

INTERNATIONAL SCIENTIFIC CONFERENCE ON THE OCCASION OF
THE 55TH ANNIVERSARY OF THE IES



ECONOMIC SCIENCES

on The

CROSSROAD

PROCEEDINGS FROM THE INTERNATIONAL CONFERENCE

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UNIVERSITÀ
DEGLI STUDI
DI TORINO
ALMA UNIVERSITAS
TAURINENSIS



BELGRADE, 2013.

Publisher: Institute of Economic Sciences
Belgrade, Zmaj Jovina 12
Tel. (011) 2622-357, 2623-055
Fax: (011) 2181-471
www.ien.bg.ac.rs
office@ien.bg.ac.rs

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Printed by: Čigoja štampa, Belgrade

Copy: 300

ISBN: 978-86-89465-10-5

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INDUSTRIAL POLICY FOR ECONOMIC DEVELOPMENT: THE PERSPECTIVES FOR SERBIA¹

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Milica KOČOVIĆ³

Abstract

This paper argues that industrial policy, defined as a conscious effort on the part of government to encourage and promote a specific industry or sector, is an indispensable tool for economic development. Serbia is experiencing a process of de-industrialisation since 1990s. During the period 2001-2012 its industry has been growing at an average annual rate of 0.2%, but it however still did not reach the output of the late 1989. The share of industry in GDP has been decreased, as well as the share in the labour productivity. Moreover, employment in industry has sharply decreased. Serbian exports are dominated mostly by primary and labour- and resource-intensive products making unfavourable export structure. This paper argues that devastated industry of Serbia cannot recover without conscious efforts on the part of government.

Key Words: *industrial policy, economic development, Serbia.*

INTRODUCTION

The topic of industrial policy and its relevance for economic development has been highly contested during the past couple of decades. While some scholars, and particularly those from liberal tradition, have argued that state interventions have negative impact on economy and that market should be left on its own, the others, from the so called heterodox approach, stressed that industrial policy is an indispensable tool for economic development, which cannot happen through market mechanisms alone. Nowadays, there seems to be consent among the scholars and policy makers that industrial policy is an important tool, and the focus of discussion is changed from whether a country needs an industrial policy to how industrial policy should be designed and implemented. However, when talking about industrial policy authors often have in mind very different definitions.

The topic of industrial policy is highly relevant for Serbia today. The aim of this paper is two-fold. On the one hand, it aims at showing the importance of industrial policy for economic development, drawing from a relevant literature review. On the other, it aims at presenting and discussing the industrial development and the industrial policy in Serbia.

This paper has two sections. In the first section, we will provide definitions of industrial policy, then discuss the arguments in favour of its implementation, outline its main challenges and critiques, and finally present the main principles articulated in the literature about how industrial policy should be created and implemented. Then, in the second section, we will present the data on economic and industrial development in Serbia in past couple of decades, and we will analyse the industrial policy of the country.

¹ This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

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INDUSTRIAL POLICY IN A NUTSHELL

Two types of definitions of industrial policy could be found in the literature. Industrial policy, defined in a broad sense, encompasses all public policies that have an impact on industrial development, namely: “policies affecting ‘infant industry’ support of various kinds, but also trade policies, science and technology policies, public procurement, policies affecting foreign direct investments, intellectual property rights and the allocation of financial sources” (Cimoli, Dosi, Stiglitz 2009: 1). When defined in a more narrow sense, industrial policy is seen as “a concerted, focused, conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools” (DCED 2013), or “a policy aimed at particular industries (and a firms as their components) to achieve the outcomes that are perceived by the state to be efficient for the economy as a whole” (Chang 2003a: 112).

The question that rises is why there is a need for that effort on the part of government to encourage and promote a specific industry or sector or even firms. The shortest answer is that industrial policy is needed in order to foster economic development, seen as “great transformation from traditional economies to economies driven by industrial activities (and nowadays also advanced services)” (Cimoli, Dosi, Stiglitz 2009). More precisely, a country needs industrial policy because: (1) market fails to solve a coordination problem (Chang 2003a); (2) only certain activities, namely those with increasing returns, technological change and synergies, enable economic development, while the others, characterised by diminishing returns, unskilled labour, extreme price fluctuations, etc., keep a country underdeveloped (Reinert 2007); (3) in the presence of more developed countries, less developed countries cannot develop industries without a state intervention (Reinert 2007, Chang 2003b); (4) entrepreneurial - risk taking, visionary state invests in areas, crucial for economic development, where the private sector does not invest (Mazzucato 2013). We will briefly discuss all four arguments.

The first argument in favour of industrial policy is based on the market failure. It stresses the necessity of an *ex ante* coordination of economic actors’ activities. More precisely, in modern industrial economies, characterised by scale economies, only few firms can operate, which results in an oligopolistic competition. In such case economic actors are strategically interdependent, which leads to inefficiency and a state intervention is necessary. Chang argues that intervention needed here is not necessary an antitrust-type policy (Ibid). Since in modern industrial economies, assets are specific and they lose value when redeployed, coordination problem leads towards net reduction in the amount of resources available to the economy (Ibid). In order to solve a coordination problem, the following policies could be used: investment coordination, recession cartel, negotiated exit or capacity scrapping (for more details see Chang 2003a).

The second argument that stresses the necessity of industrial policy is based on the assumption that country’s productivity growth is dependent on the economic activities in which it specialises (Reinert 2007). In addressing the questions how rich countries became rich and why the poor stayed poor, Reinert argues that economic development is activity-specific and that it takes place in activities with increasing returns, technological change and synergies⁴. He distinguishes between two types of economic activities. On the one hand, Shumpeterian activities, which operate in manufacturing, by means of continual innovation leads to increasing wages, create welfare and development, while on the other Malthusian activities characterised by diminishing returns, unskilled labour, extreme price fluctuations, etc., and found in agriculture and raw material extraction, keep wage-levels close to the subsistence level (Ibid). Thus, it does matter whether a country specializes in labour- and/or resource-intensive types of activities or more technologically advanced, capital-intensive manufacturing. In other words, what a country produces influences how wealthy it is.

⁴ Reiner defines synergies as “factors that acting together produce the cumulative causations or reactions that create the structural change we call economic development” (Ibid 37)

The third argument states that, in the presence of more developed countries, a less developed country needs a state intervention through an industrial policy in order to develop new industries (Chang 2003, Reinert 2007). This is known as “infant industry argument”. Infant industry argument was first set out by Alexander Hamilton, the first Secretary of the Treasury of the USA, in his *Reports of the Secretary of the Treasury on the Subject of Manufactures* in 1791 (Chang 2003a, Reinert 2007), and further developed by Friedrich List in his book *The National System of Political Economy* published in 1841 (Ibid). Hamilton argued that due to the competition from abroad new industries that could become internationally competitive would not appear in the USA unless their initial losses were covered by the government (Ibid). These infant industries needed protection from the competition of more advanced foreign (in this case British) competitors until they grow enough to be able to compete on international markets. Hamilton advocated for the state aid in form of duties or in the rare cases prohibition of import (Chang 2003a). Thus, the industrial development of today's most developed country was based on interventionist policies and only when it obtained industrial supremacy, USA finally liberalised its trade (Ibid). However, USA was not the first to use infant industry protection. According to List, that was Britain (Chang 2003a). List argues that free trade is beneficial for the countries at the same level of development, while infant industries need to be protected until they are able to compete on international markets. The policy of infant industry protection, “by a system of restrictions, privileges, and encouragements” were used by the Britain and the USA, but also Germany, France, Sweden, Belgium, Netherlands, Switzerland, and they lie behind the success of Japan and Asian newly industrialised countries (Chang 2003a).

Finally, not only do less developed countries need industrial policy in order to climb up the ladder of economic prosperity, but an “entrepreneurial state” is the main driving force of the most developed countries, which is our fourth argument in favour of industrial policy. Mazzucato argues that “the radical, revolutionary innovations that have fuelled the dynamics of capitalism - from railroads to the Internet, to modern-day nanotechnology and pharmaceuticals – trace the most courageous, early and capital-intensive ‘entrepreneurial’ investments back to the State” (Mazzucato 2013: 3). She argues that “the visible hand of the State” made possible for investments that have embedded radical uncertainty to happen (Ibid). She points out that “all of the technologies that make Job’s iPhone so ‘smart’ were government funded (Internet, GPS, touchscreen display and the recent SIRI voice activated personal assistant)” (Ibid). Thus, contrary to the wisdom of the mainstream economics, which perceives private sector as dynamic and risk-taking, in fact, as Mazzucato argues, the most risky and uncertain activities in the economy are undertaken by the State, which takes shapes and creates new markets. Moreover, as Weiss argues, whilst it was not titled as industrial policy, the majority of governments continued to intervene in markets, affecting the economy in a highly selective manner (Weiss 2013). These interventions have been described as ‘competitiveness policy’, and many countries have published programmes to raise competitiveness, usually focusing on incentives for R&D and innovation.

After we have presented arguments in favour of industrial policy, we will now turn to its criticism of industrial policy. To begin with, critics of implementation of industrial policy stress the problem of information. They argue that it is impossible for governments to identify with any degree of precision and certainty the relevant firms, sectors, or markets that should be supported (Rodrik 2007). Since the government cannot have all the necessary information, it can “miss its targets, support economic activities with no positive spillovers, and waste the economy’s resources”, which is usually phrased as “governments cannot pick winners” (Ibid). Moreover, it is argued that industrial policy opens doors for corruption and rent seeking (Ibid). If governments provide support to the firms, the firms may demand extra benefits and then distort competition, and they would also engage much more in asking support than they would look for the ways to expand markets and reduce costs (Ibid). However, as Rodrik points out, “none of this makes this area of policy different from conventional areas of government responsibility such as education, health, social insurance and safety nets, infrastructure, or stabilization” (Rodrik 2007: 36). In other words, the question is not whether a country needs an industrial policy, it is much more about how an industrial policy should be created and implemented. Stressing that each country is a specific case, Rodrik outlines three general principles about how institutions carrying out industrial policy should be designed (Ibid).

First of all, an industrial policy should be “embedded” within society. According to Rodrik, industrial policy should not be seen as a list of policy instruments, but rather as a process of discovery. A close collaboration between the government and the private sector is thus needed. Rodrik argues that the right model for industrial policy lies in between the two extremes of strict autonomy of the state, on the one hand, and private capture, on the other. “It is a model of strategic collaboration and coordination between the private sector and the government with the aim of uncovering where the most significant bottlenecks are, designing the most effective interventions, periodically evaluating the outcomes, and learning from the mistakes being made in the process” (Ibid: 39). He also outlines major institutions in support for industrial policy formulation and implementation, such as deliberation councils, supplier development forums, “search networks,” investment advisory councils, sectoral round-tables, and private-public venture funds. He also stresses that contests in which private sector firms bid for public resources are useful for eliciting private-sector needs and priorities (Ibid).

Secondly, using “carrots and sticks” in order to incentive and discipline economic actors is crucial. As it has been already mentioned, an infant industry should be protected for certain period, even though it makes losses. Moreover, innovation requires rents for entrepreneurs, without which there would be too little investment in the activities that promote structural change. In other words, incentives (“carrots”) need to be designed for economic actors in order to engage in Shumpeterian activities. However, at the same time firms must be disciplined and it must be ensured that they do not stay unproductive monopolies. In other words, as Rodrik argues “the conduct of industrial policy has to rely on both prongs: it needs to encourage investments in non-traditional areas (the carrot), but also weed out projects and investments that fail (the stick)” (Ibid: 41). Rodrik lists the following mechanisms used in order to bring discipline: conditionality, sunset clauses, built-in program reviews, monitoring, benchmarking, and periodic evaluation are desirable features of all incentive programs, requiring that an incentive expire unless a certain goal is reached. It is important that the evaluation criteria are clear and set in advance (Ibid).

Thirdly, accountability on the part of the state is essential. While business is monitored by bureaucrats, the bureaucrats need to be accountable for their policies and monitored by the general public. Rodrik argues that there need to be identified a person “who has the job of explaining why the agenda looks as it does, and who can be held politically responsible for things going right or wrong” (Ibid: 40). Moreover, accountability can be fostered at the level of individual agencies by giving them clear mandates and then asking them to report achievements and deviations. Finally, a fundamental tool for accountability is transparency. Thus councils should make publications of the activities. Also, periodic accounting of the expenditures made under industrial policies is needed. In addition, any request made by firms for government assistance should be public information and government-business dialogs should remain open to new entrants.

To sum up, we have argued that industrial policy, as a conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policies, is an indispensable tool for steering economic development. However, it needs to be carefully developed and implemented. Now, we will turn to Serbian industrial development.

INDUSTRIAL DEVELOPMENT AND INDUSTRIAL POLICY IN SERBIA

A period of rapid industrialization of Serbia, after the Second World War, took place on the model of industrial centres. There were formed 26 big, 22 medium- sized and 114 small industrial centres by 1960s (Strategy and policy of industrial development in Serbia in the period 2011 – 2020 2011; hereafter Strategy 2011). For most of the development after the Second World War, Serbian industry has been growing at very high growth rates. An average growth rate of 7.7% was recorded between 1953 and 1990 (Savic, Boskovic 2011). Particularly satisfactory growth rates were achieved in the seventies, while the first difficulties manifested during the 1980s. An average growth rate during the 1980s was only 1 per cent, and in some years it recorded negative rates (Ibid). Serbian industry

experienced a breakdown during the last decade of the twentieth century, when the average rate of growth of Serbian industry was negative (-6.6%). The process of transition after the 2000s resulted in further devastation of Serbia's industry. Serbian economy is characterised by the very slow recovery to pre-transition peak. Serbia's economy in 2008, before the global recession, reached only about 80% of GDP of the year 1990, while the industry has been at the level of 50% of the output in 1990. In fact, Serbia is the only country in transition, which has not yet reached level of industrial production from 1989.

Figure 1. Indices of industrial production, 1945–2000 (1990=100)



Source: Strategy and policy of industrial development in Serbia in the period 2011 - 2020

The average growth rate of GDP in the period 2001-2012 was 3.0 %. In particular, during the period before the economic crisis (2001-2008) the growth rate of GDP was 4.9%, while in the period 2009-2012 there was a decrease of GDP at an average rate of 0.7 %. However, economic growth was based on privatisation followed by low level of technological development, employment reduction, as well as loss of intellectual resources, which led to negative technological progress.

The GDP structure has changed significantly during the period 2001-2012. A characteristic of the period 2001- 2012 is a faster growth of the service sector compared to the manufacturing sector. Although industrial output has been growing on an annual average rate of 0.2%, manufacturing recorded negative growth (-0.1%). There was a significant decline in the share of the sector of agriculture, forestry and fishing (-9.1 %) and manufacturing (-5.4 %) in the total GDP, while there was an increase in the service sector's share in GDP in 2012 as compared to 2001 of 9.5%. In short, a dominant concept of transitional reforms based on liberalization, privatization and structural changes in the period since 2001 led to deindustrialization of the economy, when manufacturing sector has been practically devastated.

Table 1. Growth rate and share of GDP of different sectors in Serbia 2001-2012

	Average growth rate 2001-2012	Share of GDP 2001	Share of GDP 2012	Difference 2012-2001
Agriculture, forestry and fishing	0.1	19.5	10.4	-9.1
Industry	0.2	24.6	23.5	-1.1
Manufacturing	-0.1	21.7	16.3	-5.4
Construction	4.2	3.3	4.3	1.0
Services	3.9	52.6	62.2	9.6
Trade	7.5	7.5	10.8	3.3
Transportation and storage	3.3	4.5	5.3	0.8
Information and	14.3	3.7	5.4	1.7

	Average growth rate 2001-2012	Share of GDP 2001	Share of GDP 2012	Difference 2012-2001
communication				
Financial and insurance activities	5.6	2.6	3.8	1.2
Real estate activities	1.9	14.4	11.9	-2.5

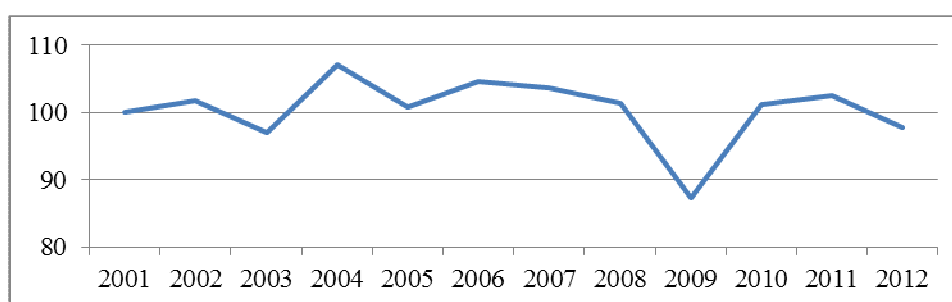
Source: Report on Development of Serbia 2012

Table 2. Indices of industrial production, 2001–2012 (Previous year = 100)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
111.4	100.1	101.8	97.0	107.1	100.8	104.7	103.7	101.4	87.4	101.2	102.5	97.8

Source: Statistical Office, Republic of Serbia

Figure 2. Indices of industrial production, 2001–2012 (Previous year = 100)



Source: Statistical Office of the Republic of Serbia

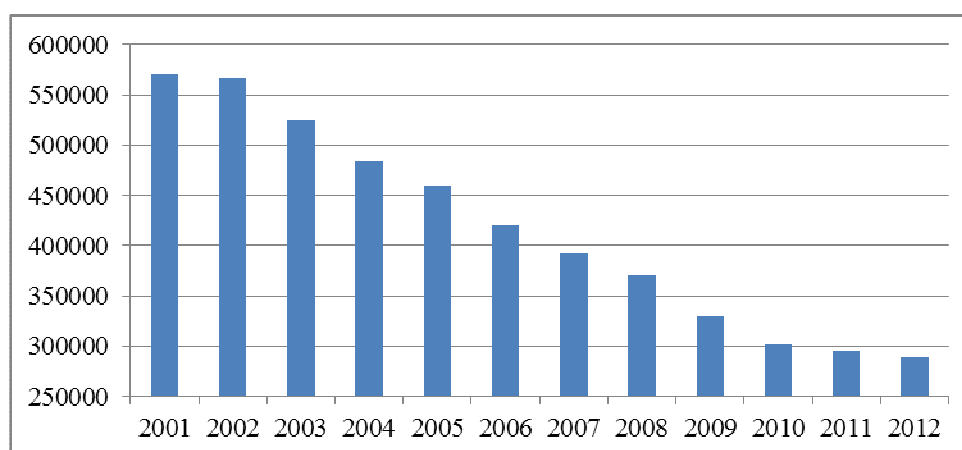
Employment in Serbian industry fell sharply in the period 2001 – 2008, from 619000 employees in 2001 to 439000 in 2008. At the same time, number of employees in industry increased in transitional countries such as Bulgaria, Czech Republic, Romania and Slovakia. During the period 2001 – 2012 a number of employees in manufacturing virtually halved – from 570608 to 289286.

Table 2. Employment in Industry in Selected Countries in Transition

Country	2001	2008	+/-
Bulgaria	645000	737000	92000
Czech Republic	1396000	1441000	45000
Hungary	959000	934000	-25000
Romania	1895000	1967000	72000
Slovenia	257000	237000	-20000
Slovakia	517000	544000	27000
Serbia	619000	439000	-180000

Source: FREN, Serbian Post-Crisis Economic Growth and Development Model 2011-2020

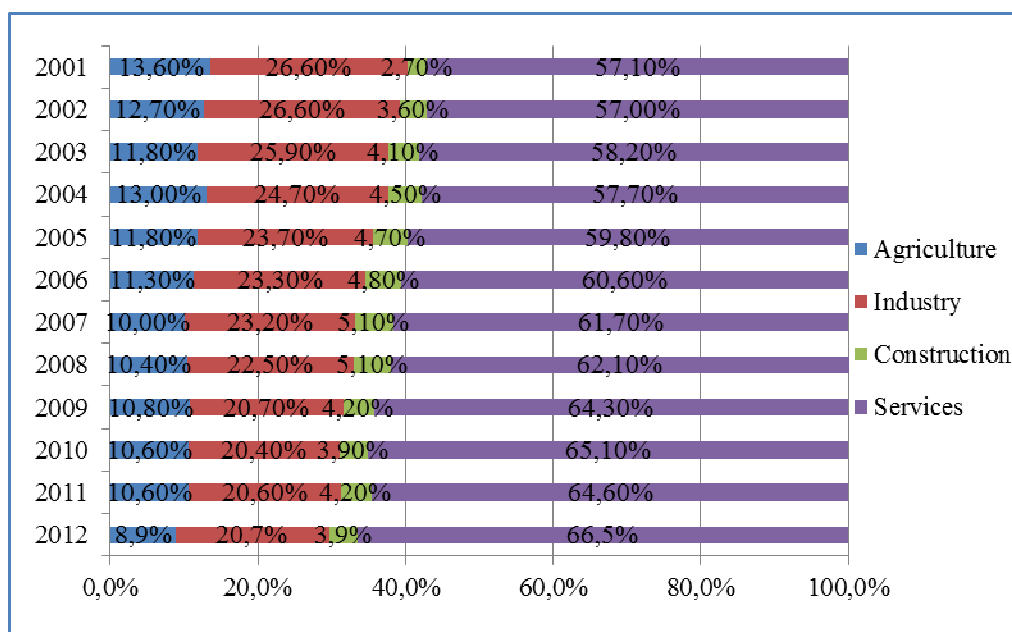
Figure 3. Employment in Manufacturing in Serbia in the period 2001-2012



Source: Statistical Office of the Republic of Serbia

Despite the large decrease in the number of employees in industry, a share of industry in labour productivity of Serbia has been diminishing since 2001. The labour productivity of each sector is calculated as the sum of GVA per employee of each sector, weighted by the sector's share in the total number of employees in Serbia. In other words, the competitive position of each sector is not only determined by the amount of value added that each worker creates, but it also depends on the sector's rate of employment. While share in productivity of industry was 26.6% in 2001, it was 20.7% in 2012.

Figure 4. Sectoral contribution to labour productivity



Source: Report on Development of Serbia 2012

The existing technological structure of manufacturing industries is unfavourable (Ibid). In Serbian manufacturing low technology (49.9 %) and medium-low (25.6 %) predominate and they have in total a share of 75.5%.

Table 3. The structure of the manufacturing industry

	2001	2002	2003	2004	2005	2006	2007	2008	2009
High-technology	0,6	1,6	0,7	2,7	2,3	1,4	1,2	1,0	0,9
Medium-high- technology	25,6	26,4	23,2	24,8	24,7	22,7	23,4	24,3	23,6
Medium-low-technology	25,5	26,2	27,7	25,4	27,0	28,3	27,4	27,6	25,6
Low-technology	48,3	45,8	48,4	47,1	46,0	47,6	48,0	47,1	49,9

Source: Strategy and policy of industrial development in Serbia in the period 2011 – 2020

Moreover, Serbia's foreign trade in the period 2001-2012 is characterized by high deficits and unfavourable export structure. The structure of Serbian exports is dominated by the products of the lower stages of processing (over 55%), largely raw materials and semi-finished products. These are mostly primary and labour- and resource-intensive products making unfavourable export structure. Serbia's economy depends on the product of low technological intensity, which recorded a growth in foreign trade in the 2011. The companies have increased the exports of medium-high- tech products, but, on the other hand, volume of trade in high-tech products recorded the highest decline in real terms by 18.8% compare to 2010 year. Thus, Serbian exports are dominated with low added value.

Table 4. Annual real rate of growth / decline in the total volume of foreign trade in 2011 to 2010 (%)

	Total
Manufacturing	3.0
Low-tech	2.5
Medium-low-tech	-0.5
Medium-high-tech	17.6
High-tech	-18.8

Source: Report on Development of Serbia 2012

To sum up, Serbia is experiencing a process of de-industrialisation in the past twenty years. During the period 2001-2012 its industry has been growing at an average annual rate of 0.2%, but it however still did not reach the output of the late 1989. The share of industry in GDP has been decreased, as well as share in the labour productivity of the country. Moreover, employment in industry has sharply decreased. Serbian exports are dominated mostly by labour- and resource-intensive products making unfavourable export structure, with low value added. Using Reinert's words, Serbia is exporting products of Malthusian activities, and thus changing export structure can only be achieved by changing the structure of the entire economy. The next question we will address is whether Serbia has had an industrial policy during this period.

The economic transition after 2000 was based on a neoliberal model of privatisation and liberalisation. Thus, Serbia did not explicitly define an industrial policy. However, there have been certain incentives for economic actors on the part of Government. In particular, institutional instruments of the Government and the Ministry of Economy and Regional Development for foreign direct investment and export promotion are framed by the formation of the Serbian Investment and Export Promotion Agency (SIEPA) and the Agency for Export Insurance and Financing (AOFI). Incentives (subsidies for greenfield investment) were routed in the manufacturing sector and the services that can be traded internationally (except for retail sale, tourism and agriculture). The main criteria have been the job creations, and grants are approved depending on the type of investment (Ibid).

Export incentives have been in form of grants to small and medium-sized companies to fund activities that contribute to the increase in exports, while export credit and insurance (over AOFI) has provided short-term loans to export companies.

Incentives for economic and regional development have been provided through the Development Fund of the Republic of Serbia, the National Investment Plan (since 2006), various forms of state aid funds and foreign aid. From these sources in the period 2001-2009 through the various incentive instruments total amount of over 6.6 billion euro for 18,838 projects in different areas of the economy has been invested (Ibid).

Table 4. Budget funds for programs of the Government for subsidies and credit support in the mill. RSD

Sector	2002	2003	2004	2005	2006	2007	2008	2009	2010
Transportation system assets	1.658,8	1.848,0	1.640,0	1.347,5	1.435,0	1.365,2	1.839,7	1.653,7	1.229,4
Metal complex	1.305,6	1.408,6	882,5	805,5	754,0	621,7	696,5	710,3	909,5
Metallurgy	1.210,0	843,0	743,5	496,5	211,5	297,0	96,1	95,0	11,0
Textile and leather	372,7	419,8	379,2	390,0	360,5	122,7	151,0	143,0	198,2
Chemical Industry	397,7	430,5	420,5	406,0	330,5	295,5	215,2	343,4	13,9
Processing of non-metals	182,5	305,0	231,5	210,5	285,5	45,5	172,2	74,2	111,0
Electrical machinery	237,7	376,5	244,0	156,0	120,5	130,5	247,6	230,2	205,0
Food industry	137,5	211,0	65,0	-	-	-	-	16,4	-
Wood industry	132,0	121,0	149,5	174,0	161,0	12,5	16,5	3,0	78,0
Industry - total	5.634,5	5.963,4	4.755,7	3.986,0	3.658,5	2.890,6	3.434,8	3.269,2	1526,6
Construction	127,5	138,0	167,0	199,0	160,0	121,0	46,2	32,3	7,2
Total (I + G)	5.762,0	6.101,4	4.922,7	4.185,0	3.818,5	3.011,6	3.481,0	3.301,5	1533,8

Source: Strategy and policy of industrial development in Serbia in the period 2011 – 2020

Although Serbia did not have an explicitly defined industrial policy, certain incentives in form of subsidies and credit support have been provided to the industry. However, as the above presented data indicate, these incentives did not have positive effects on industrial development of Serbia.

It was only in 2011 when Government of Serbia adopted a *Strategy and Policy of Industrial Development of Serbia 2011-2020*. However, industrial policy is defined within this document as implementation of measures and policies in order to facilitate and encourage emergence of new enterprises in general (Ibid). It stresses that liberalisation and privatisation are the main concepts of industrial policy. Thus, it is not seen as conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools, as industrial policy is defined within this paper. We are of the opinion that, contrary to the main pillars outlines in the *Strategy and Policy of Industrial Development of Serbia 2011-2020*, in order to steer economic development, government needs to design incentives for particular sectors and firms as their components, as well as tools to discipline economic actors. We are of the opinion that devastated industry of Serbia cannot recover without conscious efforts on the part of government.

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

339.923:061.1EU(4)(082)
338:339.137.2(082)
338.124.4(100)(082)
339.5(082)
336(082)
338.1(1-773)(082)

INTERNATIONAL Scientific Conference Economic
Sciences on the Crossroad (2013 ; Belgrade)

Economic Sciences on the Crossroad :
proceedings from the international conference
/ International Scientific Conference on the
Occasion of the 55th Anniversary of the IES,
[4th December], Belgrade, 2013 ; [organized
by the Institute of Economic Sciences
Belgrade] ; editors Ivan Stošić ... [et al.].
- Belgrade : Institute of Economic Sciences,
2013 (Beograd : Čigoja štampa). - XII, 681
str. : graf. prikazi, tabele ; 30 cm

Tiraž 300. - Napomene i bibliografske
reference uz tekst. - Bibliografija uz svaki
rad.

ISBN 978-86-89465-10-5

1. Institute of Economic Sciences
(Belgrade)

a) Европска унија - Придруживање -
Зборници b) Привреда - Конкурентност -
Зборници c) Економска криза - У свету -
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e) Привредни развој - Земље у развоју -
Зборници f) Међународна трговина - Зборници
COBISS.SR-ID 203893004