Edvard Jakopin

Ministry of Finance
Department of National
Development

Jurij Bajec

University of Belgrade
Faculty of Economics
Department of Economic Theory
and Analysis

STRUCTURAL TRANSFORMATIONS – A DEVELOPMENT IMPERATIVE

Strukturne transformacije – razvojni imperativ

Growth and structural change are strongly interrelated. Once we abandon the world of homothetic preferences, neutral productivity growth with no systematic sectoral effect, perfect mobility, and markets that adjust instantaneously, structural change emerges as a central feature of the process of development (Simon Kuznets, 1957)

Abstract

Economic growth is not possible without structural changes. The economic structure of an economy depends on the degree of development and of its comparative industrial advantages. The analysis of reform experiences shows that transition results depend both on the speed of implemented reforms and on the starting position. Generally speaking, economic growth was higher in those transition economies where reforms were faster than in those that pursued a strategy of gradual development. The crisis brought to the fore the importance of industrial policy, particularly in transition economies.

A development imperative of the Serbian economy are structural changes in manufacturing industry. The industrial structure in place is characterized by low level of value added generated by exports. The paper emphasizes the significance of three focal points of structural transformations: reformulation of macroeconomic policies to prop up industrial development, the development of dynamic entrepreneurship, and regional development of industry. Structural transformations are of decisive importance to the reallocation of resources to more productive sectors of the economy and for making room for new enterprises and development of the entrepreneurial sector.

Key words: structural transformations, manufacturing, competitive position, structural development problems, macroeconomic framework for industrial development, dynamic entrepreneurship, regional development industry.

JEL Classification: L16, O11, O14, O25, P21.

Sažetak

Privredni rast nije moguć bez strukturnih promena. Privredna struktura jedne ekonomije zavisi od stepena razvoja i od njenih komparativnih industrijskih prednosti. Analiza reformskih iskustava pokazuje da su tranzicioni rezultati zavise kako od brzine sprovedenih reformi tako i od startne pozicije. Generalno, privredni rast je bio veći u onim tranzicionim ekonomijama kod kojih su reforme bile brže od onih sa strategijom postepenog razvoja. Kriza je u prvi plan istakla značaj industrijskih politika, posebno za tranzicione ekonomije.

Razvojni imperativ srpske ekonomije predstavljaju strukturne promene prerađivačke industrije. Postojeća industrijska struktura odbacuje malu dodatnu vrednost izvoznog karaktera. U radu je istaknut značaj tri težišta strukturnih transformacija: redefinisane makroekonomske politike u funkciji industrijskog razvoja, razvoj dinamičkog preduzetništva i regionalni razvoj industrije. Strukturne transformacije su od ključnog značaja za realokaciju resursa u produktivnije grane privrede i obezbeđivanje prostora za osnivanje novih preduzeća i razvoj preduzetničkog sektora.

Ključne reči: strukturne transformacije, prerađivačka industrija, konkurentna pozicija, strukturni razvojni problemi, makroekonomski okvir za industrijski razvoj, dinamičko preduzetništvo, regionalni razvoj industrije.

Introduction

“Can ‘that’ happen again?” This was a question that some twenty years ago Hyman Minsky, a largely unknown economist back then, kept asking himself thinking of the Great Depression. He did not live to see but he did foresee an entire scenario of the global economic tsunami (which is referred to as the “Minsky moment”). Today, his book *Stabilizing an Unstable Economy*, dating back to 1986, is the world’s bestseller in the domain of economics. The book is famous for some inferences such as: “*the capitalist financial system carries within itself a germ of self-destruction*”, and “*instability is an inherent and inevitable flaw of capitalism*”. According to Minsky, the only solution is as follows: “*the state should reach out and have a detailed control of the economy; it should relax economic cycles, balance the key imbalances, and accelerate structural reforms*”.

The global economic recession has validated Minsky’s findings on the regularity of market cycles and on systemic macroeconomic imbalances. Recession waves hit hard against the transition shores of Southeast Europe. For a number of years transition economies have been overheated, and faced with rising current account deficits, increasing indebtedness, and unbalanced exchange rates. As the crisis steps up, the problem of financing is ever bigger and that is primarily evident in the economies in which restructuring has still not been completed. Macroeconomic effects are apparent: all the countries are faced with a higher external debt. The economic system of Serbia has managed to withstand crisis impacts but systemic imbalances, primarily structural ones, have emerged.

More than half a century ago (1957), a renowned economist Simon Kuznets emphasized that economic growth and structural changes are tightly linked. He said that “*structural changes are a central element of the process of development and a pivotal element of the growth model; they can hinder development if slow or inefficient but they can also contribute to growth if allocation of resources is continually improved*” (*Quantitative Aspects of the Economic Growth of Nations: Industrial Distribution of National Product and Labor Force*).

Transformation of the economic and social system in Serbia has lasted for a decade now. Consequences of

the lost last decade of the 20th century are still visible in all segments of the economic system. We have not yet got around the economic lag of the 1990s. Vulnerable transition economies are hit hardest by recession blows since they are faced with numerous imbalances and systemic problems.

Under the impact of the global recession, transformation models of economic growth are rapidly being modified and substituted. Structural transformations have become a development imperative. Sustainable economic growth is unattainable unless there are investments in export-led industry. Mechanisms of macroeconomic policy need to serve this purpose.

Competitive position

The market economy rests on continuous economic adjustments made through structural transformations and alterations to the functioning of the national economy. A primary development objective is to boost economic competitiveness since only a competitive economy can resist challenges and pressures from other market actors while at the same time ensuring economic development, i.e. economic growth and social welfare. What does the competitive position of Serbia look like after a decade-long transition? The answer is presented in a brief overview of analyses done by most eminent international institutions that monitor developments of the main indicators of macroeconomic competitiveness on an annual basis.

The international barometer of competitiveness ranks the entire area of Southeast Europe rather low, at the back of the European competitiveness list. In the latest *Competitiveness Report 2011-2012 of the World Economic Forum*¹, which includes 142 countries, Serbia is ranked 95th and with GDP per capita of USD 5,233 is at the foot of the group of 28 countries that through enhancement of efficiency aim to achieve economic growth and improve overall competitiveness position (Stage 2). Almost all of

1 Since 2005 the WEF has based its competitiveness analysis on the composite Global Competitive Index (GCI), which defines competitiveness as a set of institutions, policies, and factors that determine the level of productivity of a country (expressed as GDP per capita in USD) which, in its turn, determines the level of development that can be attained. In other words, although productivity of a country clearly determines its ability to generate higher levels of income for its citizens, this is also one of the central determinants of investment efficiency.

the countries adjacent to Serbia are in the second stage except for Hungary (48) and Croatia (76) that are moving to the group of more robust economies. In 2011, Serbia improved its ranking by one position, but it is still one of the least competitive countries in Europe – only Bosnia & Herzegovina is worse ranked than Serbia. For a long time, Serbia has had a brain drain (136th position), which requires undertaking of special stimulating measures to retain the best graduates and researchers, as well as adoption of a long-term plan to encourage our scientists working abroad to return.

A comparative review of the competitive position of the Serbian economy and neighboring transition economies demonstrates, first of all, various degrees and speeds of

implementation of the transition reforms. Some countries have undertaken radical reforms and heavily altered their structure (Slovenia, Hungary); some economies are in the final transition stage (Bulgaria, Romania); some are about to enter the EU (Croatia), while the Serbian economy that had a late transition start (it was not until 2001 that structural reforms started) is to continue the process despite having already completed many activities. Macroeconomic stability is based on reduced inflation and imbalances in the current balance of payments, this being a prerequisite for sustainable economic growth. It is necessary not only to boost the exports but also to alter the export structure in a quality manner, which would help reduce trade deficit.

Table 1: Comparative competitiveness matrix 2011

Indicators	Serbia	Bulgaria	Romania	Croatia	Hungary
WEF (GCI) – global rank	95	74	77	76	48
External solvency:					
• the ratio of external debt and exports ¹	236.2%	169.5%	204.7%	266.9% ²	168.8% ³
• the ratio of external debt and GDP ³	82.1%	101.6%	74.6%	102.1%	143.3%
Credit ranking	BB	BBB	BB+	BBB-	BBB-
Investments (% GDP) 2010 ⁴	19.4%	23.5%	22.7%	21.6%	18.0%
Inflation 2010 (end period) ⁵	10.3%	4.4%	7.9%	1.8%	4.6%
Earnings (net) EUR – July 2011 ⁶	382	276	340	716	483

Source: 1. WDI (World Bank), for Serbia the National Bank of Serbia (NBS); 2. Data for 2009 – Croatian National Bank; 3. National Bank of Hungary; 4. EBRD; for Serbia the NBS, 5. Eurostat; for Serbia authors' estimates; 6. Eurostat, for Serbia the Republic Statistical Office (RSO), 7. National statistical offices.

Table 2: Competitive position -WEF

GDP 2010 (IMF)		Index		
		2010/2005	EU-27=100	WB=100
GDP per capita (in USD)	5,233	154.3	17.2	93.4
WEF Global Competitiveness Index (GCI) 2012/2011	Rank (R)	Index of value		
		2011/2007	EU-27=100	WB=100
GCI	95	102.6	82.3	96.3
Subindex A: BASIC REQUIREMENTS	88	102.1	82.2	94.9
1 st pillar: Institutions	121	93.5	68.5	84.8
2 nd pillar: Infrastructure	84	134.9	72.2	95.0
3 rd pillar: Macroeconomic environment	91	97.2	90.7	95.4
4 th pillar: Health and primary education	52	96.4	93.7	100.9
Subindex B: EFFICIENCY ENHANCERS	90	104.8	80.0	96.7
5 th pillar: Higher education and training	81	109.0	78.3	95.9
6 th pillar: Goods market efficiency	132	98.9	75.7	86.1
7 th pillar: Labor market efficiency	112	102.1	87.9	92.8
8 th pillar: Financial market development	96	100.3	84.2	97.7
9 th pillar: Technological readiness	71	108.7	71.5	93.9
10 th pillar: Market size	70	111.8	84.1	120.9
Subindex C: INNOVATION FACTORS	118	90.6	69.0	92.3
11 th pillar: Business sophistication	130	87.3	66.7	86.9
12 th pillar: Innovation	97	94.2	71.7	98.8

Note: R – ranking of 142 selected countries; the value for Western Balkans is calculated as an average of values for Albania, Bosnia, Macedonia, Croatia, Montenegro, and Serbia.

Source: IMF - The World Economic Outlook, WEF - Global Competitiveness Report

Most significant reforms relate to: abolishment of monopoly, completion of privatization, and creation of a more favorable economic environment for an increase in greenfield investment. A faster rate of structural transformation involves establishment of a stable economy and faster accession and adoption of regulations the EU is built on.

According to the IMF data, over the period 2005-2008 Serbia's *GDP per capita* was rising on average by 19% annually, but in 2009 and 2010 because of the global economic crisis Serbia saw a decline which was steeper than in other SEE countries (the index of *GDP per capita* of Serbia is among the lowest in Europe and 3 times lower than the EU average).

Efficiency of the economy is not being improved adequately which is why the economy fails to seize better competitive positions in the global rankings, contrary to other adjacent transition economies that are up to the task. For the countries that are in the same development stage as Serbia, the most important are the attained values of indicators within subindex B – Efficiency Enhancers. Serbian economy is in a rather unfavorable competitive position since according to most indicators it is below the average of countries that belong to the second development stage, which means a far cry from the average of the EU member states. Unless the modernization of production capacities, constant investment in education, and enhancement of employees' expertise are achieved, Serbia will not be able to improve efficiency in other economic spheres, nor will it be able to reach a higher degree of development. Areas in which Serbia lags a lot behind countries in the group it belongs to are institutions, goods market efficiency, and

business sophistication, in which the largest number of indicators is below 130th position.

Table 3: Most critical fields of Serbia

	pillar	rank
• protection of minority shareholders' interests	1	140
• efficiency of regulative in settling disputes	1	137
• efficacy of corporate boards	1	136
• burden of government regulation	1	134
• extent of market dominance	6	139
• effectiveness of anti-monopoly policy	6	137
• intensity of local competition	6	136
• buyer sophistication	6	136
• brain drain	7	139
• cooperation in labor-employer relations	7	136
• firm-level technology absorption	9	136
• nature of competitive advantage	11	136
• willingness to delegate authority	11	136

Source: WEF Global Competitiveness Report 2011/2012

Closely related to this problem is inefficiency of the labor market in Serbia (pillar 7) whose ranking in relation to the previous year is down by 10 positions: for years Serbia has experienced a brain drain (136th position), not only because of better salaries for highly trained individuals abroad but also due to better conditions for scientific and research work. In order to prevent this phenomenon, stimulating measures must be undertaken to retain the best graduates and researchers; also, a long-term plan for getting our scientists back home must be adopted. There are other limitations that undermine the efficient use of talents as well, and thus productivity and creativity of employees most often are not salary criteria while managerial positions are usually occupied by individuals who are not professional managers selected on the basis

Figure 1: EBRD transition indicators 2011

Source: EBRD Transition Report 2011

of their job skills and work merits. The most critical fields are Institutions (pillar 1), Business sophistication (pillar 11), and Innovation (pillar 12).

According to EBRD transition indicators, Serbia lags behind most countries in the region in the areas of large-scale privatization, governance and enterprise restructuring, and competition policy.

Table 4: Competitive position-Business conditions 2010

BUSINESS CONDITIONS, rank	92
Starting a Business, rank	92
Procedures (number)	7
Time (days)	13
Cost (% of income per capita)	7.8
Min. capital (% of income per capita)	6
Dealing with Construction Permits, rank	175
Procedures (number)	19
Time (days)	279
Cost (% of income per capita)	1,603.8
Paying Taxes, rank	143
Payments (number)	66
Time (hours)	279
Profit tax (%)	11.6
Labor tax and contributions (%)	20.2
Other taxes (%)	2.2
Total tax rate (% profit)	34
Enforcing Contracts, rank	104
Procedures (number)	36
Time (days)	635
Cost (% of debt)	31.3
Resolving Insolvency, rank	113
Time (years)	2.7
Cost (% of estate)	23
Recovery rate (cents on the dollar)	24.4

Source: The World Bank

Ranking on the ease of doing business, on the basis of relevant indicators devised by the World Bank, comprises various key aspects of the business environment that can either facilitate or hamper operations of economic entities (a higher rank of the index means that a regulatory environment conducive to solid business has been created). In this global ranking Serbia is ranked 92nd among 183 countries. Of all the European countries, Serbia is better positioned only than Ukraine (152), Bosnia & Herzegovina (125), and Greece (100). A comparative analysis of the dynamics and the rate of improvement of business indicators with adjacent countries indicates that the speed of reforms and competitiveness of the economy are mutually dependent. Serbia was among the most efficient reform initiators in 2005; in 2009 we had improvement only in the areas of

starting a business and getting credit, and in 2010 – in the area of closing a business, whereas in 2011, just like in 2007, not a single one of the 10 major indicators saw progress. Costs associated with some indicators are expressed as a percentage of GNI per capita that measures income in an economy. In countries with low GNI per capita costs calculated in this way are very high, which results in low positions of those countries in the world ranking. GNI per capita of Serbia is one of the lowest on the European continent and accounts for only 17% of the EU average.

Transition-induced devastation of industry

Transformation of the economic structure in Southeast Europe has not contributed to economic growth – economic systems have not managed to adapt to ever fiercer market game rules and increasingly severe competition. Reasons for this lie in a late pre-transition start and slow and incomplete structural changes. Unlike the entire region of SEE, the efficient transition economies experienced a dynamic economic growth in the second half of the 1990s, mainly due to transformation of their industries based on reaping the benefits of higher exports of goods and services. Industrial transformations spurred competitiveness, triggering an extremely dynamic growth in industrial sectors that rely on the use of cutting-edge technology and economies of scale.

Figure 2: Gaps between industries of EU-15 and SEE

Note: SEE-9: Romania, Bulgaria, Serbia, Bosnia & Herzegovina, Croatia, Macedonia, Albania, Montenegro, and Moldova

Source: author's calculations on the basis of the UNSTAT data

Naturally, the EU market had a key role in the process of boosting exports (hereby we refer to geographic and location factors, comparative advantages, and dislocation of production facilities). It is a fact that the industrial advantage of transition economies was evident in those sectors of industry that required skilled but, at the same time, cheaper and more productive labor.

Given various transformation rates, the industrial map of Europe has changed and industrial differences have increased over the last two decades, i.e. the area of SEE increasingly trails not only behind the developed group of states (EU-15) but also ever more behind the group of countries that joined the EU in 2004 (EU-10).

Manufacturing value added of SEE (MVA) in 1990 was 33 times lower than gross value added (GVA) of the most developed group of European countries (EU-15). After two decades of transformation of SEE economies, the difference rose to 1:42. On the other side, we have a group of European countries that joined the EU in 2004 that succeeded in reducing the industrial lag by more than a half, from 1:25 to 1:11.

Figure 3: The level of industrial output of transition economies 2001-2010

Source: author's calculations on the basis of the UNECE Common Database, derived from national and Interstate Statistical Committee, Eurostat and national statistics

Over the last decade a high level of industrial output (above 50%) in 2010 in comparison to 2000 was produced in Hungary, Lithuania, Poland, Slovakia, and Bulgaria. In the same period, the level of industrial output in Serbia in 2010 compared to 2000 rose by 4.5%, and in manufacturing industry by 2.2% (an average annual growth rate at 0.4%, and in manufacturing at 0.2%).

Apart from transition-related problems, the industry of Serbia was particularly hit by recession blows in 2009-2011. Therefore even the minimal positive transition contribution to economic growth in manufacturing industry was neutralized (contribution of manufacturing industry to GDP growth in 2001 was 20%, and in 2011 it was at 14%). The greatest development problem is the loss of industrial employment (the number of industrial employees halved in the last decade) because the creation of the industrial structure is a rather long process. Similar transition economies still managed to maintain industrial employment. Reasons for a steep decline in industrial employment lie in post-privatization problems (a large percentage of unsuccessful privatizations) and strong recession impacts on an economy undergoing restructuring.

If we talk about aspects of structural changes and boost for competitiveness, the initial competitive position deteriorated. The technological structure of the value added by manufacturing industry after a decade-long economic transformation is rather unfavorable. The analysis by

Figure 4: Technological structure of MVA

Source: author's calculations on the basis of the Business Registers Agency (BRA)

technology groups in the structure of GVA of manufacturing industry signals that sectors of low technological intensity (50.5%) and medium-low technological intensity (26.4%) still have the largest share. Similar results are indicated by the subsector analysis of employment by technology groups (low and medium-low technology subsectors employ 75% of employees).

The trend of changes to the structure of technological intensity in the last decade had a reverse sign – sectors of lower technological intensity dominate the technological structure even more, which says a lot about problems that Serbian industry is facing. Establishment of a new industrial structure and its integration in modern market flows can be achieved only through development of industrial sectors with higher value added.

Structural development problems

The character of transition structural changes in Serbia is well illustrated by four major epistemological elements:

Firstly, incomplete and slow structural changes in economy. EBRD transition indicators, as most representative comparative indicators of the degree and dynamics of efficiency of institutional reforms, clearly indicate that after a speedy reform period 2001-2003 there came a period of reform stagnation while some progress was made in 2005 and 2008. This is confirmed by the Index of structural changes (indicates the speed of change to the GVA structure) and Lillien's coefficient. Because of a late transition start, Serbia lags behind in reform processes a lot (it is even below the average of SEE countries that are still not members of the EU), particularly in key segments such as: restructuring of large enterprises, competitiveness policy, and infrastructural reforms. In a word, transformation slowness was not conducive to the establishment of a new economic system. On the contrary, the transition "gradualism" ("gradual reforms" – Janos Kornai) of the Serbian economy has failed to comply with two main tenets: equitable reallocation of existing resources and fiscal stabilization of privatization effects. Transition experiences are confirmed by Kuznets's views: only structural reforms can lead to higher efficiency and

faster economic growth (e.g. Baltic states and Poland that have completed more rapid structural reforms).

Secondly, spending is permanently above the limits. A rather low volume of output shows that the initial transition lag behind other transition economies is still taking its toll. After a decade of devastation and economic distortion, a non-restructured economic system is going through a decade of tough transformation. The economy is in an ever greater financial imbalance: in 2002 the loss equaled 9.7% of GDP and in 2010 it rose to 13.8% of GDP, accumulated loss increased in real terms by 50%, indebtedness increased 2.3 times, while the rate of lost capital is higher than the one registered at the start of transition.

Figure 5: Transition speed of structural reforms in Serbia

Source: EBRD

Figure 6: Transition surplus of domestic demand compared to output (% GDP)

Source: author's calculations on the basis of the RSO

Manufacturing industry, a driver of development, has been living its hardest days over the last two decades. Despite the fact that in the transition period gross value added in manufacturing industry doubled, manufacturing industry of Serbia produces 50% less than manufacturing industry of Slovenia, almost 3 times less than Slovakia, 4 times less than Hungary, and as much as 6 times less than Czech Republic. Industrial decline in 2009 (-12.1%) caused by the global recession, annulled the entire transition contribution of manufacturing industry to economic growth – its share of 14% in GDP is the lowest in the region.

From the aspect of structural changes, results of the analysis of investment efficiency are particularly worrying: marginal capital coefficient shows an extraordinary inefficiency of manufacturing industry (manufacturing industry is 7 times less efficient than economy). Productivity of the Slovenian industry is 2.5 times higher, of Slovakian 2 times, and Hungarian 50%. Transition economies of Central Europe had a dynamic economic growth in the second half of 1990s, primarily owing to dynamic growth of investments and exports of goods, and realized structural reforms on the basis of which there were significant changes to the structure of industrial output (growth in medium- and high-tech sectors, whereas the steepest decline was registered in labor-intensive sectors).

Thirdly, high unemployment as a result of incomplete structural changes within economy, which is from a social and development point of view the most difficult thing to cope with. In contrast to other transition economies, manufacturing industry of Serbia over the last decade has lost a half of industrial workers. In any economy, the establishment of industrial structure is a rather long process which requires permanent education and strategic planning. The fact that in neighboring countries there are several times more industrial employees (in Bulgaria 2 times, in Hungary almost 3 times, in Romania as much as 6 times) and that almost all transition economies have managed to maintain industrial employment speaks volumes about difficulties that Serbian economy is faced with. In addition to post-privatization problems (a high percentage of unsuccessful privatizations), the effects

of global recession have to a great extent contributed to decline in employment.

Fourthly, the key issue from the aspect of structural changes is: *has the transformation model of the Serbian industry contributed to sector reallocation of resources as an important source of growth and a deciding factor in boosting overall productivity? What was the transition growth of productivity based on?* The above average productivity (the ratio of GVA and employment) was reported by all service sectors (*transport, financial intermediation, real estate, etc.*) and the sectors of industry. Application of Syrquin's methodology for the transition productivity analysis (disaggregation of productivity to intra-sectoral profit and inter-sectoral employment shift) suggests that productivity growth in the last transition decade of 5.6% was mainly based on the "productivity effect", i.e. intra-sectoral income while the positive "reallocation effect" was marginal in all the sectors except for the sector of services (in Romania contribution of the reallocation effect was 0.57%, in Croatia 0.38%, and in Slovenia 0.19%). Contribution of labor reallocation among sectors in this period on the overall level was marginal (-0.01%). During initial transition years an excess of employees was a characteristic of all the economic sectors, and solving the problem through the process of privatization of social capital, restructuring of large systems and public companies, and undertaken structural reforms have not led to adequate labor reallocation. Reallocation effects were adverse for productivity growth in the sector of *Agriculture* (as a consequence of the negative growth rate of employment).

Figure 7: Decomposition of productivity growth 2002-2010

Source: author's calculations on the basis of the BRA

Productivity growth in industry was based on a reduction of the number of workers. In comparison to 2001 the number of employees in this sector halved (it went down by more than 320,000 employees). The economic crisis diminished the contingent of employees in production further – employment in industry in 2010 compared to 2008 went down by about 58,700 workers or by -13.3% (in economy by 73,820 or -5.2%). The reallocation effect in this recession period gains momentum – a portion of dismissed workers was absorbed by the service sector.

The minimal effect of the reallocation of labor can be attributed to the fact that reallocation within sectors still dominates over reallocation among sectors. Structural changes realized through the process of transformation of the social capital and through restructuring of large systems and public companies have not led to adequate labor reallocation.

Three development focal points

The EU's economic recovery from severe recession blows will in the first place depend on the enhancement of competitiveness and the pursuit of a coherent and coordinated industrial policy of member states. Apart from financial and fiscal stability, continuation of structural reforms is a necessary prerequisite for long-term sustainable growth. Reports of the European Commission on European competitiveness for 2011 [4] and competitive performances of member states and policies for 2011 [5] have identified key areas in member states that need to be further strengthened in order to make some progress toward achieving objectives under Europe 2020 and boost industrial competitiveness given that 75% of EU's exports are realized by production companies that also account for 80% of industrial R&D. The areas are:

- *Facilitation of structural changes* in economy with the view to making a shift to innovative and knowledge-based sectors that boost higher growth of productivity;
- *Ensuring industrial innovations*, especially by bringing together scarce resources and reducing fragmentation of innovation support system. It is

expected that the growth of the markets for key enabling technologies (e.g. nanotechnologies) will grow by up to 50% by 2015, creating thousands of high value-added new jobs;

- *Promotion of sustainability and resource efficiency*, particularly through the promotion of innovations and usage of clean technologies, by ensuring fair and undistorted prices of energy, and promoting and interconnecting networks for energy distribution;
- *Promotion of business environment*, by reducing administrative burden on businesses and promoting competition among providers of broadband, energy, and transport infrastructure;
- *Benefits from a single market* with the support of innovative services, and
- *Support for small and medium-sized enterprises (SME)* through an easier access to funds and markets.

Development focal points of structural changes of the Serbian economy are primarily determined by the competitive position of the Serbian economy, the degree of uncompleted structural reforms, and development limitations. Therefore the focus of development and economic policy in the following period should be:

Macroeconomic framework and policies for industrial development

Realization of structural transformations will primarily depend on the realization of the macroeconomic framework for the new model of economic growth of Serbia in 2012-2020.

Recession blows in 2009-2011 led to downward corrections of macroeconomic growth projections of main aggregates by 2020, but the idea that essential structural changes and macroeconomic policies conducive to industrial development must be undertaken was only reiterated as a development imperative. Further in the text we aim to analyze projections of major macroeconomic aggregates by 2020 that are based on an average rate of economic growth of 4.3% for 2012-2020. In terms of structural changes, growth of the tradable economic sector (industry, construction, and agriculture) on average annually would be at 4.6%, while the sector of services would have a

somewhat lower average growth of 3.7%. Key parameters that could impact on structural changes in economy are:

- a substantial rise in investment (the share in GDP to go up from 19.7% in 2012 to 24% in 2020)
- a considerable rise in exports (the share in GDP to go up from 35.9% in 2012 to 58.3% in 2020)
- reduction of external trade deficit (the share in GDP to go down from 14.9% in 2012 to 11.3% in 2020)
- reduction of deficit of current transactions in the balance of payments (the share in GDP to go down from 8.4% in 2012 to 4.5% in 2020)

Speeding up the economic growth is projected for the period 2015-2020 (an average growth rate of GDP is 5%) and it is based on a considerable boost of investment activity (coupled with a larger share of tradable goods in the structure of GDP), exports, and consumption. In order to see the share of gross fixed capital formation in GDP rise to 24% in 2020, it takes for an average real rate of investment growth to be at 8.5% (in 2012-2020). This growth would be twice as GDP growth and much faster than growth of overall domestic demand.

Figure 8: Projections of structural changes – cumulative indexes of real growth

Source: author's calculations on the basis of the RSO

Assumptions on reduction of foreign trade deficit indicate that a boost in exports will be essential in the period to come also as a substitute for a lack of foreign capital that will be ever more difficult to attract. An average growth rate of exports in 2012-2020 would be at 11.7%, while an average growth rate of imports would be at 9.4%. With such developments of exports and imports

external trade deficit at the end of the period would equal 11.3% of GDP.

Growth of final consumption in the following period is linked to a considerable increase in investment. A lower increase in final consumption ensures the needed increase in investment. Assuming reduction of deficit of current transactions in the balance of payments, it is expected that internal demand will rise slower than GDP.

An average estimated growth of consumption is 2.9% but final consumption in 2011-2014 would stagnate (personal consumption would increase moderately and public consumption would go down slightly); only after 2014 higher growth rates are likely – an average growth rate of personal consumption in 2015-2020 would be 4.4% and an average growth rate of public consumption 3.2%. In 2012-2020 one could expect to see a decrease in the share of public consumption in GDP (of 3.1%). The share of final consumption in GDP would go down from 95% in 2011 to 86.4% in 2020.

Key macroeconomic policies should be in line with the new macroeconomic model of economic growth, and primarily the fiscal, monetary, investment, and employment policy. Industrial policy is particularly accountable when realization of structural changes in manufacturing industry is concerned.

The objective of the industrial policy is to prop up structural changes and all the activities that help more efficient functioning of the market and creation of a more favorable business environment, whereby direct interventions are permitted only in cases of deficient markets. Government intervention measures, undertaken as part of the industrial policy, must have a limited term, i.e. they must be prevented from deforming market relations extensively after having fulfilled their function. Through special intervention programs the state should support the establishment of a new industrial structure – through mechanisms of state aid it will stimulate development of export-oriented and competitive sectors as well as sectors that generate high value added, namely:

1. Food industry
2. Industry of transport equipment
3. ICT
4. Metal complex

5. Health industry

Stimulation of development of the listed industrial areas rests on the anticipated multiplicative impact on overall industrial development based on knowledge and application of innovations, particularly in the area of activation of development potentials of leading export-oriented companies – national leaders. Formation of a new industrial structure and its efficient involvement in modern market flows hinges on the given areas, primarily because of:

- opportunities for the creation of new, permanent jobs;
- projects in these areas have a direct impact on the boost of exports;
- they create linkages among domestic companies and attraction of foreign companies - providers;
- these areas have the potential for development of industrial clusters and they provide room for a competitive advantage after the principles of niches (small market segments).

Development of dynamic entrepreneurship

Propulsive enterprises present the backbone of future development of any economy. The drivers of development are most propulsive enterprises (*gazelles*), i.e. small and medium-sized enterprises that make use of their resources in a market environment most efficiently; they raise employment continually and improve their balance positions. Global processes bring to the fore the speed of gazelles' response to market signals and, accordingly, the speed of making business decisions (*"think global, act local"*).

Even in the most developed economies gazelles account for not more than five per cent in the total number of enterprises. As early as in the 1970s the author of the very term *gazelles*, professor David Birch while studying the boom of the Silicone valley concluded that only three per cent of enterprises (most dynamic ones – gazelles) would survive and continue to develop. Conclusions entitled *Europe's 500* indicate new trends of dynamic entrepreneurship and state that their sustainability is based on a clear entrepreneurial vision and an innovative approach. *"The entrepreneurial generation of the day is*

creative, innovative, and strives to be true to its environment... it is very different from the capitalists of the 19th and mid 20th century we know of. Entrepreneurs create and in the first place bring to life new technologies, new products, new industrial branches; they generate new value and new jobs." (Timmons, A. Jeffrey)

Recession impacts have clearly showed what the economic role of entrepreneurship is. Most jobs are, namely, created in the companies that employ up to twenty people. Small and medium-sized enterprises were the fastest rising enterprises in the 1990s, they created more jobs than large enterprises lost, and they realized the highest increase in revenues and profit.

Dynamic entrepreneurs are entrepreneurs with features such as: creativity and originality, long-term orientation to the market and buyers, morality and business culture, the ambition for long-lasting success and capital profit, the ability to predict risk and adjust, and pronounced problem-solving orientation. In transition countries there is a great mistrust of dynamic entrepreneurs (that many American authors dub heroes). In these countries some twenty years ago it was dangerous and illegal to talk about entrepreneurship and profit. Therefore it takes some time to change the attitude to entrepreneurship as a whole and for the state to initiate permanent building of a favorable climate for dynamic entrepreneurship.

Stimulation of entrepreneurship development in Serbia is one of the development focal points and a priority strategic objective of overall development of the country. Intensive development of modern entrepreneurship in Serbia started in 2001 as part of structural reforms but global recession heavily undermined transition results. Still, nowadays the entrepreneurial sector employs around 2/3 of economy, generates 56% of value added, 45% of exports, and accounts for 1/3 in GDP of the Republic.

Key weaknesses of entrepreneurship in Serbia are low competitiveness, a low level of entrepreneurial education and skills on the labor market, marked regional disproportions, an inadequate volume and spectrum of sources of funding, incomplete institutional infrastructure for the entrepreneurial sector, an incomplete legal framework, and inadequate implementation of the practice of a public dialogue between institutions and the private sector.

Figure 9: Significance of dynamic entrepreneurship

Although we still cannot say that dynamic entrepreneurship in Serbia is in line with European standards when it comes to economic robustness, innovativeness or competitiveness, if we modify criteria to some extent, we could identify enterprises that deserve the epithet of dynamic enterprises and most dynamic enterprises – *gazelles*. In keeping with modified “Europe’s 500” criteria of the European Commission, in 2010 in Serbia there were 538 dynamic enterprises and 54 most dynamic ones – *gazelles*.

The research into dynamic entrepreneurship shows that in 2008 the number of dynamic enterprises increased 2.5 times (from 237 in 1998-2002 to 532 in 2003-2007) and that the number of their employees doubled (from 12,473 to 22,167), while in the period 2006-2010 in 538 dynamic enterprises there were about 47,000 employees.

The main characteristics of 54 Serbian *gazelles* in 2010 were:

- A constant increase in employment – in 2003-2010 *gazelles* created about 10,000 new jobs;
- The impact of Serbian *gazelles* on overall economic developments is still marginal – 54 Serbian *gazelles* in 2010 accounted for: 1.2% of the number of employees, 1.5% of total revenues, 1.3% of income, and they had at their disposal 0.5% of capital;

- A more dynamic real rise in major indicators than that of economic developments: capital rose 5.8 times (by 17% in economy), total revenues rose 4.4 times (by 50% in economy), and income 4.3 times (by 2.2 times in economy);
- Section breakdown indicates that *gazelles* are concentrated in Trade (24) and Manufacturing industry (12);
- Pronounced regional concentration – 23 *gazelles* are registered in the territory of Belgrade, mostly in the service sector.

Stimulating the development of dynamic entrepreneurship and *gazelles* is a development chance of Serbia. Primary tasks are to continually create a stimulating environment and resolve key problems of development of enterprises in the stage of growth and development. It takes special stimulation of dynamic entrepreneurship as it leads to high growth.

Regional development of industry

The transformation model of economic growth over the last decade has made regional imbalances even deeper. Regional disproportions in Serbia stem from a series of factors, ranging from inherited to transition ones: discrepancies in the economic structure, demographic processes, inconsistent and uncoordinated regional policies, and a systemically incomplete institutional framework. Traditional models for promoting a more balanced regional development were not particularly efficient.

A direct consequence of the economic distortion of the 1990s and the process of transformation and readjustment of the economy to a market economy is the economic demise of large systems – drivers of regional industrial development and formation of a new group of municipalities with special development problems – the so-called *devastated area*. The devastated area comprises 20 industrial towns that have not managed to recover industrially over the past two decades (the loss of more than 40% of profit and more than 50% of employees in manufacturing industry). On the other side, we have a parallel process – the concentration of economic activities in two cities (Belgrade and Novi Sad).

Discrepancies in regional competitiveness are manifested as the concentration of economic activity of efficient, high profit and employment companies in Belgrade and South Backa areas, whereas other regions are faced with low economic activity, underdevelopment, and high labor costs. Regional economies are not adequately restructured to meet high demands of competitive foreign markets.

There is the deepening of regional asymmetries that is manifested in two ways: firstly, as an ever greater concentration of economic activities in the Danube-Sava area and, secondly, as ever stronger economic problems in the devastated area. Former industrial centers that have been propellers of economic development for decades have become transition loss-makers and are faced with enormous development problems. The fact that 2/3 of manufacturing industry are concentrated in two regions (the regions of Vojvodina and the Belgrade region) speaks volumes about the necessity to devise specific solutions for regional development of Serbian industry.

The regional analysis of the degree of devastation of regional industrial centers indicates three phases: (a) decline in GVA of industry during the period 1990-2000 in most cities in Serbia ranged within the interval of 70-90%,

(b) during the transition period 2001-2007 a number of industrial cities boasted positive trends and recorded modest growth rates, and (c) the recession period after 2009 was so severe that a number of industrial centers suffered negative growth rates of the pre-transition period (regional centers such as Kikinda, Pancevo, Kraljevo, Novi Sad, Vrbas, Krusevac, etc.).

The third strategic development imperative in the period to come should be to adopt a special program for the stimulation of regional development of industry. Because of ever larger intra-regional and inter-regional discrepancies that hinder overall development and initiate numerous systemic deformations (demographic, social, budget, etc.), the state should redefine the regional institutional framework in order to cushion transition impacts and limitations that vulnerable areas face, i.e. to help their auto-propulsive development. This particularly refers to the assistance for areas with special development problems (through investments and stimulation of the inflow of capital) so that these areas could offset their structural weaknesses. This primarily refers to devastated industrial centers and large economic systems in which restructuring is underway.

Figure 10: The degree of devastation of the industrial centers 1990-2010

Source: author's calculations on the basis of the BRA

Conclusion

The European economy is undergoing deep changes. Recession crisis waves hit hard the industrial sectors of transition economies – industrial systems that have not realized structural changes and equipped themselves for a permanent competitive game are suffering most.

The transformation of the economic structure of Serbia from the very start trailed a lot behind other transition economies. Although Serbia managed to catch up over the past decade, major structural reforms are yet to be undertaken, priorities being the completion of privatization and restructuring of enterprises as well as enhancement of business conditions. Transformation of state public companies is in its early days.

The transformation model has not produced results in terms of the speed of structural changes, labor productivity boost, and sector reallocation of growth factors towards highly productive sectors. The rise in productivity was not coupled with the rise in employment, far from it. The decade of transformation of the economic structure in Serbia was characterized by the rise in services and a decline in the industrial sector. The structure of manufacturing industry of Serbia is uncompetitive and based on labor-intensive and resource areas – the dynamics of transformation has not enabled the setting up of a new industrial structure primarily based on industries of higher value added. Low competitiveness of the Serbian economy is best illustrated by an inadequate level of investment, low productivity, and insufficient exports.

Structural transformations are of determining importance for the reallocation of resources to more productive sectors of economy and for making room for new enterprises and the development of an entrepreneurial sector that drives growth in modern market economies. Structural transformations are supposed to accelerate the reallocation of resources from the social and state-owned to the private sector, and to help create a new economic structure through the process of restructuring and modernization of economy. Therefore it takes for the recently adopted strategic document, *Strategy and*

Policy for Development of Serbian Industry by 2020 to be implemented in all the stages and all domains.

Global instability has once again proved that liberalization, deregulation of the market, and privatization – three holy words of the neoliberal concept – are ineffective and inefficient without structural economic reforms. Structural transformations need to be realized continually because, as Minsky concludes, “*just like stability and balance, perfection is nothing but an illusion*”.

References

1. Aghion, P., Harmgart, H., Weisshaar, N. (2010), “Fostering growth in CEE countries: a country-tailored approach to growth policy”, EBRD, Working Paper No 118.
2. Bajec, J. and group authors. (2010), *Postkrizni model ekonomskog rasta i razvoja Srbije 2011-2020*, USAID.
3. Chang, H.J. (1993), “The political economy of industrial policy in Korea”, *Cambridge Journal of Economics* 17: 131-157.
4. European Commission. (2011), *European Competitiveness Report 2011*, DG for Enterprise and Industry. Brussels.
5. European Commission. (2011), *Member states competitiveness performance and policies 2011*, DG for Enterprise and Industry, Brussels.
6. European Commission. (2011), *Innovation Union Competitiveness Report 2011*, DG Research and Innovative, Brussels.
7. European Commission. (2010), *EUROPA 2020, A strategy for smart, sustainable and inclusive growth*, Brussels.
8. EBRD. (2009), *Transition Report 2011*.
9. Jakopin, E., Bajec J. (2009), “Challenges of Industrial Development of Serbia”, *Panoeconomicus*, 56 (4): 507-523.
10. Jakopin, E. (2010), “Industrial Transformation: Key to Economic Growth”, *Ekonomika preduzeća*, 1-2: 67-79
11. Haraguchi, N., Rezonja, G. (2011), “Emerging Patterns of Manufacturing Structural Change”, UNU World Institute for Development Economics Research (UNU-WIDER), Working Paper No. 2011/43
12. Ministarstvo finansija. (2011), *Izveštaj o razvoju Srbije 2010*, Beograd.
13. Ministarstvo finansija. (2011), *Razvoj preduzetništva u Srbiji 2010*, Beograd.
14. OECD. (2001), *Structural change and growth: Trends and policy implications*, Paris, Directorate for Science, Technology and Industry.
15. Porter, M. (2008), “The Five Competitive Forces That Shape Strategy”, *Harvard Business Review*, 25-39.
16. Polanyi, K. (2003), *The Great Transformation*, Beograd, Filip Višnjic.
17. Republički zavod za razvoj. (2011), *Strategija i politika razvoja industrije 2011-2020*, Beograd, Sl. glasnik.

18. Rodrik, D. (2008), "Industrial Development: Some Stylized Facts and Policy Directions" in O'Connor, D., Kjllerstrm, M.(eds), *Industrial Development for the 21st Century*, Hyderabad, Orion Printers.
19. Syrquin, M. (1984), "Resource Reallocation and Productivity Growth", in Syrquin, M., Taylor, L., Westphal, L. E., eds., *Economic Structure and Performance*, New York, Academic Press.
20. World Bank. (2011), *Doing Business 2012*, Washington DC.
21. World Bank. (2010), *World Development Report*, Washington DC.
22. World Economic Forum. (2011), *The Global Competitiveness Report 2011/2012*, New York, Oxford University Press.
23. International Monetary Fund. (2011), *The World Economic Outlook: Slowing growth, rising risks*, Washington DC.

Edvard Jakopin

is Assistant of Minister of Finance, Head of Department for National Development. He has obtained all the academic titles (the undergraduate degree, the postgraduate degree, and PhD in economics) at the Faculty of Economics in Belgrade. He has written numerous expert and scientific papers in the field of macroeconomics, economic development planning, competitiveness, and regional modeling. He has been the project team leader in various research projects and studies, the coordinator of formulation of the National Strategy for Economic Development of Serbia 2006-2012, the head of the process of designing the Strategy for Regional Development of the Republic of Serbia 2007-2012 and the Regional Programme for Economic Development of AP Vojvodina 2004-2007 and 2007-2010, Industrial Policy of Serbia 2011-2020, etc.

Since 2004 he has been a member of EADI (European Association of Development Research and Training Institutes). He is a member of Presidency of Economist Association of Serbia and associate member of Scientific Society of Economists.

Jurij Bajec

was born in Slovenia but most of his life he spent in Belgrade. He was educated in Ljubljana, Bonn and Belgrade, graduated and got his M.A. and Ph.D. at the University of Belgrade. Mr. Bajec is professor at the Faculty of Economics, University of Belgrade. His main research and teaching fields are: public sector policies, economic development, competitiveness policy, economies in transition. He is also Senior Research Fellow at the Economics Institute, Belgrade, and was Visiting fellow at the Institute of Development Studies, University of Sussex, U.K and assistant Professor at the Addis Ababa University.

Prof. Bajec was member of key economic professional organization and expert teams preparing national economic reform and restructuring programs, including Serbian Post-Crisis Economic Growth and Development Model, 2011-2020. Prof. Bajec is author of several books and papers. He speaks English, German and Slovenian. Currently, he is Adviser to the Prime Minister of Serbia.