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# Challenges of Industrial Development of Serbia

**Summary:** Built upon education ideologies of the previous century, development of Serbian industry is not able to meet global demands of the modern, 21st century market. Innovative ongoing processes in technology and all industrial branches are global and ever more rapid, and they are circumventing the SEE region. The economic structure of Serbian industry at the beginning of transition was two decades old. At the beginning of 2009, after eight transition years, a short economic transition summary is as follows: the trailing caused by the events of the 1990s is very hard to cope with and we are only half through with this task; on the other hand, we are lagging behind EU-15 and EU-10 more and more. Apart from the analysis of structural non-adjustment of the industrial system and its impact on the macroeconomic balance, the paper underlines a significant role of the state in the formulation of industrial policy.

**Key words:** Industrial challenges, Macroeconomic effects, Structural changes, Competitiveness, Industrial policy.

**JEL:** O10, P30, L50.

*‘Everything in the world can be bought with labour,  
and our wishes are the only cause of our labour’  
/D. Hume/*

Foreign trade increases economic wealth of a country; it increases ‘the labour fund of a nation’. The central role in export activities of Serbia is played by the industry. However, Serbian industry is burdened with issues such as structural discrepancies, obsolete technology, a low level of investments, high production costs, the social function still dependant on companies, inefficiency, ecological requirements, but also low exports, incompatibility with the EU standards, and a lack of comprehension of industrial processes in the EU. The lag behind the EU industry is increasing. A pretty bleak transition picture of Serbian industry is further aggravated by the world economic crisis which slows down and prolongs the process of industrial restructuring, and increases its costs. The world economic crisis must not be a reason for the delay and deceleration of reform processes.

Serbian industry, following a decade long devastation, is only half way through to catching up with the 1990s. Transitional cumulative growth of industry during the period 2000-2007 is among the lowest compared to other transition economies (Poland 84%, Bulgaria 76%, Slovakia 61%, Romania 41%, B&H 81%, Hungary 55%, and Croatia 40%). Sustainability of the macroeconomic model and its key variables such as exports (the necessary average annual growth at 20%) and FDI (minimum at \$2bn) exclusively depends on manufacturing industry since its share in GVA of 15% contributes to overall exports with 95% (Republic Development Bureau – RDB, 2009a).

The paper consists of two parts: (a) the analysis of industrial challenges in the EU and SEE, and (b) the structural analysis of Serbian industry with a special emphasis on transition macroeconomic performances. Methodology-wise, in the paper the method of time series has been used which over the past several years has been widely promoted in research analyses of the European Commission (EC).

## 1. Challenges of EU Industry

A development priority of the European Union is to undertake structural changes in industry and strengthen its competitiveness. Manufacturing industry is the most important section of the EU economy – it drives its growth and propels its technological and innovation development. Through its new industrial policy, the EU endeavours in particular to stimulate the development of electronic, car and chemical industry, biotechnology, ICT, and space technology. Entire EU legislation in the segment of industrial policy is tailored to the protection of environment and natural resources. In all the fields of industrial policy there are ecological and social standards prescribed and each company must comply with them.

The latest economic analyses show that in terms of industrial development the EU is significantly lagging behind the USA, Japan, and China. The EU tried to respond to global challenges and ever stronger competition by means of the Lisbon Strategy (Iain Begg 2007). One of the goals of the EU industrial policy is permanent enforcement of competitiveness, protection of industrial and intellectual property, and reduction of costs incurred through compliance with high ecology, energy, and social standards. The backbone of competitive EU industry is development of new technologies and innovations, which is why the EU allocates huge funds for stimulation of research and creation of environment which fosters innovativeness. Through a horizontal approach, i.e. coordination of several policies (free movement of goods, protection of rights and intellectual property, public procurement, market competition policy, environment protection), the EU manages to strengthen the entrepreneurial sector since entrepreneurs drive employment (more than 75 million of employees in 23 million enterprises) and innovation.

Although the industrial picture varies from sector to sector, the EU industry contributes to its growth with 20%, an average growth over the last two years has been at 2.6%; it accounts for as much as 80% of expenses of research and development of the private sector and, which is critical, 73% of EU exports.

At the same time the EU industry intensified growth of service sectors and substantially increased employment in these sectors. Since 2001 the EU industry has been recording a continual rise in employment, investments in new technology, specialization and productivity of labour (2.6% annually on average in 2001-2006, while in overall economy labour productivity rose by 1.1%). However, the USA productivity is still at a much higher level. Generally speaking, the EU industry is highly specialized in medium-tech industries, while in the field of high-tech fast growing industrial sections it still trails. European companies make weak use of advantages offered by fast growing ICT technologies. Reallocation of resources towards most

productive industrial companies in the EU is still slow<sup>1</sup>. The main reason for this lies in the rigidity of EU legislation. Almost all analyses of the EC over the last two years have shown that overregulation of the European market hampers further development of EU industry (Commission of the European Communities 2008a). Overregulation hinders introduction of innovation, establishment of new companies and growth of existing ones. Regulation is most present in pharmaceutical industry, industry of food and motor vehicles, and that with respect to safety, health, and protection of environment that according to EC recommendations should ensure a more flexible way of realizing industrial policies and goals. In order for the EU industry to be more competitive and efficient on the international market, first and foremost it must provide a competitive and open market of its own in order for its innovation potential to be larger.

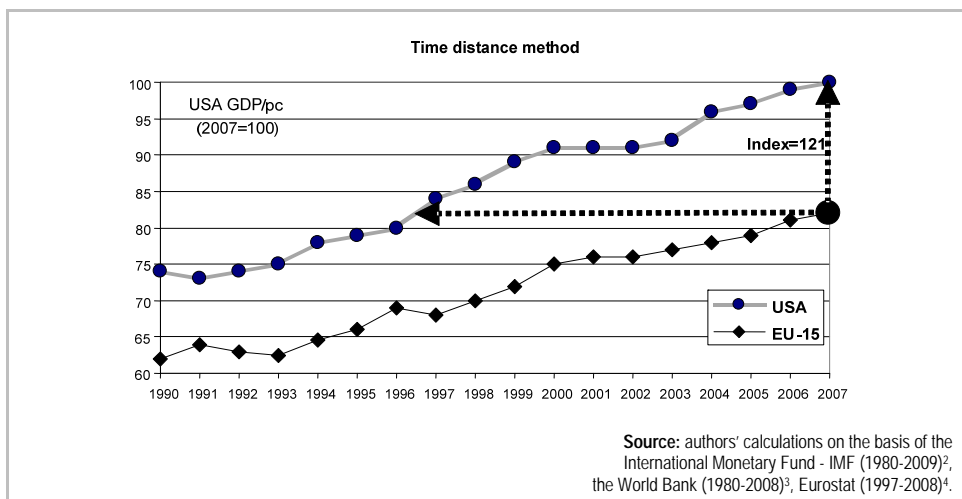


Figure 1 EU-USA Economic Lag

The EU is not content with dynamics of its own reforms; that the discontent is founded is substantiated by statistics. 'Average income in EU-15 was lower by almost a third in comparison with the Organization for Economic Cooperation and Development (OECD) economies; while more than a third of active population is unemployed'. According to the OECD data, most reforms in the EU that fostered economic growth date back to 1990s. The world economic crisis further slowed the progress. The trail of the EU behind the USA is obvious; in the EU there is a rather

<sup>1</sup> It was estimated that a quarter of most productive companies in the USA was by 34% more productive and created by 6% larger rise in employment.

<sup>2</sup> International Monetary Fund. 2009. World Economic Outlook Databases. <http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>

<sup>3</sup> The World Bank. 2009. Key Development Data & Statistics. <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1192694~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>

<sup>4</sup> Eurostat. 2009. [http://epp.eurostat.ec.europa.eu/portal/page/portal/national\\_accounts/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database)

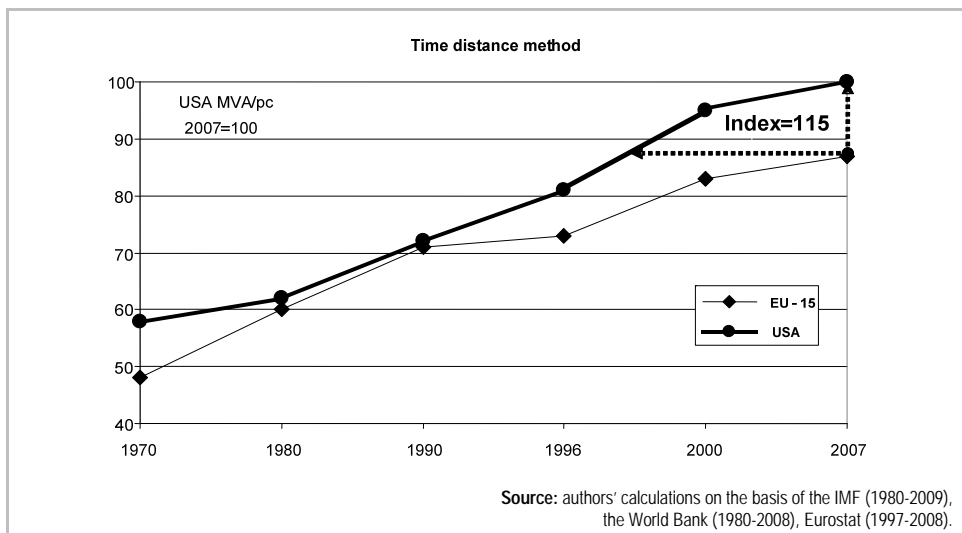
large gap in GDP *per capita* compared to most developed OECD economies that has expanded over the last decade. For instance, most developed countries in Europe (Germany, Switzerland, France, Sweden, and Denmark) manage only 75% of the standard of living of the USA (measured through GDP by purchasing power). If we recall 1946, we will see that back then Western Europe had less than 50% of GDP/*capita* in relation to the USA. Owing to the single market of EEC, in 1991 the difference was at its historical minimum – it stood at 13%. The period after 2000 has been characterized by the trend of growing economic lagging behind of most developed EU members - in 2007 the economic gap was at 21%. Translated into the language of time series, most developed economies of EU-15 lag more than 10 years behind the USA (Pavle Sicherl 2007).

Reasons for this lie primarily in the sector of employment. The level of employment significantly lags behind that of the USA and Japan; more than a third of working population (aged between 15 and 64) is not active. Employees in Europe still begin to work late and make an early retirement. For instance, 72% of working population in the USA is employed, in Japan 70%, while in the EU the figure is below 65%. In spite of clear conclusions of the Lisbon Strategy stipulating that the objective is 70% of employees, the economic progress was not attained. On the other hand, in late 2008 the problem of unemployment erupted at full intensity. Today in the EU there is 8% of the unemployed, while in the USA the rate is twice as small (4.2%). An additional problem lies in the labour market not being open enough. '*We condemn protectionism, both in trade and investment*' (Anhel Guria<sup>5</sup>, Organization for Economic Cooperation and Development 2007).

Challenges of globalization (Tony Addison 2009) and its impacts on the EU industry have been larger year in, year out. A continual fall in transaction and communication costs, coupled with an unlimited supply of cheap labour, a high rate of investments and a rising offer contributed to the boosting of international trade. In 2002-2006 foreign trade was rising on average by 17%, but by only 3% over the past five years. The EU retained its share in world trade of 15% of the global export of goods; the share of the USA fell (9%), while China managed to double its share and became the second largest world exporter after the EU. The EU is still well-positioned in industrially 'highly demanded segments' (*upmarket*) where consumers pay an extra price for quality, brands, or special services. These specialized (*upmarket*) EU products account for 1/3 of global demand and present 1/2 of EU exports (apart from luxury goods, this segment includes agro-industrial products, intermediate goods, machinery, and transport equipment). The best known representatives of the EU industry are world leaders in the field of telecommunications, distribution, finances, insurance, and environment protection services. Nevertheless, the EU is still the greatest exporter of a large variety of products of medium-tech industrial sections. As opposed to this, export of industrial high-tech products accounts for only 18% of European exports, while in the USA it accounts for 27% of exports and 22% in Japan.

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<sup>5</sup> *The Economist* (2007).



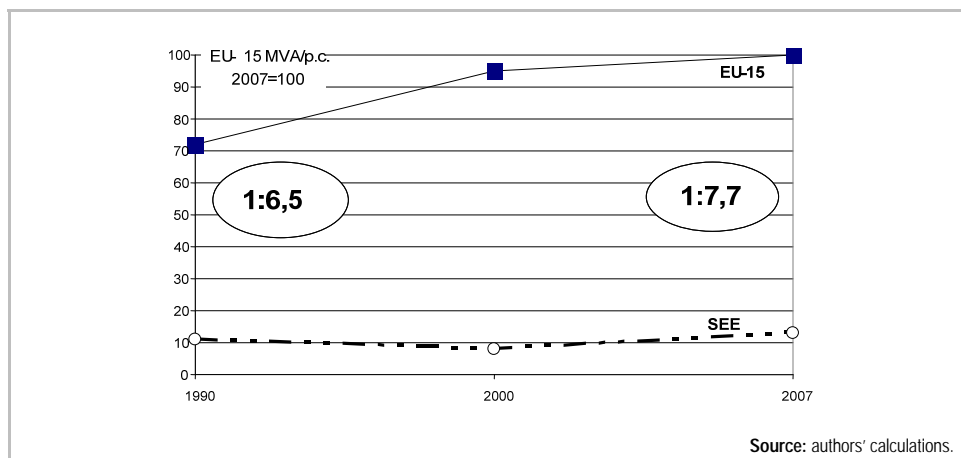
**Figure 2** EU-USA Industrial Lag

The EU industry trails most in the field of research and development. Acceleration of technical progress and dynamic growth of new industrial sectors such as nano-technologies and new energy technologies that offer a wide range of new products present new challenges the EU industry is faced with. All the relevant indicators on innovation and R&D show the EU lags behind the USA and Japan a lot, especially in applied R&D. The lagging behind of the EU is further indicated by the fact that in industrial companies of highly intensive sections only 36% of R&D refers to business (applied) R&D, as opposed to 67% in the USA. An obvious conclusion is that stimulating environment for development of high technologies in the EU is not created and that the EU industry is facing great problems. The openness for competition of the EU market has direct implications not only for innovation potentials of EU industrial capacities, but it also affects macroeconomic performances of the EU.

## 2. Trailing of SEE Industry

Industry of Southeast Europe is slowly adapting to the process of globalization (Dani Rodrik 2008). Admittedly, the position of all small economies dramatically worsened after the disappearance of the bipolar world. In the second half of the 1990s European transition economies, except for the SEE, had a dynamic economic growth primarily owing to the rise in investments, personal consumption, and a larger export of goods and services. In 1995-2000 in transition European economies there were substantial changes to the structure of industrial output. The greatest drop was registered in labour intensive sections (food, textile and wood processing industry, while on the other hand extremely dynamic growth was registered with industries based on utilization of state-of-the-art technologies and economies of scale: electro industry and industry of precision devices (in all countries), manufacture of office equipment (Hungary), and manufacture of motor vehicles (in all countries except Estonia).

Economic growth in transition European economies continued into the new millennium and lasts until today. Thus transition countries of East Europe, which are members of the EU, also have a substantially high level of industrial output owing to high average rates of growth over the last eight years (OECD 2006, World Economic Forum 2008, the World Bank 2008).



**Figure 3** SEE-EU Gaps in Industry

The undertaken market reforms, FDI inflow, and structural changes in production and export contributed to most transition economies of Central and East Europe in such a way that the increased their export performances substantially, which lifted entire industries of these countries to a higher level. Naturally, a key role in the process of export increasing was played by the EU market, and that not only because of geographic and location factors, but also owing to the fact that new EU members on this market boast certain comparative advantages; this is why significant industrial capacities from highly developed industrial economies of the EU were dislocated to transition economies. An industrial advantage of transition economies lies in those branches of industry that rely on skilled, but at the same time cheaper and more productive labour.

In transition economies the key factor which influences growth of GDP is a dynamic growth of the industrial sector. Growth of the industrial sector in countries of Central and East Europe (EU-12) indicates improvement of their international competitiveness.

Processes of integration of SEE countries into the EU are still not complete. Economies of transition countries (in particular Balkan countries) are very slow to catch up with the level of the standard of living of developed western economies (Commission of the European Communities 2006a, 2008b). SEE is the least developed territory in Europe (Edvard Jakopin 2008a, Republic Development Bureau 2009a). Industrial output in SEE countries significantly lags behind the group of countries of Central Europe (EU-10) that acceded to the EU in 2004. A high level of industrial output (above 50%) in 2007 compared to 2000 was realized in: Czech Re-

public, Estonia, Hungary, Lithuania, Poland, Slovakia, Bulgaria, and Bosnia and Herzegovina.

### 3. Transition Serbian Industry

As different from the stated successful countries undergoing transition, which owing primarily to market reforms and intensive foreign direct investments carried out specialization of production and its structural adjustment to the needs of foreign import demand, industrial production in Serbia is faced with rather different tendencies that impact on export activity and the position on the international market. Key problems are insufficient exports (a consequence of non-competitiveness of Serbian industrial products) and insufficient foreign direct investments (greenfield). An inadequate level of foreign investments leads to a small export supply since it slows down modernization of production, especially industrial one.

Serbia has still not caught up with the economic lag generated in 1990s. After 8 transition years a short macroeconomic report would read: owing to a dynamic economic growth the gap that exists in relation with other transition countries was reduced, but at the end of 2008 GDP of Serbia was down in real terms by about 15% on 1990. In the previous period of economic transition Serbia has recorded one of the highest average growth rates of GDP on the territory of SEE (an average growth of GDP in 2004-2008 was at 6.8%), the standard of living improved significantly (an average real rise in earnings over the past 8 years was at 14.2%), but the level of the standard of living is still among the lowest in Europe, the purchasing power being at only 37% of the average in EU-27. At the same time foreign macroeconomic stability deteriorated because of the increase in foreign trade and current balance of payment deficit.

**Table 1** Transition Assessment of Industry 2001-2008

Indicators	2001	2002	2003	2004	2005	2006	2007	2008
<b>Economic growth<sup>1</sup></b>	+	+	+	+++	++	++	+++	++
<b>Industrial growth<sup>2</sup></b>	+	+	-	+++	+	++	++	+
<b>Industrial employment<sup>3</sup></b>	---	---	---	---	--	---	---	--
<b>Privatization and restructuring<sup>4</sup></b>	--	--	+-	--	++	--	--	--
<b>Competitiveness<sup>5</sup></b>	-	-	-	-	-	+	+	-
<b>Unit labour costs<sup>6</sup></b>	---	---	--	-	-	-	--	-
<b>Inflation<sup>7</sup></b>	--	-	+	-	--	+	-	+
<b>FDI<sup>8</sup></b>	-	-	+	-	+	+++	++	++
<b>Current account deficit<sup>9</sup></b>	-	--	-	--	-	--	---	---

Key:

<sup>1</sup> GDP growth: + lower than 5%, ++ between 5-7%, +++ higher than 7%

<sup>2</sup> Industrial growth: - negative, + positive up to 3%, ++ between 3-5%, +++ higher than 5%

<sup>3</sup> Industrial employment: --- fall of above 5%, -- fall of 3-5%, - fall of 0-3%

<sup>4</sup> Privatization of large companies and restructuring (EBRD indicators): - no change, + rise, ++ rise of more than 1,

<sup>5</sup> Competitiveness policy (EBRD indicator): - no change, + rise, ++ rise of more than 1,

<sup>6</sup> Unit labour costs: --- two-figure rise, -- rise 5-10%, - rise up to 5%, + negative rise (fall)

<sup>7</sup> Inflation: -- above 15%, - between 10-15%, + below 10%

<sup>8</sup> FDI net: - below \$1bn; + between \$1-2bn; ++ \$2-3bn; +++ above \$3bn

<sup>9</sup> Current account deficit: --- larger than 15% GDP; -- 10-15% GDP; - below 10% GDP

Source: authors' calculations on the basis of the RDB (2001-2008).

However, positive macroeconomic results are outweighed by dramatic challenges Serbian industry is to encounter. Transition industrial growth of 18% (of 2.2% on average annually in 2001-2008) only cushioned the demise of the 1990s, and so **industrial output in 2008 was at only 52% of the industrial output of 1990. The situation is most dire in the segment of employment – today in Serbia 250,000 less people work, i.e. there is 35% less industrial workers than in 1990.**

The contribution of industry to GDP growth is smaller year in, year out. Manufacturing industry accounts for about 16% of GDP growth, which compared to all transition economies is very low (in Czech Republic it is at 27%, in Croatia 25%, Hungary 23%, Slovenia 24%, Slovakia 22%, and Macedonia 19%). Structural changes in industry are slow and inefficient (reports prepared by European Bank for Reconstruction and Development – EBRD, 2001-2008), in particular in privatization and restructuring of large economic systems and competitiveness policy.

Effects of the global financial crisis were first felt on the territory of SEE in the last quarter of 2008. EBRD Transition Report for 2008 displayed 23 improvements for 14 countries in various reform areas. What is positive is that the fastest rate of the reform process was with SEE countries that reached 12 improvements, which overall signals a relatively low position of these countries on the transition scale as well as delayed commencement of transition reforms. SEE countries had only one improvement of the transition indicator, which can be accounted for by the fact that they managed to reach a significant level of transition reforms before becoming EU members in 2004. However, in the second and third phase of reforms they are to focus on progressing in segments of corporate management, competitiveness, commercialization of infrastructure, and development of non-banking financial institutions.

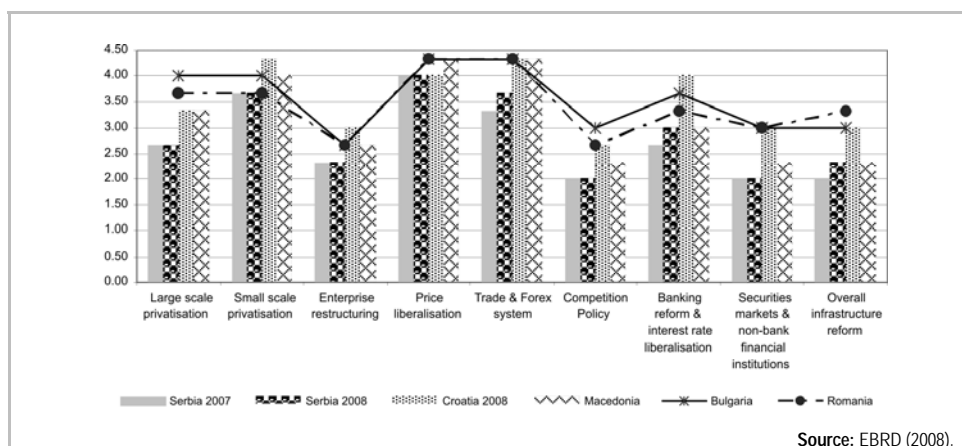


Figure 4 EBRD Transition Indicators 2008



EBRD *assesses* that Serbia boasts potential for high economic growth, but it is necessary to improve the business climate and accelerate privatization and restructuring. EBRD *warns* that in spite of the fact Serbia has a high economic growth, the problem lies in a high level of inflation and balance of payments deficit. Given that the monetary policy in Serbia is restrictive, it is necessary to ensure through fiscal policy that public consumption is kept in check. According to the EBRD assessment, privatization of large companies in Serbia is making a very slow progress. Serbia also needs to develop its infrastructure and what lies before it are structural reforms in sectors of energy supply, transport, and telecommunications. Corruption is still a huge problem not only in Serbia, but also in many other countries in the region. EBRD *recommends* the state in its development plans should prioritize completion of privatization, improvement of the quality of infrastructure, and maintenance of macroeconomic stability (EBRD 2008). Investments are important for reforms as well since they bring along new skills and new technology.

### 3.1 Fall in Industrial Employment

A fall in industrial employment is regularity in the period of transition. All transition economies had a problem of redundant employees in industry, but after several years, following privatization (Steven Barnett 2000) and restructuring, they managed to stabilize the sector of industry and even to increase the number of industrial workers. For example, Czech Republic (1.5m industrial workers), Poland (3.3m), Bulgaria (750,000), and Slovakia (577,000) since 2004 have continually been recording growth of industrial employment, whereas Hungary (950,000), Slovenia (250,000), and Romania (2.3m), with some oscillations, have retained a constantly high industrial employment rate. After a decade of devastation, the transition process in Serbian industry is grueling, complex, and slow, and lags a lot behind similar processes in neighbouring countries. Two main dimensions of transitional reduction of industrial employment are its section and regional dimensions. A section fall in industrial employment is the largest in textile industry, food processing, the section of metal industry, and chemical industry.

**Table 2** Section Drop in Employment in Manufacturing Industry 2001-2007

Food		Textile		Metal complex		Chemical	
Total decrease	Index 2001=100	Total decrease	Index 2001=100	Total decrease	Index 2001=100	Total decrease	Index 2001=100
27,000	74	56,000	40	34,000	61	14,000	64

Source: authors' calculations.

A regional dimension of the drop in industrial employment has its special and not only economic weight. The industrial regional map no longer includes 34 industrial centers where more than 1,000 people worked in industry.

**Table 3** Collapse of Large Industrial Systems (LIS)

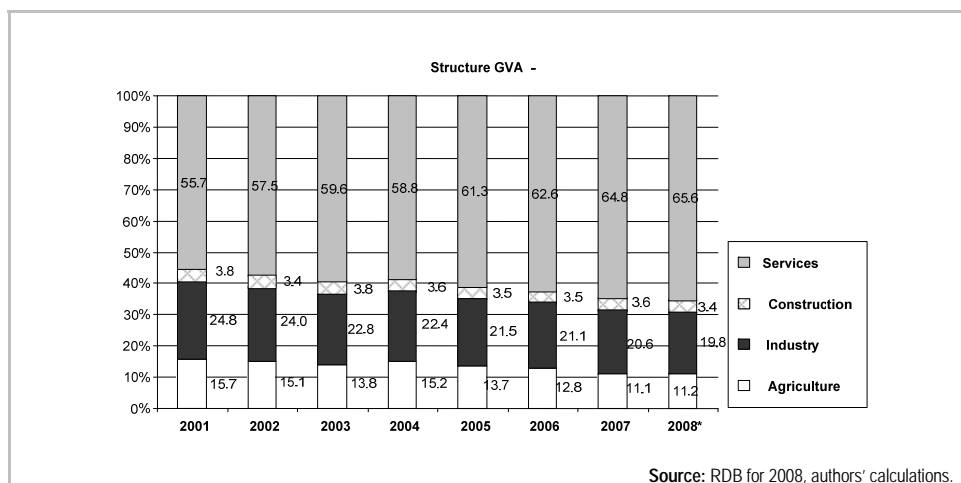
Indicators	1990	2007	Index (2007=100)
Ind. centers-towns with more than 1,000 workers	62	28	45
LIS with more than 1,000 workers	217	55	25
Industrial workers employed in LIS with more than 1,000 workers	682,000	127,000	19

Source: authors' calculations.

The fact that every 4th large industrial system 'survived' the transition (1990-2007), i.e. every 5th worker who was employed in a large industrial company speaks volumes. A large drop in employment in the largest industrial centers – mainstays of development of entire regions caused dramatic changes to the economic, social, demographic, and spatial dimension of development of Serbia.

### 3.2 Structural Changes

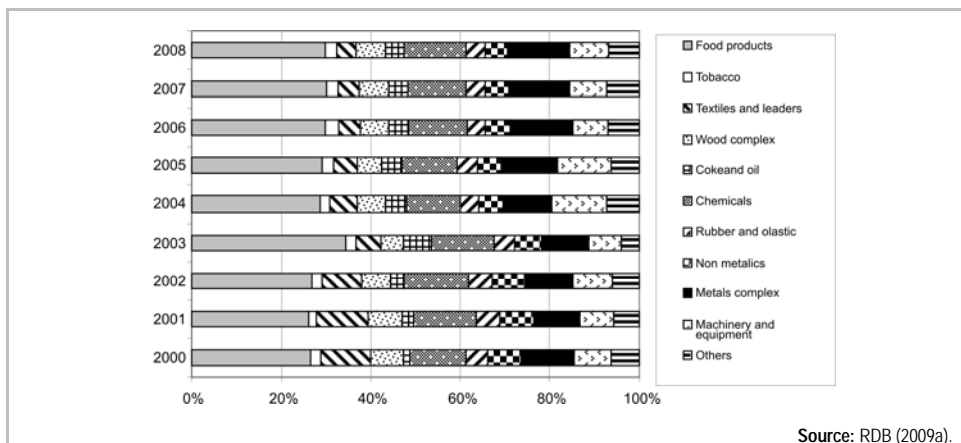
The structure of Serbian economy at the beginning of transition in 2001 was two decades old. The last 8 transition years have changed the economic structure a lot. The ownership structure as well as the profit, section, and the structure of employees all changed.

**Figure 5** Structural Changes in Serbian Economy 2001-2008

Transition growth of GDP was primarily based on the growth of the sector of services. In 2008 compared to 2001 in the structure of GVA the share of the sector of services rose from 55.7% in 2001 to 65.6% in 2008. Over the past transition period the share of industry fell from 24.8% to 19.8%. The share of agriculture is high although it decreased from 15.5% in 2001 to 11.2% in 2008 too.

Changes to the industrial structure over the last 8 transition years have mostly had a negative sign (*Figure 6*). Food industry together with the metal complex and

chemical industry increased its share and they account for 57.2% of manufacturing industry (52.4% in 2000). The largest drop was registered with traditional labour-intensive sections, in particular textile industry (its share dropped 2.5 times) and non-metal industry.



Source: RDB (2009a).

Figure 6 Structure of Manufacturing

### 3.3 Industrial Competitiveness

Entire export of Serbia is generated by manufacturing industry (95% of the total exports), of which almost 60% is realized on the European Union market. However, these are mostly primary and labour- and resource-intensive products owing to which Serbia managed to integrate into the EU market, and which at the same time present the main source of structural non-adjustment of Serbian exports to the EU needs (RDB 2009b). In the long run competitiveness of Serbian economy cannot be ensured with the existing economic structure which conditions the structure of the export of goods. Despite a rising export dynamics over the period after 2000 (the World Bank 2008), the structure of Serbian exports to the EU has not been adjusted to the EU needs although 2007 saw an increase in the value of the coefficient of conformity. Special attention should be paid to those sectors for which there is great demand. These are technology-intensive products whose share in the structure of EU imports is substantial. In addition, a large technological gap and low compatibility between the economy of Serbia and that of the EU is indicated by low values of the index of intra-industrial trade. Comparative advantages exist mostly with primary and labour- and resource-intensive products. One of the primary macroeconomic challenges is a trend of rising negative balance of foreign trade, i.e. current deficit of the payment account. In spite of high annual rates of growth of Serbian exports in the period 2004-2006 (on average at 36%), Serbia significantly lags behind advanced transition countries, in particular EU member states (Jakopin 2008b, 2008c). The most significant export markets of Serbian products (where the market share of Serbia is the largest) are former Yugoslav republics B&H, Croatia, Slovenia (small moderately growing markets), and Macedonia (a small slowly rising market).

**Non-adjusted structure of export of goods to the EU needs.** Competitiveness of Serbian industry and the rise in exports and employment cannot rely on those sectors in Serbia that are competitive today. The export structure should be tailored to those sectors for which there is great demand, i.e. whose share in the structure of imports of the European Union and CEFTA is substantial. The coefficient of conformity clearly illustrates structural non-conformity (non-adjustment) of our exports to the EU needs. The value of the coefficient is low, but in 2007 significant progress was made.

**Table 4** Coefficient of Conformity

Coefficient of conformity of Serbian exports into the EU and total EU imports	2006	2007
	0.39	0.46

Source: authors' calculations.

Long-standing isolation of national economy impacted on the technological lag of economy behind global tendencies and a drop in competitiveness of domestic products on the global market. Exporters from other countries managed to suppress domestic companies from some segments of the world market, and in the first place from the EU market so that their return to these markets after 2000 has been hindered. Foreign purchasers have ever more demanding requests as to the quality of products, their performances, design, servicing of more complex products, as well as crediting of consumption, which induced stronger competition on the world market. A consequence of all of this is insufficient growth of domestic exports despite rising export dynamics in the period after 2000.

In principle categories of goods that account for 74.2% of the export of goods of Serbia have a very small significance for the import of the EU. In addition, the largest portion of these products (85%) is primary products and labour-intensive and natural resource intensive products, which indicates the need for Serbian economy to integrate into the EU market through technology-intensive products.

At the same time products whose portion in the EU imports is substantial (40%) and that belong to the group of technology-intensive products account for 19% of Serbian exports to the EU. Insufficient investments in highly developed technologies and competitive products hamper structural changes in national economy and exports, which is a prerequisite for sustainable growth of exports in the long run.

**Coefficient of export specialization.** *'If we analyze history, we'll see that with the largest number of countries foreign trade preceded any improvement of domestic industry' (Hjum).* The export of Serbian economy, which exclusively depends on industry, does not easily adapt to requirements of the modern market. Through liberalization of foreign trade and opening of the Serbian market exports rose substantially, but with the minimum degree of export specialization. The *Index of export (import) specialization* shows that at the beginning of transition the structure of Serbian exports was quite diverse, and specialization was low. A rise in the export specialization index in 2005 and 2006 signals that export is slowly being directed to some groups of goods, but these are mainly resource-intensive groups of products which cannot provide high values of the concentration coefficient in the longer run.

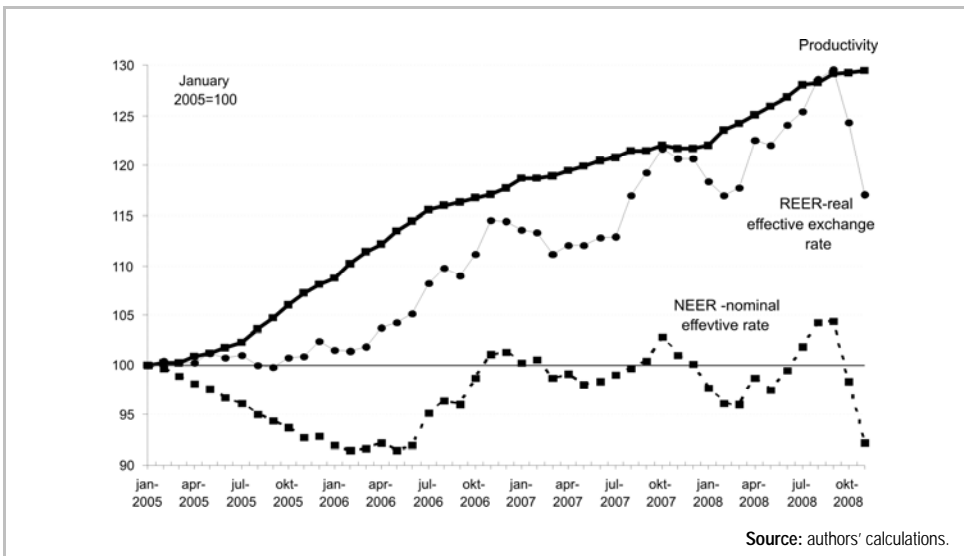
**Table 5** Modified Gini-Hirschman Coefficient of Concentration of Serbian Export and Import

	Export	Import
<b>2000</b>	0.024547	0.034096
<b>2005</b>	0.125027	0.184504
<b>2006</b>	0.125641	0.185549
<b>2007</b>	0.117677	0.176587

Source: authors' calculations.

Because of a larger export of low-tech products, in 2007 the level of export specialization was down. Although concentration of imports was at approximately the same level as export concentration, a qualitative change in the structure of Serbian imports and an increased share of technology-intensive products in its structure resulted in a higher degree of import specialization. This is for sure beneficial for the economy and the rise in its competitiveness since realized investment activities and the import of new technologies will spill over to the import structure as well, but it is unlikely this should happen during a short period of time.

Generally speaking, irrespective of growth recorded over the last few years, values of export and import concentration coefficients are still low and indicate an absence of specialization. Export specialization for a small country such as Serbia involves mastering production and launching a type of products, a rising share, and higher competitiveness on foreign markets. Alterations to the import structure can be marked as positive, this being due to restructuring of national economy and technological advancement of production processes. For now not one group of products on the export side stands out with its production potential, export capacities, or specificities which would make it distinguishable on the international market.

**Figure 7** Productivity and Effective Rate

**Price and cost competitiveness of industry.** The main characteristic of exchange rate developments in Serbia in 2007 was pronounced appreciation against the euro, which continued over the first nine months of 2008 too. On the other hand, a large inflow of foreign direct investment also contributed to the strengthening of the dinar.

In the last quarter of 2008 the real rate depreciated dramatically, which was a direct consequence of the world financial crisis and credit restriction. However, deeper reasons for this lie in an enormous trade deficit created in 2008. At this level of structural changes and competitiveness of Serbian industry, the dinar exchange rate policy can do very little to foster export. **A solution to larger exports of the industrial sector does not lie in the exchange rate depreciation.** In principle, in the short-run it stimulates exports, but only when the country has competitive production which by its structure, quality, series, and technological standards meets foreign demand and when the demand is constantly rising.

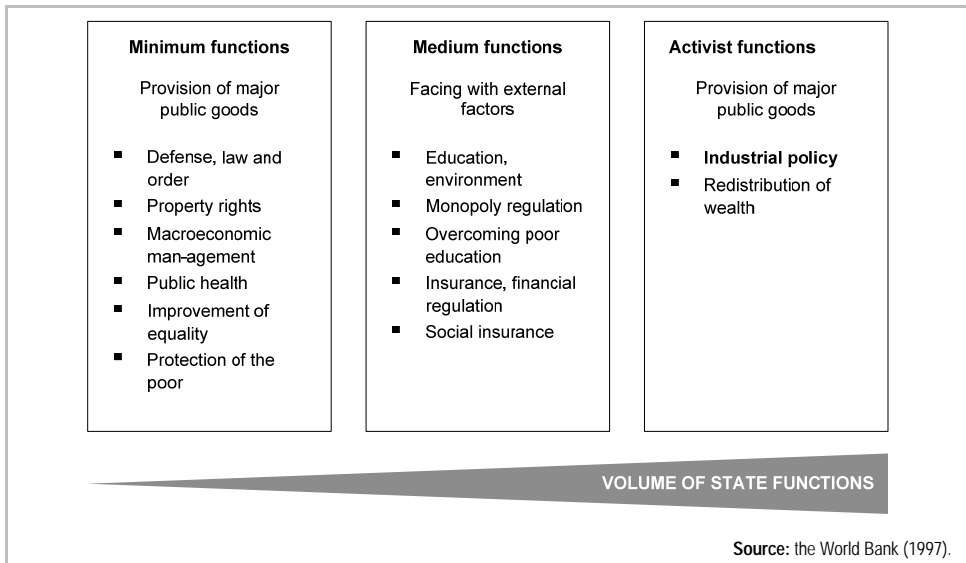
#### 4. Conclusion

The industry of Serbia is burdened with numerous structural weaknesses. Reasons for structural non-adjustment of the industrial system are many and they are deeply rooted. The system of government intervention blind forces that lasted for several decades and was organized in a collectivistic manner created an economic discord - the industrial system was in discord with the market, it failed to react to market signals. Transition only brought to light the structural problem of Serbian industry. Economic policy was facing a mission impossible: how to alter the industrial structure without reducing employment? (Commission of the European Communities 2007). Under conditions of the minimum section reallocation of employees (the analysis done with the Lillien's coefficient) and a high transition price of the social peace (Janos Kornai 2006), we still have inefficient and non-restructured industrial sectors. The theory confirms that the longer periods of economic discord with the market, the larger import dependence. This is why the current account of the balance of payments is permanently increasing. However, this is not typical only of Serbian industry, but rather of industry of entire SEE.

One of the key 'active' functions of the state is formulation of industrial policy (the World Bank 1997). The World Bank defined three major categories of state functions through which efficiency of a government can be analyzed. Efficiency of industrial policy of any state depends on its institutions (Commission of the European Communities 2005).

Macroeconomic misbalance mirrors structural economic discrepancies (Harold Hirschhofer 2006). Structural changes require substantial investments. Addressing the burning problem of unemployment also depends on investments and enhancement of competitiveness of Serbian economy.

An active role of the state in the transition process revolves around two things: how to eliminate risk factors and how to build institutions able to formulate and implement development policies (Branko Horvat 2009), industrial policy being the primary one.



**Figure 8** State Function

Transition factors of the economic risk can be divided into: a) macroeconomic and b) structural. Naturally, certain economic risks can be of exogenous nature, such as extremely adverse international developments on some merchandize and factor markets. In addition, a number of transition economies encountered the so-called *reform risk*, i.e. creation of stimulating development environment was very slow, and this diminishes mobilization and efficient allocation of production factors and thus directly slows down implementation of reforms (Jurij Bajec and Jakopin 2006).

Primary macroeconomic risk factors are:

- Current account deficit sustains basic economic discrepancies.
- Structural misbalance between investment needs and national savings. Without further progressing in fields of privatization, bankruptcy and restructuring one can hardly expect a positive contribution on the part of the cooperative sector to the external position, in the first place through savings and then through profit from increased production investment in those activities that generate net exports.
- Sensitivity to exchange rate developments. A high level of indebtedness remains a serious problem since it causes major.
- The risk factor which is tightly linked to prospects of the structural reform is growth of GDP and export. An anticipated strong growth stimulates the assessment of external sustainability, but it would change a lot if growth slowed down to below 5% on a permanent basis.
- The progress with economic integration into the EU is an important factor which largely contributes to all economic projections and delayed integration can stir negative correlations since as it appears markets underrate these risks.

- Generally speaking, further improvement of the external situation will critically depend on structural reforms that lead to a healthier corporative sector and stronger supply reactions; the goal is to boost domestic and foreign demand and, eventually, to reach sustainable growth.

A primary development goal of Serbia is *lifting competitive potentials of the industry*. This requires determined implementation of all transition and reform processes which could activate development potentials of the country – human, material and natural – and to make Serbia appealing for a faster development of the domestic private sector and larger foreign investments. Dynamic economic growth is impossible if there are no structural changes, the rate of which will mostly depend on two factors: 1) an increase in investments, and 2) education reforms. Investment is a key word for structural transition problems of Serbian economy (Jakopin 2007). Only new investments can lead to competitive production and sustainable economic growth based on job creation (Massimo Cingolani 2008). Without education reforms it is impossible to tackle structural problems: create competitive economy and reduce the number of the unemployed.

The government role through an industrial policy should be threefold:

**A To strengthen competitiveness and establish new industrial structure**

- Modernization of economic infrastructure
- Completion of privatization and restructuring of existing companies
- Establishment of new industrial structures (food industry)
- Stimulation of investments in export-oriented industrial sections
- Fiscal incentives
- Promotion of corporate management

**B To stimulate entrepreneurship**

- Creation of an attractive business environment
- Horizontal programmes of entrepreneurship fostering, in the first place developments of clusters, industrial and technological parks
- Deregulation – establishment of regulatory and administrative environment for the setting up and operating of new companies
- Faster development of small and medium-sized enterprises

**C Development based on knowledge and management of human resources**

- Reforming the education system in line with changes to the industrial structure, i.e. market needs
- Strengthening of applicable skills and relating with labour market
- Reforming the curricula and teaching programmes with the view to ensuring functional, computer and technological literacy by stimulating creativity, development of critical thinking and skills that any individual needs
- Development of an educational system should be based on the philosophy of lifelong learning
- Investment in research and development in line with industrial needs. Science and development research in Serbia, done by existing science and development institutions and at universities, and financed pri-



mainly by the government, are not the main driver of knowledge that can be a major factor of development of the new, globally competitive economic production

- To foster innovations

Accountability of a transition country arises from the principle of compliance with international conventions, the principle of openness and transparency, responsibility, efficiency, ethics, and honour. A primary objective is to determine accountability of all institutions in all areas (Francis Fukuyama 2004), the quality of regulation that mainly depends on the judiciary, and modernization of administration as a prerequisite for stimulation of competitiveness.

***High quality of institutional environment represents one of the necessary conditions for competitiveness and sustainable development of industry.*** According to research, the quality of institutional environment is tightly linked to the degree of competitiveness and the level of earnings *per capita*; it affects the rise in earnings *per capita* as well as sustainability of GDP growth. There is a high degree of correlation between the level of GDP *per capita* and institutional elements such as the degree of democracy, the degree of regulatory burdens, the rule of law, the level of corruption, and the degree of limitations to the executive and protection of property rights. Political measures for stimulating institutional environment contribute to economic growth.

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