

# FACTORS WITH SIGNIFICANT IMPACT ON INDIVIDUAL EMPLOYMENT PLANS OF ENTERPRISES: A SHORT-TERM ASSESSMENT BASED ON DATA OF THE SERBIAN ECONOMY\*

## CHAPTER

# 13

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### *Abstract*

*The aim of this paper is to assess the short-term impact of the set of business environment factors on individual employment plans of Serbian enterprises. In order to confirm the initial statements, two independent data sets were used. The conclusions that are drawn from the enterprises' opinions show common framework of the firms' behaviour in the context of the global crisis. The most important factors of the firms' responses to the crisis are available capital, management of the resources and financial sources. Comparisons of the results obtained from two different data sources confirm that the quality of the available labour force is an important factor, but does not represent a major obstacle to growth of employment. Within the pool of factors, the most important ones are instability of market conditions, expensive inputs of production and other market risks.*

### INTRODUCTION

The global economic crises, that had adverse effect on economies throughout the world, severely hit Serbia and other countries of Central and Eastern Europe as well. This region was deemed as promising prior to crises<sup>2</sup>, due to high growth rates of GDP and substantial market-oriented reforms that were taking place. However, recession, that in most instances hit the countries during the last quarter of 2008 and the first quarter of 2009, led to deterioration of major indicators of economic activity. But, not only the national and regional economies were affected by the crises; the crisis changed the lives of many individuals as well.<sup>3</sup>

This paper aims to examine, within the context of the recession caused by the global economic crises, what are the main factors that determine Serbian firms' decision making on future employment. In addition, comparison with other available data sets is performed, in order to determine possible shifts in behaviour of Serbian companies caused by the crises.

The paper is structured in the following manner. The first part deals with changes in major statistical indicators on employment that occurred during recession, in order to examine the extent to which the crises caused deterioration of conditions on the Serbian labour market. The second part aims to assess

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<sup>2</sup> CESifo (2007) and (2008).

<sup>3</sup> World Bank (2010).

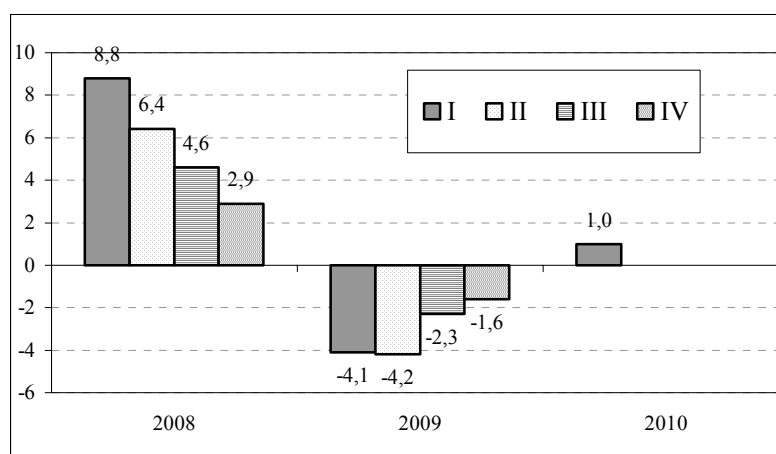
the impact of the business environment factors on prospects of future employment, based on attitudes of Serbian firms' managers. This part of the study consists of two sections. The first section presents major results of the case study, which involves three major macroregions in Serbia: Belgrade, Novi Sad and Niš. In the second section these results are put against another comparable study on Serbia, and common conclusions drawn from the two studies are presented.

### STATISTICAL OVERVIEW OF THE IMPACT OF RECESSION IN SERBIA

In this section we aim to examine the extent to which the situation on the Serbian labour market deteriorated during the recession caused by the global economic crises.

Serbian economy officially entered recession in the first quarter of 2009, and negative GDP growth rates were recorded for all the quarters of that year. However, one should note that substantial deceleration of the GDP growth rates could be observed even during several preceding quarters, as evident from the Figure presented below.

Figure 13.1. GDP growth rates by quarters, %



Source of data: Statistical Office of Serbia

Modest, although seemingly fragile, recovery was recorded in the first quarter of 2010, which may support estimates of the IMF, EBRD (2009) and other international organizations that Serbia would score positive growth rates of economic activity in 2010. Given historical data and predictions, for the purposes of our analysis we will consider that the recession started in the first quarter of 2009 and ceased in the first quarter of 2010. Therefore, in our analysis we will concentrate on examining changes in major labour market indicators at the end of 2009 in relation to the same period of 2008<sup>4</sup>.

According to the official statistical data, based on monthly surveys of business entities, number of employed decreased by 5.5% on average in Serbia in December 2009 in relation to the same month 2008. However, not all types of business entities were equally affected. Employment by entrepreneurs (i.e. craftsmen and sole traders and those employed by them) was much more severely affected, since it decreased by 13.8%; in case of enterprises and organisations the rate of decrease in employment was substantially less pronounced, as it stood at 2.2%. These data are in line with the findings of the ESPI (2009) study, which concludes that small business entities were more severely affected than the larger ones, since already in the second half of 2008 they were faced by the receding business activity.

<sup>4</sup> In most instances we use data of the Labour Force Survey, which refers to October 2008 and 2009.

Table 13.1. Growth rates of employment (recorded by the official statistical data), %, Dec09/Dec08

	Total	Enterprises and organisations	Entrepreneurs
Serbia	-5.5	-2.2	-13.8
Central Serbia	-5.1	-1.7	-13.8
Vojvodina	-6.6	-3.6	-13.9

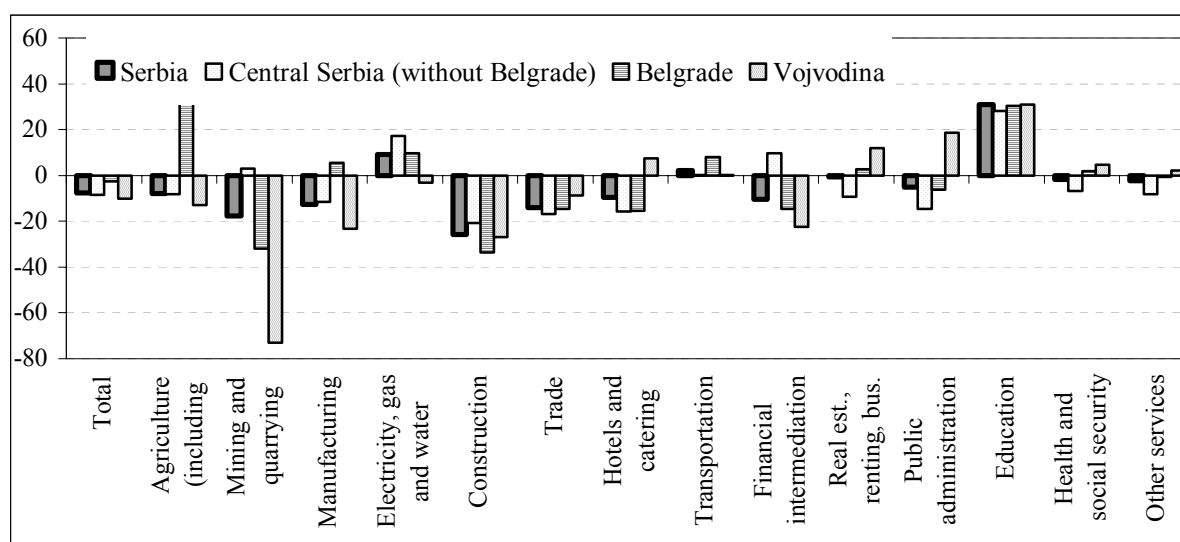
Source of data: Statistical Office of Serbia

As observed from the table, entrepreneurs were equally affected in both the Central Serbia and Vojvodina macroregions, and the rates of decrease in the number of employed by these business entities coincided with the one recorded at the national level. Employment by enterprises and organisations, on the other hand, was more severely affected in the Vojvodina macroregion than in Serbia as a whole, and that rate was as much as 53% higher than the one recorded for the Central Serbia macroregion.

According to the Labour Force Survey, decrease in employment was even more pronounced than based on data collected through business surveys. Namely, number of employed persons in Serbia in October 2009 was by 7.7% lower than one year earlier. The Vojvodina macroregion was affected more than on average, since the number of employed decreased by as much as 10.1%.

Figure 2 shows pattern of change in employment during the observed period across sectors of the Serbian economy, based on the data collected through the Labour Force Survey. The most notable conclusion is that the private sector was promptly affected by the crises, and responded by more substantial decreases in the number of employees. This is primarily true for the services, such as trade, construction, catering and financial services, which were, prior to recession, the main drivers of employment in Serbia. On the other hand, public services, which include public administration, and, to a large extent, education and health (which are dominantly publicly owned), were not that much affected by the crises during the observed period, and in some cases even continued to increase the number of employed persons.

Figure 13.2. Change in employment across the sectors of the economy, %, Oct09/Oct08

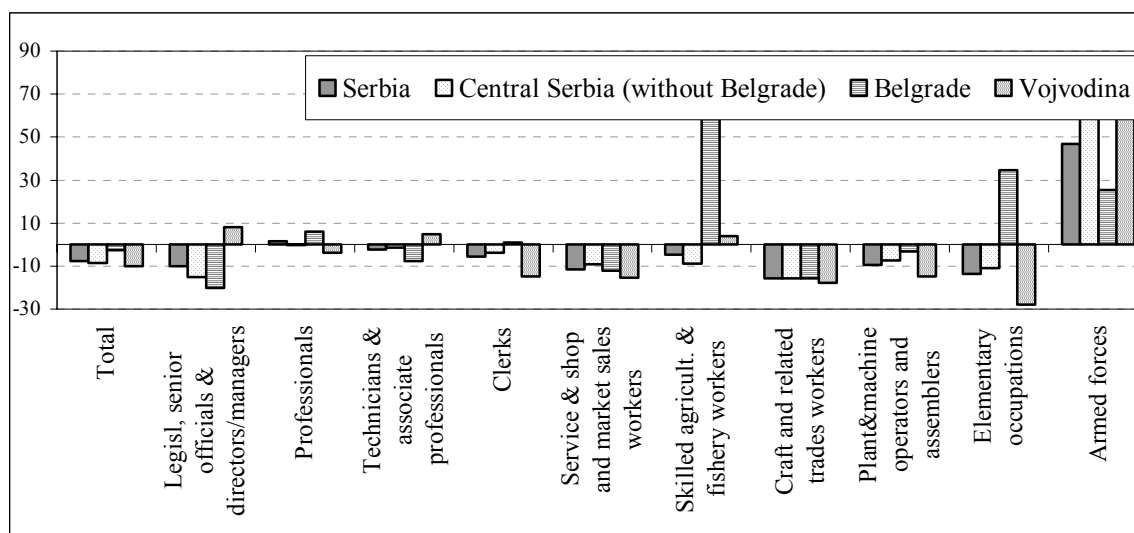


Source of data: Labour Force Survey, Statistical Office of Serbia

Now, we examine how different occupations were affected by recession. According to data of the Labour Force Survey, between October 2008 and October 2009 the most affected group, in general,

were lower skilled workers, particularly craft and related trade workers, elementary occupations, and service workers and shop and market sales workers. Since these occupations are mainly employed in the sectors of trade, construction, catering and manufacturing, these results are largely in accordance with the observed drops in employment in corresponding sectors, presented in the paragraph above.

Figure 13.3. Change in employment across occupations, %, Oct09/Oct08



Source of data: Labour Force Survey, Statistical Office of Serbia

### IMPACT OF THE FACTORS OF BUSINESS ENVIRONMENT ON PROSPECTIVE EMPLOYMENT

To assess the impact of factors of business environment on potentials of employment generated by the Serbian firms, we will present main findings of the analyses based on the survey data collected during 2003 and 2009. The case study represents attitudes of managers of the Serbian enterprises about main business climate components, which ought to be important for the employers' decision making on recruitment of new workers or firing of the existing ones. Both of the presented results were obtained by using the factor analysis.<sup>5</sup> The factor analysis is a common tool for synthesizing qualitative answers and opinions of enterprises. Similar studies were conducted for other countries as well.<sup>6</sup>

The data for 2003 are obtained from the PICS-BEEPS survey that was conducted by the World Bank for 50 countries. The results used in this article are taken from the report based on PICS-BEEPS dataset of the Serbian firms in particular.<sup>7</sup> The sample covers 408 firms in Serbia, representing all economic sectors. Another survey was conducted in the first quarter of 2009 on the sample of 794 enterprises representing three macro territories and all of the economic sectors.<sup>8</sup>

#### Results of the Factor Analysis

In order to examine prospects of existing companies in terms of future needs for employees, a set of factors was defined, which were a priori supposed to have constraining effect on the creation of new employment during the global economic crises. A list of factors, accompanied by perceptions of

<sup>5</sup> More on methodology is given by Kovačić (1994).

<sup>6</sup> Čižmešija and Živadinović-Kurnoga (2002).

<sup>7</sup> World Bank (2004).

<sup>8</sup> Economic and Social Policy Institute (2009).

companies regarding the intensity of their impact, is presented in Table 2. All of the mentioned factors of instability fall within the middle of the distribution of answers of companies as possible determinants of future employment (or decrease in employment), no matter which macroregion the companies are situated in. Expected decrease in the level of economic activity (which majority of business entities perceived as inevitable) and the instability of market conditions, are considered by companies as factors which could significantly influence new employment in 2009. Perception of companies regarding these two factors is uniform. On the other hand, potential decrease in exports for exporters or unfavourable prices of inputs for importers, taken individually, are not considered as factors that could crucially constrain future employment. Such an attitude is common among business entities from all the three examined macroregions. However, one should underline that the companies which are comparably more engaged in international trade regard the previously mentioned factors differently than an average company, and consider them to be constraining factors of their future needs for employees.

Table 13.2. Assessment of the impact of the instability factors on employment in 2009

Factor	Region 1 – City of Beograd		Region 2 – City of Novi Sad		Region 3 – City of Niš	
	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$
Decrease in the level of economic activity	2	0.06	2	0.06	2	0.06
Instability of the market	2	0.06	2	0.06	2	0.06
Decrease in exports	3	0.07	3	0.08	3	0.08
Unfavourable prices of inputs	3	0.06	3	0.07	3	0.07
Instability of the exchange rate	3	0.07	2	0.07	2	0.07
Unfavourable access to financing	3	0.07	3	0.07	2	0.07
Inadequate skills and education of the labour force	3	0.06	3	0.06	3	0.06

Note: 1-strong constraint to employment, 2-considerable constraint, 3-partial constraint, 4-no impact.

Substantial instability of the exchange rate is considered not to be favourable, so companies from the regions located away from the centre (Regions 2 and 3) consider it as substantial factor that limits prospects of future employment. On the other hand, companies from Belgrade do not share such an attitude, since they consider instability of the exchange rate as a factor that partially constrains future employment. However, it should be mentioned that one fifth of companies located in Belgrade regard instable exchange rate as a substantially constraining factor of future employment. Such stance is particularly common among companies that operate in the sectors of trade, construction, manufacturing and catering. Access to financing is considered by majority of companies from Belgrade and Vojvodina to only partially limit prospects of future employment. On the other hand, companies from Southern Serbia deem this factor as the one that could considerably constrain demand for labour force. Majority of business entities from the South that expect access to financing to adversely influence prospects of future employment, operate within the following sectors: whole and retail trade, including crafts, manufacturing and real estate activities. Within the set of the observed factors, in either of the three regions skills and education of the labour force is not deemed as a considerable obstacle to employment prospects. Aside from such an attitude stand companies from Belgrade that engage in manufacturing, construction, trade and real estate businesses, who consider skills and education of the working force as a hindrance that could substantially influence employment prospects. Similar stance is observed within companies from the remaining two regions who operate in the sectors of manufacturing, construction or real estate.

According to the results of the factors analysis, presented in the table below, all of the observed factors of instability could be summed up either as “production inputs” or “sale and prices”. Namely, not all of the factors are regarded equally important by the business entities, and among those that are

considered to be of crucial importance, and that could potentially most severely constrain employment prospects are unfavourable prices of inputs, instability of the foreign exchange rate and unfavourable access to financing (contribution of this individual factor to the common factor is at the edge of significance, however, it itself stands as an important production input).

Another common factor, which could be described as “sale and prices”, is comprised of the following individual factors: instability of the market (which encompasses impacts of the competition and fluctuation of prices) and potential decrease in the level of business activity. These factors, as we have already mentioned in the previous part of the analysis, are considered by majority of business entities (irrespective of the macroregion they are located in) as highly important constraining factors of future employment.

*Table 13.3. Factors of instability: constraining factors of employment in 2009*

	<b>Factor</b>	<b>Name of the common factor</b>
<b>Factor 1:</b>	Unfavourable prices of inputs, Unstable exchange rate, Unfavourable access to financing	Production inputs
<b>Factor 2:</b>	Instability of the market, Decrease in the level of business activity	Sale and prices

*Notes:* Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO=0.74) and Bartlett's Test of Sphericity (Bt=856.22, p=0.00).

Decrease in exports and inadequate skills and education of the labour force were rejected, since they represent less important explanatory components of the extracted factors of stability of the future employment of the working force. Values of factor loadings of these two individual factors are far smaller in comparison to ponders other individual factors had, as can be observed from the table presented below.

*Table 13.4. Factor analysis – matrix of rotated factor loadings*

<b>Factors of instability</b>	<b>Extracted factors</b>	
	<b>Factor 1</b>	<b>Factor 2</b>
Decrease in the level of business activity	0.1567	<b>0.6822</b>
Instability of the market	0.2523	<b>0.7706</b>
Decrease in exports	0.3924	0.2250
Unfavourable prices of inputs	<b>0.6656</b>	0.0861
Instability of the exchange rate	<b>0.6131</b>	0.2986
Unfavourable access to financing	<b>0.5531</b>	0.2023
Inadequate skills and education of the labour force	0.2095	0.0463
Explained variance	54.00%	

*Notes:* Extraction Method: Principal Axis Factoring. Rotation Method: Varimax (with Kaiser Normalization).

The two extracted factors accounted for 54% of the total factor variance (however, it should be noted that the eigen value of the second common factor is just slightly above one – 1.0920, while eigen value for the first common factor stands at 2.6343).

### **Comparative Analysis of the Attitudes of Companies**

Skills and education of available workers is important factor for recruitment of the labour force. However, institutional factors are the most important external factors that influence growth and business development of the companies. According to the enterprises' point of view, corruption,

crime, theft and disorder, absence of fair competition, and legal obstacles, have prevailing negative influence on the decrease of confidence in the market functioning. Several studies on the assessment of business environment in Serbia<sup>9</sup> produced similar results, and in certain way confirmed our previous knowledge that external factors, i.e. business climate factors, significantly influence the firms' management decision making on the future recruitment of workers.

*Table 13.5. Obstacles to creating more jobs by opinion of the Serbian managers: a comparative analysis*

Rotated factor loadings	2003 <sup>1</sup>				2009 <sup>2</sup>		Change
	F1	F2	F3	F4	F1	F2	
Telecommunications	0.04	0.11	0.16	<b>0.54</b>			
Electricity	0.12	0.20	0.20	<b>0.48</b>			
Roads and ports	0.12	0.11	0.15	<b>0.72</b>			
Access to Land	0.13	0.02	0.03	<b>0.50</b>			
Tax rates	0.22	0.20	<b>0.74</b>	0.12			
Tax administration	0.16	0.14	<b>0.73</b>	0.21			
Customs and trade regulations	0.18	0.22	<b>0.45</b>	0.38			
Labour regulations	0.33	0.16	<b>0.46</b>	0.29			
Skills and education of available workers	0.30	0.23	0.27	0.22			
Business licensing and registration	0.29	0.18	0.29	0.31			
Access to Financing	0.22	<b>0.74</b>	0.14	0.24			
Cost of Financing	0.17	<b>0.81</b>	0.22	0.13			
Economic policy uncertainty	0.39	<b>0.50</b>	0.41	0.14			
Macro-economic instability	0.41	0.34	0.34	0.09			
Corruption	<b>0.80</b>	0.11	0.20	0.10			
Crime, theft and disorder	<b>0.87</b>	0.13	0.13	0.16			
Unfair or informal competition	<b>0.50</b>	0.32	0.22	0.17			
Legal system/conflict resolution	<b>0.51</b>	0.32	0.25	0.26			
Decrease in the level of business activity					0.16	<b>0.68</b>	↑
Instability of the market					0.25	<b>0.77</b>	↑
Decrease in exports					0.39	0.23	
Unfavourable prices of inputs					<b>0.67</b>	0.09	↑
Instability of the exchange rate					<b>0.61</b>	0.30	↑
Unfavourable access to financing					<b>0.55</b>	0.20	↓
Inadequate skills and education of the labour force					0.21	0.05	↓

*Notes:* The bolded data represent statistically significant factor loadings.

<sup>1</sup> The results of the factor analysis represent views of managers on 18 different possible dimensions of the investment climate in Serbia (World Bank, 2004, p. 82).

<sup>2</sup> The factors represent opinions of the Serbian firms in order to identify most significant barriers to future employment caused by the crisis (Economic and Social Policy Institute, 2009).

The results presented in the table 13.5. are rather indicative and they could help us understand shifts in the Serbian firms' opinion in two different years. By comparing the results we could do some descriptive conclusions, which cannot be statistically compared using tools of the statistical hypothesis testing, due to different samples and different variables included in the factor analysis. Hence, our motive to conduct such an analysis is to identify factors with significant impact on individual employment plans of enterprises. In order to answer that question, we could see that very important variable for recruitment of workers has no significant weight in creation of the common factors of the

<sup>9</sup> Several reports are mentioned here. For instance, empirical results published by ESPI (2009) and World Bank (2004).

enterprises views. Such a conclusion is confirmed by findings of two independent researches. The possible explanation could be found in the fact that the enterprises may easily replace one worker with another one from the pool of the unemployed. Additionally important external factors are expensive inputs, unstable exchange rate and still unfavorable access to financing. While the significance of the last factor has changed in the opposite direction, the relevance of previous two factors has increased in 2009.

The global crisis has similar impact on all the countries in the region. According to the CESifo observer in the first quarter of 2009, the business climates in the CEE region stood as unfavourable.<sup>10</sup> Notwithstanding small differences among the countries, almost all of them experienced capital shortages, but in the case of the Baltic countries and new member states of the EU (Bulgaria and Romania) capital shortages became serious economic problems. Similar business environments, insufficient demand and low levels of internationally recognized competition were main reasons why multinational companies (which are dominant among the foreign investors of the region) did not move their production from one to another country within the region. Similarities among the countries, low levels of migration of labour and lack of instruments at disposal of the policy makers to deal with the crisis, would cause slow accommodation of the corporate sectors. According to the results of the survey among the Serbian managers conducted in the first quarter of 2009<sup>11</sup>, the most common strategy of Serbian firms is behaviour in line with an interchangeable framework that includes factors, such as capital, management and financial sources. The causality among the factors has the following form: engagement of available factors of production, accompanied with responsible management of resources and availability of additional financial sources, supports the business cycle in such a manner that under the impact of the crises huge drops in employment and liquidations of companies are not inevitable.

The business climate should be uniquely important for all the companies, irrespective of their sizes. However, some studies show that there exists certain discrimination between the small and medium-sized and large companies.<sup>12</sup> In particular, the small firms are significantly more exposed to different sorts of administrative costs caused by the inspection services work, lawyers' services and penalties, compared to the medium-sized and large companies. In addition, a very important and encouraging conclusion is that there exists no statistically significant difference among the companies broken down by size in relation to administrative procedures of import of goods and services. This is additionally important, because, as the above table shows, the customs and trade regulations are recognized by the Serbian firms as an obstacle for creating more jobs.

## CONCLUSION

The Serbian economy was affected by the global crisis, as well as all of the surrounding countries, but the strategies the companies choose in order to suppress impact of the crisis have been changing slowly. The recession was officially confirmed by statistical figures in the first quarter of 2009, showing significant fall in the gross domestic product and the level of employment. In addition, the statistical data show that small firms were more severely affected by the crisis than the larger ones, since already in the second half of 2008 they were faced by the receding business activity. The common model of the firm's behaviour as an answer to the crisis, which was obtained from the collected survey data, confirms existence of certain causality in the manner the firms make business decisions. The results obtained from two different data sets, even though they cannot be proofed with statistical confidence, show that inadequate skills and lack of education of the labour force does not represent a major obstacle for growth of employment. Instead of that, some other factors of the business environment, such as instability of market conditions, expensive inputs of production,

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<sup>10</sup> CESifo WES, May 2009.

<sup>11</sup> Economic and Social Policy Institute (2009).

<sup>12</sup> Dragutinović-Mitrović et. al. (2002).



instability of exchange rate, and other market risks, became more important in the periods prior and during the recession, than they were during the years of economic prosperity.

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