LOOK ACADEMIC PUBLISHERS
OPEN ACCESS

INTERNATIONAL JOURNAL OF ENVIRONMENTAL & SCIENCE EDUCATION
2016, VOL. 11, NO. 18, 12787-12801

Features of Economic Zones' Regulation in terms of Economic Instability

Irina V. Zhukovskaya[a], Aleksey I. Shinkevich[a], Ekaterina N. Yalunina[b], Irina V. Lushchik[c], Marina A. Zhukova[d], Galina V. Mokhova[d] and Leonid M. Ostanin[a]

[a]Kazan National Research Technological University, Kazan, RUSSIA;
[b]Ural State University, Yekaterinburg, RUSSIA;
[c]Russian Foreign Trade Academy, Moscow, RUSSIA;
[d]State University of Management, Moscow, RUSSIA.

ABSTRACT

The relevance of the presented problems in the paper is conditioned by the fact that in conditions of instability of economy the regulation of free economic zones allows the governments of the countries in the territory of which they are created, to alleviate crisis situations in the national economy, to stimulate industrial production, export, growth of foreign currency income and thus improve the balance of payments of the State that in the result has a positive impact on economic growth and improving in the level and quality of life of the population. The purpose of this paper is to identify and substantiate form the theoretical and practical points of view the main directions of regulation of free economic zones in the Russian Federation in a challenging economic environment contributing to the stabilization of the economy as a whole. Methods to the study of this problem are: the method of comparative analysis, generalization and systematization of facts, methods of factorial, graphical, financial analysis, method of economic and mathematical modeling. The article presents the stages of development of the economic zones from their inception to the modern state, both in Russia and in Europe. The estimation of efficiency of Russian free economic zones is given; prospects are identified for the use of foreign experience of free zones in a challenging economic environment. The practical value is determined by the possibility to use the developed in the study proposals for the comprehensive improvement of the zonal policy of the Russian Federation.

KEYWORDS
Free economic zones; economic instability; regulation; efficiency.

ARTICLE HISTORY
Received 22 July 2016
Revised 3 December 2016
Accepted 21 December 2016

Introduction

The relevance of the study

Free economic zones are of interest for all economic agents. The FEZ is a wide platform for carrying out experiments for improving the system of management bodies of the national economy in its transition to a market model. International corporations in search of favorable conditions for their activities consider FEZ as favorable territories for super-profits. The largest transnational corporations

CORRESPONDENCE Irina V. Zhukovskaya ✉ ashinkevich@mail.ru

believe the organization of their own production in the FEZ as the most important direction of their expansion. For world economic relations the free economic zones are mainly a factor of accelerated economic growth through increased international trade, investment and deepening of economic integration processes.

The relevance of the creation of conditions for investment activity of free economic zones is not of doubt. For regions endowed with the status of FEZ, one of the primary tasks is the formation of a favorable investment climate to attract significant volumes of foreign and domestic investments. Analysis of international experience shows that developers of free economic zones can face several difficulties. Thus, with the purpose of most beneficial and fruitful cooperation it is necessary to take into account the differences in ways of encouraging both foreign and national investors. In other words, if the foreign investor aims to enter the domestic market, then for a national investor, it may be of secondary importance. In Russia, the dominant factors are government support for the creation of infrastructure on the territory of the free economic zone and introduction of the simplified mode of administration. Tax and customs benefits occupy the third place. Based on this we can conclude that Russia creating special economic zones adheres to the policy of developing countries.

Great importance for the understanding of the FEZ and their role in the modern world belongs to the works of such foreign authors as A. Basile (1989), D. Germidis (1984), R. Bolin (1996), T. Fik (2000) T. Kusago and Z. Tzannotos (1998). Domestic researchers I. Rodionov and I. Grachev (2005), I. V. Zhukovskaya and A. I. Shinkevich (2016) considered in their works a wide range of practical questions of the FEZ. Despite many attempts, the problem of regulation of free economic zones in the conditions of economic instability and the problem of assessing the performance of FEZs has not been resolved.

Materials and Methods

Theoretical basis of the study

Theoretical basis of research are the concepts and approaches presented in fundamental scientific works of foreign and domestic scientists on the research questions of free economic zones, their content and contribution to improvement of investment attractiveness of national economies as well as on the establishment, management and prospects of development of free economic zones. The object of study is the free economic zones as a way of attracting investment. The subject of research is economic relationships of foreign and domestic nature within the establishment and functioning of free economic zones at the present stage. The purpose of the study is to identify and substantiate from the theoretical and practical points of view the main directions of regulation of free economic zones in the Russian Federation in a challenging economic environment contributing to the stabilization of the economy as a whole.

Methodological basis of research

Basic research methods are: the method of comparative analysis, generalization and systematization of facts, methods of factorial, graphical, financial analysis, method of economic and mathematical modeling. The application of these methods and the analysis of the vast factual and statistical material lead the objectiveness of conclusions.

The stages of the research

In the research process:

1) the experience of creation and functioning of FEZ on the example of advanced foreign economies in the world and the possibility of its application in Russia are studied;
2) the conditions for the creation of economic regime of FEZ favorable for attracting investment are defined;
3) the existing in zonal policy issues are identified;
4) the main directions to improve the efficiency of free economic zones in the Russian Federation are investigated and substantiated from a theoretical point of view.

Theoretical and practical significance of research results

The theoretical importance of research consists in expansion of representations about features of regulation of free economic zones in the conditions of economic instability, as well as definition of geographical distribution of these economic and territorial institutions.

The practical significance of the findings and results of the study is determined by the possibility to use the proposals developed in the study for the comprehensive improvement of the zonal policy of the Russian Federation.

Results

The nature and role of FEZ in development of the modern world economy

In world practice of development of economic relations, there are different models of territorial and economic management. To this category of complex entities and the integration of the business Associations known as free economic zones are including. Free economic zone (FEZ) is a separately allocated part of the state within which the concessionary regimes of economic activity for foreign and domestic entrepreneurs are established (the International Convention, 1973). FEZ is considered outside the customs national space of the state. Free trade regime in these zones is achieved by the exemption of products from such types of financial control as customs duties, foreign exchange restrictions and import tax. The history of the formation and distribution of the first free economic zones in the world is dated back to the mid of the 16th century. In regional terms, the first areas appeared in Europe, and later spread to Asia, Africa, America and Oceania. Despite the qualitative differences, all these complex structures in the late 20th century turned into the so-called "commercial centers", developing the external trade turnover of the country. In General, free economic zones were spread from developed to developing countries. They went through a lengthy period of development and evolution from the simplest areas to more complex types. If in the practice of developed countries, the main effort was focused on the development of technical and implementation areas, then in developing countries the priority belonged to commercial and industrial zones.

Shopping areas are small in terms of size, where operations of storage, additional packaging with product taking into account the norms of the market take place. Among the distinguishing features it is possible to allocate a small amount of investment and quick payback. Their varieties are free ports, free customs zones, customs and consignment warehouses: in the United States - "bonded warehouses", in Russia - customs warehouses. The easiest shopping areas

include special duty free stores – duty free. From the point of view of the regime, they are treated as located outside of state borders. They are located in major international airports after passport control. A passport and a boarding pass are mandatory, confirming the fact of travel to the country or abroad and the guarantor of maintenance within the FEZ. Goods sold in duty-free shops are not subject to excise and value added tax (VAT), with the result that their cost is much lower than in conventional stores.

Industrial production zones (IPZ) are zones of the second generation. Their appearance is connected with the evolution of trading zones when in their territory began to be imported not only goods but capital, to be engaged not only in trade but also production activity. The most prevalent, mainly in developing countries were export IPZ, import-substituting IPZ, export-import-substituting IPZ. Their main purpose is to manufacture products for export within the free customs regime.

Technological development zones belong to the zones of the third generation (80th years). They are formed spontaneously (U.S.) or generated with state support around the major research centers (Japan and China). National and foreign research, design, research and production companies using a uniform system of tax and financial benefits are concentrated in them. Examples of such areas are industrial parks, technology parks and high-tech zones. The wide distribution of these zones is received in developed countries like the US and Japan.

Service areas represent areas of preferential regime for entrepreneurial activities, for companies and organizations that provide various financial, economic, insurance and other services. They include recreational areas, aimed at the development of tourism, areas of insurance services, areas of financial services areas of banking services and the well-known offshore zones. For example, the "triangle of economic growth", uniting the border regions of several neighboring countries; "economic growth zone" in the framework of APEC.

The integrated areas of a vast territory are dedicated to promoting the economic growth of the region and the implementation of other objectives by providing various kinds of incentives to all registered companies, regardless of activity. In the practice of different countries, these zones have various names, including the special economic zone in China, the territory of a special regime in several countries of Latin America, special economic zones in Russia. The number of FEZ and their role in the international arena is constantly growing. If in 1900 there were 11 free ports in several countries of Europe and Asia, then in 2015, there are about 2500 FEZs in 120 countries worldwide.

The number of types of FEZ is expanding; their role is increasing in global, regional and national economies. At the same time there is a process of reorientation of the role of FEZ from the microeconomic level to the macroeconomic level. If we consider this statement on the example of Western Europe, then we can see that initially in the UK free economic zones were created in the framework of regional policies aimed at the rise of underdeveloped regions. In a further boost to the establishment of the FEZ in the region was the deepening of integration processes in the European Union.

Despite organizational and functional differences, the FEZs have a number of common features:

1. Common structure, which includes the following groups of economic entities - residents and non-residents; physical persons acting as a source of wage labor for

businesses; administration of the FEZ managing (planning, managing, coordinating, developing of economic and social activities within the zone);

2. Support from the state in terms of legislation for the establishment and functioning of the zone. Under the state is understood a set of public institutions of different forms of hierarchy involved in the organization of management in the FEZ;

3. Providing the resident companies of the zone with common and the special incentives and benefits of tax, financial, commercial and administrative nature.

Free economic zones are of interest for all economic agents. International corporations in search of favorable conditions for their activities consider FEZ as favorable territories for super-profits. The largest transnational corporations believe the organization of own production in the FEZ most important direction of their expansion. For world economic relations the free economic zones appear mainly as a factor of accelerated economic growth through increased international trade, investment and deepening of economic integration processes.

FEZs represent a wide platform for carrying out experiments for improving the system of management bodies of the national economy in its transition to a market model.

Peculiarities of regulation of the economic regime of free economic zones

The relevance of the creation of conditions for investment activity of free economic zones is not of doubt. For regions endowed with the status of FEZ, one of the primary tasks is the formation of a favorable investment climate to attract significant volumes of foreign and domestic investments. Investment, in a broad sense, is considered as a source of multiplication of invested capital. From a financial point of view, investments are all kinds of assets invested in commercial activities to generate income. However, the nature of investment cycles is that the period between the development of the business plan and its implementation can last from several months to several years. The market situation has undergone during this period a number of changes and may call into question the advisability of investing in General. In connection with the existing conditions the term "investment" already suggests the likelihood of financial risk. Equally important is the creation of economic and legal prerequisites for promoting investment at the Federal level and in the regions. But there is one condition, which is not given due value: psychological setting for investments, a willingness, at the risk of current profit to invest in risky projects that could provide long-term and sustainable flow of income (Tazutdinov, 2013).

Analysis of international experience shows that developers of free economic zones can face several difficulties. Thus, with the purpose of most beneficial and fruitful cooperation it is necessary to take into account the differences in ways of encouraging both foreign and national investors. In other words, if the foreign investor aims to enter the domestic market, then for the national investor, it may be of secondary importance. Each state develops a policy to attract investment, pursuit of certain interests. Developed countries, usually with the help of FEZ stimulate the economy in underdeveloped regions. For example, UK, where such zones using state grants and loans helped to cope with difficulties in time of the collapse of the coal industry. For developing countries, the FEZ is a tool for attracting foreign investment and development of high technologies in conditions of scientific-technical progress and growth of the national economy as a whole. Creating different ways of favorable conditions for attracting investments into the

economy of such areas as international experience shows, it is possible to achieve good results. Achieving the goals of improving the investment attractiveness of the FEZ can be realized only in the presence of a complex of conditions created for investors. In this regard, we distinguish four main groups of benefits:

1. Foreign trade benefits involve the introduction of a special customs tariff regime, resulting in the reduction or abolition of import and export duties, including fees for entering the area of machinery and equipment, raw materials and components for production, as well as in the facilitation of foreign trade operations.

2. Fiscal (tax) benefits are governed by the rules relating to the provision of tax incentives for specific activities or behaviors of entrepreneurs. These incentives can involve tax system (income, property value, etc.), its individual components (depreciation, salary costs, R & D, transport), determine the level of tax rates, the issues of permanent or temporary tax exemption.

3. Financial benefits are expressed in providing various forms of subsidies directly – at the expense of budgetary funds and preferential government loans and indirectly – in the form of lower prices for utilities, reduction of rent for use of land plots, lease of transport at preferential rates, etc.

4. Administrative privileges are introduced by management structures of area to facilitate the registration of enterprises and the regime of border crossing by foreign citizens, guaranteeing free enterprise.

The developers of FEZ often wrongly determine the level of financial incentives as a base giving effective impetus to the activities of foreign investors within the economic zones. Perhaps at the initial stage of establishing zones preferences such as tax incentives, subsidies and duty-free imports had a dominant role. However, over the past 10 years the number of economic zones in the world has increased so much that the relative benefits to investors largely, if not entirely, lost its incentive value. A territory, in particular, the existence of networks of telecommunication, water supply, electricity supply, and access to the airport and the availability of housing for local and foreign workers – all this is an integral part of the "healthy infrastructure" of any economic object. For any investor it is important to invest in countries and regions with adequate infrastructure. The gradual averaging of the financial and economic benefits confirms that these two groups of benefits are losing the leading position, which act as guarantors of attracting investments in the zones. They are only a precondition for making by the investor of decisions regarding investment or possible investment in the future. The final decision on capital investment in the area depends on the strategic plans of the investor.

The organization of FEZ in Russia: the effectiveness of measures on attraction of investments

To stimulate economic development and enter international markets, many States agreed to the creation on their territory of free economic zones. In Russia, the first such zones emerged in the post-Soviet economy, and in the future for 15 years, the process of their creation and functioning have been haphazard. This was due primarily to the absence of legislation. The situation today has changed radically. Russia adheres to a new stage of functioning of free (special) economic zones, the beginning of which is associated with the adoption FZ of 22 July 2005 №116-FZ "On special economic zones in the Russian Federation" (Consultant Plus, 2015). This law laid down a uniform legal base of creation and functioning of SEZ

in Russia. Currently in Russia there are 26 of the SEZ, among of which: 5 - technical innovation, 8 - industrial production and the 10 - tourist-recreational. Under construction there are 3 port SEZs (ROSSEZ, 2016).

Industrial zones represent a vast territory, located in main industrial regions of the country, providing investors with proximity to raw material bases, access to ready infrastructure and major transportation arteries. The location of production within the industrial zones helps to improve the competitiveness of products on the Russian market by reducing costs. They are located in the Lipetsk region (SEZ Industrial Production Type "Lipetsk"), in the Republic of Tatarstan (Yelabuga, SEZ IPT "Alabuga"), in the Ulyanovsk region (the SEZ IPT "Togliatti"), Sverdlovsk region (SEZ IPT "Titanium valley"), in the Pskov region (SEZ IPT “Moglino”) and in Kaluga region (SEZ OPT "Kaluga"), as well as PPT in the cities of Astrakhan and Vladivostok.

Technological development zones combine a set of state preferences, qualified personnel and the growing needs in high technology, making technological development zones attractive to producers of high technology products. Location of technology SEZ in the largest scientific and educational centers with rich scientific traditions and recognized research schools, offers great opportunities for the development of innovative business, production of high-tech products and its entering in the Russian and international markets. They operate in St. Petersburg (the special economic zone of technical and implementation type "Neudorf"), in Zelenograd administrative district of Moscow (SEZ TIT "Zelenograd"), in the Moscow region (the special economic zone TIT Dubna), Tomsk region (SEZ TIT "Tomsk") and in the Republic of Tatarstan (special economic zone TIT "Innopolis") (Odintsov, 2008).

Zones of tourist-recreational type are located in the most scenic and popular tourist regions of Russia. These zones offer favorable conditions for organization of tourist, sports, recreational and other types of businesses. They are located in the Altai Republic (TRT "Altai Valley"), in the Republic of Buryatia (TRT "Baikal Harbor"), in Altai (TRT "Biryuzovaya Katun"), in the Stavropol region (TRT "Grand Spa Yutsa"), in Irkutsk region (TRT "Gate of Baikal"), in Primorsk region (TRT "Russian Island") and the tourism cluster in NCFD (North Caucasus Federal district), in Krasnodar territory, Republic Adygea and the Republic of Crimea and the Federal city of Sevastopol.

Port areas are in close proximity to major transport routes, so they can become a platform for the organization of shipbuilding and ship repair activities, provision of logistics services. They are located on the territory of the Ulyanovsk region (PT "Ulyanovsk-Vostochny"), Khabarovsk territory (PT "Sovetskaya Gavan") and Murmansk region.

Each special economic zone is given by the government special legal status that gives investors of SEZ tax and customs preferences, as well as guarantees access to engineering, transport and business infrastructure. The costs of investors in projects in the SEZ, on average, 30% lower than nationwide figures (Bezpalov, 2015).

Overall rating of investment attractiveness of the SEZ is conducted on the basis of its financial condition of the SEZ. As the main indicator the current yield is taken. The aggregate level of profitability is determined by revenue from sales occurring within the SEZ (Orlova, 2013; Sukhoparova, 2014). Also the level of investment activity can be assessed by the level of investment potential and level of non-commercial investment risks. Investment potential is formed as the sum of

objective prerequisites for investment, which depends both on the diversity of areas and objects of investment, and their economic "health". Investment potential includes a number of private potentials: financial (amount of used tax and customs privileges), employment (number of jobs created), infrastructure. Reserves to improve the investment climate of the SEZ are associated with a decrease in investment risk primarily through improving the legislative base for activity of investors and increase of funds of the Federal budget, budget of a constituent entity of the Russian Federation and local budgets aimed at financing of infrastructure of SEZ (Korobova, 2014; Trawiński, 2012). A significant rise in the potential for many of the SEZ will require significant investment and long time. Let's consider interdependence of these factors on the example of domestic SEZ (Table 1).

Table 1. Absolute quantitative indicators of the functioning of the SEZ for 2015

№	Name of the SEZ	The total volume of foreign investments made in the SEZ (million RUB)	The volume of funds of the Federal budget, budget of the RF subject and local budgets for the financing of infrastructure of SEZ (million RUB)	The amount of used tax breaks and exemptions from payment of customs payments received by residents (million rubles)	The number of jobs created by residents of the special economic zone on the territory of special economic zone (units)	Revenue from sale of goods, work, services less VAT, excise tax and the amount of income * (mln. RUB.)
1	SEZ in the Republic of Tatarstan	20 354	3 401	3 294	1 622	35 029
2	The SEZ in the Kaliningrad region	2 929	472,8	792	418	7 050
3	The SEZ in Samara region	298	1 309	0	173	0
4	SEZ in Saint-Petersburg	3 103	1 699	14	187	399
5	SEZ in Moscow	1 205	1 982	24	63	1 561
6	SEZ in Moscow region	2 006	884	69	368	2 310
7	The SEZ in Tomsk	1 311	680	52	265	1 652
8	The SEZ in the Altai region	75	540	0,1	15	14
9	The SEZ in the Altai Republic	35	992	0	24	53
10	SEZ in the Republic of Buryatia	24	223	0,03	11	0
11	SEZ TRZ in Irkutsk region	79	59	0,37	6	0

Calculated according to data of the Ministry of economic development of the Russian Federation (MED RF, 2015)

To determine the effectiveness of economic measures to attract FDI (foreign direct investment) to the regions through the establishment of FEZ is possible by

building a macroeconomic model. In the model the dependent variable (Y) will be the total investment made in the territory of the SEZ.

This model reflects the impact on investment of the following independent variables (X):

1) the Amount of the Federal budget funds, the budget of a constituent entity of the Russian Federation and local budgets aimed at financing infrastructure of the SEZ (X1);

2) the Amount of used tax breaks and exemptions from payment of customs payments derived by residents (X2);

3) the Number of jobs created by residents of the special economic zone on the territory of special economic zone (X3);

4) revenue from sale of goods, work, services less VAT, excise tax and the amount of income (X4).

Analysis of the relationship between X and Y will determine how the factors are interdependent. Since the critical value is 0,6021 for n= 11 and all values in the table exceed this figure, we can conclude that there is a presence of strong multicollinearity or close relationship between the studied economic phenomena (Table 2).

Table 2. Correlation coefficients, observations 1-11; 5% critical value (two-sided)=0.6021 for n=11

Y	X1	X2	X3	X4	
1,0000	0,8154	0,9797	0,9790	0,9872	Y
	1,0000	0,7349	0,7602	0,7603	X1
		1,0000	0,9719	0,9971	X2
			1,0000	0,9796	X3
				1,0000	X4

Let's calculate the coefficient of multiple correlation VIF (Y) between a variable Y and other independent variables taking into account the fact that the minimum possible value = 1. Only the values exceeding the threshold of 10 units indicate on the presence of multicollinearity, therefore, all the variables are included in the model (Table 3).

Table 3. Method of inflation factors

Independent variables	coefficient VIF
X1	13,059
X2	249,371
X3	27, 836
X4	347,939

It is necessary to justify the selection of factors. To identify the most important of them let's do test on the significance of the coefficients. Let's use the least square methods (LSM) to build the model:

$$Y = \alpha * X, \quad (1)$$

where Y – dependent variable; α – value coefficient; X - independent variable.

Table 4. Model 1: LSM, observations are used 1-11

	Coefficient	St error	t- statistics	P- value	
X1	3,55631	0,810224	4,3893	0,0014	***
Average dependent variable	2856,273	St. deviations in the dependent variable		5916,494	
The sum of sq. residues	1,50e+08	the st. error of model		3876,518	
R-squar.	0,658306	Correc. R-squar.		0,658306	
F(1, 10)	19,26591	P-value (F)		0,001358	
Log. credibility	−105,9737	Akaike criterion		213,9475	
Schwarz criterion	214,3454	Hannan – Quinn criterion		213,6967	

According to the results obtained in the LSM model Y=3,55631*X1, the parameter α1=3,55631 is significant at a significance level of 1%. Figure St. error model = 3876,518 is low and the ratio R-square = 0,658306 tends to a maximum, which indicates that the relationship between Y and X1, which, however, is weak in comparison with other dependencies (Table 5).

Table 5. Model 2: LSM, observations are used 1-11

	Coefficient	St error	t- statistics	P- value	
X2	6,06349	0,39033	15,5342	<0,0001	***
Average dependent variable	2856,273	St. deviations in the dependent variable		5916,494	
The sum of sq. residues	17499708	the st. error of model		1322,865	
R-square	0,960209	Correc. R-square		0,960209	
F(1, 10)	241,3129	P-value (F)		2,50e-08	
Log. credibility	−94,14722	Akaike criterion		190,2944	
Schwarz criterion	190,6923	Hannan – Quinn criterion		190,0436	

According to the results of LSM in the obtained model Y=6,06349*X2, the parameter α1=6,06349 is significant at a significance level of 1%. Judging by the values of R-square=0,960209 and St. error of model=1322,865, X1 is the second most important factor (table 6).

Table 6. Model 3: LSM, observations are used 1-11

	Coefficient	St error	t- statistics	P- value	
X3	11,6954	0,771745	15,1545	<0,0001	***
Average dependent variable	2856,273	St. deviations in the dependent variable		5916,494	
The sum of sq. residues	18350625	the st. error of model		1354,645	
R-square	0,958274	Correc. R-square		0,958274	
F(1, 10)	229,6595	P-value (F)		3,17e-08	
Log. credibility	−94,40836	Akaike criterion		190,8167	
Schwarz criterion	191,2146	Hannan – Quinn criterion		190,5659	

According to the results of LSM obtained in the model Y= 11,6954*X3, the parameter α1=11,6954 is significant at a significance level of 1%.

Table 7. Model 4: LSM, observations are used 1-11

	Coefficient	St error	t- statistics	P- value	
X4	0,577562	0,0283451	20,3761	<0,0001	***
Average dependent variable	2856,273	St. deviations in the dependent variable		5916,494	
The sum of sq. residues	10343502	the st. error of model		1017,030	
R-square	0,976481	Correc. R-square		0,976481	
F(1, 10)	415,1850	P-value (F)		1,79e-09	
Log. credibility	−91,25518	Akaike criterion		184,5104	
Schwarz criterion	184,9083	Hannan – Quinn criterion		184,2595	

According to the results of LSM obtained in the model Y= 0,577562*X4 parameter α1=0,577562 is significant at a significance level of 1%. The calculations show that the variance of the dependent variable Y increases with the growth of each of the factors X1, X2, X3 and X4. However, in Model 4 there is the least st. error of model = 1017,030 and the highest R-square = 0,976481, which makes the independent variable X4 is the most relevant for Y. In other words, the revenue from sales in the SEZ most accurately defines the increase in total volume of foreign investments in the SEZ.

After analyzing the investment attractiveness of Russian special economic zones on the basis of macroeconomic modeling, it is possible to ascertain the effectiveness of the investment policy of zones of industrial production type, in particular of the SEZ "Alabuga". It is worth noting that in recent years in attracting of FDI and the development of the regional investment climate the rating Agency "Expert" has assigned the Republic of Tatarstan rating of 1A, which means "maximum investment potential – the minimum risk investment". According to the results of the model application is able to establish that economic measures to attract investments by creating the SEZ in the Republic of Tatarstan and Kaliningrad region can be considered effective.

Predictive assessment of the efficiency of activities of Russian special economic zones

Today in Russia it is possible to distinguish 4 types of free economic zones: industrial-production (IPT), tourism and recreation (TRT), technical implementation (TIT) and port type (PT). Unfortunately, most of the existing in Russia operate inefficiently – weighted average evaluation of the functioning among the half of the SEZ does not reach the ratio of 4 units (see Figure1).

The most effective since the beginning of functioning of SEZ are SEZ IPT and SEZ TIT (5 points and 4.2 points respectively).

The lowest indicators of activity efficiency of SEZ residents are achieved in the SEZ TRT and PT, due to the inflated forecast and planning values, provided by government development plans and lack of active activities of SEZ residents in 2015, including delayed construction of infrastructure facilities of the SEZ.

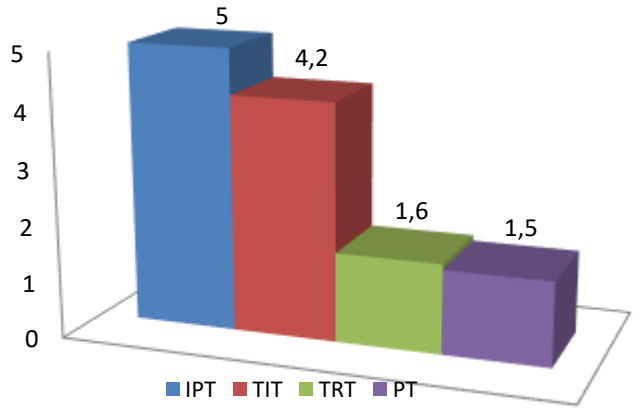

Figure 1. Assessment of the effectiveness of SEZs in the Russian Federation

However, predictions of the results of the major Russian SEZ in 2025 (period of existence), guarantee the improvement of the main indicators of efficiency assessment of special economic zones' functioning' and namely: the increase of FEZ residents to 1 million, attract at least of 520 billion rubles of private investment, the creation of a minimum of 135 thousand jobs (table.8). The output is planned in a volume of 5 trillion Rubles (table 8).

Table 8. Prediction of results of work of the main Russian SEZ in 2025

SEZ	Residents	Investments, billion rubles		Jobs, thousand people	Products, billion rubles
		state	private		
Alabuga	97	30	127	28	1820
Lipetsk	66	26	110	19	1250
Zelenograd	160	47	23	13	105
Dubna	195	29	15	29	147
Tomsk	160	32	25	16	153
Saint Petersburg	110	18	23	11	105

Calculated according to the Russian direct investment Fund (RDIF, 2016)

Optimistic expectations can be justified only in the case of resolution of key issues impeding effective operation of the SEZ in Russia. A list of unsolved issues is headed by the striving of the zones to "gigantomania". As a solution to existing problems the measures can be undertaken on creation of the profile commissions, specializing in analytical and evaluation work of all of the indicators, identification of positive and negative factors in the creation of a particular SEZ. To the jurisdiction of these commissions it would be advisable to include the grouping of reports and their submission for consideration to the Government of the Russian Federation with the subsequent final decision about the assignment to the territory of the status of the SEZ.

The next problem is the problem of inefficient use of public funds. According to official data of the audit Chamber of the Russian Federation about results of control activities on programs' funding, aimed at creating and developing of special economic zones from 2006 to 2015 during the period under review, the state has invested in the development of free trade zones about 115 billion rubles., but

actually in the execution of work spent just RUB 52 billion, which accounted for only 28% of the expected cost of construction.

To solve this problem, Federal authorities will be forced to delegate the right to manage the SEZ region, with assignment of rights to approve or reject the opening of new areas. Innovations of this kind will entail a number of undesirable consequences: the lack of competitiveness of the crisis regions in the struggle for creation on their territory of the SEZ and, as a consequence, the brain drain and the decline of the remaining enterprises, which is contrary to the main objectives of creating SEZs.

It is necessary also to highlight the third major problem associated with the shortage of qualified personnel in established areas. As a solution to this problem the experience of creating engineering centers can be applied, focused on innovative industries (Nizamova, 2013). The cooperation of residents with the educational institutions for training or retraining of personnel is not an exception, as it is done abroad.

In Russia the free economic zones remain to be the new concept, around which there are active discussions. And still there is no consensus, associated with the sizes and types of the SEZ, the mechanism of their activities and management system. This is due to the inefficiency of the results of establishment of SEZ in the territory of the Russian Federation and the feasibility of reorganization in the future in our country. Of course, in this direction, much remained to be done, because the efficiency increase of SEZ functioning will require an ongoing improvement and transformation.

Results and Discussion

The creation of the free economic zone (FEZ) in any state involves primarily the accelerated development of a particular territory. The functioning of such zones allows the governments of the countries in which they are created, to alleviate a crisis situation in the national economy, to stimulate production, export and growth of foreign currency income and thus improve the balance of payments States that in the result has a positive impact on economic growth and improving the level and quality of life.

In accordance with the objectives designated in the beginning of the study, the authors identified the following problems existing in the area policies: low levels of investment attractiveness, lack of access to sources of venture capital, lack of awareness of potential resident companies, poorly developed infrastructure. Related to dynamic internal and external economic processes they slow down the process of development of special economic zones, which adversely affects economic policy not only of the region but the country as a whole.

Thus, the increase in benefits and the intensification of infrastructure development is the first condition for the effectiveness of the SEZ, which guarantees the involvement of the greatest number of residents and provides access to venture capital; improves mechanisms of management in the zones and increases the efficiency of government decisions – the key state incentives and control of the SEZ; strengthens the marketing component of zonal policy – a guarantee to reduce costs of incomplete information.

From a theoretical and a practical point of view the positive dynamic in development of the SEZ in Russia are also can be defined by measures, taking into account the experience of creation and functioning of SEZ activities of the advanced foreign economies in the world, which are the engine of free trade.

Conclusion

When creating free economic zones in the Russian Federation the regional authorities should, in our opinion, to adhere to the following fundamental positions:

- to start implementation of projects with simple types of SEZ in a small area, gradually diversifying the specialization and expanding the scale of created zones. World and domestic experience shows that without accumulation of the necessary experience, attempt of a quick implementation of projects of large complex SEZ are doomed to failure;

- make the decision on the establishment of the SEZ and their specialization taking into account their placement. First and foremost, it is necessary to consider the competitive advantages of the region. Only on this basis is possible to implement promising, strategic plans, particularly the placement in the region of new, high-tech industries, using world-class technology;

- to form at the beginning of project's implementation the governing body of the SEZ (the Administrative Committee) with responsibility for the entire scope of authority and responsibility related to the implementation of the project. A key task is to ensure funding of the Administrative Committee;

- take into account in its activities aimed at implementation of projects of FEZ, the fact that the basis and source of development of free economic zones is to balance the interests of the recipient and investors, creating for the last of the best favorable regime.

Ultimately, the success of the projects of free economic zones in the Russian regions depends primarily on the willingness of the regional authorities together with the Federal government to develop and offer mutually beneficial model of cooperation for potential investors which is adequate to conditions and competitive advantages of regions.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Irina V. Zhukovskaya, PhD, Associate Professor of the department of Logistics and Management, Kazan National Research Technological University, Kazan, Russia.

Aleksey I. Shinkevich, PhD, professor of the department of Logistics and Management, Kazan National Research Technological University, Kazan, Russia.

Ekaterina N. Yalunina, PhD, professor of the department of Competitive Right and Antimonopoly Regulation, Ural State University, Yekaterinburg, Russia.

Irina V. Lushchik, PhD, Associate Professor of the department of Finance and International Currency and Credit Relations, Russian Foreign Trade Academy, Moscow, Russia.

Marina A. Zhukova, PhD, professor of the department of Management in International Business and Tourism Industry, State University of Management, Moscow, Russia.

Galina V. Mokhova, PhD, Associate Professor of the department of Management of Transport Forwarding Service, State University of Management, Moscow, Russia.

Leonid M. Ostanin, PhD, Associate Professor of the department of Chemical Plants Equipment, Kazan National Research Technological University, Kazan, Russia

References

Basile, A. (1989). Guidelines for Establishing Special Economic Zones in the Soviet Union. A Preliminary Report. UN CTC, NY, UN, 14-33.

Basile, A., Germidis, D. (1984). Investing in Free Export Processing Zones. Paris: Organization for Co-operation and Economic Development, 45-49

Bezpalov, V. V., Lomakina, E. A. (2015). Problems of functioning of special economic zones in Russia // Economics and modern management: theory and practice: collection of papers on mater. Of the XLV Intern. scientific. -pract. Conf. No. *1*(45),125-131.Novosibirsk: SibAC,.

Bolin, R.L., ed. (1996). The Impact of 57 New Export Processing Zones in Mercosur. Flagstaff: Flagstaff Institute.

Federal law of 22.07.2005 № 116-FZ (as amended on 13.07.2015) "On special economic zones in the Russian Federation". Direct access: http://www.consultant.ru/document/cons_doc_LAW_54599/

Fik, T.J. (2000). The Geography of Economic Development: Regional Changes, Global Challenges, 2nd ed., 20-22. Toronto: McGraw Hill

International Convention on the simplification and harmonization of customs procedures (1973). Direct access: http://www.tamognia.ru/doc_base/document.php?id=1571053

Kusago, T., Tzannatos, (1998). Z. Export Processing Zones: A Review in Need of Update. Social Protection Discussion Paper No. 9802, 90-92. Washington: Social Protection Group, Human Development Network, World Bank.

Korobova, O. V., Zharikov, V. V., Bezpalov, V. V. (2014). Management of special economic zones in Russian Federation: problems and prospects. *Journal of audit and financial analysis*, *5,* 279-284.

Nizamova, D. R. (2013). The role of the industrial infrastructure in the development of special economic zone. *Bulletin of economics, law and sociology, 2,* 68-71.

Odintsov, K. A. (2008). Special economic zones in the innovation system of the region. *Journal of Creative economy*, *6* (18), 52-60.

Official website of the Ministry of economic development of Russian Federation (2015) .Direct access: http://economy.gov.ru/minec/main

Orlova E. R. (2013). Investment attractiveness of regions of Russia: assessment and trends. *Bulletin of the International institute of economics and law, 1 (10),* 99-105.

Rodionov, I., Grachev, I. (2005). Whether special economic zones will attract investment and be drivers of economic growth. *Expert, 36*, 42-47.

Sukhoparova, T. A., Blinova, A. M. (2014). Comprehensive approach to assessing the impact of special economic zones on the investment attractiveness of the region. *Bulletin of economics, law and sociology, 1*, 40-43.

The official website of the Russian direct investment Fund (2016). Direct access: https://rdif.ru/

The rating of investment attractiveness of regions in 2015. Direct access: raexpert.ru/ratings/regions/

Russia. Special economic zones (2016). Direct access: http://www.russez.ru/contacts/

Tazutdinov, I. R. (2013). Special economic zones in the context of risk management of innovation development of Russian economy. *Management of risk*, *3*, 40-45.

Trawiński, P. S. (2012). Development of investment attractiveness of special economic zones: PhD Thesis. M.

Zhukovskaya, I.V., Shinkevich A.I., Galimulina, F.F., Komissarova, I.P., Mayorova, A.N. (2016). Technology platforms as an efficient tool to modernize Russias economy. *International Journal of Economics and Financial Issues*, *6* (1), 163-168.

Zhukovskaya I. V. (2009). Market aspects of implementation of the investment strategy of the Corporation. *Economic Bulletin of the Republic of Tatarstan, 4*, 42-45.