

FREE ZONES OF THE REPUBLIC OF SERBIA - BUSINESS RESULTS 2011-2021 AND FUTURE DEVELOPMENT

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Abstract

Free zones are an effective economic instrument that provide the host country with a rapid influx of investments, increased employment, access to new technologies, education, work, industrialization and increased exports. Serbian free zones specialize in industrial production intended for export. They provide their tenants (companies who use the zones) with ease in doing business by exempting them from customs and tax duties. Within certain free zones in Serbia, there are benefits offered by local self-government and they can contribute to a more favorable investment environment compared to other locations.

About 10,000 free zones in the world participate in the daily battle for investors, including 82 free zones in the European Union. By offering various services, free zones fight to retain existing and attract new investors, and the platform of free zones provides the fastest and most practical way of flexible development in international trade and increasing the attractiveness of countries for productive international investments.

A detailed analysis of the results of the establishment and operation of free zones in Serbia has never been done until now. Previous analyzes were limited to textual and tabular presentations of the results of free zone operations in the previous year and did not provide any relevant conclusions and did not propose measures to improve the operation of both free zones and free zone user companies, nor the applied concept of free zones in Serbia.

Keywords: free zones in Serbia, special economic zones, invest in Serbia

1. INTRODUCTION

Free zones exist as a very developed concept in almost all countries of the world.

It is especially important to point out that the concept of modern free zones is expanding and especially studied during the 20th and 21st centuries, but it should be emphasized

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that the principles of free trade have existed since ancient times and that the first free zones were created in the era of ancient Rome and Greece in free ports. There are several definitions and types of zones, and it is specific that these are territories where there are additional benefits for doing business and attracting investments.

Different forms of zones developed in the last years of the 20th century. All of them can hardly be accurately classified under unique common names, but, with grouping by some more important features, the following classification (Kostic, 2008) is possible: Free Zones; Free Trade Zones; Foreign Trade Zones; Trade Zones; Logistical Free Trade Centers; Free Ports; Customs Free Zones; Duty Free Zones; Industrial Free Zones; Industrial Export Processing Zones; Free Production Zones; Export Processing Zones; Export Free Zones; Privileged Free Zones; Free Economic Zones; Special Economic Zone; Joint Enterprise Zones; Zone of Joint Entrepreneurship; Enterprise Zones; Science Parks & Technological Zones; Industrial Parks; Offshore Centers; Tourist, hospital (medical) and educational zone; Internet city free zones; Development Incubator; Virtual Free Zone and many other names.

Serbia has adopted two strategies for the development of free zones, the first for the period from 2011. to 2016. and the second for the period from 2018. to 2022. year. In both strategies, goals and measures for their realization are foreseen. The goals are to attracting direct foreign investments (FDI) and transfer of modern technologies, increasing the value of turnover in free zones, increasing the value of production in free zones, increasing the value of exports from free zones and increasing the number of employees in free zones.

Measures to achieve the strategic goals

are Postponement of the application of amendments to the Law on Free Zones until the time of the accession of the Republic of Serbia to the European Union, Additional local self-government benefits for investments in the area of the free zone, Improving the offer of available "brownfield" capacities, Expanding the area of free zones, and Increasing the number of production users in free zones (Bulajić, 2014; Ilić, 2020).

Measures for their realization are offer of infrastructure-equipped land and tax reliefs and other incentives as well as improvements in institutional relations. This paper should answer the question to what extent these goals have been achieved.

Also, the effectiveness of the Serbian model of free zones, which is implemented through legislation in the Republic of Serbia, has never been evaluated with other models implemented in countries that also have free zones (Kostadinović & Petrović-Randelović, 2015).

The analysis of business parameters is the basis for the development of individual strategies and action plans of Free Zones in Serbia in order to improve business and attract additional investments.

Those names do not represent different names for the same thing, but indicate different concepts of free zones depending on their purpose and the types of benefits they provide in business.

In addition to all types and divisions in the world, there are three types of free zones: Free Trade Zones, Free Production Zones (Export Processing Zones) and recently Special Economic Zones (Chamber of Commerce and Industry of Serbia and Economic Institute, 2021; Directorate-General for Neighborhood and Enlargement Negotiations, 2017).

This concept of zones in those areas enables the location of large production companies that generate transport flows and goods traffic. Manufacturing firms in the zones along with trading firms in the same or some other zones are included in supply chains.

Globalization as a process has a special impact on the distribution of production and logistics nodes of large multinational companies that mostly use all the benefits of the host country and are mostly located in the zones.

Industrialization 4.0 has a strong influence on the production users of free zones and they, with their participation in the supply chain, lead to the modernization of logistics chains and their revolution in Logistics 4.0.

Free zones apply the latest trends in attracting investments in accordance with modern development principles applied in the world's fastest growing economies (China, India and Poland) as well as in the world's strongest economies (Russia, USA, Japan), respecting the high standards of the World Free Zone Organization (World Free Zone Organization). Free zones and logistics management are part of a complex network of production and service activities as well as a global supply chain and represent an effective instrument for attracting investments and new technologies, especially due to the benefits they provide to investors.

The most general definition of a Free Zone is that they are a fenced off part of the country's territory with special benefits for business. Free zones are a tool of economic policy used by the state to create areas of accelerated development that provide a better economic framework for business compared to the rest of the country. The essence of free zones is contained in their

basic and simple characteristic that, in addition to providing special benefits for business activities, they also attract direct investments and enable an increase in the employment of the workforce in the territory of the host country. More than 25 percent of the world's traffic is carried out through 10,000 free zones.

Within the free zones, various activities are carried out such as: production, finishing, processing, packaging, sorting, storage of goods, foreign trade operations, banking operations, insurance and reinsurance operations, logistics operations, etc. All activities are permitted in accordance with valid legal acts that do not result in environmental pollution, which is particularly emphasized by the Law on Free Zones. In the current moment of the global financial and overall economic crisis, free zones play an important role as an tool for the fastest attraction of investments and commodity flows in certain areas.

Free zones represent an important part of the global chain of economic activities and therefore the global supply chain. Connecting free zones with an interactive e-platform will allow free zones to be part of the 4.0 Industrial Revolution. Immediate, direct access of potential investors to existing zone users through available databases, with minimal costs, from any part of the world - is an advantage that can be used in all zones in the world. In this way, it is also possible to connect the zones with logistics organizations and ports, so that the end users would receive all services in one place - from the organization of the supply of raw materials and raw materials through the organization of production to the shipment of finished products to the end customer.

2. DATA COLLECTING AND RESEARCH ON SERBIAN FREE ZONES

Today, there are 15 free zones in Serbia covering an area of 2,756 ha, where 227 multinational companies and over 42,000 workers operate. Locations of all Serbian free zones are shown on Figure 1, with existing free zones on same figure are shown subzones and locations that show interest to establish free zone in future period (Free zone Administration website, 2022).

Free zones in Serbia in the past years have achieved significant results in terms of increasing the inflow of investments, the value of turnover and exports, the number of employed workers compared to the results achieved in the areas of the Republic of Serbia outside the free zones. A large number of multinational companies represent a large export potential and contribute to a positive foreign exchange balance. Some of the largest companies working in the free zones of Serbia, which employ over 1,000 workers, are: Tigar Tires, PKC Wiring Systems, DAD

Draxlmaier Automotive, Mei Ta Europe, Yayaki Serbia, Lear Ceorporation, Fiat Christler Automobili Serbia, Flender, Tigar AD, Norma Group, Contitech Fluids Serbia, Trayal Corporation, ZF Serbia.

In the entire concept of free zones of Serbia, one of the main questions is whether the advantages currently offered in the free zones of Serbia are actually sufficient compared to the business conditions offered in the world and neighboring countries.

The organization of free zones itself depends on the host country. It is conditioned by the social and economic environment, the technical level of the state as well as the level of development of society and the local community in the area where the free zone is located. The research problem is looking at the efficiency of business in free zones at the local level, to the satisfaction of the state, the owner/manager of the zone and the companies/users working in the area of the zone. It is necessary to balance so that all parties that influence work in free zones achieve equal benefits (Kostić, 2005; Kostić, 2008; Kostić et al., 2009).



Figure 1. All free zones location in Serbia

Free zones implement a policy of balanced regional development by directing investments to less developed areas. The structural organization and efficiency of activities in the zones is conditioned by the location and relations with the state and local self-government (Kostić, 2010; Kostić, 2011).

This research is based on publicly available data from the Administration for Free Zones of Serbia and international institutions such as the Statistical Office of the Republic of Serbia, as well as commonly known organizational models of free zones in the world and in Serbia, their organizational structure, growth and development, and analysis of realized investments, volume production and export.

The activity of the free zone is defined by the modern law on free zones from 2006. According to that law, those activities that threaten the environment, material goods, people's health and the security of the country are excluded from work in the area of the free zone.

The competent authority that ensures the legality of the operation of Free Zones in accordance with the Law on Free Zones (Official Gazette of the RS, 62/06) is the Administration for Free Zones of the Republic of Serbia formed within the Ministry of Finance of the Republic of Serbia. The Administration's job is to define the national policy of development of zones through the strategy and objectives of increasing investment opportunities, which will lead to new employment of the workforce, which is an important factor. The administration should prepare regulations for work in zones, consider requests for consents for determining their areas. It is also within the authority of the Administration to initiate, together with other state bodies, the

consideration of issues related to the operation of free zones in order to implement changes in regulations in the area of operation of free zones with the aim of improving regulations and increasing the state's attractiveness for accepting investments. The administration should also work on promoting the concept of free zones.

A free zone is an area managed by a free zone management company. The founder of the zone can be a domestic legal entity that made a decision on its establishment. The user of the free zone can be a domestic or foreign natural or legal entity that has signed a contract with the company for the management of the free zone on the performance of activities in the area that is pre-determined as the area of the free zone. The decision on determining the area of free zones is made by the Government of the Republic of Serbia (Kostić, 2020; Kostić & Simonović, 2021).

The mission of the zone is to provide the most favorable conditions for business and attract investments with the aim of satisfying the interests of the users of the zone, the economy in the vicinity of the zone, local authorities and the state, with the aim of creating an area of moderate economic development (Mohiuddin, 2014; Nazarcuk & Uminski, 2019; Schwab, 2015).

The „Strategy for the development of free zones in the Republic of Serbia for the period from 2018 to 2022“ (Official Gazette of RS, 48/18) defines Vision, the Mission and Strategic goals of the free zones in the Republic of Serbia.

The vision of free zones is to become a leading economic instrument for attracting direct investments, which makes a full contribution to the sustainable development of the Republic of Serbia through socio-economic growth and the transformation of the Republic

of Serbia into a global center for investments, trade and logistics.

The mission of free zones is to provide additional value to the economy by creating the most favorable investment and business locations in the Republic of Serbia in order to attract domestic and foreign companies engaged in high-tech production intended for export.

Some of these goals have their own measurable results, so this paper will collect and analyze:

- volume of investments,
- area of the free zone,
- number of foreign and domestic companies,
- number of employed workers,
- the value of production in the zone and
- import-export value and foreign trade balance of each zone.

In relation to the value of investments per employed worker and the value of investments per hectare, a conclusion will be reached about the amount of investment in infrastructure and land equipment, as well as an assessment of investment in new technology.

The form of the report on the operation of free zones does not cover all of these predicted parameters, so it is necessary to update and change the form in the following period in order to collect all relevant data on all predicted strategic goals.

General benefits offered to users of free zones:

- Exemption from paying customs duties and other import duties for goods intended for work and construction of facilities in the free zone (raw materials, equipment, building materials);
- Exemption from VAT when goods enter the free zone, as well as for the

provision of transport and other services related to imported goods;

- Exemption from VAT for goods and services in the free zone, as well as for the transportation of goods between two users of the free zone;

- Exemption of production users from paying VAT on energy consumption.

In addition to the general benefits defined by the Law on Free Zones in 2006, free zones include all benefits provided by the state on the territory of Serbia, as well as benefits provided by local self-government.

Companies for the management of free zones can also provide their users with logistics services: forwarding services, organization of international transport, customs clearance, storage, land infrastructure, technical assistance with customs clearance, as well as many other services.

The first free zone on the territory of Serbia was established in 1996 in Pirot, and in September 2022 we have 15 free zones: Pirot, Zrenjanin, Subotica, Novi Sad, FAS Kragujevac and Šumadiju in Kragujevac, Šabac, Užice, Smederevo, Kruševac, Svilajnac, Apatin, Vranje, Priboj and Belgrade.

About 227 small, medium and large companies operate in the free zones on an area of 2,756 ha with 42,046 employees according to the report on the work of the free zones for 2021, achieving a total turnover of 4.97 billion Euros.

3. RESULTS ACHIEVED FROM RESEARCH ON SERBIAN FREE ZONES

There is a very small number of previous researches and published works on the

subject of free zones in Serbia, since it is a very specific and narrow concept that is dealt with by very few people in the country. This topic and its specific issues have not been fully scientifically researched, so there is not a sufficient number of works on the basis of which a comparative analysis would be performed, which gives a lot of space for new and more detailed research. There is limited theoretical knowledge and a small number of systematized data in this area, and it is necessary to arrive at new results and systematization of knowledge through

multidisciplinary research and crossing available data.

Over 200 multinational companies operate in the free zones of Serbia, employing more than 42,000 people. The investment volume is about 4 billion euros. Such important data should be given special attention in order to analyze the conditions that led to the attraction of these investments, but also in order to remove the remnants of the existing concept and introduce additional benefits that exist in other countries, that is, to modernize the concept that exists today in

Table 1. Total turnover of all Serbian Free zones 2008-2021 and last five years (Eur)

	2017	2018	2019	2020	2021	2008-2021
Subotica	852,424,944	707,192,327	937,443,679	796,970,159	677,470,047	7,515,926,524
Pirot	661,687,551	675,722,942	663,444,182	608,723,034	779,363,787	7,886,120,300
Zrenjanin	224,670,183	370,144,304	328,613,181	241,040,933	221,620,175	2,428,387,708
Novi Sad	275,075,558	213,358,771	264,187,002	247,462,351	348,636,440	2,232,447,984
FAS Kragujevac	2,096,858,788	1,626,543,696	1,090,627,897	767,617,223	733,012,490	18,685,265,464
Šabac	43,354,869	119,156,240	252,191,082	307,098,837	301,582,593	1,089,696,937
Užice	478,080,158	457,938,780	496,391,050	466,249,869	778,151,276	4,900,184,428
Svilajnac	80,037,120	79,579,175	79,871,897	80,210,727	149,488,042	765,870,451
Smederevo	140,379,568	203,859,152	190,677,329	178,146,334	252,660,514	1,116,143,495
Kruševac	19,052,458	21,495,987	43,904,336	62,124,444	75,823,320	279,645,898
Apatin	29,051,151	1,459,954	723,247	0	0	58,814,177
Vranje	0	0	0	0	30,978	30,978
Priboj	1,080,965	12,197,081	19,674,060	22,662,525	32,074,440	87,802,305
Beograd	8,705,285	136,281,149	209,712,111	185,555,706	582,599,586	1,122,853,837
Šumadija Kragu.	0	0	0	14,071,668	43,730,456	57,802,124
Total	4,910,458,598	4,624,929,558	4,577,461,053	3,977,933,810	4,976,244,144	48,226,992,610

Table 2. Services turnover of all Serbian Free zones 2008-2021 and last five years (Eur)

	2017	2018	2019	2020	2021	2008-2021
Subotica	641,410	662,959	17,499,268	749,494	825,973	24,534,045
Pirot	8,081,067	2,555,165	4,261,604	8,745,042	20,799,875	66,008,143
Zrenjanin	7,919,218	6,121,421	3,879,677	4,223,144	3,892,839	30,106,384
Novi Sad	905,329	544,536	623,664	606,441	731,410	8,461,664
FAS Kragujevac	9,764,442	9,226,220	7,221,353	6,068,568	5,390,803	82,144,530
Šabac	102,757	77,644	84,431	87,276	93,039	806,099
Užice	585,581	880,511	1,414,419	1,425,735	1,664,636	8,516,714
Svilajnac	6,766,604	7,376,210	8,634,316	3,417,500	14,964,221	56,619,460
Smederevo	2,228,329	1,764,506	1,814,334	2,996,270	3,637,572	13,993,173
Kruševac	37,234	37,848	30,751	44,948	50,106	362,310
Apatin	168,468	261,341	51,890	0	0	773,385
Vranje	0	0	0	0	12,000	12,000
Priboj	28,053	118,233	181,630	731,360	771,714	1,830,990
Beograd	4,809,896	28,864,161	8,706,072	619,849	4,248,540	47,248,518
Šumadija Kragu.	0	0	0	79,048	196,096	275,144
Total	42,038,388	58,490,755	54,403,409	29,794,675	57,278,824	341,692,559

our country and that other countries have already overcome.

Result of collected data for total turnover of all companies working in all free zone locations in Serbia are shown on Table 1.

Result of collected data for total services turnover performed from all companies working in all free zone locations in Serbia are shown on Table 2.

Total investment amount of all companies working in all free zone locations in Serbia are shown on Table 3 in Appendix 1 for period 2008-2021.

Foreign trade balance and results are shown on Table 4 in Appendix 1. It is very important to highlight that not all free zones have positive foreign trade balance. Serbian free zone concept is to have export processing free zones.

Area of free zones in Serbia constantly increase in form of expanding plots of existing free zones, establishing new free zones and establishing subzones on new locations as we will show on Table 5 in Appendix 1.

Number of all companies working in free zone area will be numerically shown on Table 6 in Appendix 1 and number of domestic, mainly production companies are shown on Table 7 in Appendix 1.

Value of production, shown in Eur, for all companies working in all Serbian free zones are shown on Table 8 in Appendix 1 for period 2008-2021 cumulative and separate for last 4 years.

Number of employed workers in all companies working in all Serbian free zones are shown on Table 9 in Appendix 1. Number of workers working in companies for managing free zone areas are shown on Table 10 in Appendix 1 by years.

Operative results, profit and loss balance for companies managing free zones are

shown on Table 11 in Appendix. It is very important to highlight that not all companies are positive with business result.

4. DISCUSSION OF ACHIEVED RESULTS

The concept of free zones is used as a tool to equalize uneven regional development and diversify investment flows, especially directed towards developing countries where cheap labor, cheap energy and cheap natural resources are used, and as such attracts a lot of attention from investors. The analysis of free zones will be carried out through the analysis of some business indicators in free zones, and it specifically refers to the examination of the interdependence of the following indicators:

- population density of the zones, which represents the ratio of the total number of employees in the zones to the area of the zone;
- the value of land, which represents the value of investments in relation to the area of the zone;
- how much employees attract investments, which represents the ratio of total investments to the number of employees in the zones;
- the effectiveness of the investment through the value of production per area of the zone and
- worker effectiveness as the value of production per employee in the free zone.

The mentioned parameters were analyzed for the period from 2008 to 2021, considering that for that period we have data for the largest number of zones, and they are shown due to limitations in the tables for the period 2017-2021.

4.1. Workers density in zones

The area of all free zones has consistently recorded growth in the past. According to the report of the Northwest Administration for 2021, the total area of the zone is 2,756 ha. The largest area is the Smederevo Free Zone, 546 ha, and the smallest is the recently opened Šumadija Free Zone in Kragujevac. The areas of other free zones can be seen in table number 5. We have also collected data on the total number of employees. The Pirot Free Zone has the largest number of employees, a total of 6,010 employees, while the Vranje zone has the smallest number of employees, a total of 32. More information on Table 9 in Appendix 1.

In order to see if the space in each free zone was used efficiently enough, we compared the number of employees in the zones in relation to the area. As we can see from Table 3 in Appendix 1, the most densely populated zone in 2016 is Subotic with 51 employees, and right behind Subotica is NW Pirot with 50 employees per hectare. The least populated is NW Apatin with 0.21 employees per ha, which can indicate a large unused potential when it comes to free space for new investments.

Population density, shown on Table 12 in Appendix 1, can be an initial step towards finding the cause of the lower population of free zones and the basis for predicting certain measures to increase the number of users, that is, the population density of zones. This can be achieved by developing strategies and action plans for each zone separately, in accordance with the needs of the free zone management company and the Free Zone Administration.

4.2. Investments in relation to the area of the zone

We directed further analysis towards examining the interdependence of the area of the zone and realized investments. In order to be able to determine the ratio of investments and area, we calculated the total value of investments by zone in the period from 2008 to 2021 and divided it by the current area of the zone in order to see the value of investments per ha in that period.

As we can see on Table 13 in Appendix 1, in the cumulative period from 2008 to 2021, by far the most invested in the Kragujevac zone was a total of 1,383 billion Euros, while a total of almost 4 billion Euros was invested in all free zones. After the free zone FAS, the free zone Pirot and then the free zone Subotica have the best results. By far the worst results are achieved by the free zone Apatin.

4.3. Investments in relation to the number of employees in the zones

We considered how much was invested in the period from 2008 to 2021 in relation to the number of employees in 2021. From the Table 14 in Appendix 1 we can see that the highest total investment per employee was realized in the Kragujevac Free Zone (Vranje and Apatin were not considered due to insufficient number of employees). This indicator can indicate the extent to which investments have contributed to the growth of the number of employees.

4.4. Production per area

In order to determine in which zone the production activity is most represented, on Table 15 in Appendix 1 we give the ratio of

the value of production by area. We took 2021 as the reference year.

The highest recorded production value per hectare is in the Užice zone, followed by Subotica, Pirot and Kragujevac. The realized value of production is shown on Table 8 in Appendix 1.

4.5. Production per worker or labor efficiency

The Table 16 in Appendix 1 clearly shows that the most efficient workers are the free zone of Užice, who annually produce goods worth 181,000 Euros per employee. The average value of production in all free zones in Serbia is slightly over 62,000 EUR, and workers in Subotica, Pirot, Kragujevac, Svilajnac and Belgrade achieve above-average production.

5. THE INFLUENCE OF FREE ZONES ON THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF SERBIA

Simple impact on the economic development of the Republic of Serbia was made by free zones in 2021. There was an increase in all economic categories, which mitigated the consequences caused by the pandemic in previous years.

When we talk about investments, 2021 was the most successful investment year in free zones since their establishment. A total of 825,137,392 euros were invested, which means that the level of investments in free zones was almost 3.5 times higher than in 2020. As direct consequence of investments is the increase in the number of employees in free zones. The total number of employees in free zones increase to 42,046. The increase

in the number of employees was particularly visible in the free zones in Belgrade, Novi Sad, Priboj, Svilajnac, Smederevo, Kruševac and the "Šumadija" Free Zone in Kragujevac.

Number of users in all free zones reach 227 users performed their business activities in 2021. The users have established numerous relationships with business entities outside the free zones and used the services of transport, forwarding, construction works, refining and finishing services, maintenance services of machines, equipment and tools, occupational health and safety, catering and numerous other services which encourage local economic development and development of the national economy.

The business results, investments, the value of total turnover, exports as well as the number of employees in free zones in 2021 record high growth in almost all categories and are at the highest level since the passing of the Law on Free Zones and the definition of the concept itself. The inflow of direct foreign investments significantly mitigated the impact of the Covid-19 virus pandemic and the measures that followed at the global level, which in the past two years spilled over both the economy of the Republic of Serbia and the operations of free zones in our country.

Significant investments by Chinese companies are noticeable, which are investing more and more in the free zones of the Republic of Serbia, while companies originating from the countries of the European Union continue to maintain a high level of investment activity. Bearing in mind the amount of these investments in 2021, as well as the fact that large investment projects are underway, and that there are users of free zones who are in the phase of production preparation, it is expected that in the coming

period the business results of free zones, as well as the influence of the zones on the economy of the Republic of Serbia to be at an even higher level. In all free zones there was an increase in the number of employees, except in free zones where users belonging to the auto industry operate, the industry most affected by the global pandemic and the problems caused by the disruption of global supply chains.

We also note a significant increase in the number of users in free zones. A total of 227 users performed their business activities within the free zones of the Republic of Serbia. The number of production users in the free zones is 96, which means that the free zones received four new production users in this year of operation. The largest number of users, 185 of them (81.50%) are domestic companies, while a smaller number, 42 of them (18.50%), represent foreign companies.

Significant investments in free zones in the previous period, and especially in 2021, were largely reflected in the level of production in free zones.

The value of production in 2021 was 2,631,433,093 euros. The largest part of the production was placed outside the borders of the Republic of Serbia (89.85%), while the rest (10.15%) was placed on the market of the Republic of Serbia and within the free zones.

The vision of the development of free zones in Serbia has been achieved by creating the most favorable area for attracting investments. The concrete proof is that all the biggest investments have recently been located in the areas of free zones (Ling Long) and that the next two announced (Jadar and Black Cat) are also being rapidly prepared for the possibility of working in the free zone regime.

The mission was partially accomplished because no state program of financial support for users of free zones was formed and the level of high-tech production capacity in the area of free zones was not reached. It is debatable whether the free zones in Serbia meet all "environmental" standards since they are about technologies in the rubber industry, metallurgy,,

We will also analyze the fulfillment of defined goals (Strategy for the development of free zones of Serbia for the period 2018-2022, chapter XVI Basic and strategic goals of the strategy):

- 1) Attracting direct investments - fulfilled in full, the increase of investments in the area of free zones is at a satisfactory level;
- 2) Improving the policy of tax incentives in free zones in accordance with the state policy of regional development was not fully filled due to the fact that no additional tax benefits are provided for work and investment in the area of free zones;
- 3) Expansion of existing zones, especially in devastated areas was partially fulfilled because there was an increase in the area of free zones, but the new areas are not located in devastated locations. It is necessary to direct new investments towards devastated areas;
- 4) Increase of turnover in free zones by at least 5% per year has not been achieved because the turnover in all free zones from 2013 to 2021 ranges between 4 and 5 billion euros (Table 1: Total Turnover);
- 5) Encouraging investment in the field of new technologies was partially achieved. We can have more detailed data after changing the form for the report on work in free zones, where new technologies would have a separate display;
- 6) Construction of facilities intended for

the incubation of production activities was not realized in any free zone. This strategic goal was planned to be realized through state support and the construction of production incubator facilities;

7) Infrastructural equipment of land has been reached in most free zones, but it is not uniform, some free zones have more developed infrastructure than others;

8) Greater role of local self-governments through the system of municipal benefits was not realized in all free zones. Local self-governments mistakenly see free zones as a place for hiring political personnel and thus bad focus from what the goal of free zones is, that's why they achieve very bad results (Vranje, Apatin, Niš...);

9) Introduction of new services in free zones was only partially achieved because only some free zones turned to the services they provide to their users while the others did not recognize it. This can be clearly seen from the business results of free zone management companies (there are companies that are very profitable as well as

those that are constantly doing negative business);

10) Encouraging small companies and individuals to establish cooperation with large companies was partially achieved depending on the way the company is managed, for example in Pirot, after several expansions of the zone area, several smaller companies became users of the zone because it simplified the procedure of working with large companies in zone;

11) Creating the best conditions for doing business in free zones, after joining the European Union has not yet been achieved because we have not yet joined the EU;

12) Improvement of cooperation with state institutions that deal with encouraging the development of entrepreneurship was not achieved due to the fact that the bad economic situation, crises caused by Covid and wars reduce economic activities and therefore cooperation with entrepreneurs.

In Table 18 in Appendix 1 will be presented measures for ensuring strategic goals, planned and achieved results (Strategy for the development of free zones of Serbia

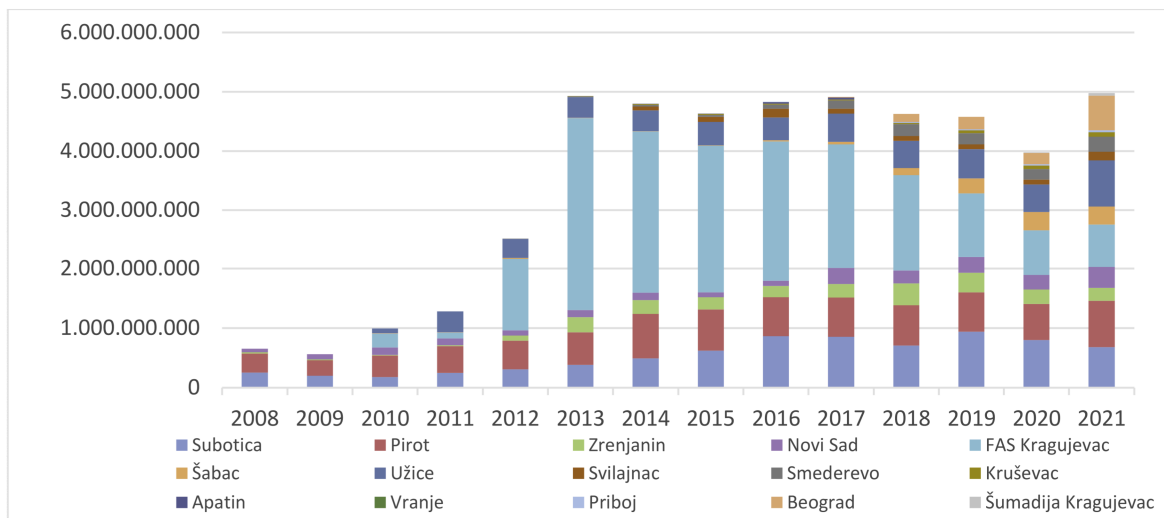


Figure 2. Total turnover by free zones and years 2008-2021

for the period 2018-2022, chapter XVII Measures for the realization of strategic goals).

The turnover value is shown on Table 1 in Appendix 1, and graphically for easier understanding and comparison it looks graphically presented will be shown in Figure 2 by free zones and by years.

On Figure 3 in Appendix 2 are shown total turnover of all companies in all free zones in Republic of Serbia by years 2008-2021.

On Figure 4 in Appendix 2 are shown total amount of production of all companies in all free zones in Republic of Serbia by years 2008-2021.

Free zones can be used as an effective tool for increasing business efficiency, attracting foreign direct investment and increasing employment. At this moment, in order to accelerate the development of Serbia, we need clearly defined standards of economic development, which will, among other things, develop a comprehensive system of economic instruments for attracting investments and modernize the model of free zones as it currently exists in Serbia.

From Figure 5 in Appendix 2 (Macroeconomic Analyses and trends, Number 317, Jun 2021. Chamber of Economy of Serbia, page 19), it can be concluded that since 2013, free zones have stagnated and have not developed as they had in the previous period. Better view for stagnation of development reader can get comparing data in Figure 4 and Figure 5:

- During economic crisis 2009, In period of recession 2008-2013 free zones gave best result in Serbia by increasing production. In same time gross added value of the processing sector of Serbia have “flat line result”

- After this, in period 2013-2020, gross

added value of the processing sector of Serbia have big increase and in same time Free zone production result is “flat line”.

Analyzing these parameters, we saw that some of the free zones are insufficiently populated or without users (Apatin, Vranje). There were also very few investments in some zones (Novi Sad, Svilajnac, Vranje, Priboj, Apatin). In some zones, production activities are dominant, while in others it is necessary to bring production investments (Vranje, Apatin). Some important values and data collected and compared will be detailed analyzed on following pages as:

- Import in free zones in Serbia – Table 19 in Appendix 1, Figure 6 and 7 in Appendix 2

- Export from free zones in Serbia – Table 20 in Appendix 1, Figure 8 and 9 in Appendix 2

- Employment in free zones in Serbia – Table 21 in Appendix 1, Figure 10 and 11 in Appendix 2

- Investment in free zones in Serbia – Table 22 in Appendix 1, Figure 12 and 13 in Appendix 2

by comparing free zones results to results achieved in Republic of Serbia outside free zones.

Comparing and relating data for import in free zones in Serbia and total import in Republic of Serbia (blue dotted line on Figure 7 in Appendix 2) need to highlight negative downward trend from 11% the share of free zones in total imports drops to half on 5%.

Comparing and relating data for export from free zones in Serbia and total export from Republic of Serbia (blue dotted line on Figure 9 in Appendix 2) need to highlight negative downward trend from 16% the share of free zones in total exports drops to 9%.

Trend of employment (blue dotted line on

Figure 11 in Appendix 2) in free zones is positive, but very low, corresponding from 1,1% increase in 7 years up to 1,85%, increasing yearly for 0,12%.

Investments in free zones are generally in an upward trend (blue dotted line on Figure 13 in Appendix 2), but mainly depend of some big investments. Two picks are made in investments in Serbia during investment of Fiat automotive Serbia in Free zone FAS Kragujevac in 2012/2013 in amount of 750 Mil Eur and in 2021/2022 by investment of Ling Long in Zrenjanin in amount of 900 Mil US\$.

6. CONCLUSIONS

The fourth industrial revolution will lead to a complete change in the way of business activities through the automation of production, the use of artificial intelligence, robotics, 3D printing and clean energy sources, and puts before the free zones the inevitability of changing the current organization and way of working. The transformation brought about by the new industrial revolution requires the adjustment of the entire economy, especially in terms of employment. The new way of production will inevitably lead to the closing of a large number of jobs in traditional manufacturing companies. This will have an impact especially on production free zones.

Free zones must be transformed in accordance with the demands caused by the changes brought about by the new industrial revolution. The direction of change should be sought in the synergy of good features of all types of free zones.

Industrial revolution 4.0 is currently most often defined according to the guidelines set in Davos (Klaus Schwab): "The fourth

industrial revolution is characterized as a fusion of all technologies that erases the lines between physical, digital and biological form." It represents a wave of technological progress that changes the way of life and work, creating a connection between the living world and machines. "It is believed that the First Industrial Revolution began with the use of steam engines, the Second is marked by mass production and the invention of electricity, and the Third is based on information technologies and automation of production.

The EU Commission adopted the Digitization Strategy, which envisages measures that will digitize European industry and thus help the public and private sector to use new technologies.

The new model of free zones should be designed and developed so that it can follow the requirements of the 4.0 Industrial Revolution. An ideal free zone should integrate all amenities in one place.

Free zones thus become a necessary service for its users that connects them with the local community, the state and the whole world. In the 21st century, the convenience of zero duties and taxes, which free zones offer, is no longer enough. In addition to zero customs duties and taxes, which are taken for granted, modern free zones should offer investors and users integrated services and services, connection through computers in the clouds with all free zones in the world as well as relevant institutions of the state and international organizations.

Zone users should be provided all non-core business services directly and immediately in one place, from marketing information (at the early stage of making an investment decision) to directly obtaining construction and use permits to consulting, customs, logistics, security, health and all

other necessary services .

As the trend of reducing customs duties is increasing in the world, the exclusive role of free zones in enabling business exempt from paying customs duties is becoming less and less a key factor in the decision of investors to do business in the zones. It is far from the fact that users of exemption from customs duties have no interest, but this benefit is beginning to be equal to other benefits offered by the states in the zones. Exemption from paying various types of taxes is a generally accepted principle in all areas of the world. In this procedure, there is no great damage to the state revenues, because, after a certain time, the state will indirectly provide the revenues, which it gave up when it could not have them (because there is no economic activity in those areas at the time of granting the release).

There is an evident tendency that the free zone, as an instrument of economic policy, can enable a positive influence on the process of internationalization and modernization of the economy of the Republic of Serbia in the area of attracting direct investments, increasing the technological level of production and services, which could lead to the development of new companies and increased employment.

At this moment, there is a need to implement a new model of free zones that will meet the challenges of the new industrial revolution. The necessary flexibility can be guaranteed by a model that will synergize the positive features of all existing models of free zones.

At the time of the fourth industrial revolution, the new model of free zones should summarize all the good features of these three models of free zones. Such a model could have the working name

"Modern SEZ" and would imply the synergy of the existing three models:

Export Processing Free Zone + Industrial Park + Logistics Center + Direct Tax Exemptions = Modern Special Economic Zone

Based on the analysis of all parameters, it is necessary for each free zone to foresee certain measures through development strategies, action plans within which to foresee measures for further development, such as additional benefits for users, additional investments in infrastructure, image improvement and others.

Based on previous analyses, it is necessary to adopt *a new Free Zones Development Strategy for the next period 2022-2026*, which will foresee and describe a new model of free zones with new goals:

- An increase in the inflow of investments to the area of free zones by 5% per year
 - Increase in the number of newly employed workers in free zones by 5% per year
 - Increase of production in free zones by 5% per year
 - Increase of foreign exchange inflow and positive foreign trade balance in free zones by 5% per year
 - Increase in the area of free zones by 1% per year
 - Increase in the number of users of free zones by 3% per year
 - Reduction of pollution in areas of free zones (introduce some measurable parameter)
 - Increasing safety and health protection at work (initially introduce reporting on occupational diseases and workplace injuries/incidents in free zones)
- Anticipate new measures to achieve the goals:

- Adoption of additional legislation (Law on Special Economic Zones, Law on Industrial Parks...)
- Additional tax exemptions for investments in the zones, employment of new workers in the zones, and payment of incentive wages for employees
- Support for user investments through state co-financing of production facilities and infrastructure
- Introduction of new local and wider acceptance of introduced local incentives for work, employment and investment in the area of free zones
- Simplification of the customs procedure in the zones and acceleration of customs procedures with increased control of the legality of the user's work
- Increased promotion of the concept of Serbian free zones at the international level in order to attract new investments (USZ, RAS, PKS, Diplomatic Consular Representations of Serbia abroad and foreign diplomatic consular representations in Serbia)
- Participation in the work of international associations of free and special economic zones
- Education and raising the level of knowledge of employees in USZ and companies for the management of free zones.

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СЛОБОДНЕ ЗОНЕ РЕПУБЛИКЕ СРБИЈЕ - ПОСЛОВНИ РЕЗУЛТАТИ 2011-2021 И БУДУЋИ РАЗВОЈ

Александар Симоновић и Драган Костић

Извод

Слободне зоне су ефикасан економски инструмент који земљи домаћину омогућава брз прилив инвестиција, повећање запослености, приступ новим технологијама, образовање, рад, индустријализацију и повећање извоза. Српске слободне зоне су специјализоване за индустријску производњу намењену извозу. Својим корисницима (компанијама које раде на подручју слободне зоне) пружају лакоћу пословања тако што их ослобађају од царина и пореза. У оквиру појединих слободних зона у Србији постоје погодности које нуди локална самоуправа и оне могу допринети повољнијем инвестиционом амбијенту у односу на друге локације.

У свакодневной борби за инвеститоре учествује око 10.000 слободних зона у свету, укључујући 82 слободне зоне у Европској унији. Понудом различитих услуга, слободне зоне се боре за задржавање постојећих и привлачење нових инвеститора, а платформа слободних зона омогућава најбржи и најпрактичнији начин флексибилног развоја међународне трговине и повећања привлачности земаља за инвестиције у производне капацитет.

Детаљна анализа резултата успостављања и рада слободних зона у Србији до сада никада није урађена. Досадашње анализе биле су ограничене на текстуалне и табеларне приказе резултата пословања слободних зона у претходној години, нису дале никакве релевантне закључке и нису предложиле мере за унапређење пословања како слободних зона тако и компанија корисника слободних зона, као ни примењеног концепта слободних зона у Србији.

Кључне речи: слободне зоне у Србији, специјалне економске зоне, инвестирање у Србији

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APPENDIX 1

Table 3. Investment in all Serbian Free zones 2008-2021 and last five years (Eur)

	2017	2018	2019	2020	2021	2008-2021
Subotica	18,435,226	14,020,754	15,266,105	31,105,090	63,118,766	246,516,067
Pirot	26,074,962	21,536,599	34,880,692	26,696,078	54,161,029	617,374,799
Zrenjanin	6,735,239	6,726,373	21,896,309	1,078,919	388,667,151	449,214,310
Novi Sad	7,899,001	8,875,893	2,693,613	21,409,278	53,530,952	124,866,086
FAS Kragujev	36,363,976	16,064,230	9,637,673	4,705,112	3,418,470	1,383,062,097
Šabac	26,842,477	39,667,388	277,233,347	49,284,424	151,500,838	558,897,473
Užice	11,781,128	13,089,831	6,445,634	5,310,592	3,405,291	89,756,982
Svilajnac	1,895,351	1,543,823	5,692,556	4,900,329	13,926,292	31,436,626
Smederevo	11,303,225	7,195,687	9,589,785	2,744,800	2,186,972	55,936,523
Kruševac	792,126	1,070,110	3,157,609	26,712,194	7,922,520	41,672,730
Apatin	229,261	0	0	0	0	442,525
Vranje	0	0	0	0	16,811,919	16,886,381
Priboj	2,277,010	2,922,069	1,286,801	594,690	556,503	7,777,753
Beograd	64,936,000	61,625,434	47,073,162	77,416,064	53,167,641	354,466,518
Šumadija Krag.	0	0	0	4,697,540	12,763,048	17,460,588
Total	215,564,982	194,338,191	434,853,286	256,655,110	825,137,392	3,995,767,458

Table 4. Foreign trade balance of all Serbian Free zones 2008-2021 and last five years (Eur)

	2017	2018	2019	2020	2021	2008-2021
Subotica	1,223,568	1,921,700	2,479,730	90,174,997	60,942,330	29,743,820
Pirot	27,923,524	16,867,086	7,596,179	212,208,229	211,785,879	1,039,780,255
Zrenjanin	0	40,022,150	44,870,708	64,308,219	54,605,867	176,405,558
Novi Sad	4,121,999	1,013,814	4,831,908	-1,971,045	-19,697,854	-267,722,259
FAS Kragujevac	-136,536,365	-63,138,066	-1,235,056	106,522,566	55,900,099	-836,962,793
Šabac	0	0	-32,218,109	51,728,315	30,625,429	50,003,349
Užice	1,737,789	1,676,167	2,295,986	73,384,068	102,813,153	293,423,499
Svilajnac	19,471,282	7,304,554	11,948,196	11,072,081	4,673,457	69,794,340
Smederevo	59,115,082	42,663,087	33,743,043	34,764,713	38,650,157	249,842,987
Kruševac	31,383	-3,128,479	-6,358,294	2,923,558	4,268,647	-1,290,818
Apatin	-7,007,256	164,030	209,821	0	0	-15,860,637
Vranje	0	0	0	0	-6,869	-6,869
Priboj	575,350	865,894	4,952,611	10,019,172	10,213,851	26,626,878
Beograd	25,469	-38,804,344	29,176,555	41,713,109	73,096,921	105,207,710
Šumadija Kragujev	0	0	0	2,519,279	10,025,777	12,545,056
Total	-29,318,175	7,427,593	102,293,278	699,367,261	637,896,844	931,530,076

Table 5. Free zone area of all Serbian Free zones in last six years (m²)

	2016	2017	2018	2019	2020	2021
Subotica	841,117	1,125,811	721,428	721,428	721,428	721,428
Pirot	1,220,286	1,220,286	1,220,286	1,399,515	1,399,515	1,399,515
Zrenjanin	980,585	980,585	1,004,442	1,004,442	4,927,693	4,927,693
Novi Sad	893,045	893,045	893,045	893,045	985,242	985,242
FAS Kragujevac	1,764,562	1,764,562	1,764,562	1,764,562	1,764,562	1,764,562
Šabac	2,924,401	2,924,401	2,924,401	4,196,249	4,196,240	4,883,692
Užice	553,852	553,852	553,852	553,852	553,852	553,852
Svilajnac	401,840	573,373	744,906	573,373	573,373	573,373
Smederevo	5,405,244	5,405,244	5,405,244	5,405,244	5,405,244	5,458,073
Kruševac	648,684	648,684	1,105,435	1,105,435	1,105,435	1,273,918
Apatin	4,151,787	4,151,787	1,221,704	1,221,704	1,221,704	1,221,704
Vranje	1,233,864	1,233,864	1,233,864	1,239,330	1,239,330	1,305,345
Priboj	269,069	269,069	269,069	269,069	269,069	269,069
Beograd	983,144	983,144	983,144	983,144	1,800,928	2,057,800
Šumadija Kragujevac	0	0	0	107,637	107,637	168,000
Total	22,271,480	22,727,707	20,045,382	21,438,029	26,271,252	27,563,266

Table 6. Number of companies in all Serbian free zones

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Subotica	38	38	30	19	32	17	14	16	16	17
Pirot	75	51	113	113	102	75	80	71	79	86
Zrenjanin	9	9	10	9	8	8	8	8	8	9
Novi Sad	26	47	62	58	66	61	45	44	43	44
FAS Kragujevac	6	11	11	11	11	11	11	11	11	11
Šabac	8	7	9	6	8	10	7	9	10	10
Užice	9	9	11	11	10	9	10	10	10	10
Svilajnac	0	0	1	1	3	2	2	4	5	6
Smederevo	1	3	9	8	9	11	10	13	13	13
Kruševac	1	6	5	4	7	5	4	4	6	5
Apatin	0	0	0	1	2	2	1	1	0	0
Vranje	0	0	0	0	0	0	0	0	0	2
Priboj	0	0	0	0	5	7	9	10	8	7
Beograd	0	0	0	0	2	3	3	3	4	4
Šumadija Kragujevac	0	0	0	0	0	0	0	0	2	3
Total	173	181	261	241	265	221	204	204	215	227

Table 7. Number of domestic companies in all Serbian free zones 2012-2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Subotica	19	16	16	12	27	12	11	14	15	15
Pirot	29	45	68	75	67	43	47	42	56	63
Zrenjanin	5	6	6	5	5	5	5	5	5	6
Novi Sad	22	38	50	43	46	47	34	32	29	31
FAS Kragujevac	6	11	11	11	11	11	11	11	11	11
Šabac	4	3	2	1	1	10	7	9	10	10
Užice	9	9	11	11	10	9	10	10	10	10
Svilajnac	0	0	1	1	2	2	2	4	5	6
Smederevo	0	2	6	3	3	11	10	13	13	13
Kruševac	1	2	3	3	5	5	4	4	6	5
Apatin	0	0	0	1	1	2	1	1	0	0
Vranje	0	0	0	0	0	0	0	0	0	2
Priboj	0	0	0	0	1	7	9	10	8	7
Beograd	0	0	0	0	1	3	3	3	4	4
Šumadija Kragujevac	0	0	0	0	0	0	0	0	2	3
Total	95	132	174	166	180	167	154	158	174	186

Table 8. Production value in all Serbian free zones 2008-2021 and last 4 years (Eur)

	2018	2019	2020	2021	2008-2021
Subotica	376,212,437	501,810,160	455,705,073	376,766,582	3,746,469,558
Pirot	456,492,281	495,443,285	472,019,956	501,614,262	4,786,252,873
Zrenjanin	210,558,843	189,239,734	153,657,941	127,567,269	1,371,476,796
Novi Sad	79,228,976	104,363,787	90,365,784	122,654,617	561,508,638
FAS Kragujevac	802,739,911	538,915,527	365,861,423	356,197,440	8,901,167,128
Šabac	28,631,705	143,786,236	176,710,372	162,366,292	554,861,615
Užice	242,604,931	253,736,573	221,367,858	346,552,336	2,565,521,498
Svilajnac	39,533,542	44,798,208	45,486,987	76,163,530	386,371,665
Smederevo	113,210,306	98,423,538	94,588,626	120,439,307	567,935,058
Kruševac	9,840,190	18,615,512	38,079,546	48,585,894	153,245,329
Apatin	704,045	462,473	0	0	30,748,438
Vranje	0	0	0	0	0
Priboj	7,366,383	12,763,101	15,146,119	19,768,812	55,619,765
Beograd	47,860,180	114,043,713	105,717,051	345,685,115	614,055,021
Šumadija Kragujevac	0	0	9,785,837	27,131,643	36,917,480
Total	2,414,983,730	2,516,401,847	2,244,492,573	2,631,493,099	24,332,150,862

Table 9. Number of workers in all Serbian free zones

	2014	2015	2016	2017	2018	2019	2020	2021
Subotica	2,242	3,521	4,298	4,414	4,553	6,230	5,741	5,674
Pirot	4,809	5,808	6,016	5,582	6,075	5,646	6,192	6,010
Zrenjanin	3,120	3,398	3,263	4,100	6,386	5,991	5,109	4,330
Novi Sad	219	251	1,880	2,821	3,401	2,855	2,855	3,627
FAS Kragujevac	4,452	4,354	3,405	3,307	3,208	3,148	3,078	3,015
Šabac	45	56	450	1,382	3,455	3,993	4,618	4,196
Užice	1,948	1,949	1,959	1,977	1,906	1,841	1,849	1,910
Svilajnac	260	392	370	464	411	676	810	987
Smederevo	628	1,363	2,205	2,357	2,280	2,749	3,453	4,392
Kruševac	1,532	1,150	1,100	1,048	1,078	1,090	1,797	2,120
Apatin	0	0	85	91	39	46	0	0
Vranje	0	0	0	0	0	0	0	32
Priboj	0	0	16	125	327	410	384	513
Beograd	0	0	127	698	2,178	3,180	3,697	4,660
Šumadija Kragujevac	0	0	0	0	0	0	448	580
Total	19,255	22,242	25,174	28,366	35,297	37,855	40,031	42,046

Table 10. Number of workers in free zone Management companies in all Serbian free zones

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Subotica	4	5	5	6	6	6	6	6	9
Pirot	36	39	42	42	44	44	46	44	46
Zrenjanin	1	1	1	1	1	1	1	1	1
Novi Sad	1	4	7	3	3	3	4	4	4
FAS Kragujevac	1	1	1	1	1	1	1	1	1
Šabac	1	1	3	3	4	4	4	4	4
Užice	7	8	9	9	9	9	9	9	8
Svilajnac	0	2	2	3	3	2	2	2	2
Smederevo	1	1	2	1	1	1	1	1	1
Kruševac	1	2	2	2	2	2	2	1	2
Apatin	0	1	1	1	1	1	1	2	3
Vranje	0	6	6	6	6	6	6	4	5
Priboj	0	0	1	4	7	7	10	11	14
Beograd	0	0	0	2	2	2	2	2	2
Šumadija Kragujevac	0	0	0	0	0	0	1	2	2
Total	53	71	82	84	90	89	96	94	104

Table 11. Operational result of free zone Management company 2008-2021 (RSD)

	2018	2019	2020	2021	2008-2021
Subotica	29,128,000	42,835,000	36,566,000	23,977,000	309,039,343
Pirot	32,858,000	17,396,039	26,357,247	46,320,364	483,012,650
Zrenjanin	415,081	1,256,987	1,055,945	2,792,686	9,894,681
Novi Sad	1,367,000	1,391,000	1,639,308	7,584,867	26,593,434
FAS Kragujevac	-3,000	-4,000	-10,000	-11,910	-2,727,719
Šabac	384,019	-246,595	189,232	41,939	-258,023
Užice	346,000	159,000	168,000	227,000	5,982,000
Svilajnac	498,100	673,898	3,318,000	321,695	8,171,815
Smederevo	7,835,000	6,251,008	9,486,482	16,069,080	61,482,271
Kruševac	46,000	24,000	2,098,000	1,272,508	4,909,976
Apatin	20,744	10,980	2,072	1,937	354,159
Vranje	2,336	16,153	2,470	415,654	464,572
Priboj	3,206,000	13,000	629,000	539,977	3,944,225
Beograd	669,413	654,427	1,130,778	7,516,791	11,523,894
Šumadija Kragujevac	0	-1,963,588	2,660,200	680,000	1,376,612
Total	76,772,693	68,467,309	85,292,734	107,749,588	923,763,890

Table 12. Workers density of the all Serbian free zones (Workers/ha)

2021	Free zone Area (m ²)	No of Workers	Density
Subotica	721,428	5,674	78.6
Pirot	1,399,515	6,010	42.9
Zrenjanin	4,927,693	4,330	8.8
Novi Sad	985,242	3,627	36.8
FAS Kragujevac	1,764,562	3,015	17.1
Šabac	4,883,692	4,196	8.6
Užice	553,852	1,910	34.5
Svilajnac	573,373	987	17.2
Smederevo	5,458,073	4,392	8.0
Kruševac	1,273,918	2,120	16.6
Apatin	1,221,704	0	0.0
Vranje	1,305,345	32	0.2
Priboj	269,069	513	19.1
Beograd	2,057,800	4,660	22.6
Šumadija Kragujevac	168,000	580	34.5
Total	27,563,266	42,046	15.3

Table 13. Investment value in all Serbian free zones by area 2008-2021 (Eur/m²)

	Free zone Area (m ²)	Investment value	Density of investment
Subotica	721,428	246,516,067	3,417,057
Pirot	1,399,515	617,374,799	4,411,348
Zrenjanin	4,927,693	449,214,310	911,612
Novi Sad	985,242	124,866,086	1,267,365
FAS Kragujevac	1,764,562	1,383,062,097	7,837,991
Šabac	4,883,692	558,897,473	1,144,416
Užice	553,852	89,756,982	1,620,595
Svilajnac	573,373	31,436,626	548,275
Smederevo	5,458,073	55,936,523	102,484
Kruševac	1,273,918	41,672,730	327,123
Apatin	1,221,704	442,525	3,622
Vranje	1,305,345	16,886,381	129,363
Priboj	269,069	7,777,753	289,062
Beograd	2,057,800	354,466,518	1,722,551
Šumadija Kragujevac	168,000	17,460,588	1,039,321
Total	27,563,266	3,995,767,458	1,449,671

Table 14. Investment value in all serbian free zones 2008-2021 by workers in 2021 (Eur/worker)

	Investment value	No of Workers	Investment per Worker
Subotica	246,516,067	5,674	43,447
Pirot	617,374,799	6,010	102,725
Zrenjanin	449,214,310	4,330	103,745
Novi Sad	124,866,086	3,627	34,427
FAS Kragujevac	1,383,062,097	3,015	458,727
Šabac	558,897,473	4,196	133,198
Užice	89,756,982	1,910	46,993
Svilajnac	31,436,626	987	31,851
Smederevo	55,936,523	4,392	12,736
Kruševac	41,672,730	2,120	19,657
Apatin	442,525	0	0
Vranje	16,886,381	32	527,699
Priboj	7,777,753	513	15,161
Beograd	354,466,518	4,660	76,066
Šumadija Kragujevac	17,460,588	580	30,104
Total	3,995,767,458	42,046	95,033

Table 15. Production value of all companies in all Serbian free zones 2021 by FZ Area in 2021 (Eur/ha)

	Free zone Area (m ²)	Production value	Production by ha
Subotica	721,428	376,766,582	5,222,511
Pirot	1,399,515	501,614,262	3,584,201
Zrenjanin	4,927,693	127,567,269	258,878
Novi Sad	985,242	122,654,617	1,244,919
FAS Kragujevac	1,764,562	356,197,440	2,018,617
Šabac	4,883,692	162,366,292	332,466
Užice	553,852	346,552,336	6,257,129
Svilajnac	573,373	76,163,530	1,328,342
Smederevo	5,458,073	120,439,307	220,663
Kruševac	1,273,918	48,585,894	381,389
Apatin	1,221,704	0	0
Vranje	1,305,345	0	0
Priboj	269,069	19,768,812	734,712
Beograd	2,057,800	345,685,115	1,679,877
Šumadija Kragujevac	168,000	27,131,643	1,614,979
Total	27,563,266	2,631,493,099	954,710

Table 16. Production value per worker for all Serbian free zones (Eur/worker)

	No of Workers	Production value	Production by worker
Subotica	5,674	376,766,582	66,402
Pirot	6,010	501,614,262	83,463
Zrenjanin	4,330	127,567,269	29,461
Novi Sad	3,627	122,654,617	33,817
FAS Kragujevac	3,015	356,197,440	118,142
Šabac	4,196	162,366,292	38,695
Užice	1,910	346,552,336	181,441
Svilajnac	987	76,163,530	77,167
Smederevo	4,392	120,439,307	27,422
Kruševac	2,120	48,585,894	22,918
Apatin	0	0	0
Vranje	32	0	0
Priboj	513	19,768,812	38,536
Beograd	4,660	345,685,115	74,181
Šumadija Kragujevac	580	27,131,643	46,779
Total	42,046	2,631,493,099	62,586

Table 17. Key strategic Goals

Goal	Achieved, Partially achieved, Not achieved)	Result	Comment
Increasing the value of turnover in free zones (Turnover – Table 1.)	not achieved	2017 - 4,910,458,598 Eur 2018 - 4,624,929,558 Eur 2019 - 4,577,461,053 Eur 2020 - 3,977,933,810 Eur 2021 - 4,976,244,144 Eur	Absence of significant investment in free zone
Increasing the value of production in free zones (Production value in free zones – Table 8.)	partially achieved	2017 - 2,506,039,392 Eur 2018 - 2,414,983,730 Eur 2019 - 2,516,401,847 Eur 2020 - 2,244,492,573 Eur 2021 - 2,631,493,099 Eur	Increasing compared to 2008-2013 and stagnation in period 2017-2021
Increasing the value of exports from free zones (Foreign trade balance – Table 4.)	partially achieved	2017 – (-) 29,318,175 Eur 2018 - 7,427,593 Eur 2019 - 102,293,278 Eur 2020 - 699,367,261 Eur 2021 - 637,896,844 Eur	During total controlled period 2008-2021 five free zones have negative foreign trade balance (bigger import comparing to export): Novi Sad, FAS Kragujevac, Kruševac, Apatin, Vranje. Total result for 2008-2021 for all free zones is +931 Mil Eur. Just one free zone Pirot have +1,039 Mil Eur. Not all Free zones in Serbia are Export processing zones!
Increase in the number of employed workers in free zones (Table 9.)	achieved	2013 - 18,313 2014 - 19,255 2015 - 22,242 2016 - 25,174 2017 - 28,366 2018 - 35,297 2019 - 37,855 2020 - 40,031 2021 - 42,046	All data are accurate, but in some free zone expansion process are calculated existing workers in companies on expansion area. Not all workers are new workers or unemployed persons.

Table 18. Measures for realization of Strategic goals

	Expected result	Achieved result
Postponement of the application of names and amendments to the Law on Free Zones until the time of accession of the Republic of Serbia and the EU (Number of companies in free zone – Table 6.)	To offer best possible condition to investors on location in Free zone in Serbia	2014 – 261
		2015 - 241
		2016 - 265
		2017 - 221
		2018 - 204
		2019 - 204
		2020 - 215
		2021 - 227
Additional local self-government benefits for investing in the free zone area	Local authorities have right to offer some additional incentives in aim to attract investments. Better incentives – more investors	Only few local municipalities offer additional incentives to investors. Main distribution of investors are made by RAS (Serbian Development Agency)
Improving the supply of available brownfield sites	Brownfield location is suitable for fast renovation and activation specially because already have infrastructure (water, electricity, sewage, gas)	No one free zone make any brownfield location for potential investors.
Expansion of the area of free zones (Free zone area – Table 5)	Biger area, infrastructure equipped for greenfield and brownfield, to be offered to potential investors	2016 - 22,271,480 m ²
		2017 - 22,727,707 m ²
		2018 - 20,045,382 m ²
		2019 - 21,438,029 m ²
		2020 - 26,271,252 m ²
Increasing the number of production users in free zones (Number of domestic companies in free zone – Table 7.)	To attract production companies in aim to establish export processing zone concept in Serbia.	2021 - 27,563,266 m ²
		2015 - 166
		2016 - 180
		2017 - 167
		2018 - 154
		2019 - 158
Promotion of free zones	Promotion and advertising are positive measures in aim to get investors and to present offer of Serbia	2020 - 174
		2021 - 186
		RAS (Development Agency of Serbia) and USZ (Free zone administration) are responsible for promotion of Serbian Free zones.

Table 19. Import in Free zones and Import in Serbia 2012-2021 (In Mil. Eur)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Republic of Serbia	18,923	20,550	20,196	17,875	18,899	21,920	25,882	26,730	26,233	33,798
Free zones	1,445	2,241	2,159	2,016	2,127	2,291	2,189	2,156	1,316	1,719
FZ related to R. Serbia	7.64%	10.91%	10.69%	11.28%	11.26%	10.45%	8.46%	8.07%	5.02%	5.09%

Table 20. Export from Free zones and export from Serbia 2012-2021 (In Mil. Eur)

In Mil. Eur	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Republic of Serbia	11,226	14,610	14,845	13,376	14,883	16,997	19,239	19,633	19,500	25,566
Free zones	895	2,167	2,123	2,123	2,207	2,262	2,197	2,258	2,014	2,357
FZ related to R. Serbia	7.98%	14.83%	14.31%	15.87%	14.83%	13.31%	11.42%	11.51%	10.33%	9.22%

Table 21. Employment in free zones and in Republic of Serbia 2015-2021

	2015	2016	2017	2018	2019	2020	2021
Republic of Serbia	1,989,617	2,009,785	2,062,588	2,131,079	2,173,135	2,215,475	2,273,591
Free zones	22,242	25,174	28,366	35,297	37,855	40,031	42,046
FZ related to R. Serbia	1.12%	1.25%	1.38%	1.66%	1.74%	1.81%	1.85%

Table 22. Investment in Free zones and in Republic of Serbia 2013-2021 (In Mil. Eur)

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Republic of Serbia	2,078	2,343	3,656	2,884	3,014	3,339	3,641	3,723	3,949
Free zones	197	208	155	236	215	194	434	256	825
FZ related to R. Serbia	9.52%	8.90%	4.26%	8.20%	7.15%	5.82%	11.94%	6.89%	20.89%

APPENDIX 2

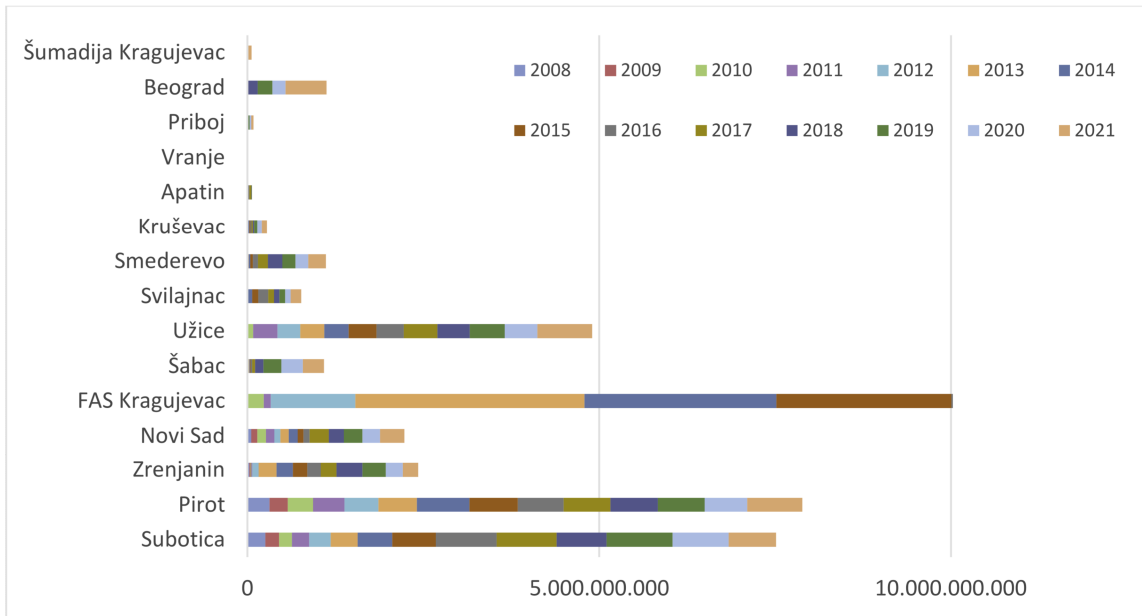


Figure 3. Total turnover by free zones (by years 2008-2021)

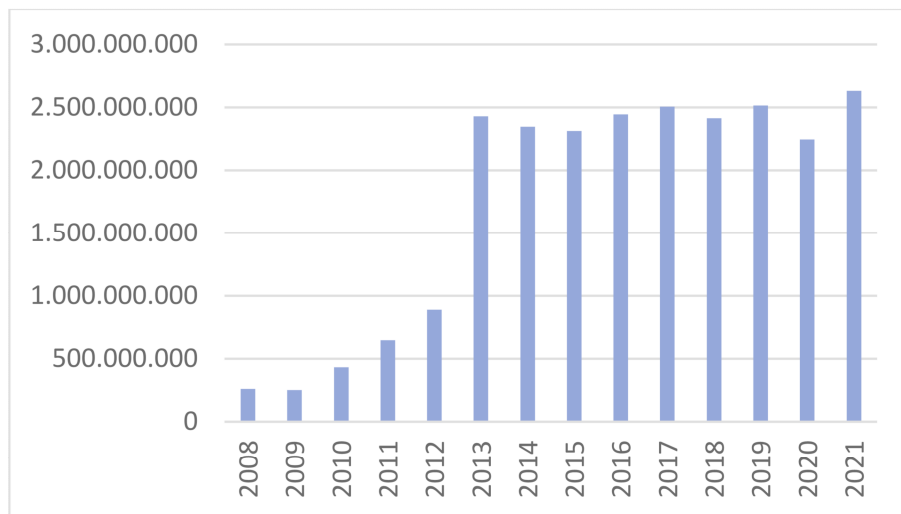


Figure 4. Production value in free zones in Serbia

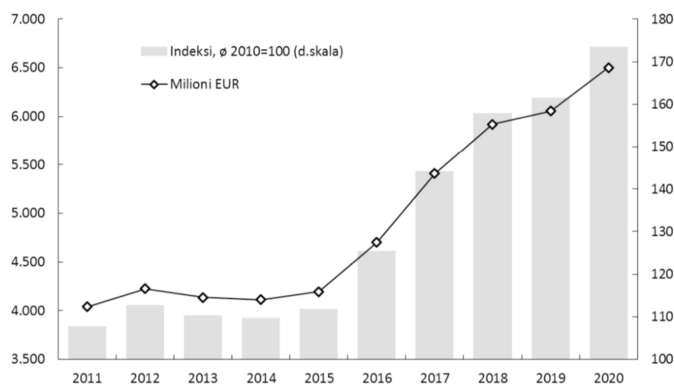


Figure 5. Growth of the gross added value of the processing sector of Serbia in the period 2011-2020

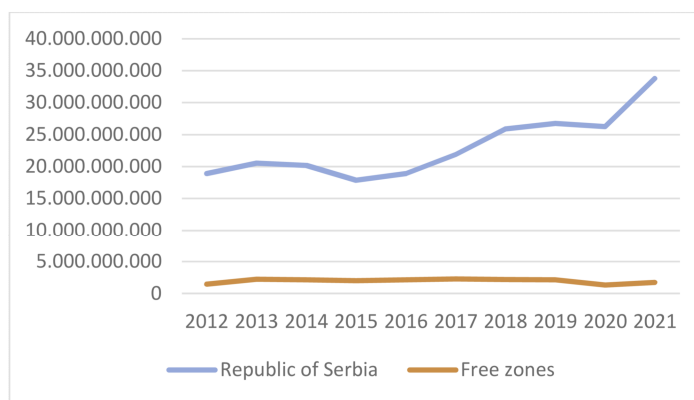


Figure 6. Import in Free zones and Import in Serbia 2012-2021 (In Eur)

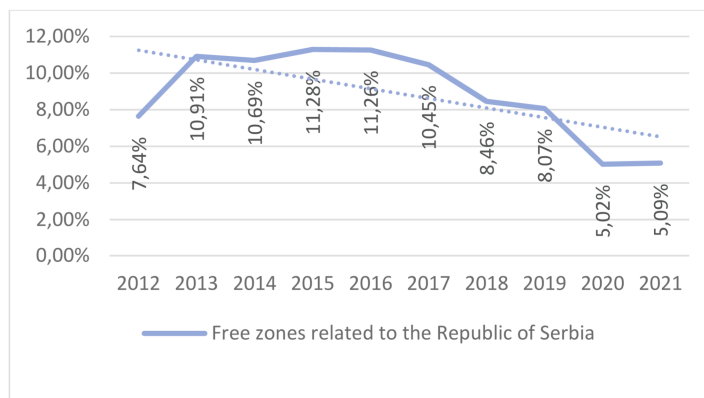


Figure 7. Import in free zones in Serbia related to total import in Republic of Serbia

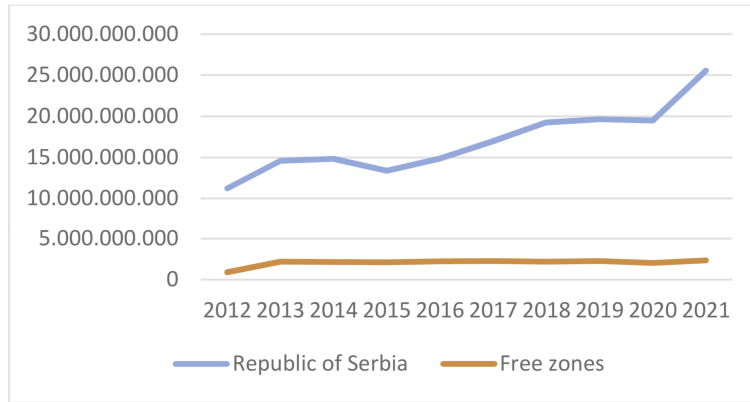


Figure 8. Export from Free zones and Export from Serbia 2012-2021 (In Eur)

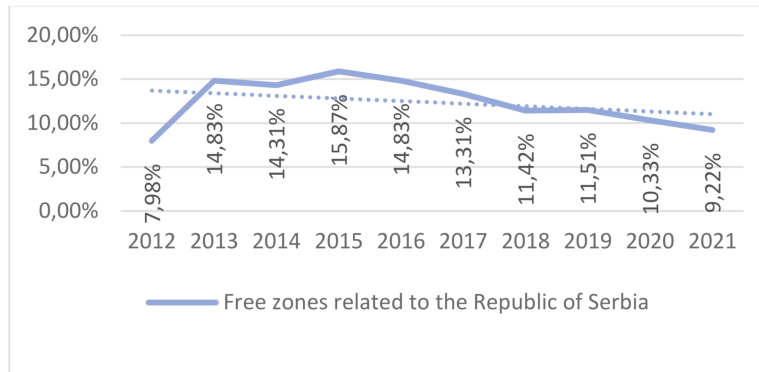


Figure 9. Export from free zones in Serbia related to total export from Republic of Serbia

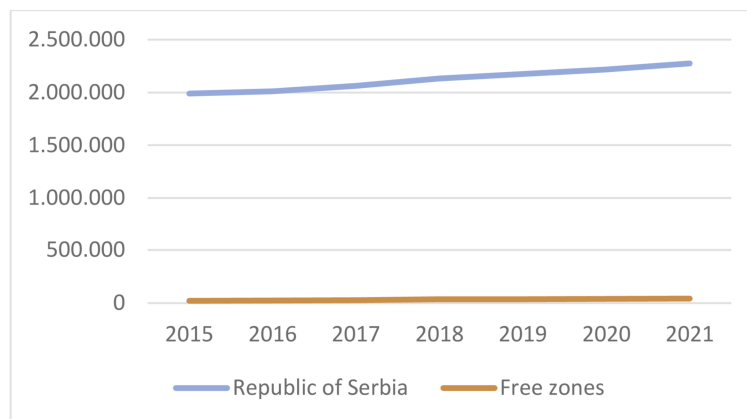


Figure 10. Total employment in free zones and in Republic of Serbia 2015-2021

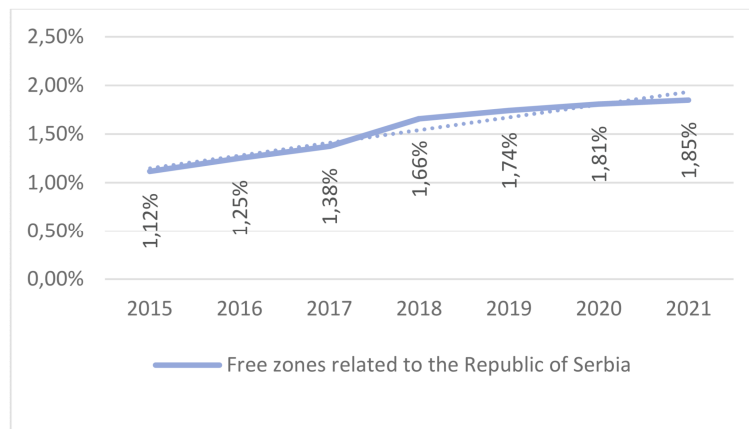


Figure 11. Employment in free zones related to employment in Republic of Serbia

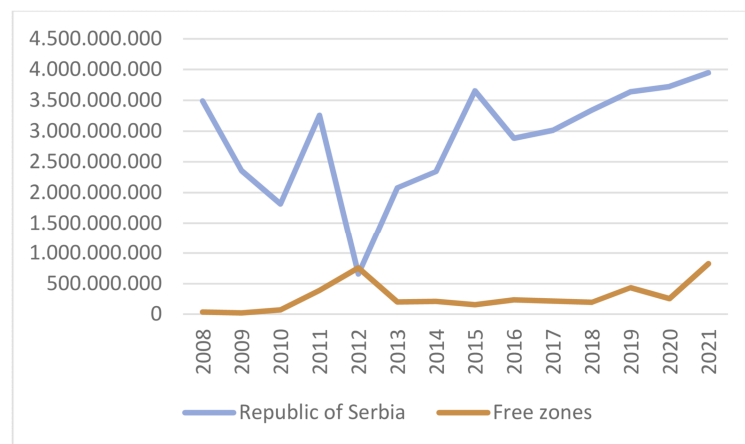


Figure 12. Investment in free zones and investment in Republic of Serbia

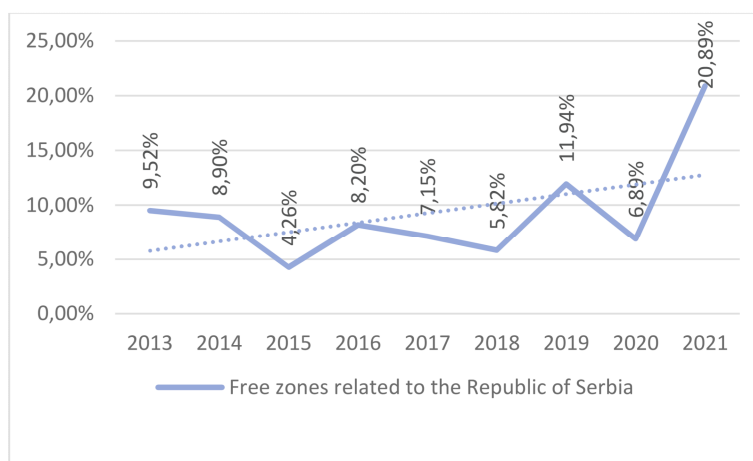


Figure 13. Investment in free zones in Serbia related to total investment in Republic of Serbia