

Ljubodrag Savić

University of Belgrade  
Faculty of Economics  
Department for Economic Policy and  
Development

Milena Lutovac

University of Belgrade  
Faculty of Economics  
Department for Economic Policy and  
Development

# INDUSTRIAL POLICY AND STATE INCENTIVES IN SERBIA

## Industrijska politika i državni podsticaji u Srbiji

### Abstract

Activities resulting from industrial policy are economically justified under certain circumstances. Focussing on the neoclassical case for industrial policy, a number of market failures can justifiably prompt the public sector to intervene in the process of allocating resources among economic activities or sectors. State incentives are an integral part of industrial policy and belong to the measures that the state uses to affect the market position of individual enterprises. They have to be applied very carefully, taking into account their positive and negative sides. One of the main reasons for justification of state investment incentives is their direct effect on the increase in investment volume, employment growth and the creation of a more attractive business environment for both domestic and foreign investors. The analysis in this paper is dedicated to identifying the factors most affected by state aid in 72 successfully completed projects for attracting investments in the industry of Serbia from 2006 to March 2017. The research used the Delphi method, as a technique of forming expert group opinion. After a short review of the size and structure of state incentives in the Republic of Serbia, an explanation of the detailed methodological research procedure follows.

**Keywords:** *industrial policy, state incentives, effects of industrial policy, Delphi method.*

### Sažetak

Aktivnost industrijske politike je ekonomski opravdana pod određenim okolnostima. Fokusirajući se na neoklasični slučaj industrijske politike, u slučaju određenog broja tržišnih neuspeha intervencije javnog sektora mogu biti opravdane u procesu raspodele resursa među ekonomskim aktivnostima ili sektorima. Državni podsticaji su sastavni deo industrijske politike i jedna su od mera pomoću kojih država utiče na tržišni položaj pojedinih preduzeća. Oni se moraju primenjivati vrlo oprezno, uzimanjem u obzir njihovih pozitivnih i negativnih strana. Kao jedan od glavnih razloga za opravdanost državnih investicionih podsticaja navodi se njihov direktan efekat na povećanje obima investicija, rast zaposlenosti i stvaranje privlačnijeg poslovnog ambijenta za domaće i strane ulagače. Analiza u radu je posvećena identifikovanju efekata državne pomoći u 72 uspešno završena projekta za privlačenje investicija u industriju Srbije od 2006. do marta 2017. godine. Istraživanje ovog pitanja sprovedeno je Delfi metodom, kao tehnikom formiranja grupnog stručnog mišljenja. Nakon kratkog pregleda stanja veličine i strukture državnih podsticaja u Republici Srbiji, sledi objašnjenje detaljnog metodološkog postupka istraživanja.

**Ključne reči:** *industrijska politika, državni podsticaji, efekti industrijske politike, Delfi metod.*

## Introduction

Experience in the conduct of industrial policy worldwide shows that in most cases it is difficult to assess whether government policies were effective in achieving specific outcomes, that is, it is impossible to prove what would have happened if the government had not intervened or if it had taken different actions. There has been a long-standing dilemma regarding whether a more active industrial policy would achieve even better results. On the other hand, industrial policy critics point out that even the experiences of countries with the most dynamic industrial development do not confirm the causal link, as perhaps growth would be even higher without the implementation of industrial policy measures, as they say.

We believe that the previous experiences can be applied to general processes of development and industrialisation, regardless of historical diversity of countries. When providing support to industrial development, Serbia should comply with the EU state aid rules, enhance the process of harmonisation with the EU industrial policy, ensure the transparency of support programmes, and continuously monitor the efficiency of their use [11, p. 6]. State aid can be justified if it really influences the increase in the volume of direct investments, that is, generates investment projects that would not be implemented without the existence of an incentive programme, and if the positive effects of realization of these projects significantly exceed the direct and indirect costs of the presence of the investment incentive programme.

The aim of the research presented in this paper is to identify the most relevant factors which state aid has influenced the most. The paper has four parts. The first part defines the concept of industrial policy. The second part of the paper explains the relationship between industrial policy and state incentives. After a brief review of the volume and structure of state incentives in the Republic of Serbia in the third part, the fourth presents a detailed explanation of the applied methodology. The research used the Delphi method, as a technique for forming expert group opinion. As participants in the research, company managers were selected from 72 investment projects successfully implemented in the period from 2006 to March 2017. The

Delphi method was applied in several Delphi rounds until a managerial consensus was reached. Specific results of each round were analysed separately. After each iteration, the measurement of the achieved consensus was done with the discussion of obtained results.

## Definitions of industrial policy

There is no consensus on the definition of industrial policy other than the one that says that it is a government intervention (or “non-neutrality”) in the economy. The Japanese Ministry of Economy, Trade and Industry (METI) describes industrial policy as a vision of future industrial development. In defining industrial policy, it starts from the necessary adjustment of the industrial structure to changes in human needs and modern technology [23, pp. 5-6]. In literature on development, industrial policy is often referred to as the “industrialisation policy”. For those whose primary concern is the decline in production in OECD countries, industrial policy is identified with a production strategy. However, for others, industrial policy implies a sector-oriented policy that is not necessarily focused on the whole production. Some people link industrial policy with a set of government policies focused only on the development of the production sector. According to the definition given by the World Bank (1993), industrial policy presents “government efforts to alter industrial structure to promote productivity-based growth” [28, p. 354]. Pack (2000) defines industrial policy as a “variety of actions designed to target specific sectors to increase their productivity and their relative importance within the manufacturing sector” [6, p. 5].

Other definitions include a broad set of goals, such as productivity increase, competitiveness and overall economic growth. Lawrence (1986) argues that “industrial policy refers to all policies designed to affect the allocation of resources between and within sectors of the economy” [15, pp. 126-146]. Every country implements such a generally defined industrial policy, and there is nothing unusual about this concept. At the same time, these broader terms do not imply a clearer concept of industrial policy that was debated in the 1970s and 1980s in the United States and which is still part of the political

debate on this subject. Industrial policy is a concerted, focused, conscious effort on the part of the government to encourage and promote a specific industry or sector with an array of policy tools, including subsidies or tax reliefs, trade protection, regulation, forcible mergers, protection against foreign takeovers, etc.

The definition of Driscoll and Behrman, given in 1984, provides a good description of the notion of industrial policy. "In current use, the term "industrial policy" denotes the promotion of specific industrial sectors rather than industrialisation overall... Industrial policies are direct and selective; they are an attempt by government to influence the decision making of companies or to alter market signals; thus they are discriminating... Industrial policy has sometimes sought to support the losers, delaying or retarding their decline; in other cases the goal is to succor or catalyze maturing sectors or to stimulate advancing sectors" [27, p. 6]. Victoria Curzon-Price points out that "industrial policy may be generally defined as any government measure or set of measures to promote or prevent structural change" [26, p. 15].

Pack and Saggi (2006) define industrial policy as "any type of selective intervention or government policy that attempts to alter the structure of production toward sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention, i.e., in the market equilibrium" [19, pp. 267-297]. In this sense, industrial policy is similar to growth strategy. Warwick provides a definition that is broad enough to encompass various notions of this term. "Industrial policy is any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention" [26, p. 16].

The European Commission defined industrial policy in the following way: "Industrial policy is horizontal in nature and aims to secure framework conditions favourable to industrial competitiveness. Its instruments aim to provide framework conditions in which entrepreneurs can take initiatives, use their ideas and upgrade their capabilities. However, it is necessary to take into account

the specific needs and characteristics of particular sectors. Industrial policy therefore, inevitably unites the basics of horizontal policy and the application of sectoral policy" [8, p. 8]. Aiginger describes a "matrix" approach to industrial policy [2, p. 308].

Given that one of the causes of structural change is international trade, industrial policies are sometimes called policies that "defy" the comparative advantage of the country and develop its "latent" advantages. It should be pointed out that these definitions include measures that are not specifically (or only) applied to industry or production. Industrial policy can be applied to other sectors of which the government expects high growth potentials, such as non-traditional agricultural products or high value added services like software development. For Rodrik, the industrial policy aims to "stimulate specific economic activities and promote structural change" [20, p. 3]. He points out that this could include agriculture and service sector, as well as production. Naude considers industrial policy to be "the process whereby governments aim to deliberately affect the structural characteristics of their economies" [18, p. 4]. Crafts defines industrial policy as "any public sector intervention aimed at changing the distribution of resources across economic sectors" [5, p. 3]. Mutual to most of the definitions used, including Rodrik's and Naude's, is a clear intention to change the economic structure by targeting individual sectors, either explicitly or not. This broad definition of industrial policy assumes inclusion of other policies. Therefore, the industrialisation policy could be understood as a form of industrial strategy with a series of specially designed policies, so that developing economies could move to the next stage of economic development by promoting the growth of the productive sector in the marketplace. Production strategy would be a set of policies designed to simplify successful development of production. Policies of support to aviation sector, defence industry and the development of new technologies could be classified as industrial policies.

The more general the goal, the larger the set of measures considered part of industrial policy. The most significant difference in definitions naturally exists between the opponents and the proponents of industrial

policy. Opponents aim to equate industrial policy with subsidies, while others see it as a way to promote innovation, education, technological spillovers, and methods to improve the institutional environment and make a favourable business environment [25, p. 177]. For example, according to Cimoli, Dosi and Stiglitz, industrial policy includes targeted industrial support, as well as policies related to trade, regulation, innovation and technology, education and skills, and sectoral competitiveness policy [3, pp. 19-39]. Combinations of these measures form different packages of industrial policies. The industrial policy model includes hard and soft industrial policies, where hard policies comprise interventions that affect price formation, while soft policies comprise activities related to coordination issues. Rodrik's approach is different because it defines industrial policy as a process that involves a "dialogue" between the state and the private sector, with the aim of generating mutual information to identify and remove development-related constraints.

### State incentives as part of industrial policy

Industrial policy is not a new concept. It has been on the scene, with its ups and downs, for sixty years, as a framework for development and policy based on the direct involvement of government in research and creation of comparative advantages [7, p. 235]. Among numerous arguments in favour of industrial policy, market failures are most often highlighted. Instead of perfect and free market competition, modern economy is characterised by the dominance of oligopolies, which is why the market is less competitive and more speculative. These market imperfections do not represent isolated cases, but a phenomenon that, as a rule, follows capitalist markets and occasionally provokes very devastating crises. Investing in new industries requires substantial financial costs, but does not guarantee reliable results, which is excessively risky for potential investors. Developing countries remain poor because the markets themselves do not encourage necessary structural changes.

In a significant number of papers, there is empirical evidence which proves that market imperfections make investments more difficult. The role of a "good state" is to

generate and implement political initiatives that alleviate the consequences of market imperfections. Countries like South Korea and economies such as Taiwan and China have not suddenly developed by improving their institutions, but by implementing policies that have enabled them to overcome market barriers.

Various government interventions can prevent market failures. Two most important arguments in favour of industrial policy are related to information and coordination externalities [21, p. 104]. Market failures often occur because companies do not have adequate incentives to consider the effects of their actions on other companies. It is difficult to expect activities that are not profitable for the company, but which have positive externalities on other economic players. It is unacceptable to take actions that are profitable for the company, but negatively affect other economic players. In case of positive externalities that affect other companies, the benefits of investment can outweigh the costs and vice versa in case of negative externalities. Governments often help declining industries in order to protect jobs. This is supported by the fact that other governments also subsidise their industry.

State incentives are a form of a state intervention that encourages some economic activity, sector or company, which can weaken market competition. State intervention, especially if it is selective, hides many traps. It leads to unfair competition between subsidised and non-subsidised companies, threatening fiscal sustainability and creating problems in international trade. Furthermore, it has been shown on a large number of examples that the state was not able to effectively select "winners" and "losers", partly because of the influence of various lobby groups. The inability of the state to determine the moment when it is necessary to stop providing aid has often diminished economic efficiency. From an economic point of view, government incentives will only lead to prosperity if the positive effects of government incentives are more significant than the cost of their implementation.

The European Union is not against state incentives if they are focused on market failures [13, p. 229]. The key to the success of state incentive reforms lies in reallocation of incentives to those sectors that eliminate market failures and thus affect the increase in living standards.

Governments of many developing countries are unable to implement a selective industrial policy effectively. Although political leaders are interested in promoting economic development within industrial policy, they must impose this vision on the rest of government institutions. While in theory states are hierarchically organised, in real life demands of political leaders do not pass easily through tangled and often inefficient state administration. Moreover, implementation of industrial policy requires employees with excellent technical and administrative skills and experience in solving urgent problems while supporting the industry. The complexity of interventions and their selectivity depend on the level of bureaucratic capacity of the state.

### Volume and structure of state incentives in the Republic of Serbia

State aid control in the Republic of Serbia was established by passing the Law on State Aid Control, Regulation on Rules for State Aid Granting and Regulation on Rules and Procedure for State Aid Granting [12, p. 3]. State aid is any actual or potential public expenditure or realised decrease in public revenue which confers to state aid beneficiary a more favourable market position in respect to its competitors and, as a result, causes or threatens to cause distortion of market competition. State aid grantor can be the Republic of Serbia, autonomous province and local self-government unit, through their competent bodies, and any legal person

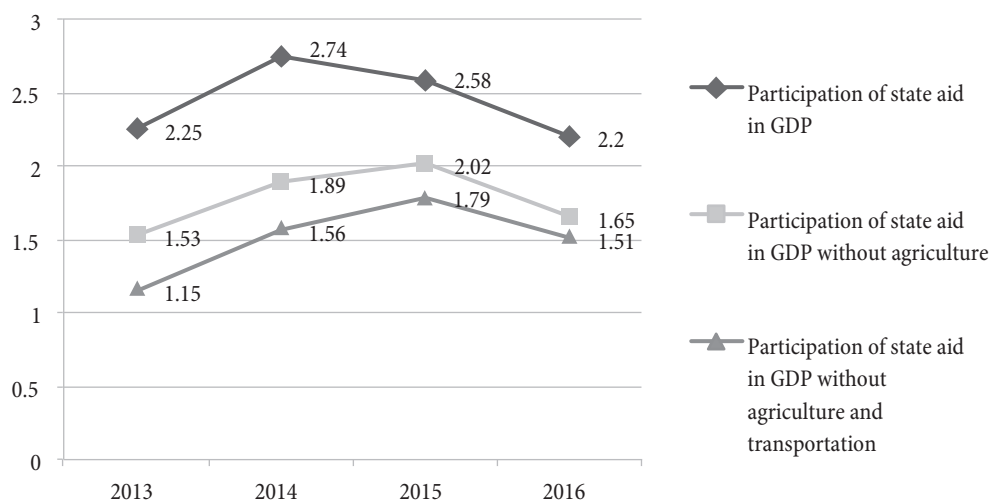
managing and/or disposing of public funds and allocating state aid in any form whatsoever [12, p. 4].

In 2016, in the Republic of Serbia state aid was allocated in the total amount of 92,399 million RSD, or 750 million EUR (average euro exchange rate in 2016 was 123.1179 RSD, source: the National Bank of Serbia). That amount was 11.3% lower than the total amount of state aid allocated in 2015 (104,202 million RSD or 863 million EUR) and 12.9% lower compared to the same parameter for 2014 (106 billion RSD or 904 million EUR). The share of state aid in gross domestic product in 2016 was 2.2%, while in 2015 and 2014 it was 2.58%, and 2.74%, respectively [12, p. 9]. This support covered the sectors of agriculture, hunting, forestry and fishing and industry and services.

In 2016, state aid granted to the industry and services sector amounted to 69,479 million RSD, i.e., 516.1 million EUR, which represents a decrease of 15% compared to 2015. The share of this aid in GDP in 2016 was 1.7% [12, p. 16]. In accordance with the European Union methodology, according to its primary goal, state aid to the industry and services sector is covered by the following categories:

- Horizontal state aid disturbs market competition the least and has the most positive effects. It focuses on research and development, training, employment, small and medium-sized enterprises, environmental protection, culture and information, damage control, restructuring, and more.
- Sectoral state aid is granted to business entities in specific sectors. The latest report of the European

Figure 1: Participation of total state aid in GDP in the 2014-2016 period



Source: Report on State Aid Granted in the Republic of Serbia in 2016. Republic of Serbia: Commission for State Aid Control, p. 11.

Commission on the granting of state aid states that the goal of each sector behind obtaining funds for support must be to achieve long-term sustainability of the sector.

- Regional state aid is allocated with the aim of stimulating economic development of underdeveloped or less developed regions, i.e., areas, primarily those in which the standard of living is meagre or in which there is high unemployment [23, pp. 5-6].

### Effectiveness analysis of incentives for attracting investment in industrial Serbia in the period from 2006 to 2017

The regulation on terms and conditions for attracting direct investment regulates criteria, conditions and method of attracting direct investments to the Republic of Serbia [24, p. 1]. Incentive funds for attracting direct investments are provided from the budget of the Republic of Serbia, but part can also be provided by international development assistance. The funds can be used for financing investment projects in manufacturing and service sectors which may be subject to international sales, but cannot be used for financing investment projects in the sector of transportation, hospitality, games of chance, trade, production of synthetic fibres, coal and steel, tobacco and tobacco products, weapons and ammunition, airports, utility sector and energy sector [23, pp. 5-6].

In the 2006-2017 period (until June 13, 2017), 327 incentive contracts were signed, of which 149 with domestic and 178 with foreign investors. The total value of the granted

incentives was 530,481,924 euros, out of which 301,194,315 euros were paid out. The estimated amount necessary for the realisation of all 327 projects was 2,196,773,817 euros, and the plan was to open 87,521 new jobs.

The total of 226 projects have been successfully implemented or are in the process of implementation (68 with domestic and 158 with foreign investors). For their realisation, the total amount of 458,481,245 euros was granted (23,940,932 euros to domestic and 434,540,313 euros to foreign investors), while funds were paid out in the amount of 276,271,664 euros (20,076,619 euros to domestic and 256,195,045 euros to foreign investors).

Due to investors' non-fulfilment of undertaken obligations or withdrawal from the project, 101 contracts were terminated. Most of the terminated contracts (81) were concluded with domestic, while 20 were concluded with foreign investors. The total value of incentives for terminated contracts was 72,000,679 euros (31,186,500 euros for domestic and 40,814,179 euros for foreign investors) [17, p. 1].

### Empirical research

In this paper, employment was analysed in 72 successfully implemented investment projects in the period from 2006 to March 2017. These are the projects which were granted incentive funds and which were successfully implemented (investments were made, new employees were hired, the monitoring period was completed, the number of new employees was kept). Employment was increased in 55 companies (76% of completed projects) and reduced in

**Table 1: Overview of investment projects accomplished in the 2006-2017 period according to the origin of the investor**

Status of project	Investor's origin	Number of projects	Investment value in euros	Number of new hires	Value of incentives granted	Value of paid incentives
Early stage of realisation of the project	Domestic	68	144,123,075	5,296	23,940,932	20,076,619
	Foreign	158	1,717,853,090	64,096	434,540,313	256,195,045
	Total	226	1,861,976,165	69,392	458,481,245	276,271,664
Terminated projects	Domestic	81	246,183,518	7,457	31,186,500	10,214,85
	Foreign	20	88,614,134	10,672	40,814,179	14,707,800
	Total	101	334,797,652	18,129	72,000,679	24,922,651
Total	Domestic	149	390,306,593	12,753	55,127,432	30,291,470
	Foreign	178	1,806,467,224	74,768	475,354,492	270,902,845
	Total	327	2,196,773,817	87,521	530,481,924	301,194,315

Source: Ministry of Economy.

17 companies (24% of completed projects). Under the contract on granting incentive funds for attracting direct investments, 72 companies were obliged to employ a minimum of 12,383 new workers. After the completion of contractual obligations in terms of investment and employment (after the so-called project implementation period), these companies employed 18,524 workers, which is 6,141 workers more (50% more) than stipulated by the contract. On the date set by the contract, March 15, 2017, these 72 companies employed 39,953 workers, which is 27,570 more than the number of workers stipulated by the contract. It is 21,429 workers more than on the date set for the completion of the obligation of investment and employment according to the contract (the first day of monitoring). In companies that increased their employment after the completion of contractual obligations (55 companies), the number of workers increased by 22,563, or by 410 workers per company on average, while in companies that reduced employment (17 companies), the number of workers decreased by 1,134 or by 67 workers per company on average [17, p. 10].

The empirical analysis, or the research, was conducted in the period from April to December 2018 in the territory of the Republic of Serbia. The study lasted longer than usual for the Delphi method, given the specificity of the data and the vacation period. State aid in Serbia has been present for several decades, but so far no one has seriously analysed its effects, that is, the impact of state aid on GDP growth, employment, exports and payment of taxes and contributions to the budget of Serbia. In our analysis of the aforementioned we will use the Delphi method.

The Delphi technique is a way of obtaining collective opinion from individuals about issues where there is no or little definite evidence and where opinion is important. Implementation of the Delphi technique is a complex process, also called the Delphi study, which begins by contacting and hiring experts in the field that is the subject of research. They are asked to answer a large number of questions in writing. Answers are given anonymously; other participants do not know who the author of the answer is [14, p. 1].

The decision to analyse only finished projects was made due to the need to determine whether investment

projects implemented with the help of incentives have clear and measurable effects on the established objectives of economic and industrial development. The first step in the realisation of the research process or the Delphi study is the selection of experts that are part of the so-called panel of experts. Particularly, company managers from 72 investment projects successfully implemented in the period from 2006 to March 2017 were contacted, and they were briefly introduced to the aim of the Delphi technique and what was expected of them. Participants were told that the study was being carried out through several iterations and that in each round a separate questionnaire had to be filled in and returned.

The Delphi study was carried out through three separate iterations (Delphi rounds), which included filling out a separate questionnaire. Each of the three questionnaires was always composed of two parts. In the first part, we collected information about the managers (their gender, level of education, age, years of service, managerial level) and information about the company they were coming from (its size and type). The second part of the questionnaire differed in each iteration and was primarily supposed to identify the factors most affected by state aid and then, through a focused process, to lead to a group consensus on how to rank defined factors according to the degree of their importance.

### Delphi round I

In the first Delphi round, the questionnaire was sent to 72 email addresses belonging to managers in companies where investment projects were successfully implemented. At the end of the first Delphi round, 43 managers submitted a completed questionnaire, which indicates that the initial response rate was 59.72%. The goal of the second part of the questionnaire was to identify state aid instruments that the company used (subsidies, tax incentives, favourable loans, guarantees or other). Managers also had to specify some of the factors influenced by state aid (employment, growth in production, growth of exports, growth of salaries, payment of taxes and contributions to the budget of the Republic of Serbia or other). They also had the opportunity to add the factors that were not mentioned in the questionnaire. The

advantage of such a broadly defined question is greater freedom in expressing opinion.

Figure 2 shows state aid instruments used by the companies that participated in the research. The companies mostly used subsidies, tax incentives and other instruments of the state aid. During this period, out of the total investment aid 67.4% was allocated through subsidies. The percentage of net investment aid granted through tax incentives amounted to 14%, while, in the same period, other investment incentives amounted to 16.3%.

After collecting participants' answers, their quality was analysed by sorting and categorising them and seeking similar relations between them, which is a logical next step. Following this methodology, after a detailed analysis of answers and their integration, a set of 4 factors most affected by state aid was identified. These factors are (listed without particular order): employment, production growth, export growth, wage growth and payment of taxes and contributions to the budget. The four identified factors were used as the primary input for the creation of questions in the following Delphi rounds. At this point, the first Delphi round was finished.

### Delphi round II

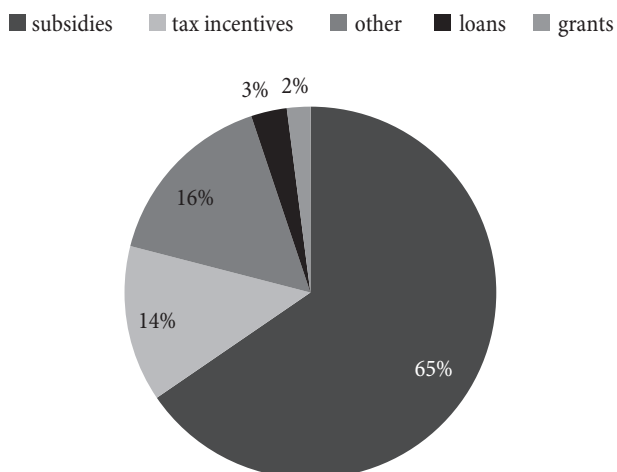
In the second Delphi round, the questionnaire was sent to 40 email addresses of managers in the companies where investment projects were successfully implemented. At the end of the second Delphi round, 28 managers responded

with a completed questionnaire, which indicates that the initial response rate was 70%.

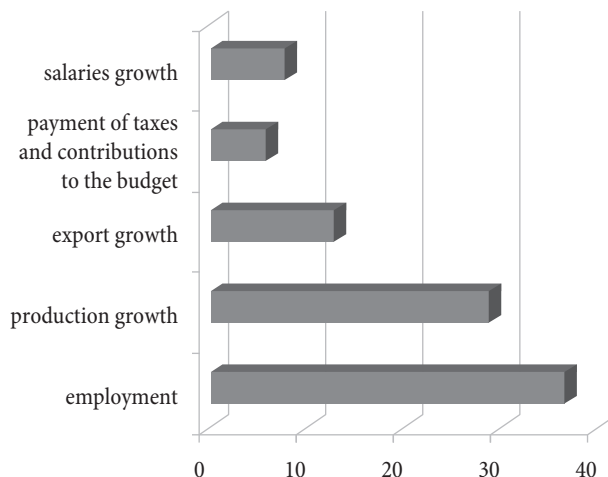
In the paper, we focused on the second part of the questionnaire from the second Delphi round, which was based on the information generated as the result of the first Delphi round. It has already been pointed out that in the first Delphi round four factors most affected by state aid were identified: employment, production growth, export growth, wage growth and payment of taxes and contributions to the budget.

In the second part of the questionnaire from the second Delphi round, managers were presented with these factors and asked to rank them according to their significance, from the factor most influenced by state aid (ranked as 1) to the one least influenced by state aid (ranked as 4). It was particularly emphasized that two factors cannot have the same rank. After 28 managers, participants in the second Delphi round, had ranked all factors individually, group ranking of only 4 factors that, in their opinion, were most influenced by state aid was performed using the weighted average method. According to the model of Huscroft et al., the weight is calculated according to the following formula:  $(\text{lowest rank} + \text{highest rank} + (n-2) \times \text{average rank}) / n$ , where  $n$  is the size of the expert panel, which in this specific case was  $n=28$  [10, pp. 304-327]. Based on the group ranking of factors, employment was identified as the factor most influenced by state aid, while wage growth and payment of taxes and contributions were least influenced by state

**Figure 2: State aid instruments used by the companies that participated in the research**



**Figure 3: Factors most affected by state aid in successful projects**





aid. Group ranking of factors and their weighted rank averages are presented in Table 2.

After the second Delphi round, the calculation of the achieved consensus was performed using Kendall's coefficient of concordance. This coefficient measures the degree of concordance between the ranks which, in the case of this research, have been attributed by the managers, members of the expert panel. Its values can range from 0 to 1. A value of 0 indicates that there is perfect discordance between the experts doing the ranking, while 1 suggests perfect concordance between them [1, p. 418]. Kendall's coefficient uses Cohen's guidelines for interpretation of values up to 0.1 (small effect), from 0.1 to 0.3 (medium effect) and over 0.5 (large effect) [4, pp. 20-31]. Further analysis starts with the following hypotheses:

$H_0$ : there is no concordance between the experts doing the ranking

$H_1$ : there is absolute concordance between the experts doing the ranking

Using the SPSS statistics 21.0 software package, it was examined whether there was a consensus between the managers in the second Delphi round. The result is shown below.

Since  $p = 0.031$ , for  $\alpha = 0.05$ , the decision was made to reject the zero hypothesis, concluding that there was

**Table 2: Summary ranking of factors most affected by state aid in the second Delphi round**

Rank (1-the most important factor, 4-the least important factor)	Factors	Weighted rank average
1	Employment	2.03
2	Production growth	2.33
3	Export growth	2.73
4	Wage growth and payment of taxes and contributions to the budget	2.90

**Table 3: Obtained results on the degree of reached consensus between the managers in Delphi round II**

Test Statistics	
N	28
Kendall's W <sup>a</sup>	.106
Chi-Square	8.871
df	3
Asymp. Sig.	.031

a. Kendall's Coefficient of Concordance

Source: output from SPSS.

concordance between the managers in the second Delphi round. If  $\alpha = 0.01$  had been chosen,  $H_0$  could not have been rejected. The obtained value of 0.106 of Kendall's W, however, indicates that only a moderate concordance between managers was obtained. Since strong concordance exists when the obtained values of these parameters are over 0.5, the same test was applied in the third Delphi round.

### Delphi round III

In the third Delphi round, the questionnaire was sent to 40 email addresses of managers in the companies where investment projects were successfully implemented. At the end of the third Delphi round, 24 managers answered, which indicates that the initial response rate was 60%.

Based on aggregately ranked key factors most influenced by state aid that were presented to managers at the beginning of the third round, managers were asked to reconsider their answers and rerank the four identified factors. After 24 managers, participants in the third Delphi round, had repeated individual ranking of all factors, group ranking of only 4 factors that, in their opinion, were most influenced by state aid was performed using once again the weighted average method. The weight was calculated in the same way as in the second Delphi round. In the group ranking of factors in the third Delphi round, employment was again identified as the most important, while the least important factors were again wage growth and payment of taxes and contributions to the budget. Group ranking of the remaining two factors also remained unchanged. The final group ranking of factors and their weighted rank averages are given in the following table.

After the third Delphi round, the calculation of the achieved consensus was performed using Kendall's

**Table 4: Summary ranking of the factors most affected by state aid in the second Delphi round**

Rank (1-the most important factor, 4-the least important factor)	Factors	Weighted rank average
1	Employment	1.28
2	Production growth	2.04
3	Export growth	3.11
4	Payment of taxes and contributions to the budget	3.43

coefficient of concordance. The obtained result on the extent of the achieved consensus between the managers in the third Delphi round is shown below.

**Table 5: Obtained results on the degree of reached consensus between the managers in Delphi round III**

Test Statistics	
N	24
Kendall's W <sup>a</sup>	.648
Chi-Square	46.650
df	3
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Source: output from SPSS.

Since  $p = 0.000$ , a decision was made to reject the zero hypothesis for any level of significance, concluding that there was absolute concordance between the managers in the third Delphi round. The obtained value of 0.648 of Kendall's W indicates strong concordance between managers.

Based on the results of the test, it can be concluded that the Delphi study was successfully implemented and that managers reached a consensus on factors most affected by state aid. A detailed analysis of the obtained results confirms the previously mentioned effects of investment incentives on employment.

## Conclusion

One of the essential reasons why investment incentives in Serbia are justified is their particular effect on creating jobs, that is, the increase in employment in the country. At the same time, their positive effects in total should outweigh the costs of approving investment incentives contained in direct transfers from the budget and unpaid tax revenues, as well as potentially harmful effects arising from possible market distortion, increased administration costs required for the grant of incentives, and costs that companies incur in the process of obtaining incentives. Moreover, the harmful effect of investment incentive programmes is reflected in the companies that qualify for the use of incentive programmes and that would still invest regardless of the existence of these programmes.

The costs of maintaining state-owned enterprises and managing investment programmes must also be kept in

mind. Industrial policy also requires other expenditures, such as the costs of implementing government controls and eliminating inconsistencies during all state aid activities. Beside expenses related to state-owned enterprises, grants and subsidies, at the same time, industrial policy generate implicit expenses caused by the creation of oligopolies (monopolies) made by state and reduced production efficiency, as a result of market fragmentation and widespread support to domestic firms [16, pp. 65-78]. Also, the public sector creates competition for the private sector and "pushes it out" from the capital market, as a stronger partner that can use different forms of financial repression, that is, implicit taxes on financial assets (the phenomenon of "extortion"). Intensive government borrowing contributes to the increase in demand for capital that raises interest. The increase in interest causes exclusion of the private sector, given that it discourages production investment and prevents entrepreneurs from reaching the capital market.

This Support Outcome-Based Contracting cannot function well without clear communication and mutual trust between the government and the private sector. Such communication and trust should be built through meetings, formation of advisory bodies and some ad hoc decisions made by the government and the companies. For all this to happen, it must be possible to "renew", i.e., change the industrial policies over time. This means that industrial policymakers can withdraw their support to specific industries or companies as the result of the ongoing industrialisation process. Governments with limited capacity to monitor effects should stick to horizontal policies. Selective industrial policy should only be implemented when the governments significantly improve their ability and effectiveness in monitoring the effects of implemented measures.

As already stated, government incentives will lead to prosperity only if the positive effects of government incentives are more significant than the costs of their implementation. In the analysis of the impact of incentives on employment in the total of 72 completed projects, it can be concluded that the most positive effects are reflected in the fact that workers remain in these companies even after the expiry of the period of control by the state, which confirms that

these were sustainable projects. Furthermore, more than 90% of companies that received support in the form of incentive funds are export-oriented, and on average 80% of their products are exported. The best recommendation for the arrival of other companies in Serbia are the good results of the work of foreign investors, some of which, using the incentive funds, reinvested the earned profits in the Serbian economy.

## References

1. Aćimović, S., & Mijušković, V. (2018). Which factors drive the reverse logistics process in practice: Evidence from Serbia. *Ekonomika preduzeća*, 7-8 2018, 418.
2. Aiginger, K. (2007). Industrial policy: A dying breed or a re-emerging phoenix. *Journal of Industry, Competition and Trade*, 308.
3. Cimoli, M., Dosi, G., & Stiglitz, J. (Eds.) (2009). *Industrial policy and development: The political economy of capabilities accumulation*. Oxford: Oxford University Press, 19-39.
4. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, 20-31.
5. Crafts, N. (2010). Overview and policy implications. In *Learning from some of Britain's successful sectors: An historical analysis of the role of government* (p. 3), BIS Economics Paper No. 6.
6. Di Maio, M. (2014). Industrial policy. In B. Currie, R. Kandur, D. Malone & R. Medhora (Eds.), *International development: Ideas, experience & prospects* (p. 5). Oxford: Oxford Scholarship Online, University Press Scholarship Online.
7. Đuričin, D., & Vuksanović, I. (2014). Quest for new development model and economic policy platform for Serbia: The role of industrial policy. *Ekonomika preduzeća*, 5-6 2014, 235.
8. European Commission. (2002). *Industrial policy in an enlarged Europe*, 3.
9. Friedman Test, Kendall's W, Cochran's Q: Significance tests for more than two dependent samples. (2019). Retrieved on January 18, 2019, from <https://www.statisticssolutions.com/significance-tests-for-more-than-two-dependent-samples-friedman-test-kendalls-w-cochrans-q/>.
10. Huscroft, J., Hazen, B., Hall, D., Skipper, J., & Hanna, B. (2013). Reverse logistics: Past research, current management issues, and future directions. *The International Journal of Logistics Management*, 24(3), 304-327.
11. Izveštaj o skriningu: Srbija, Poglavlje 20 - Preduzetništvo i industrijska politika. Retrieved on January 18, 2019, from [http://www.mei.gov.rs/upload/documents/skrining/izvestaj\\_pg\\_20.pdf](http://www.mei.gov.rs/upload/documents/skrining/izvestaj_pg_20.pdf).
12. Komisija za kontrolu državne pomoći. (2016). *Izveštaj o dodeljenoj državnoj pomoći u Republici Srbiji 2016. godine*. Republika Srbija: Komisija za kontrolu državne pomoći, 3.
13. Jović, I., & Škreb, M. (2011). Reforma državnih potpora u Hrvatskoj. *NEWSLETTER, povremeno glasilo Instituta za javne finansije*, br. 55. Zagreb: Institut za javne finansije, p. 229. Retrieved on January 10, 2019, from <http://web3.ijf.hr/Eu4/jovic-skreb.pdf>.
14. Kauko, K., & Palmrooms, P. (2014). The Delphi method in forecasting financial markets – An experimental study. *Elsevier: International Journal of Forecasting*, 30(2), April–June 2014, 313-327.
15. Lawrence, R. (1986). Industrial policy in the United States and Europe: Economic principles and political practices. In H. Mutoh, S. Sekiguchi, K. Suzumura & I. Yamazawa, (Eds.) *Industrial policies for Pacific economic growth* (pp. 126-146). Boston: Allen & Unwin.
16. Lin, J. Y., & Treichel, V. (2014). Making industrial policy work for development. In J. M. Salazar-Xirinachs, I. Nübler & R. Kozul-Wright, (Eds.). *Transforming economies: Making industrial policy work for growth, jobs and development*, pp. 65-78. Geneva: International Labour Organization.
17. Ministarstvo privrede. (2017). Podsticaji za privlačenje investicionih projekata u Srbiji. Beograd: Ministarstvo privrede, 1-22.
18. Naudé, W. (2010). Industrial policy: Old and new issues, *Working Paper No. 2010/106*. United Nations University, World Institute for Development Economics Research, 4.
19. Pack, H., & Saggi, K. (2006). Is there a case for industrial policy? A critical survey. *The World Bank Research Observer*, 21(2). Washington DC: World Bank, 267–297.
20. Rodrik, D. (2004). Industrial policy for the twenty-first century. *KSG Faculty Research Working Paper Series*. Cambridge, MA: Harvard University, 3.
21. Rodrik, D. (2007). *One economics, many recipes. Globalization, institutions, and economic growth*. Princeton and Oxford: Princeton University Press, 104. Retrieved on May 19, 2017 from [http://isites.harvard.edu/fs/docs/icb.topic265380.files/Rodrik%20\\_One%20Economics%20Many%20Recipes.pdf](http://isites.harvard.edu/fs/docs/icb.topic265380.files/Rodrik%20_One%20Economics%20Many%20Recipes.pdf).
22. Savić, Lj. (2017). *Ekonomika industrije*. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, 143.
23. Savić, Lj., & Lutovac, M. (2017). Uticaj državnih podsticaja na efikasnost sprovođenja industrijske politike. *Tematski zbornik radova Ekonomska politika i razvoj*. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta, 5-6.
24. Uredba o uslovima i načinu privlačenja direktnih investicija, „Službeni glasnik RS“, broj 37/2018. Retrieved from <http://demo.paragraf.rs/WebParagrafDemo/?did=435139>.
25. Vuksanović, I. (2017). Industrial policy for Serbia: A matrix approach. *Ekonomika preduzeća*, 1-2 2017, 177.
26. Warwick, K. (2013). Beyond industrial policy: Emerging issues and new trends. *OECD Science, Technology and Industry Policy Papers* No. 2. Paris: OECD Publishing, 15-16.
27. White, L. J. (2008). Antitrust policy and industrial policy: A view from the US. Paper presented at the Second Lisbon Conference on Competition Law and Economics, Lisbon, Portugal, November 15-16, 2007. New York University School of Law, 6.
28. World Bank. (1993). *The East Asian Miracle*. Washington DC: The World Bank, 354.



**Ljubodrag Savić**

graduated from the Faculty of Economics, University of Belgrade in 1980, obtained his master's degree in 1985 and became Doctor of Economics in 1992. He has been working at the Faculty of Economics since 1981. He teaches the following courses: Industrial Economics, Technological Development and Policy, Industrial Policy and Economic Development, Modern trends in Global Economy, Scientific and Technological Policy and Economic Development. He was Director of the Centre for Development of Investment Projects where he successfully implemented the innovative course "How to make a business plan" for many years. He headed the creation of many business plans and projects related to valuation of company capital. Mr. Savić is a permanent economic and financial court expert. He spent 1988 and 1995 in London, in the London School of Economics. He is a regular member of the Serbian Scientific Society of Economists.



**Milena Lutovac**

is Teaching Assistant at the Faculty of Economics, University of Belgrade. After she had received her MSc degree from the Faculty of Economics, University of Belgrade, she enrolled in PhD studies at the same faculty. Within basic academic studies she teaches the following courses: Industrial Economics, Technological Development and Policy. Milena Lutovac has had several articles published in international and national journals in the field of industrial policy.