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Evaluating Rental Factors of Innovation Sustainability in Russian Regions Using Index Methods

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ABSTRACT

Calculation of regional innovation sustainability is often based on index aggregation of socio-economic regional factors. Since Russia has a high interregional differentiation, especially in terms of innovation development, the rental factors and rental advantages of regions are coming to the forefront. The paper uses an algorithm to form estimated figures based on open data on the economic and social activities of the country's subjects. When building an index model, the experience of national and international research institutes and organizations was taken into consideration. Based on the results of this model, the authors presented a classification of regions according to the efficiency of using rental advantages and super profits from the main types of business activity. This helped to identify which subjects of the country are not using their incomes rationally in terms of supporting innovation activity. The main theoretical issues of regional innovation process and sustainability terms have been supplemented in this article. The rental approach was applied for measuring factors of regional innovation sustainability for the first time.

INTRODUCTION

When conducting any economic activity, it is very important to take into account the specifics of the rental advantages of a territory, i.e. prospective rental income. This is especially true for the processes that determine innovation sustainability at the regional level. The idea of innovation sustainability is comparatively new. It is believed that the innovation sustainability of a region is something which reflects the possibility of effective and regular production of innovative products.

For example, this sustainability can be expressed as a stable growth in the volume of innovative products for a one-year period. Innovation sustainability is closely connected to the socioeconomic and environmental status, since it is based on the same factors (living standard of the population, presence of pro-

gressive economy, availability of resources). At the same time, growing number of innovation businesses make regional differences higher. We can consider that, looking on difference in businesses costs and revenues. The growth of profitability can outpace innovation products volume. That can happen because of internal and external factors, including territory socio-economic benefits.

According to today's researchers (Tötzer et al., 2007), the advantages of business organizations in different sectors can be gained thanks to their territorial position, which, in turn, affects the sustainability of innovative processes in the entire region. The authors are inclined to believe that a socioeconomic system cannot be sustainable without a list of priorities and a working strategy, implemented in innovation and social policy. In fact, the same causes and conditions form the financial sustainability of regional subjects – innovation and social policy, growing activity of business, entrepreneurship, tax regimes. The regional level is considered to be critically important for implementing innovative activities. Regional and territorial entities derive benefit from spatial proximity and knowledge transfer as a result of effective formal and informal cooperation (Hajek et al., 2016). In fact, this is how rental income is meant to be formed at the regional level, assuming a number of factors. The income obtained by enterprises has a certain economic effect. It is important to understand whether rental income appropriation has a positive or a negative impact on the sustainability of regional and municipal units. It is also important to estimate the influence of rental profit factors on socio-economic and innovation sustainability. That can help us to identify ways of increasing government supporting measures effectiveness.

1. REVIEW LITERATURE

Most researchers agree that the main stability of socio-economic systems lies in productivity, efficiency, synergy of various economic and scientific processes. The main elements in the composition of sustainable regional relations are the processes of clustering, tax regulation, modernization of social relations, openness of information, minimization of costs, and the desire of economic entities for self-improvement and development. At the same time, rent and rental factors occupy fundamental position in socio-economic systems, form strength connections between system elements. According to the institutional approach, there are «good» and «bad» rents, which can motivate either to creative positive or negative forms of rent seeking. The main target for us is to identify, which parameters of the regional economic system generate innovation sustainability and rental incomes. So, it is necessary for us to analyze several index models which can be as a good example. In other words, it is important to understand which indicators should be used in the study. Finally we will be able to decide, what conditions are necessary for creating innovation sustainability in all regions of the country. The main approach is to look at economic subjects resulting indicators. Modern researchers (Tikunov et al., 2015; Elizondo-Noriega et al., 2019) compare organization innovation potential (including its production component) through a system of indicators:

- Personnel component. Here the author refers the share of scientific and technical specialists in the total number of the employed in the organization, the percentage of the employees with higher education, the coefficient of the staff learning capability (Talerchik et al., 2015).
- Scientific component. In order to evaluate the scientific component, the author uses the information about the presence of intellectual property in the organization, the share of innovation product in the total volume of output, and innovation performance (expressed as profits from innovative product).
- Production and technology component. The depreciation of the fixed assets, frequency of equipment update and the share of equipment having the service life of up to 10 years are assessed (Voronov et al., 2014).

When developing the index model, the Global Innovation Index was analyzed (WIPO) (Lanvin et al., 2017). A large international study carried out an assessment of all countries by different areas, which are planned to be used in this research. The index itself is a number from 1 to 100, representing the arithmetic mean between the indicators of innovation creation and development, the efficiency of human capital, science, culture, market relations, etc. In our work we try to make optimal index model to represent most of rental profit factors and their influence. That can help to direct government supporting measures in the key of innovation sustainability and modern economic trends. Today redistribution of

rental income is totally controlled by government bodies. The control is carried out through state tax and innovation regional policies. Main control over the distribution of rental income must be imposed on the shoulders of the state and the relevant governmental institutions. According to the classical theory, A. Smith claims in his works that the role of the state is to ensure security, solve disputes and guarantee that market laws and rules are complied with (Smith, 2007). In this context, organized distribution of rent is only possible through introducing government regulators. Tax policy is still the main tool regulating sustainable relations in terms of rental income (Kireenko & Orlova, 2016). Researchers from Canada (Kennedy & Whiteman, 2017) have pointed out that the main barrier preventing the right innovation policy from being pursued in an individual region is the lack of precise measurements and presence of complications in operationalization of some macroeconomic data. Thus, forming an index model is an additional step towards solving this problem.

In his research, A.A. Zaitsev points out several levels of rental income and their impact on the selected lines of business (Zaytsev et al., 2019). The levels presented are divided into three colors for the convenience of analysis and understanding: green, yellow, and red. The volume of rental income and its belonging to one of the levels determine its impact on the economic system or subsystem being studied. In our opinion, in the current economic conditions in Russia, rental income is becoming especially important as a means forming the financial and innovation sustainability of enterprises and regions. The volume of rental income and its belonging to one of the levels determine its influence on the studied economic system. In our opinion, rental income has a great influence on a process of forming financial and innovative sustainability in region and territory economic systems. Comparing with effective entrepreneurial startups, rent seeking is based on appropriation of profits through using rare property rights and control over them, building monopoly conditions, as well as various schemes and practices (legal proceedings, lobbying interests). Thus, rental income appropriation, in these terms, refers strictly to the red level, since it has a negative effect on the economy and does not stimulate scientific and technical progress at all. Therefore, it is very important to structurally distinguish between rental incomes of different levels. In this study, we propose to adjust given approach (Zaytsev et al., 2019) on the regional economic level. We consider to divide rental income on three main categories, according to its influence on the innovation sustainability. Let's look on this three categories in more details:

The rental income appearance factors of the green level, are mostly common for promising, knowledge intensive and competitive sectors. Investments, including foreign ones, flow into such sectors, forming not just the rent, but also a solid basis for innovations and sustainable economic position of the constituent subjects. At the regional level, it can be a large pharmaceutical cluster or a modern business incubator. Technological business incubators, located in various regions of Russia, are also capable of accumulating a large share of intellectual and technological rent.

Thus, the rental income of the green level can be characterized as having a positive effect. The green level includes the following types of rent: technical and technology rent; innovation rent; organizational and economic rent; intellectual rent and differential rent II. The green level is, mostly, about non-natural forms of rent. The factors forming the rent of the green level can include investment activities of organizations (influx of private, state or foreign investments), financial activity in the context of income redistribution by various areas (innovation costs, profit redistribution and capitalization) (Rodionov et al., 2019). According to the author (Birch, 2020), differently from effective entrepreneurial startups, rent-seeking is based on appropriating profits via ownership rights and control over them by different schemes and practices (court actions, interest lobbying). Assessing the rental income appearance factors is very important when regional socioeconomic policy is planned. It is true, first of all, for poor and regressive regions, which need more subsidies for development their profile industry (Kuporov et al., 2018).

The yellow level is border-line, reflecting the receipt of rental benefits whose effect is ambiguous. Depending on the way enterprises use the money, the yellow level can transfer either to the red or to the green one. Some types of rent, referring to the yellow level can be characterized as factors independent from the organization – natural environment and climatic conditions of business activity, specifics of the region (these may include the availability of qualified personnel, social conditions for its attraction, etc.), convenience of cargo transportation with the use of different means of transport. Thus, the yellow level

includes: a) differential rent I; b) infrastructure rent; c) social rent; and d) transportation rent. The feature of the rent of the yellow level is that it can have both a positive and a negative effect for the economy as a whole. For instance, high profits of an organization gained thanks to favorable climate or social conditions can create a natural monopoly on the market. Transportation rent, in the opinion of Yu.V. Yakovets, is a type of natural resource and infrastructure rent, and can be assessed by the presence of navigable rivers, ports, the length of automobile roads in the region (Yakovets, 2003).

Several words should be said about logistics and a system of cargo transportation and delivery. The transportation system, connecting the country's regions, is an additional criterion for building sustainable connections in the economy and society. In the authors' opinion (Yakovets, 2003; Efthymiou & Antoniou, 2014), the development of regional transportation facilitates rational distribution of production regimes, the flow of information, labor and capital in the region. Some authors (Trippner-Hrabi et al., 2018) highlight that innovations in urban transport contribute to increasing environmental safety in the region. Thus, the volume of transportation flows, operationalized for the index model, is one more criterion for assessing the rental advantage of regions. The length of automobile roads or the volume of transport cargo flows in the region can be used as source data.

The red level, which is most difficult for measuring, is a type of monopoly rent, determined, primarily, as an unreasonably high profit margin, mostly used on consumption, rather than capitalization or innovations. Studying innovations in the transport field, the authors [(Kulachinskaya et al., 2018) found that demand prevailing on the part of the state is specific for railway transportation. An example can be OJSC "Russian Railways", which is an absolute monopolist on the railway services market. The income of the red level is gained due to other organizations' profits, and due to their monopolistic dominance on the market. Such advantages have a distinctly negative effect. Income from such operations neither stimulates innovative activities, nor serves as means for reinvestment. The lack of innovative activities in organizations fails to create the necessary growth in economic activity and competitiveness, which results in stagnation.

As an output, we can use the volume of traffic flows, adapted for our index model, as a component of yellow level rental profits (exactly - infrastructure rent). As initial data, we can use the length of roads or the volume of traffic flows in a region. In order to calculate the red level, the best indicator is the profitability of the realized products, work or services. Many authors, who have taken attempts to estimate the monopoly rent in a region, are inclined to believe that the fact that actual profitability exceeds its average level is an indirect proof of monopoly. However, the red level income has to be estimated only in coordination with the other two, as well as considering the presence or absence of innovation sustainability in the region. Thus, obvious and stable excess of profitability together with decreased innovative activities and the lack of the factors of the green and yellow levels are bound to mean irrational distribution of money and have to be controlled by the state. Figure 1 illustrates the effect of rental income on the innovation sustainability of a region. It should be noted that organizations accumulating profits from innovative activities must carry out the process of reinvesting, constantly bringing benefit to society, developing new products in a form of social, marketing or production innovations. If it does not happen, the enterprise blocks the opportunity for competition to other market players, drawing a monopolistic rent from the advantages of its market position.

It is necessary to highlight more concretely, what rental income appears in the process of forming sustainable socioeconomic systems. It fulfills the role of a vector, participating in a mechanism of financial means redistribution within and between regions. The concept of a rental regulation mechanism is partially described by the authors in papers (Zaytsev et al, 2019; Lamine et al., 2018). Forming both innovation sustainability and a rental regulation mechanism is very important for transforming a short-time sustainable condition into a long-time one. It is innovations that ensure the sustainability of a system in the long run, making it possible to generate profits from cost-efficient high-tech production, and to improve profitability on the market. Rent, if used properly, helps to expand production and stimulate innovative activities. If used wrongly, it becomes the profit of an artificial monopoly, reduces competition and sustainability of other players on the market.

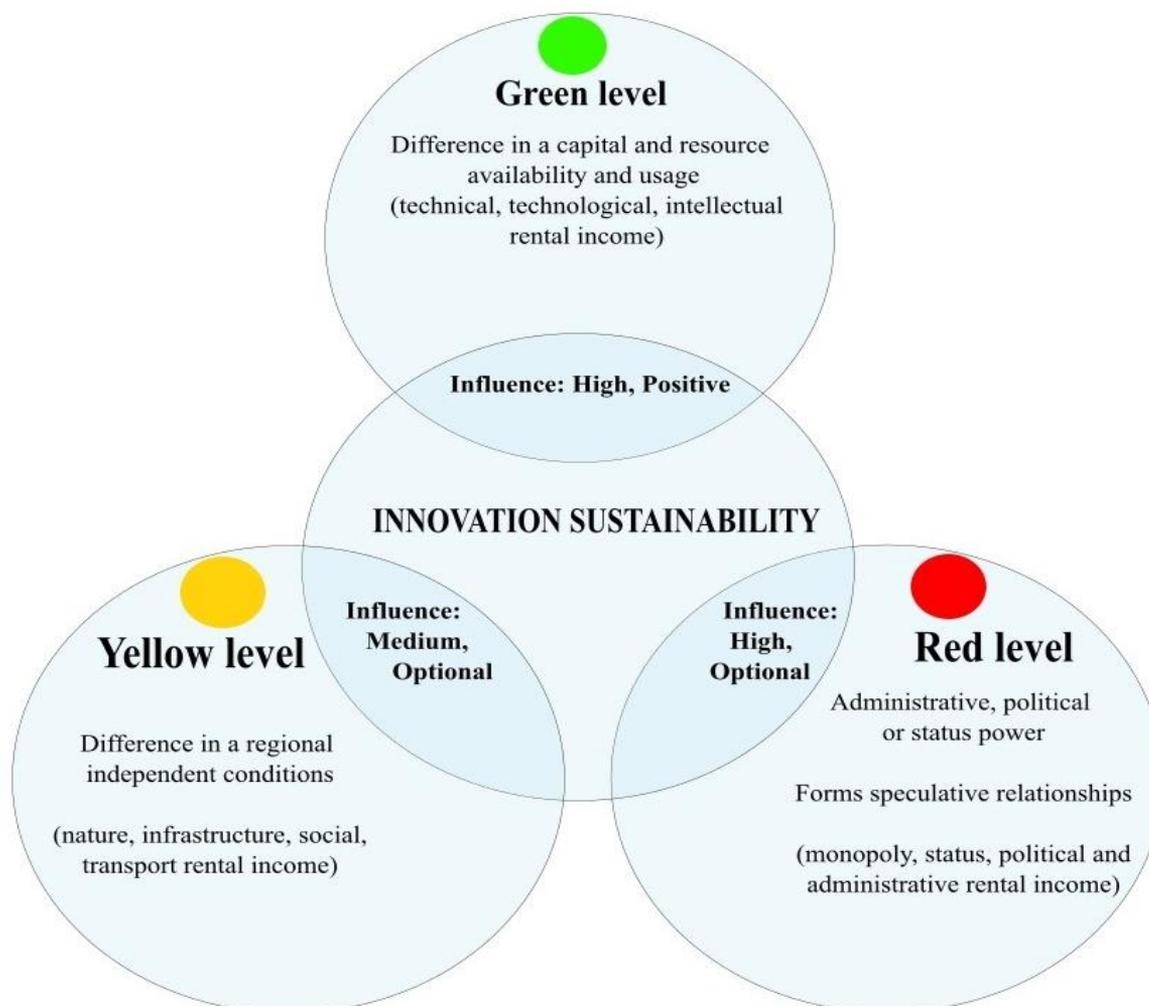


Figure 1. Influence of rental income levels on regional innovation sustainability

Source: developed by the authors

2. METHOD

To formalize the influence of rental income on the innovation sustainability in regions, it is necessary to rank rental factors for correct index model building. As in the studies by national authors (Glinskiy et al., 2017), we can try to use some socio-economic indicators to reflect main approach to assessing innovation sustainability and a variety of factors that affect it. Building a model of innovation decentralization in China, the authors revealed the dependence of innovation territorial distribution on the pay grade, technological infrastructure and innovation rent (Wei et al., 2019). The researchers understand innovation rent as a benefit gained from technology transfer and patent registration. Thus, the authors highlight a number of essential factors influencing the innovative activities of different territories. One more study was conducted by the academics of the National Research University «Higher School of Economics» (Gohberg et al., 2017), who compiled a multisided development ranking of innovative activities in all subjects of Russia. The index includes more than 30 indicators, which are available to the public on the website of Rosstat. The assessment was carried out by four main criteria: a) Socioeconomic conditions of innovative activities; b) Scientific and technological potential; c) Innovative activities; and d) Quality of innovation policy. At the same time, the authors of study (Tikunov & Cheresnaya, 2015), when creating the Economic Development Index (EDI), use the integrated coefficients of objective quantitative indicators of qualitative changes in the economy. To form the index, the researchers use the data

about gross regional product, the value of fixed assets, foreign and national investments into the capital of companies, i.e. open information comprehensively reflecting the situation in the regions of Russia.

When creating the Efficiency Effort Index (EE-Index), the authors of study (Elizondo-Noriega et al., 2019) used the concept of economic activity. According to this theory, the main factors are the volume and efficiency of labor, the payment of salary, the value of fixed assets and the capital of the company. In the course of economic activity we obtain the performance indicators (in various magnitudes or indices) from reference conditions, as well as the share of value added (margin) in the end product. Thus, we can conclude that when assessing innovative activities, as well as innovation sustainability, the main factor is the presence of highly-qualified labor resources, availability of one’s own or raised money, and existence of high-tech equipment. Moreover, an effective enterprise has to reinvest the profits obtained to keep its economic position as an innovator.

A profound research study about how patents affect rental income in today’s economy was conducted by the authors from the University of Minnesota in 2004. (Boldrin & Levine, 2004). According to their model, a patent system is eventually a good and economically effective mechanism, regulated by authorities. The number of patents is directly linked to the rental income from innovative activities and can be interpreted as a source of innovative activities, and, partially, as a source of monopolistic income in the context of intellectual and technological rent. Thus, the index model must include the number of patent applications. This factor belongs to the yellow level of rental income, since it is impossible to conclude decisively about the efficient distribution of money obtained by organizations and patent agencies. Based on the works studied and up-to-date statistical digests, a number of indicators, presented in Table 4, were chosen to assess the rental income of different levels in the regions of Russia.

Table 1. Statistical indicators for evaluating the rental income of different levels

<i>Rental income classifier</i>	<i>Selected indicators</i>
Green level	<ul style="list-style-type: none"> * using ICT and the Internet in organizations; * using ICT and the Internet in households; * volume of investments in fixed capital, including foreign investments; * number of tertiary education organizations; * number of university graduates.
Yellow level	<ul style="list-style-type: none"> * density (number) of population; * unemployment rate; * length of automobile roads; * number of patents granted in the region.
Red level	<ul style="list-style-type: none"> * profitability of the main sectors of economy (according to sections A-D of the OKVED classifier (Russian National Classifier of Economic Activities))

Rental relationships are definitive when expressed through distinctions. Thus, comparative analysis and assessment of various characteristics of a region expressed in indices illustrates nicely the advantages and disproportions in the development, benefits or drawbacks of different areas and territories. The index model of rental income includes 9 subindices for the green level and 4 for the yellow one. The subindices in the model are calculated using next formula:

$$\text{Subindex}_i 1 = \frac{M_i 2017}{\max_{2013-2017} M_{a-z}} \quad (1)$$

Thus, to create the automobile roads length subindex (for clarity subindex 1) for the *i*-th region, we should divide the “M” indicator of year 2017, i.e. the chosen statistical indicator of the automobile roads length by the maximum known for this indicator in all the regions (for clarity from A to Z) from year 2015 to 2018. In this way, we obtain the ratio of automobile roads length in the *i*-th region for the end of 2018 to the existing maximum over the chosen 5 years in the entire country. The same operation has to be carried out for all the territorial entities that we study. There are altogether 80 of them in the model.

Some autonomous regions and cities (city of Sevastopol) have not been included in the model due to the lack of statistical data or because they are a part of larger territorial entities.

The general formula of the Index of Rental Income Appearance Factors is the arithmetic mean and calculated by dividing the sum of subindices by their number. 9 subindices are presented in case of the green level, and 4 in case of the yellow one. The red level was estimated based on the profitability indicators by the main sectors (OKVED classifier, sections A-D). The calculation was made in several steps: 1) defining the actual profitability for the chosen sectors over the studied period in all the regions; 2) calculating the average profitability for the chosen sectors; 3) estimating the profitability excess, which is interpreted as excess profit; 5) the values obtained were summed for every year and region separately. The sum is interpreted as a general percentage of profitability exceeding the standard for all the sectors studied.

From the point of forming region's innovative sustainability, super-profits of organizations can be viewed as a resource that should lead to an increase in the innovative sustainability of the region. If this does not happen, it makes the problem, that should be solved as a priority in innovation sustainability regulation. To assess how the rental income appearance factors influence the innovation sustainability of the regions, one more indicator has to be introduced. Let us present the innovation sustainability as a ratio between growth of volumes of innovative products and their volatility. The formula has the following form:

$$K_i = \frac{T mid_i_{2018-2017} - T mid_{2018-2017}}{T vol_i_{2018-2017}} \quad (2)$$

Where K_i is the coefficient of innovation sustainability of region i , $T mid_i$ is the average growth rate of the volume of innovative product in region i from 2014 to 2018, $T vol_i$ is the standard deviation of the average growth rate of the volume of innovative product in region i over the same period, $T mid$ is the average necessary growth rate of the volume of innovative product over the period chosen in the entire country. The average necessary (minimal) growth rate of the volume of innovative product for the country was estimated as 8%. Thus, using the data on the volume of realized innovative products, work and services, we find the growth rate for the chosen 5 years. Then, using the arithmetic mean, we find the average growth rate from which the average necessary is calculated. The indicator obtained is divided by the volatility of the growth rate for the years studied.

As a result, we obtain the coefficient which represents the dynamics of the growth rate of the volume of innovative product, considers its heterogeneity and deviation from the average minimal value. Normalized indicator takes on a value from 0 to 1. Correspondingly, the minimal value of the coefficient can be interpreted as a loss or lack of innovation sustainability in the region.

Comparison of the rental income factors and the innovation sustainability index creates a complex picture of the distribution of existing economic advantages. To correctly assess the distribution of money and realization of benefits, obtained due to the rental income appearance factors, the 3 levels must be compared with the index of innovation sustainability.

3. RESULTS AND DISCUSSION

Based on the developed methodology, using data from the Federal State Statistics Service of the Russian Federation for the Central Federal District of the Russian Federation, we made an analysis of the rental factors and innovative sustainability of all regions. According to the results estimated, we can conclude that the biggest significance of the rental income appearance factors of the green and yellow levels is accounted for by Moscow and Moscow Region. Moreover, Moscow, holding the leading positions, has reduced innovation sustainability, which is the evidence of ineffective use of the benefits it has. Let us present the data on the Central Federal District in the following table.

Table 2. Results of assessing the rental income appearance factors in the Central Federal District (from 2014 to 2018)

<i>Region</i>	<i>Green level (0-1)</i>	<i>Yellow level (0-1)</i>	<i>Red level (0-1)</i>	<i>Innovation Sustainability (0 - 1)</i>
Belgorod Region	0.22	0.22	0.62	0.8
Bryansk Region	0.20	0.18	0.28	0.7
Vladimir Region	0.21	0.17	0.01	0.6
Voronezh Region	0.25	0.27	0.18	0.7
Ivanovo Region	0.21	0.14	0.02	0.6
Kaluga Region	0.21	0.18	0.00	0.4
Kostroma Region	0.20	0.15	0.06	0.8
Kursk Region	0.21	0.19	0.42	1
Lipetsk Region	0.21	0.19	0.25	0.6
Moscow Region	0.32	0.49	0.04	0.9
Oryol Region	0.20	0.15	0.34	0.7
Ryazan Region	0.21	0.17	0.03	0.8
Smolensk Region	0.21	0.19	0.23	0.8
Tambov Region	0.21	0.19	0.43	0.8
Tver Region	0.21	0.24	0.03	0.7
Tula Region	0.22	0.18	0.05	0.7
Yaroslavl Region	0.21	0.18	0.20	0.7
Moscow	0.74	0.71	0.07	0.6

Source: author's calculations based on information from Regions of Russia (2019).

Belgorod Region, which has high innovation sustainability, is the leader by the red level in the Central Federal District. It suggests that the profits obtained by organizations are used effectively.

Ryazan Region, which has no strong benefits and whose enterprises make no excess profits, is also innovatively sustainable, proving that the resources available are distributed in a highly effective way, and large investments are attracted. The leader by the indicator of innovation sustainability in Russia is Kursk Region, which has a relatively high level of rental income of the red level. We observe very low innovation sustainability in Kaluga Region. It can be suggested that either funds are being used ineffectively or there is no investing into innovations. One way or another, the region has virtually no excess profit, while the green and yellow levels fail to stand out from the general massif of the regions as well. For a detailed assessment of all regions, it is necessary to compile a general rental income usage index. Then, using our data, we should reveal a general effectiveness of the distribution of an extra received value.

Table 3. Assessing the impact of the rental income appearance factors on the innovation sustainability in the Central Federal District (from 2014 to 2018)

<i>Region</i>	<i>General Rental Index (0 - 1)</i>	<i>Efficiency of rental benefits usage</i>	<i>Innovation Sustainability (0 - 1)</i>	<i>Index of rental benefits usage</i>
Belgorod Region	0.35	Ineffective	0.8	2.25
Bryansk Region	0.22	Medium	0.7	3.19
Vladimir Region	0.13	Effective	0.6	4.55
Voronezh Region	0.23	Medium	0.7	3.03
Ivanovo Region	0.13	Effective	0.6	4.76
Kaluga Region	0.13	Medium	0.4	3.06
Kostroma Region	0.13	Effective	0.8	5.22
Kursk Region	0.27	Medium	1	3.67

Lipetsk Region	0.22	Medium	0.6	2.74
Moscow Region	0.28	Medium	0.9	3.20
Oryol Region	0.23	Medium	0.7	3.04
Ryazan Region	0.14	Highly effective	0.8	5.76
Smolensk Region	0.21	Medium	0.8	3.80
Tambov Region	0.28	Medium	0.8	2.91
Tver Region	0.16	Effective	0.7	4.35
Tula Region	0.15	Medium	0.7	4.64
Yaroslav Region	0.20	Medium	0.7	3.51
Moscow	0.51	Highly ineffective	0.6	1.18

Source: author's calculations based on information from Regions of Russia (2019).

Index of rental benefits usage in the fourth column reflects the degree of existing factors in a way of regional innovation sustainability building process. It can be found as a ratio of innovation sustainability index to the general rental benefit index. The general rental index can be found as the average of green, yellow and red levels. It reflects the technological, information and financial resources, available in the region.

Table 4. Determination of criteria for rental profits factors usage efficiency

<i>Index of rental benefits usage</i>	<i>Usage efficiency</i>
From 0 to 1.5	Highly ineffective
From 1.5 to 2.5	Ineffective
From 2.5 to 4	Medium
From 4 to 5.5	Effective
More then 5.5	Highly effective

It is important to note that the model does not take into consideration some internal factors contributing to the formation of different types of rent in enterprises. Such factors may include the availability of efficient labor resources, using cutting-edge technology, using know-how, etc. the model is macroeconomic and cannot consider individual enterprises in the general totality. However, we would like to emphasize that apart from macroeconomic components, innovation sustainability is largely affected by internal components of organizations. According to complexity of measuring all geographical components of innovation, our methodology works like an effective way to aggregate and synthesis most of territorial advantages into a single system. This model can be widen or narrowed, relying on researchers proposes. For example, business processes activity or conditions of environmental benefits in the region can be calculated.

The significance of this model also supports the concept of creating “innovation growth points” mentioned in paper (Kratzer et al., 2017). Using the rental benefits of certain territories, availability of resources and technology make it possible to facilitate the choice between various spheres of economy when organizing start-ups aimed at innovation. However, not all spheres can be assessed in this model.

CONCLUSION

With a help of index methods, rent-based approaches can become one of the most important ways for innovation sustainability assessment. The designed index model assesses the advantages of territorial entities using some statistical data open to the public, premised on the benefits and availability of

resources in a region. Undoubtedly, the model has to be improved, because, if expanded, it will help to measure more precisely a larger number of factors than it is possible now.

The efficiency of the presented model is expressed in a convenient comparison of factors, which are the basis of innovative activities (information, intellectual, labor and investment resources). Most of these factors form various types of rents (information, social, intellectual). Moreover, the red level allows us to evaluate if the region has excess profits, which, with high probability, can be considered a monopoly profit.

These factors form various types of rents, so, form the structure of the region's rental income and its definition. This profit can be spend on maintaining monopoly conditions, or innovative product deployment. Using the model is also functional for identifying sensitive regions, i.e. subjects especially prone to economic fluctuations due to the effect of diverse factors. Thus, rental income appearance factors fall within this criterion to the biggest extent. Sensitive regions can be unsustainable in terms of finance, environment, and innovation. The distribution model of rental income appearance factors makes it possible to understand what advantages and drawbacks a certain territory has.

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