increase in the analyzed index was observed in the southern Federal district – 56.3%. It was followed by the North-Western Federal district – 31.32%, the far Eastern Federal district – 18.88%, the Central Federal district – 9.83%, Russian Federation – 9.54%, the North Caucasian Federal district – 5.18%, the Siberian Federal district – 3.63%, Privolzhsky Federal district – 1.46%. The decrease in relative indicators was characterized by the Ural FD - (-14.93%).

The maximum value of the integrated index of fixed assets and investments was noted in 2017 in the Central Federal district – 0.6224. Next is the North-Western Federal district – 0.5866, far Eastern Federal district – 0.5383, Ural Federal district – 0.4781; Russian Federation – 0.4594; Siberian Federal district – 0.4371, Southern Federal district – 0.4084, Privolzhsky Federal district is 0.3609, North Caucasian Federal district – 0.3065.

By the way, in 2005, the maximum of the analyzed indicator was noted as the same in the Central Federal district 0.5667, followed by the Ural Federal district – 0.562, far Eastern Federal district – 0.4528, North-Western Federal district – 0.4467, Siberian Federal district – 0.4218, Russian Federation – 0.4194, Privolzhsky Federal district is 0.3557, North Caucasian Federal district – 0.2914, Southern Federal district – 0.2613.

During the analyzed period (2005-2017), the growth of the occupied place was noted in the NWFD-by two positions (from 4 to 2 place), the SFD – also by two positions (from 9 to 7 place) and in the Russian Federation as a whole – from 6 to 5 place. The decrease in occupied space occurred in such districts as North Caucasian Federal district (from 8 to 9 place), PFD – 7 to 8 place SibFD – from 5 to 6 place, and UrFD – 2 in 4th place. The position remained unchanged at the CFD (1st place) and the FEFD (3rd place).

In the first quadrant (an increase in the absolute figure – the growth in occupied space) was part of the Russian Federation – 0.040 and 1, respectively, of the CFD – 0.0557 and 0 NWFD – 0.1399 and 2, SFD – 0.1471 and 2, FEFD – 0.0855 and 0. In the second quadrant (the increase of the absolute indicator of the decline in occupied space) was included NCFD – 0.0151 and -1, and SibFD – 0,0153 and -1. In the third quadrant (decrease in absolute value – decrease in occupied space) was UrFD (-0.0839 and -2). In the fourth quadrant (absolute decline – increase in occupied space), there were no districts

PFD during the analyzed period was located in the second quadrant, since in the Volga region there was an increase in the absolute value of the integral index and a decrease in the occupied place (0.0052 and -1) (Fig. 4).

4 Conclusions

The assessment of the potential of reindustrialization of the Russian Federation, carried out on the basis of the analysis of 14 indexes obtained by rationing the basic indicators characterizing the state of fixed assets and investments for the period 2005-2017, indicates the presence of certain problems in this area. At the same time, the structure of fixed assets and the nature of investment processes in the Russian Federation do not allow to draw a conclusion about the predominance of the reindustrialization vector in this sphere of social production.

There are a number of Federal positive trends in this area, which are associated with the positive dynamics of financial indicators of fixed assets and investments and their estimated values per capita. Taken in isolation from qualitative physical indicators, they can lead to the formation of a distorted vision of the state of the Foundation of the economic system and its transformation, which retains the degradation dynamics and essence. In this regard, it can be stated that reindustrialization as a systemic process has not yet manifested itself properly. It should be noted that a number of enterprises have significantly upgraded their own fixed assets, and, as a rule, declared investments are directed to the modernization of fixed assets. However, a positive vector has not yet been formed in the General body of statistical information. However, a significant impact on these indicators has a high inertia of the processes of updating fixed assets.

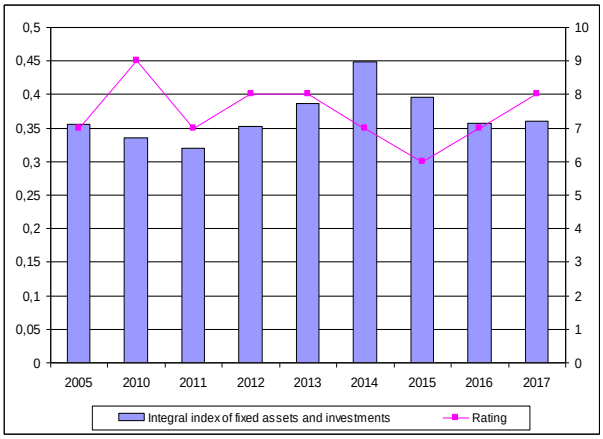

Figure 4: Integral index of fixed assets and Russian rating of the Privolzhsky Federal district

Based on the analysis of the integral index of fixed assets and investments, the following main conclusions can be drawn. First, the distribution of the Russian Federal districts according to this index demonstrates a certain stability. The North-Western and Southern Federal districts rose by two positions, the Russian Federation as a whole – by one. On the other hand, the North Caucasian, Privozhskyl and Siberian Federal districts fell by one position, and the Ural Federal district fell by two positions. The Central and far Eastern Federal districts retained their first and third places, respectively. Secondly, the growth of the analyzed integral index was observed in all Russian Federal districts, with the exception of the Ural Federal District, which indicates a certain improvement in the state and dynamics of fixed assets and investments in the Russian economy.

Thus, the economic policy currently being implemented in the Russian Federation does not yet fully contribute to reindustrialization, namely, the renewal of fixed assets on a

qualitatively new, modernization basis. The approved methodology can be used to assess the potential of reindustrialization for individual Russian regions and their totality.

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References

1. Akberdina VV, Korovin GB. The trajectory of the new industrialization of the Russian regions. Regional Economy: theory and practice (Rus.). 2016(1):424.
2. Borunov SD. Russian economic system: the future of high tech material production. Economic Revival of Russia. 2014;2(40):5-17.
3. City of Allentown. Re-Industrialization Strategy. 2014; URL: https://www.allentownp-a.gov/Portals/0/files/Planning_Zoning/MetalworksReuseStudy.pdf. (Date of access: 10.05.2019)
4. Communication from the commission to the European parliament. Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions. For a European Industrial Renaissance. Brussels, 22.1.2014. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0014&from=EN.
5. Danilov IP, Mikhajlova SYu. Methodological aspects of determining the regional potential of re-industrialization. Bulletin of Chuvash State University. 2016;3:28-31.
6. Danilov IP, Ladykova TI, Morozova NV, Krasnov AG. Problems in the assessment of potential re-industrialization in the Russian Federation and the Volga Federal district. Oeconomia et Jus. 2017;2:1-11. URL: http://oecomia-et-jus.ru/wp-content/uploads/2015/12/OEJ_2017_2_s.1_11.pdf. (In Russ.). (Date of access: 10.05.2019)
7. Gagarina GYu, Chaiynikova LN. The influence of the region on the reindustrialization of the Russian economy (on the example of the Volga Federal district). Management of economic systems: electronic journal]. 2015;9(81). URL: http://uecs.ru/uecs-81-812015. (Date of access: 10.05.2019)
8. Glushakova OV, Mikhailov VV. Reindustrialization and new economy: does Russia have a chance to succeed?. Finance and credit. 2017;23(1):19-37.
9. Heymann E, Vetter S. Europe's re-industrialisation. The gulf between aspiration and reality. Frankfurt am Main: Deutsche Bank AG, DB Research. 2013 Nov 26.
10. Hospers G. Restructuring Europe's Rustbelt. The Case of the German Ruhrgebiet. Intereconomics. 2004;3:147–156.
11. Kalinina GV, Vanulin AN, Egorova GN. Development of methods for identifying signs of reindustrialization of the Russian economy on the example of the Volga Federal district regions. Bulletin of Chuvash State University. 2014;3:165-171.
12. Kokovikhin AYu, Kansafarova TA, Sharapova NV. New industrialization: the skills gap and labour market institutions. Russian Journal of Economic Theory. 2018;15(2):316-324.
13. Kotov EV. Reindustrialization of the economy in the context of the emerging state. Russian Journal of Economic Theory. 2017;3:64-75.
14. Maltsev AA, Mercier-Suissa C, Mordvinova AE. Interpretation of the term "reindustrialization" in the conditions of globalization. Economy of Region. 2017;13(4):1044-1054.
15. Mazur OA. Reindustrialization of the Russian economy as a condition of expanded reproduction of the total employee. Theory and philosophy of economy. 2012;1(73):14–20.
16. Miller J, Walton T, Kovacic W, Rabkin J. Industrial policy: reindustrialization through competition or coordinated action? Yale Journal on Regulation. 1984;2(1):1–37.
17. Mlody M. Reindustrialisation of the European Union member states in the context of reshoring. International Business and Global Economy. 2016;35(1):455-467.
18. Nawratek K. Urban Re-indastrialization. California: Punctum Books. 2017.
19. Pakhomova NV, Rikhter KK, Malyshkov GB. Inclusive sustainable growth: priorities, indicators, international experience, potential for alignment with the reindustrialization model. Problems of modern economy. 2014;3(51):15-24.
20. Romanova OA. Industrial policy priorities of Russia in the context of challenges of the fourth industrial revolution. P.2. Economy of Region. 2018;14(3):806-819.
21. Silin YaP, Animitsa EG, Novikova NV. Regional aspects of new industrialization. Economy of Region. 2017;13(3):684-696.
22. Sukharev OS. Reindustrialization of Russia. Opportunities and restrictions]. Economist. 2013;3:6–12. (In Russ.).
23. Sumina EV. Innovative advantages of a region under re-industrialization. Actual problems of economics and law. 2015;2:109–117.
24. The Reindustrialization of the United States. Euler Hermes Economic Outlook. Paris: Euler Hermes. 2013.
25. Willy C. The Re-Industrialization of the United States? Wirtschaftspolitische Blätter. 2013;60(2):297–312.
26. Zhidkikh AA. The regions and the policy of re-industrialization of the Russian economy. ETAP. 2016;2:18-33.
27. Zhironkin SA. Kolotov KA. Research methodology of neo-industrial import substitution in the Russian economy. Bulletin of Baikal State University. 2016;26(5):713–722.