

Special Economic Zones in Russia as an Instrument of IT Potential Enhancing

Pavel Malyzhenkov, Artem Tikhobaev

National Research University „Higher School of Economics“ (Nizhny Novgorod Branch),
25/12, B.Pecherskaya str.,
Nizhny Novgorod, 603155, Russia,

Abstract. This article is dedicated to the analysis of effectiveness of special economic zones (SEZ), a rather new, but promising phenomenon in Russian Federation economy. It includes general analysis of SEZ, its reaction to the world financial crisis, analysis of innovation implementation SEZ (II SEZ), and, in particular, its IT-potential. At the end, the cases related to IT products realized in these zones are described and some economic and financial indicators suitable to describe the dynamics of development of these agglomerations of IT enterprises are given.

Keywords: Special economic zones, innovation implementation special economic zones, innovation, information technologies, high-tech, investment.

1 Introduction

The worldwide economic crisis in late 2007 is still going on in many countries. It has made more acute the problem of the relationship between innovation, economic growth and the impact of economic recessions. Known theories of economic growth [32, 35] deliver different hypotheses on the impact of economic crises on innovation; on the one side economic recession have a negative impact on innovation activities in firms by decreased demand and complicated access to capital and other resources. On the other hand, economic recessions might also represent new opportunities and a fertile environment for innovation. The economic crisis in general represents both destruction of an established techno-industrial paradigm and new opportunities and new solutions through adaption to new contexts and markets. It is possible to realize growth through crisis, amongst other through creating favorable conditions for innovation. But at the same time, crisis represents a high degree of uncertainty and instability that might deter firms from investing in innovative activities [33, 34].

Characteristics of the national innovation system of many European countries explain the serious impact of the economic crisis on innovation in its beginning. Policy responses were concerned with supporting innovation systems and developing innovation capacity, such as improving infrastructure, public investments in R&D and innovation, investment in education and training at all levels, as well as demand oriented innovation policies, including public procurement, financial support to SMEs, venture capital and, an important factor, policies aimed to enterprises

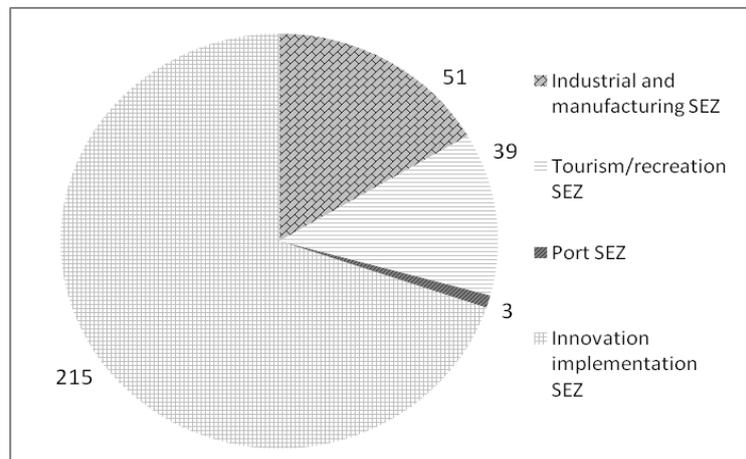
agglomerations development. They are seen as a part of the national strategy for coping with the effect of the financial crisis in many countries, partly because the industries involved in such programs represent industries oriented towards global markets that were most affected by the crisis.

This article is dedicated to the analysis of effectiveness of special economic zones (SEZ), a rather new, but promising phenomenon in Russian Federation economy. It includes general analysis of SEZ, its reaction to the world financial crisis, analysis of innovation implementation SEZ (II SEZ) and, in particular, its IT-potential.

2 Special economic zones in Russia

Special economic zones in Russian Federation started its development since the approving of the Federal Law about SEZ N° 116 (22.07.2005). According to this law, a special economic zone is defined by the Government of Russian Federation as a part of territory of Russian Federation which provides special conditions for economic activity conducting. These conditions include tax benefits and various preferences (for example, “one window” principle), well-developed infrastructure, location (for II SEZ, for example, it is very necessary to be close to universities, research institutes and, as a result, to have highly skilled workforce).

Today in Russia 25 SEZ of four types operate: industrial and manufacturing SEZ (4); tourism/recreation SEZ (14); port SEZ (3); innovation implementation SEZ (4). They host 308 resident companies [1], which distribution is represented below.



Graph 1. Distribution of residents by SEZ.

In the first three years 143 resident were registered and since the end of 2008 to the middle of 2010 102 new resident companies (81 of them only in II SEZ) were registered which represents a positive trend. It means that despite the crisis, residents decided to continue to operate. Nowadays 44 residents operate with foreign investment from 20 countries [3]. It is vital to add that most of all residents are

working now in innovation implementation special economic zones. To sum up, the dynamics of arriving residents, the amount of financing (by government and private investors), continuous presence of companies with foreign capital allow to affirm that SEZ were not seriously subject to effects of financial crisis.

Table 1 [2]. Dynamic of main indicators of functioning of SEZ in Russia from 2006 to 2011 and a forecast.

Year	Residents (new residents per year)	Volume of investment of residents, million USD	Work-places in SEZ	Total value of realized products and services, million USD	Volume of planned government investment, million USD	Volume of realized government investment, million USD
2006	9 (9)	0	400	0		
2007	39 (30)	~ 308	1200	~ 38,6		
2008	120 (81)	~ 700	5800	~ 467		
2009	178 (58)	~ 946	10024	~ 980		
2010	236 (58)	~ 1145	16098	~ 1538		
2011	308 (72)	~ 1872	21603	~ 1958		
2012	308 (0)	-	-	-	~ 4266 ¹	~ 1400 ²
2025 ³	> 1500	~ 28700	>195000	> 167000		

3 Innovation implementation special economic zones

Innovation implementation special economic zones are located in the cities Dubna, Tomsk, Zelenograd, Saint-Petersburg.

3.1. Special economic zone “Dubna”

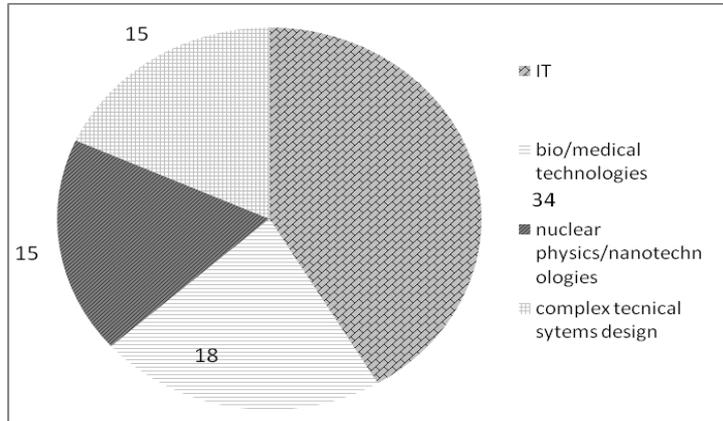
Innovation implementation SEZ “Dubna” is located in Dubna (about 100 km from Moscow). It is the large science city of Russian Federation. The total area of SEZ is 187,7 ha and it is divided into two parts: Russian center of programming – 135,7 ha and the new industrial zone – 52 ha. The priority spheres of SEZ functioning are given by information technologies, nuclear physics and nanotechnologies, bio- and medical technologies and complex technical systems design.

According to [4], partition of resident companies (82 in total) in accordance to the priority spheres of development is as follows:

¹ Except tourism and recreation SEZ

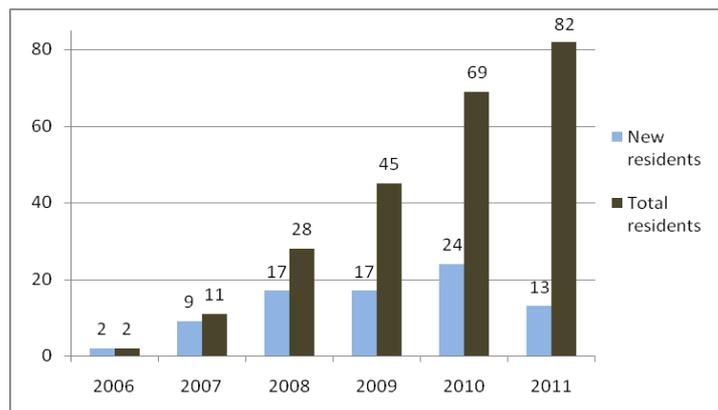
² Except tourism and recreation SEZ and port SEZ

³ Forecast values



Graph 2. Partition of SEZ “Dubna” residents by spheres.

The dynamics of “Dubna” residents is shown below:



Graph 3. Dynamics of residents in the ZES “Dubna”.

Dubna is one of the most important science cities in Russia. For this reason there is a good opportunity for residents to hire qualified staff, for SEZ to develop. 13 000 people of 70 000 (entire population of Dubna) are university graduates. About one-third of economically active population works in science and industrial sphere [5]. Besides, in Dubna the Joint Institute for Nuclear Research (JINR) is active. It is the world’s most famous research center which collaborates with universities and scientific organizations all over the world. The system of higher and professional education is represented by International University of Nature, Society and Man “Dubna”, Moscow State Institute of Radio Engineering, Electronics and Automatics (Technical University) (Branch in Dubna), University of the Russian Academy of Education (URAO) and Institute of Nuclear Physics, Moscow State University.

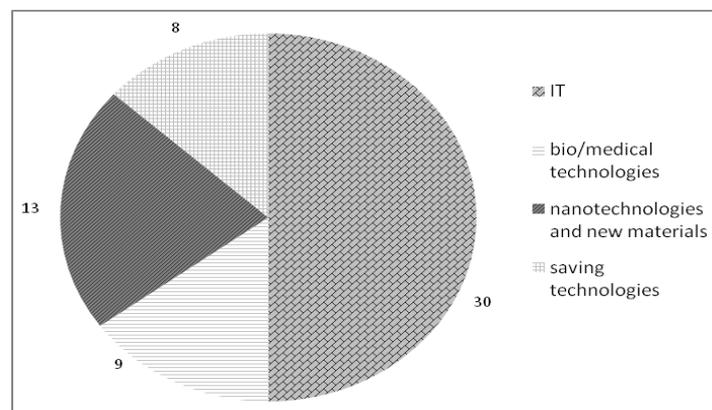
SEZ in Dubna represents a perfect environment for realization of ideas from research institutes and universities of one of the best science cities of Russia. At the

moment there are 82 companies and it is the highest number of residents in all Russian SEZ. If investors prefer to invest there, it means that there are conditions required for successful entrepreneurship. This SEZ is really close to Moscow and for this reason both advantages and, unfortunately, defects of such a “neighborhood” are being observed. By defect we mean an unpleasant episode occurred in this SEZ and taken under control by government bodies: the Management Company of SEZ “Dubna” (joint stock company “Special Economic Zones”) placed elevate volume of financial means on deposit under the bank interest which was much lower than the average indicator for such activities. It demonstrates that geographical nearness of economic activity to the capital is not always a positive issue but may also contain negative sides.

3.2. Special economic zone “Tomsk”

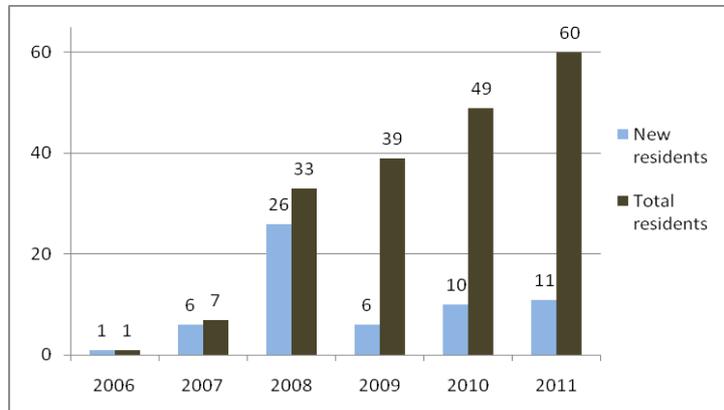
This SEZ is located in the geographical center of Siberia and it is very important for regional economy, for transition from a centrally planned economy, when common economical activities took place mostly in European part of Russia, to a more balanced economy and as a result more harmonious regional development. The territory of SEZ is divided into two parts: “Severnaya” (“Northern”, 14,6 ha) and “Yuzhnaya” (“Southern”, 192,4 ha). The priority spheres of activities are represented by information technologies and electronics, medicine and biotechnologies, nanotechnology and new materials and energy-saving technologies.

According to [6], the partition of resident companies (60 in total) in accordance with the priority spheres of development is as follows:



Graph 4. Partition of SEZ “Tomsk” residents by spheres.

The dynamics of “Tomsk” residents is shown below:



Graph 5. Dynamics of residents in the ZES “Tomsk”.

Tomsk is a large educational and innovative center of Siberia region characterized by the access to highly qualified workforce thanks to the presence of Tomsk State University, State Medical University of Siberia, Tomsk Polytechnic University and Tomsk State University of control systems and radioelectronics. Tomsk region leads in the ranking of innovative activity realized by fund "Petersburg politician", the Russian Academy of National Economy and Public Administration under the President and the newspaper RBC daily. Percent of researchers among the economically active population in Tomsk (150 people for every 10 000 of working population) is higher than the average indicators not only in Russia (69), but also in countries such as USA (61) and Japan (102) [7].

“SIBUR Holding” invested in the largest in Russia research center for chemical technology Limited Liability Company "Scientific research organization TomskneftehimSibur" (NIOST) within 6 years about 1,3 billion rubles (43,5 million dollars). In this case, saving is more than 400 million rubles (13,5 million dollars) (about 30%). NIOST is a resident company of SEZ “Tomsk” [8]. It shows once again the effectiveness of tax benefits and preferences which are taken place in SEZ.

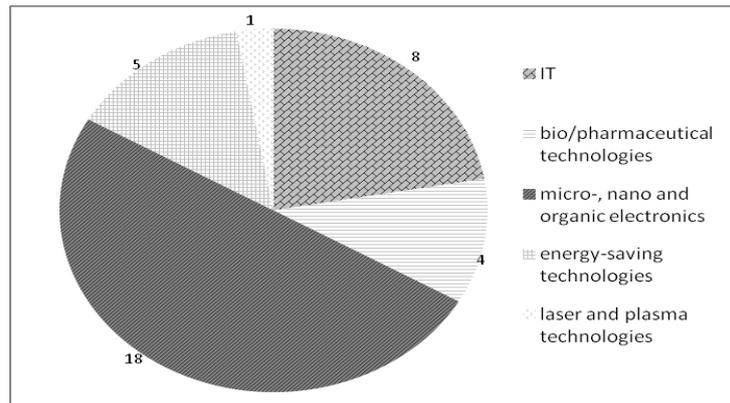
Actually, there are 60 resident companies in “Tomsk” SEZ [10]. Only in SEZ “Dubna” the number of residents is higher, but the average number of employees in companies registered in “Tomsk” is higher than in “Dubna”. The amount of financing is high and the number is not a maximum this zone can absorb. However, nowadays potential of this zone is really high. Besides, in 2010 7 residents worked with foreign investment from such countries as USA, Germany, South Korea, Norway, Australia and Taiwan [9]. On June 2012 10 residents worked with foreign investment.

3.3. Special economic zone “Zelenograd”

Innovation implementation special economic zone “Zelenograd” was established in accordance with the Decree № 779 of the Government of the Russian Federation of December 21, 2005 in Zelenograd Administrative District of Moscow. The total area of SEZ is 146,27 ha and it is divided into two parts: "MIET" (Moscow Institute of

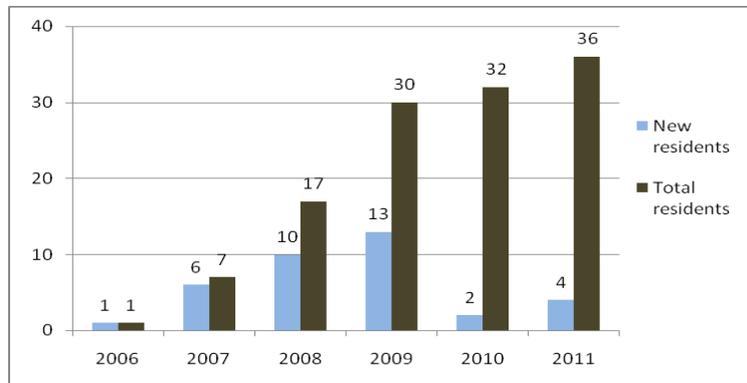
Electronic Technology) - Zelenograd Innovation and Technology Centre - 4,4 ha and “Alabushevo” – 141,87 ha.

Priority spheres of development of SEZ are represented by micro-, nano- and organic electronics, bio- and pharmaceutical technologies, energy-saving technologies and renewable energy, laser and plasma technologies and information technologies. According to [11], partition of resident companies (36 in total) in accordance with the priority spheres of development is as follows:



Graph 6. Partition of SEZ “Zelenograd” residents by spheres.

The dynamics of “Zelenograd” residents is shown below:



Graph 7. Dynamics of residents in the ZES “Zelenograd”.

There is also interesting situation. In 2009 (very bad year in terms of crisis) were registered 13 companies – more than in 2008 (when the crisis started). In 2010 there is a “nosedive”, but in 2011 positive trend takes place.

Zelenograd is the main innovation center of micro- and nanoelectronics in Russia. The system of higher and professional education is represented, in particular, by National Research University “Moscow Institute of Electronic Technology” and Research Institute for Physical Problems with all Moscow educational bodies situated near. In addition, two educational bodies offering higher business education, Moscow

State Academy of Business Administration and Institute for International Business Education are situated here.

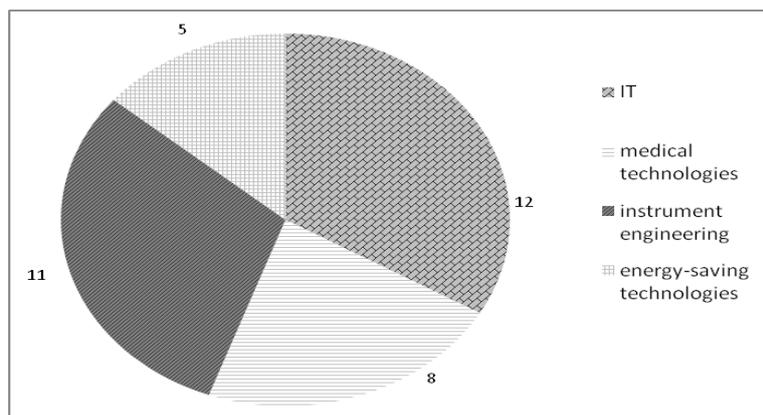
Innovation implementation special economic zone “Zelenograd” is very attractive for potential residents. Firstly, there is the main innovation center of micro- and nanoelectronics in Russia and it provides good scientific basis which is required for companies related to these spheres. Secondly, Zelenograd is really close to Moscow and because of it there are perspective opportunities for development both Zelenograd and, in particular, its SEZ. The number of residents is 36 (29 June 2012). Human resource capacity of Zelenograd and concentration of high-tech industries make SEZ “Zelenograd” very attractive for companies.

3.4. Special economic zone “Saint-Petersburg”

The total area of innovation implementation special economic zone “Saint-Petersburg” is 129,4 ha and it is divided into two parts: “Noidorf”, 19 ha (located in v. Strelna, Petrodvorets district of Saint-Petersburg) and “Novoorlovskaya” – 110,4 ha (located in Primorskiy district of Saint-Petersburg).

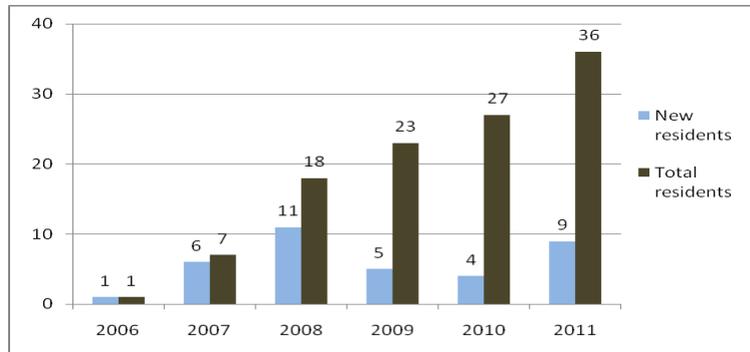
SEZ “Saint-Petersburg” suffers of slow rhythms of government investments: only 3 billion rubles (100 million dollars) were realized of the planned 14 billion (466 million dollars). However, it doesn’t mean that potential of this zone is low. The main advantages regard the high presence of universities, in other words, the system of higher education is strongly developed. Saint-Petersburg is close to Europe, there is developed transport infrastructure.

Priority spheres of development of SEZ are: represented by information technologies, energy-saving technologies, medical technologies, instrument engineering and new materials. According to [12], partition of resident companies (total are 36) in accordance with the priority spheres of development is as follows:



Graph 8. Partition of SEZ “Saint-Petersburg” residents by spheres.

The dynamics of “Saint-Petersburg” residents is shown below:



Graph 9. Dynamics of residents in the ZES “Saint-Petersburg”.

The number of arriving residents after the decline in 2009 was increased and again there is positive trend. The system of higher and professional education is represented by almost 10 higher education bodies among which there are Physics and Technical Institute of Russian Academy of Sciences (RAS), Institute of Electrophysics and Electric Power, St. Petersburg State University and others.

It makes SEZ “Saint-Petersburg” very perspective. Hopes of the government have not yet been realized. It was established in 2005, but nowadays this zone is less developed than other three zones. And of course bad influence of crisis on the zone takes place. But SEZ “Saint-Petersburg” has potential and perspectives.

4 Financial and economic indicators analysis and cases

As one can note from the data presented above SEZs “Dubna” and “Tomsk” are the most active, numerous and promising. The value of products realized by residents of SEZ “Dubna” for 2008 was 25 million rubles (83 300 dollars) [13]. For the first six years in SEZ “Dubna” the value of realized products is 1 600 000 000 rubles (53,3 million dollars), and only in 2011 it was equal to 1 billion rubles (33,3 million dollars). Tax deductions are about 250 million rubles (8,3 million dollars). Nowadays there are 850 workplaces and only in 2011 companies provide 187 jobs [14]. It means that the average number of employees in companies of SEZ “Dubna” is about 10.

In 4 innovation implementation SEZs about 70% of residents of all SEZ (215 companies of 308) work and these companies attract about 55% of all private investments in all SEZ. But all these enterprises are small: to make a comparison, in II SEZs about 2000 people work [15] while, only in industrial and manufacturing SEZ “Alabuga” about 3000 people work [16]. It is also worth mentioning that the major part of II SEZs residents are IT-companies.

One of the successful IT companies operating in “Dubna” is Agava which became a resident of SEZ “Dubna” in 2007 (it is named “Agava-Dubna”). Staff of this company is about 400 employees [22] and it works in 4 [23] countries of The Commonwealth of Independent States (CIS). The company's share in the Russian market of web hosting in 2006 amounted to 5.87% [24]. iFolder is a Russian well-known web-hosting service. According to statistics [27], it is the most popular

Russian service in 2012 in terms of visiting users and number of views. The main source of revenues for this product is advertising. According to the interview released by a representative of the company, revenue from advertising was about 200 000 rubles per day (6600 dollars) [28]. The auditory of iFolder was about 1,5 million people on January 2010 [29]. The service is oriented on Russian-speaking users.

As far as SEZ “Tomsk” is concerned it provided 1020 jobs for 2010 [17]. Despite the fact that different sources deliver not always the same information we can state that nowadays in “Tomsk” work about a half of all employees of II SEZ – more than in the other 3 zones. It all means that Tomsk can become a strong competitor even to “Dubna” and “Zelenograd” despite their geographical position near to Moscow. Besides, the average number of employees in companies of SEZ “Tomsk” is about 25. In 2009 income of SEZ “Tomsk” was down (as compared with 2008) 3,3 times and revenues were 14 million 270 thousands rubles (475 660 dollars). Losses in 2009 were 48,5 million rubles (1,6 million dollars). Net income in 2008 was 845 000 rubles (28 166 dollars) [18]. By the end of 2007 in SEZ “Tomsk” there were 8 resident companies and 108 jobs [19]. A very interesting fact regards also the attractiveness of “Tomsk” as an employer: minimal salary in SEZ “Tomsk” is about 25 000 rubles (833 dollars) [20] while the average salary in Siberia region is 25350 rubles (845 dollars) [21].

Elecard Devices is a resident company of SEZ “Tomsk” (registered in 2007). Revenue in 2005 was 500 thousand dollars, in 2009 – 2 million dollars [30]. In 2010 they started lead project related to digital TV. The project participants are Rusnano and Elecard Devices. Amount of investment is about 24 million dollars. In 2013-2014 they planned to start mass production of devices. Number of clients interested in these devices is about 7000 [31].

5 Conclusion

In this work the brief analysis of innovation implementation SEZs in Russia was delivered. These zones have a very high potential and perspectives. Special conditions of SEZ are extremely necessary for small companies of innovation implementation zones (and not only for them). The government is interested in development of SEZ because modernization and innovation are now widely considered as key elements of economic development.

Unfortunately, this phenomenon is rather young, so the authors faced a natural problem of lacking and inhomogeneous data which first had to be gathered and systemize. Still, the analysis got the possibility to realize the importance of this mechanism and opened two possible directions of future research. The first one regards the most attentive analysis of financial indicators of SEZ residents activity, preferably making use of financial reports and balance sheets, realizing also an analysis of their efficiency.

The second direction regards a very interesting question, i.e. if the SEZs can be considered clusters (which represent a powerful economic mechanism in many developed countries) ? Certainly, the actual operating of SEZ doesn't give us the possibility to affirm that SEZ represents a cluster in a traditional sense of this term

because the interrelations between the residents and the “market” component of SEZ should be examined better. Still, the phenomenon is quite young, but the high presence of SMEs (in particular, in IT-component) in these aggregations and their active development gives us the possibility to hope that in time these business constellations can be analyzed as clusters in all details. It’s very probable that these zones just need time for their development to realize completely their full potential.

References

1. Ministry of Economic Development of Russian Federation, <http://www.economy.gov.ru/minec/activity/sections/sez/main/index>
2. Publishing house “Professional’noe izdatel’stvo”, http://profiz.ru/peo/6_2012/nalogovaja_optimizacia/
3. Special economic zone “Alabuga”, <http://alabuga.ru/ru/press/news/894/>
4. Ministry of Economic Development of Russian Federation, http://www.economy.gov.ru/minec/activity/sections/sez/main/zone01/zone1_01/
5. Special economic zone “Dubna”, http://dubna-oez.ru/about_oez/
6. Ministry of Economic Development of Russian Federation, http://www.economy.gov.ru/minec/activity/sections/sez/main/zone01/zone1_04/
7. “Soyuz-Divinyl” company, <http://www.sdivinil.ru/articles/index.php?id=107>
8. Publishing house “Izdatel’skii dom Neft’ I Kapital”, <http://www.oilcapital.ru/company/143168.html>
9. “Rossiiskaya gazeta”, <http://www.rg.ru/2010/12/27/reg-sibir/oez.html>
10. Administration of the Tomsk region, http://tomsk.gov.ru/ru/press-centr/press-relizy/news_item/-/novost-rezidenty-osoboy-ekonomicheskoy-zony-tehniko-vnedrencheskogo-tipa-tomsk-stroyat-korpora-na-yuzhnoy--2/
11. Ministry of Economic Development of Russian Federation, http://www.economy.gov.ru/minec/activity/sections/sez/main/zone01/zone1_02/
12. Ministry of Economic Development of Russian Federation, http://www.economy.gov.ru/minec/activity/sections/sez/main/zone01/zone1_03/
13. Publishing house “Izdatel’stvo OOO “Gran””, http://press.dubna-info.ru/news_full_k.php?nid=903&binn_rubrik_pl_news=79
14. Ltd. “Nasha Gazeta”, <http://www.dubnapress.ru/social/2448-2012-04-04-11-31-51>
15. Government of the Russian Federation, <http://premier.gov.ru/events/news/14444/>
16. Branch of JSC “Tatmedia” publishing agency “Tatar-Inform”, <http://www.tatar-inform.ru/news/2012/04/11/311933/>
17. Interregional Association of the Economic Cooperation of the Constituent Entities of the Russian Federation “Siberian Accord” (IASA), www.sibacc.ru/upload/iblock/49f/12.ppt
18. Agency of news “Agenstvo novostey TV2”, <http://www.tv2.tomsk.ru/news/ldokhody-tomskoi-oezl-sokratilis-v-3-3-raza>
19. “Investment and innovation in Siber””, http://www.sibarea.ru/objects/object_id/7/passport/1/#rez-ti-deyatel-OEZ
20. SEZ TIT “Tomsk”, JSC, <http://www.oez.tomsk.ru/#>
21. “Tomskstat”, <http://tmsk.gks.ru/digital/region12/DocLib/15.htm>
22. “Agava” company, <http://www.agava.ru/about.shtml>
23. Special economic zone “Dubna”, <http://dubna-oez.ru/it/?id=121>
24. Non-profit research project “ru-hosting”, <http://ru-hosting.ru/market.php>
25. LLC “Blogoved”, <http://internetno.net/category/hosting/web-hosting-russia/>
26. Statistics of Runet. http://1stat.ru/stats?show=stats&date1=01-06-2012&date2=01-07-2012&zone=ru&sortby=sn_procent_down

27. "@Mail.ru" group, <http://new-top.mail.ru/rating?id=1072910>
28. Rutube, <http://rutube.ru/video/99a3f74729a316d6275c7c66ecae4099/>
29. "Novaya gazeta", <http://www.novayagazeta.ru/news/994.html>
30. JSC "Axel Springer Russia",
<http://www.forbes.ru/blogpost/49456-kak-ya-investiroval-v-razvitie-tsifrogo-televideniya>
31. The National Nanotechnology Network, <http://www.rusnanonet.ru>
32. Lipsey R., Carlaw K. & Bekar, C. *Economic Transformations: General Purpose Technologies and Long Term Economic Growth*, Oxford University Press, Oxford, 2005.
33. Pianta M., Vaona A. *Innovation and Productivity in European Industries* in "Economics of Innovation and New Technology" 16(7), p.p. 485-499, 2007.
34. Black S., Lynch L. *How to Compete: The Impact of Workplace Practices and Information Technology on Productivity* in "The Review of Economics and Statistics", 83(3), p.p. 434-445, 2001.
35. Porter M.E. *The Competitive Advantage of Nations*. Free Press: N.Y., 1998.