CONTENTS

PROBLEMS OF COMPETITIVENESS OF NATIONAL ECONOMIES AFTER THE GREAT RECESSION

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Abstract: The Great Recession and the debt crisis have led many countries into dangerous paths of stagnation. Under such conditions, one can view several key factors that can significantly contribute to the advancement of competitiveness of an economy. They can be different, having in mind the growth stage that a country has achieved and the historical context which the competitiveness policy must comply with. Aside from the brief insights into the dilemma comparative versus competitive advantage, the paper will examine the relationship between growth, competitiveness and real exchange rate. It will also deal with the most important competitiveness factors in the crisis period such as labor and the amount of debt. Such way of assessing the competitiveness differs from the one provided by the World Economic Forum and which is manifested through composite factors. It can be said that each country in the eurozone can be considered competitive if it succeeds to manage the surplus labor offering and minimize, at the same time, the surplus demand burdening the global saving fund, i.e. the level of debt.

Keywords: competitiveness, the Great Recession, snowball effect, competitiveness factors, public debt.

Introduction

What does the real exchange rate of one currency really mean for country competitiveness? And what do unemployment and the increase in public debt say about country competitiveness? Such questions have not only an obvious relevance after the Great Recession[1], but also serve to put the old issue of country competitiveness and the connected quandary of comparative versus competitive advantage into a different and possibly new perspective. In this perspective, countries are competitive when the policy strategies and interventions adopted in

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[1] The slump that occurred in 2007 -2009 was the longest and deepest one seen in decades and it came to be dubbed the Great Recession – at least since February 2010, when the Associated Press Stylebook, the journalist's bible since the early 1950s, included this name.

the past avoid unemployment, debt deflation and competitive depreciation. Options such as competitive disinflation and competitive devaluation are particularly appealing to countries mired in stagnation. High unemployment is obviously the cost of any policy aiming at debt reduction, which is particularly onerous in a slow-growing country. By the same token, any country would be better off if it were able to avoid a prolonged recession not to say defaulting on its debt. Debt deflation and slow growth hinder recovery and solvability in debt-burdened countries in the euro area and drive all policy decisions at national and supranational levels.

In the next section, we summarise the debate regarding the comparative versus competitive advantage dilemma. Then we briefly focus on the vexed question regarding the relation between growth, competitiveness and real exchange rates. The following section focuses on what debt and unemployment mean for a country's competitiveness. This represents a way of assessing competitiveness which is different from composite indicators, such as those offered by the World Economic Forum or those based on prices and exchange rates[2]. Neither special, ad hoc, indicators nor arbitrary weighting schemes are needed. Common statistical data on debt and unemployment offer an unambiguous base for assessing the position of the economy in countries trapped in a debt crisis, such those of the EU, which in some cases are on the verge of a full-blown recession.

Comparative and competitive advantages

The concept of the competitive advantage of nations was debated during the 1990s, i.e. at least since Michael Porter published his book on the Competitive Advantage of Nations (Porter, 1990) and ten years after he had published a ground-breaking book outlining the basic five forces that should shape the strategy of companies, regions and countries (Porter, 1980).

International economists had been increasingly aware since the 1960s (see below) that the principle of comparative advantage was unable to satisfactorily explain the observed pattern of productive and trade specialization, but it took some time to reconcile the received theory with empirical observation. In 1980, Paul Krugman (Krugman, 1980) formalized the idea that in the modern world, economies of scale and product differentiation, i.e. imperfect competition, matter more than comparative advantage and perfect competition. For Krugman, any observed pattern of productive specialization is due to increasing returns to scale, and product differentiation appears to be merely one among many possible outcomes.

The reaction of economists to the very notion of a competitive advantage of nations was nonetheless strongly critical. The most convinced critic was Krugman, who dismissed competitiveness as a rhetoric argument, a dangerous

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[2] Harmonized competitiveness indicators and real effective exchange rates are offered, respectively, by the European Central bank and the European Commission.

obsession (Krugman,1994) and a poor metaphor (Krugman,1996). According to him and others, the notion of "competitive advantage" itself is in conflict with the most basic principle of trade theory, i.e. the principle of comparative advantage. According to this principle, as famous as it is misunderstood, national economies can specialize through trade in the activities where they have the highest comparative advantage, even if they have no absolute advantage. This means that, unlike firms, countries cannot be competed out by other countries, even if they have no absolute advantage in any activity or sector. However, this holds true under some restrictive conditions. In the original classical Ricardian theory, the advantages derive from geography. In the H-O neo-classical version of comparative advantages, productivity is at the same level and competition makes profit and wage rates equalize, then trade specialization depends on the relative abundance of different factors of production and is unique. What goods are produced and where is known from the start and given forever. What was missing in the theory built upon that cornerstone were the implications of imperfect competition and the possibility of evolution in the pattern observed. The basic insight of modern economic theory is that in the real world, imperfect competition makes many different production and trade outcomes possible. Since they are not all equivalent for the different countries, the multiplicity of outcomes offers room for trade policies as well as conflicts among competitors.

Consider the famous case of Switzerland and watches (Chipman 1965, 736): neither geography nor factors of production (watch-makers and watch-making machinery) can explain why Switzerland had become so well endowed and so good at producing watches. What became increasingly clear is that factor endowment and specialization – both unknowns – co-determine and evolve over time and thus the observed endowment and specialization is the particular outcome that has historically prevailed over all others. Powerful forces – such as economies of scale, external economies and start-up costs, as well as history and learning – are certainly present in the complex dynamic process which makes one specific outcome like that of Swiss watches to be chosen among the many possible. When this starts happening, comparative advantages show themselves and the adherence of trade flows to them can be detected. Switzerland had the comparative advantage of producing watches while Germany was then specialized in cameras.

What is remarkable to historians of economic thinking is that the existence of externalities and scale economies and the implications for competition and equilibrium started to be understood long ago and notably in Marshall's Principles of Economics (1890). In the early stages, they were investigated more by location economists (viz. Alfred Weber and August Losch) than by trade theorists. But nobody was able to formally reconcile economies of scale with imperfect competition until the early 1980s, when Paul Krugman (1980) employed a monopolistic competition model to show how economies of scale and product differentiation are key determinants of multiple equilibria in the trade pattern.

At least since August 2011, i.e. just after the worsening of the debt crisis in the euro zone, many European governments have been asked to slash public debt and boost country competitiveness, even though nobody knows how to make every single country in a single market become more competitive. Indeed, it is impossible for all countries to do that in all sectors. If it is possible for some firms to compete some other firms out of the market where they are present, it is not possible for countries to do the same with some other countries in all sectors. A different possibility is the exclusion of a specific country from all the highly profitable and dynamic sectors, and this obviously is an empirical observation.

Since competition is largely imperfect, there is more than one specialized pattern of production, thus the possibility of creating and modifying existing comparative advantages naturally produces competition and even conflicts over the choice of the most favourable pattern among the many possible patterns of specialization. Competition and competitiveness are relative concepts, implying that if there is one winner there must be at least one loser. Yet it is common place that in the single sectors the firms of a specific country can be excluded by firms of other countries or be unable to enter. What is important, therefore, is to assume a disaggregated perspective and to recognize that there is no unique pattern of specialization and trade. These possible arrangements or outcomes depend not only on natural resources and endowments but also – and crucially – on the capabilities the countries freely choose to develop or are allowed to develop. The different arrangements, indeed, depend on what countries actually choose to do or are allowed to do by others. Any country, therefore, has an obvious stake in the success or failure of its firms, because it is on their success that its long run well-being will depend.

According to the principle of comparative advantage, each country gains if it specializes in the activity in which it has the highest comparative advantage; and ex post we can observe that if a country is able to gain an advantage in a particular activity or sector, this means it is able to attract firms from all other countries in that specific activity or sector. It will also be able to retain that advantage if entry costs, externalities and returns to scale are sufficiently large to compensate for higher wages and salaries, in the sector. In the classical model of comparative advantage, returns to scale were constant and externalities absent, so competition was then perfect. Furthermore, since resources and technologies are taken as given, also the pattern of specialization and trade is unique and given. In the contemporary real world, capital can relocate freely and licensing, imitation and innovation make technology and the set of traded products evolve constantly and rapidly. Furthermore, competition is imperfect since returns to scale and externalities are pervasive. Thus, the pattern of comparative advantages is far from given. It changes not only spontaneously but also because strategic industrial policies and the strategic behaviour of firms purposely try to modify it. Here is the race and thus the snag: countries that lose the race are not pushed out of the market, but are progressively trapped in unfavourable productive and trade specializations

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and thus obliged to compete on the base of lower relative wages, particularly if labour productivity does not increase enough and price fall. Countries that win the race by conquering and defending a comparative advantage in profitable activities can compete even if their relative wages are higher. In the end, factor prices equalize in the same jobs rather than in the same sectors or across sectors; and the countries that are winners in the race are those countries that are able to retain the better jobs and shift profits from foreign to domestic firms.

Country competitiveness and the real exchange rate

There are different notions of relative competitiveness when competitiveness is understood as the way to let national firms gain a competitive advantage. The first one is related to scientific research, which was shown by Grossman and Helpman (1992) to be able to contribute (together with development) to a country's overall competitiveness. R&D activities are deemed to determine long-run resource allocations able to change the productive structure from traditional manufacturing to high-technology goods and services. Private investment in scientific research requires, inter alia, incentives, abundant human capital and a moderate ratio between consumption and investment in physical and human capital. Since the system of property rights is strategic in creating incentives for private research, the intensity of competition and the extent and nature of the system of education and training are equally strategic in promoting investment and human capital, respectively.

The second notion is industrial policy, which adds to the R&D component other forms of State intervention. The case of Japan from reconstruction until the mid 1980s is of paramount importance for illustrating the role of innovation in all its forms: new products, new business services and new processes. The provision to producers of a vision able to indicate the future direction of industrial development and of all the necessary information has been considered the key feature of a very successful industrial policy. The latter included also the creation of infrastructure, assistance for restructuring and a commercial policy.

The third notion is related to the real exchange rate. The idea that the real exchange rate can be an instrument is obviously very old, and possibly the oldest; however, the relation between economic growth and the real exchange rate has always been a vexed one. If one asks what is the role of the real exchange rate and particularly that of real depreciation in the promotion of economic growth, one arrives at very different conclusions. According to the IMF, a right level for the real exchange rate reduces distortions and is good for growth. Accordingly, the so-called fundamental equilibrium exchange rate (FEER) is defined as an exchange rate that is expected to be indefinitely sustainable on the basis of existing policies. This is not necessarily a condition for a current account balance, but rather a way to figure out the level of the exchange rates which are able to match the country's underlying sustainable capital flow (Cline & Williamson 2007).

According to others, a real depreciation of the domestic currency is good for growth. While the market mechanism would ideally distribute resources among traded and non-traded goods in such a way that returns are equalized, the rationale of export-led growth is to use the real exchange rate to provide an incentive to shift resources into sectors where productivity is relatively higher by keeping the prices of exportable goods in the domestic currency and thus keep returns high enough to work the magic. This is typically the case of manufacturing sectors where increasing returns to scale are possible and foreign demand is elastic (Rodrik 2007 and 2008; Eichengreen 2008, 2011).

When one considers the causal relation going from competitiveness and growth to the real exchange rate, one also finds quite a bit of uncertainty. Balassa and Samuelson asserted that emerging economies have an appreciated currency because they usually have comparatively more inflation due to higher productivity growth in the production of tradable goods. Indeed, it has often been observed that fast-growing economies tend to have strong or appreciating currencies. Similar to this is the case of industrial countries having caught the so-called "Dutch disease", which refers to the discovery of natural gas. Such resources deliver currency appreciation and fuel pressure on domestic wages (Buiter and Purvis 1980).

Yet, real exchange rates, while following nominal exchange rates, seem to be trendless in the very long run. This made economists think long ago that nominal exchange rates are fundamentally the relative prices of currencies. If this were so, in the long run nominal exchange rates would be able to equalize prices across countries and keep real exchange rates constant on average. The relative prices of currencies would also be independent of the net international investment position of countries provided that the debt/credit positions were sustainable. Over time, exchange markets have been colonized by financial speculation and the idea that markets are efficient has made the assumption that expected movements in exchange rates compensate interest rate differentials gain ground while leaving untouched the presumption of some degree of parity in the purchasing power of currencies. More recently, Krugman (1989) observed that to justify the trendless nature of real exchange rates, one has to forget the old assumption that trade elasticities are fixed parameters. He has shown that fast-growing economies typically have high income elasticity of demand for their exports and low income elasticity of demand for their imports. According to this perspective, competitiveness can be assessed indirectly as higher competitiveness would translate into changes in income elasticity rather than in exchange rates.

The European Monetary System of 1979-1998 and the Economic and Monetary Union started in 1999 are special cases in the sense that with the existence of a relative stability (1979-1998) and fixity (1999 onwards) of the nominal exchange rate, competitiveness depends only on relative prices. The result of a real depreciation caused by a relatively lower price increase is commonly called competitive deflation and usually refers to the experience of Germany and

France during the 1980s when inflation was still high and when the European Monetary System was able to keep nominal exchange rates among the European currencies relatively stable. Competitive deflation was also the more recent experience of Latvia, which, to attract foreign capital and increase net exports, gained admission to the euro zone in 2011 by reducing nominal wages.

The impact of the Great Recession

Needless to say, Europe and the United States are still mired in the consequences of the crisis that erupted in 2007 with the burst of the credit bubble. Excess debt in the private and public sectors – although in different proportions – is the distinct feature of the first phase of the crisis. The crisis produced a break in the trend since the recovery in 2010 was not able to make the European and American economies recover the old trend rate of constant employment. In late 2011, risks of a second dip were clearly increasing. The debt crisis in the EU and its implications for banks and currency are the new features of the second dip. The slump that occurred in 2007 -2009 was the longest and deepest one seen in decades and because of this since early 2010 it has been officially called the Great Recession. After the Great Depression of the 1930s, the Great Inflation of the 1970s, the Great Moderation of the 1990s, the slump of December 2007-June 2009 has merited the name because it was widespread, deep, prolonged and followed by aggressive policy response by governments and central banks all over the globe.

In 2010, the credit crisis turned into a full-blown debt crisis in the European Monetary and Economic Union which is the most serious in the brief history of the euro. From Greece, the debt crisis spread to Ireland and Portugal. In spring and summer 2011 it was, respectively, the turn of Spain and Italy. In autumn, even France, Belgium, Austria and other members of the soft core of the euro zone saw their spreads head a little higher. Contagion took hold after Germany made clear that the bail out of Greece was not contemplated and the private sector was going to be asked to share the cost of debt restructuring. Risks on sovereign debt immediately rose in other countries, thus making interest rates and the spread increase. The deepening of the crisis called for bond buying at the ECB, i.e. clear deviation from the original policy mandate of the Central Bank. National governments and Union authorities even started contemplating the possibility of exit, which means that the original EU, EMU and ERM-II arrangement itself has been brought into discussion in the last few months. Indeed, by summer 2011, fiscal austerity and monetary policy were clearly unable to stop turmoil in capital markets and strains in the European banking system. Fiscal austerity, while being rather ineffective in dampening the increasing and worrying divergence in bond yields, did not fail to hit the real economy and employment. The slowdown in real demand is making a double dip happen which is backfiring on the capital market.

After years of stimuli, monetary policy appeared to be rather ineffective in the real economy and largely directed at helping banks at remaining liquid throughout the EU. This is particularly true in the euro zone, where the ECB has unwillingly started to intervene to reduce yield spreads and where a few governments are optimistically supposed to be able to face the run on their debt by merely adopting austerity measures. Indeed, many euro governments in 2012 onwards will be largely focused on retrenching their budgets. The diffuse fiscal restraint, however, is not failing to reduce the private propensity to spend and thus to slow down growth not only in euro area, but also elsewhere. Basically, monetary policy is ineffective and fiscal policy is constrained in the euro area. Furthermore, the 2010 recovery has not proved to be sustainable and growth is insufficient on average. The fall in the employment ratio in the US, where the labour market is more reactive to the growth rate, is far more severe than the drop for any other recession in the past 50 years (PRC, 2011); and its duration, which is already longer than usual, is bound to lengthen further if growth does not resume at a higher, stable level. What else apart from macroeconomic policies and spontaneous growth could pull the economy out of the hole? The obvious hope in each single country is a recovery in its own external demand, but this is impossible for all countries if growth is weak. No wonder that panic has hit financial markets the century.

A further implication of the current paralysis is the appreciation of safe-haven currencies (notably the Swiss franc and the yen) and the currencies (e.g. the real, the renminbi, etc.) of emerging economies This appreciation is obviously spreading the recessionary wave from the West to the rest of the world economy and thus triggering reactions from central banks and governments in the countries hit by currency appreciation. The currency appreciation in the emerging economies therefore could not benefit the West very much. The West would like to see their currencies depreciate while the East would like to see their currencies remain stable against the other currencies. Thus, from any point of view, the current crisis rightly deserves the name of Great Recession as a way to shorten it is not yet in sight.

What does the crisis mean for country competitiveness?

Factors promoting national competitiveness are numerous and the combination of them that is able to enhance competitiveness is likely not to be the same across the different stages of growth of the economy. Since a country which is competing for technological leadership must face competitors which are entirely different from those it would be called on to compete with if it were a follower, in the first case it needs competitive factors which are not entirely the same required in the second case. By the same token, we could argue that in different historical contexts a given combination of competitiveness factors might prove to yield different outcomes. The global excess labour and the global high level of debt are prominent features of the contemporary macroeconomic scenario. It seems,

therefore, worthwhile to give special emphasis to such aspects to get a clue in the question at hand. Great economic thinkers such as Adam Smith and John M. Keynes guide us to a profound comprehension of how typical macroeconomic features such as high public debt and high unemployment reveal a state of weakness in the economy's competitive position. High public debt does that by raising the price of doing business and thus unemployment. Higher unemployment is thought to depress labour costs for firms, but it raises workers' private and social costs as well. In contemporary society governments are asked to provide employment protection, unemployment benefits, retraining and health care to limit those costs, but this hinges upon public expenditure.

The cost borne to service the existing public debt is obviously a key element in debt dynamics. The bounce in the spreads observed in some European countries has made it difficult for their governments to borrow from the market and thus to service the debt in circulation. Any real economy has a limited ability to carry debts since an obvious limit to the feasible primary budget balance always exists. As is well known, the debt ratio that can be sustained is related to the difference between the interest rate on the sovereign debt and the growth rate in the real economy. The latter difference is not stable during a debt recession. If the level of the debt is too high in relation to the ability to carry it, the perception of risk rises. Beyond a certain level of the debt ratio, the interest rate grows, although not uniformly across countries and time. Under certain conditions, national and foreign saving dries up, making borrowing impossible.

All this can be easily encompassed in the so-called snowball effect which is one of the three components of the annual change in the debt ratio. In symbols, the change in the debt ratio, $b_t - b_{t-1}$, can be decomposed in the primary budget balance ratio, x_t, the snowball effect $b_{t-1}(r_t - g_t)/(1 + g_t)$ and the stock-flow adjustment, s_t, as follows: $b_t - b_{t-1} = x_t + b_{t-1}(r_t - g_t)/(1 + g_t) + s_t$, where r_t stands for the implicit nominal interest rate on the debt in circulation and g_t is the nominal growth rate[3].

The basic point is how the capital market assesses the riskiness of the existing debt and, in particular, how the debt ratio compares to the feasible primary surplus and potential growth in the economy concerned. This has critically to do with government solvability and debt sustainability. During a debt crisis, the implicit nominal yield (i.e. r_t) on the securities in circulation obviously rises. Depending on the amount of securities to be redeemed and the primary deficit to be financed in the current period, the yield rise on existing securities will be passed on to the yields on new emissions and on the next period's yield r_{t+1}. Adam Smith

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[3] The two symbols could equivalently indicate real interest and growth rates.

would argue that a rise in r_t reduces competitiveness, thus making the rate g_t of nominal growth decline. The snowball effect lies in the just mentioned link and in the dynamic mechanism by which a positive feedback between the initial debt ratio b_{t-1} feeds upon the resulting annual change in the debt ratio $b_t - b_{t-1}$. As subsumed in the formula, only a further hardening of the austerity package could ideally reduce or neutralize the incremental effect on debt by the rise in yields. The circularity introduced by the dynamics in b_t and in ($r_t - g_t$) is vicious because the perception of solvability risks, i.e. the possibility that the debt starts increasing at a rate higher than $r_t - g_t$, forces the market to make the spread between the interest rate and the growth rate $r_t - g_t$ itself to increase. This increase signals a rising risk of insolvency and thus a definitely unfavourable scenario which might be the prelude to a default. If the government were able to end the debt growth first and then to find year after year enough resources to service the existing debt, the situation would be sustainable.

Figure 1 reports the data for the EMU and the other ten EU member countries offered by the European Commission in Spring 2011 (EC, 2011a), i.e. before the worsening of the debt crisis which took place during the third quarter 2011 and through the contagion from Greece and Portugal to Spain and Italy. Available data from the European Commission refer to the period 1995-2012 and include the expected result from the austerity measures adopted in early 2011 although not those of July 2011 on. From this point of view, it can be said that since October 2001 the expected scenario for 2012 has appeared increasingly optimistic since it was based on: (1) underestimated primary surpluses, (2) overestimated nominal growth rates and, depending on the country, (3) under/over estimated implicit interest rates.

Figure 1a: Snow-ball effect in European Union (average 2000-2012)
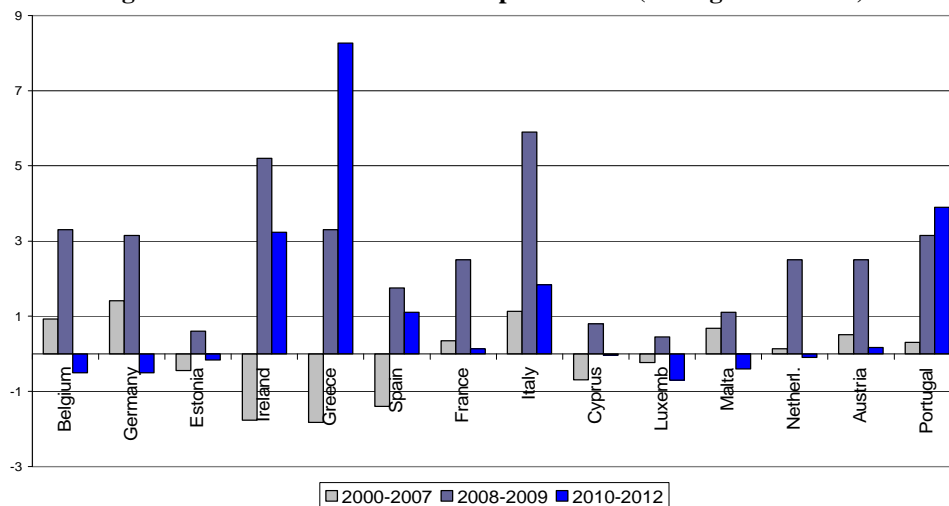
Figure 1b: Snow-ball effect in European Union (average 2000-2012)
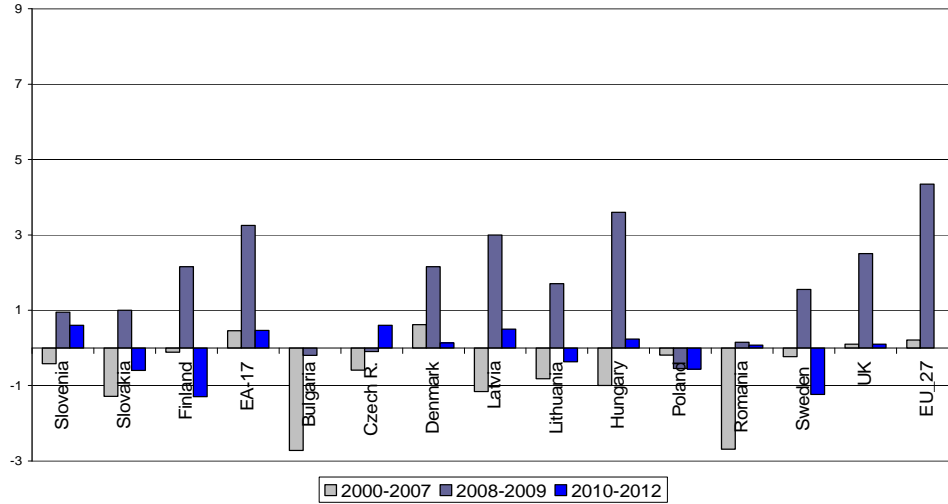
In April 2011 only Greece, Ireland and Portugal were bearing the brunt of a high spread $r_t - g_t$. Those spreads were definitely higher than the average level of the corresponding spreads experienced during the 1995-2007 period. Contagion had not yet surfaced even though Italy was already bearing a moderate increase in its rate spreads. Other countries were in the opposite condition: Belgium, Germany, Luxembourg, Slovakia and Finland in EA-17, Poland and Sweden in the rest of EU-27 were seeing their spread narrow vis-à-vis that of the dramatic two years 2008-2009. A further small, but significant, difference occurred between the EMU (EA-17) and the EU-27 in that the latter had a small advantage against EA-17.

Contagion started in June 2011 when the EU admitted that Greece needed a second bail-out package and Germany demanded private-sector involvement in the debt crisis. Spreads in Spain and Italy's sovereign debt soared. They continued to rise even though later on the EU agreed to boost the lending capacity of EFSF and allow it to buy bonds in the primary market. In August, the ECB even started to intervene to support Italian and Spanish bonds but internal (government) and external (Greece bail-out) uncertainties led to a further rise in spreads. Spain and Italy followed Greece as they entered in the snowball dynamics – by which the widening gap $r_t - g_t$ makes the primary balance required to stabilize the given debt/GDP ratio rise just because a perception of weakness takes hold. If the country was deemed to be competitive, the growth rate would be higher and the interest rate lower and that perception would not appear. The resulting reduced size of the snowball, therefore, can be considered as an indicator of competitiveness. The briefly-described worsening phase is not entirely captured in the figures published in April and thus in Chart 1.

Figure 2a: Snow-ball effect in European Union (forecasts compared)
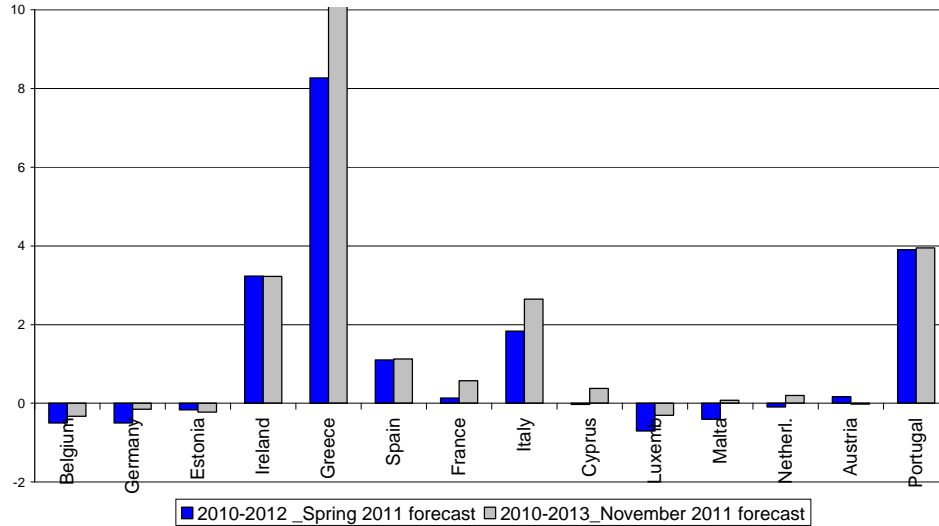
Figure 2b: Snow-ball effect in European Union (forecasts compared)
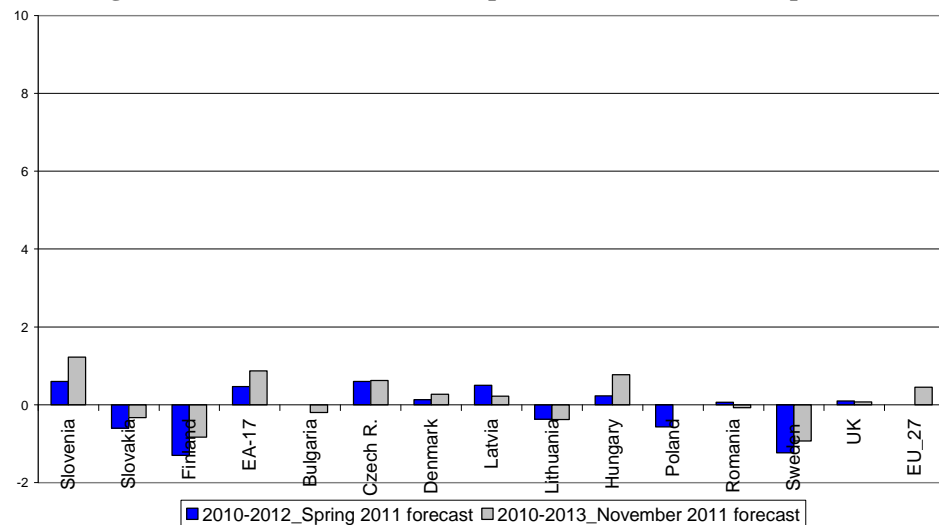
A new forecast was made available in November (EC, 2011b). It includes a new forecast for the 2011-2013 period which clearly shows (Figure 2) large differences in the snowball effect for the countries such as Greece and Italy, i.e. the countries that have been most seriously hit by the worsening that occurred during the second part of the year. In Ireland, Spain and Portugal the snowball effect has barely moved. Consequently, both the euro area and the European Union averages went up after the revision in November.

Summing up, it can be observed that being able to discriminate among sovereign debtors the bond market has started to form self-fulfilling prophecies about some countries' solvency. This happened then at the end of a ten-year honeymoon with the euro whereby all euro countries were looking almost alike in the bond market. With the 2009 crisis, the market swiftly started to realize the consequences of existing differences in competitiveness on government solvency and debt sustainability. This judgement is implicit in the observed bounce upwards in the level of the snowball effect. Since the latter is, at the same time, the effect and the cause of the dynamic interaction between b_t and in ($r_t - g_t$), we argue that a higher rate of interest and a lower rate of growth can act as a trigger of the debt crisis particularly when the national government and central bank are devoid of any control over monetary policy and exchange rate.

Since the crisis itself and the fiscal consolidation pursued in the countries concerned directly bear upon employment, to get a better assessment of the national economy's competitiveness both the unemployment rate and the snowball effect should be obtained. Indeed, a reduction in one of them implying an increase in the other indicator does not necessarily signal an overall improvement.

The second dimension to be considered in assessing what the crisis has said about competitiveness is the labour market. Indeed, a favourable debt scenario cannot be considered really satisfactory if in the given country unemployment is high. Protracted joblessness and unsatisfactory jobs reflect austerity and improvement in the debt scenario which has been partially paid with deterioration in the labour market. This labour market dimension of competitiveness cannot be overlooked in the advanced economies caught in the current crisis. Dooley et al. (2007) have offered an analysis of the ongoing absorption of excess labour in world periphery. They assume that excess labour is the driving force of the global economic and monetary system and argued that imports in the developed world create a big problem of dislocation of workers across sectors and activities and that "no country has found a workable way to compensate its own losers" (Dooley, et al. 2007,109).

To increase employment, Europe should redirect savings from financial markets and real estate to increase the real number of available jobs in other productive sectors. The strategy pursued in the past years has generally been to make credit increase too much. Interest rates were abnormally low everywhere and credit grew rapidly everywhere without a significant increase in the real economy. The result was an excessive surge in private and sovereign debt vis-à-vis the capacity to service debts. Finance has outgrown the real economy and the real economy currently often has an even smaller capacity to bear that weight of debt. There is also the risk of seeing debt reduction efforts make the real economy shrink instead of enlarging and this is why the combination of the snowball effect and unemployment are useful indictors of overall macroeconomic efficiency.

The debt crisis is making the problem to appear more than earlier an unemployment problem which co-exists with that of precariousness. The equation between flexibility and employment has been demonstrated to be rather weak, if not flawed, and the suggestion coming from the OECD (2004, p. 63) since then is to strike a balance between the different policy options. The strategic stance in the labour market legislation and policy aims at striking a balance – which has been dubbed "*flexicurity*"— between market dynamism and adequate security (EC, 2006). As a matter of fact, the labour market is predominantly a two-tier market in which, besides permanently employed people, there also exist a large number of long-term unemployed, precariously employed and informally employed people as well. The labour law of the last few years has tried to advance *flexicurity* while the strictures of social securities systems and government budgets make it difficult to achieve life-long learning and employment security.

From this point of view, it can be said that really competitive economies are those showing not only a low snowball effect which, in the end, does simply mean that the debt is relatively low, but also a low rate of unemployment.[4] Indeed, a surplus country which increases its foreign assets, but which fails to increase its employment rate can hardly be deemed to be competitive. At the same time, a deficit country which can borrow in the international capital market at a rate permanently lower than its growth rate while having a low debt ratio is in a sustainable debt condition, but it is equally uncompetitive if it has a high rate of unemployment. Combining the two indicators – the unemployment rate or the fraction of the population which is not working and the so-called snowball effect – we get a more satisfying way of measuring national competitiveness as it indicates better chances of escaping the risks of a protracted recession, i.e. of having a positive pay-off. The two indicators are lowest in the more competitive countries and highest in the less competitive countries.

Figure 3 reports the change in the unemployment rates in the period 2000-2010. Figures show that both the EA-17 and the EU-27 had a small increase, but there are large internal differences. While Ireland, Spain and Portugal, i.e. countries that entered the EU a long time ago, fared distinctly worse than the others, newcomers such as Poland, Bulgaria and Slovakia had a very good start. Latvia and Hungary, however, have had an increase in the unemployment rate. Spain and Italy, which were caught in the debt crisis only in 2011, had opposite tendencies.

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[4] The ratio between the number of employed people and the number of working-age population could be used.

Figure 3: Change in the total unemployment rate 2000-2010
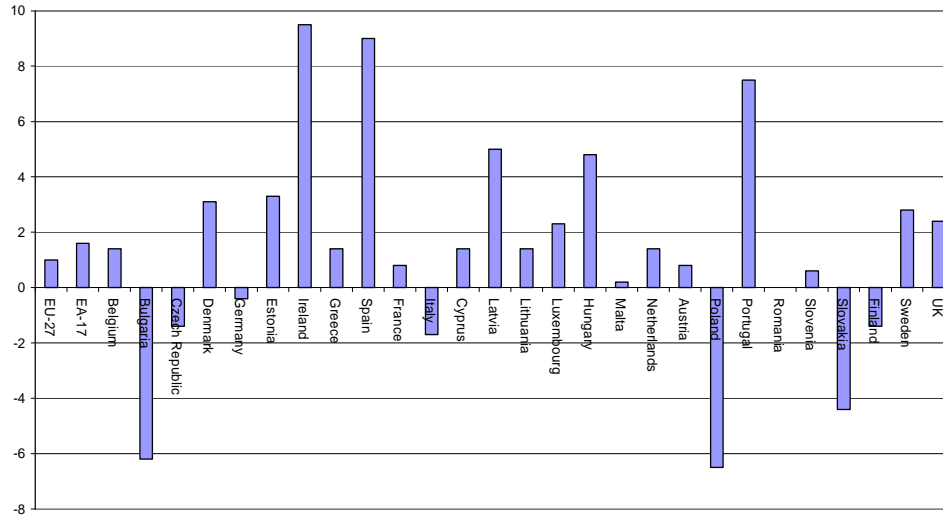
Source: Eurostat

By considering the snowball and the unemployment rates together, we can assess competitiveness in a rather comprehensive way. On this account, we can assume that really competitive countries are those able to improve both their debt and unemployment conditions. When maintained, this double condition will give them a better chance of escaping the risk of a prolonged recession. Until April 2011, only Germany, Malta and Poland were following such a favourable path. The pending risk, indeed, is that the efforts made to reduce debts and thus deleverage the economy will end up by backfiring on the employment side. Countries able to improve only one of the two indicators – such as Sweden and Estonia – were in a middle position. Ireland, Greece, Spain and Portugal are in the worst condition since they were already experiencing a huge deterioration in both dimensions.

This assessment is basically a qualitative one since the two dimensions are not weighted as they probably should be. Positions are bound to change over time, but not dramatically. The snowball effect, for instance, reflects the implicit average interest rate on the debt in circulation. The level of the snowball $b_{t-1}(r_t - g_t)/(1 + g_t)$ follows any increase in the yield spread with a time lag since the level of the debt and the effect of the increase in the spread and the size of redemptions net of the primary deficit compound on each other to destabilize the dynamics of b_t. The lag is long when the average duration in the existing debt is long and the budget deficit small just because bonds to be redeemed are few. In this case, given the levels of b_{t-1} and g_t, the snowball effect changes slowly with respect to the level of market yields. As is obvious, a large debt represented by short term bills enhances the impact of a larger spread on the snowball and makes the debt condition change more quickly.

15

Conclusion

In this article we have shortly reviewed the counterposition between management and economists which has given rise to a lively debate about nations' comparative and competitive advantages. We have concentrated on the economists' contributions. At least since Marshall in the late 19th century, economists and location theorists have realized that externalities and imperfections in market competition play a key role in shaping the competitiveness of firms, but were unable to embed such features into their analysis of equilibrium in trade and location for almost a century. Things started to change in the 1980s when monopolistic competition models were used to deal with multiple equilibria generated by imperfect competition. Economists seem convinced that the observed trade pattern shows that nations still specialize in the activities where they have the highest advantage, but also that this pattern changes constantly. In the last twenty years, change has accelerated enormously and its bearings on the different countries are very important. In some cases, the specialization is felt as unfavourable (favourable) particularly when it obliges the country to compete (not compete) through low wages in sectors which are declining (growing). There are therefore obvious possibilities of conflict among countries. However, suitable policies have been devised to improve a country's competitive position or at least to limit its deterioration. Such policies have a key role in the current globalized world economy. In this article we have briefly focused on the role of real exchange rates even though there is no general consensus about its actual effectiveness as a policy instrument.

In the second part of the paper we have argued that the combination of different factors which are able to enhance a country's competitiveness may be different according to the stage of growth reached by the country itself and according to the historical context in which the policies for competitiveness should fit. There are two facts that stand out among the prominent features in the contemporary scenario. They are, respectively, the global excess labour supply and the globally high level of debt. They are not entirely independent, since the credit lever has certainly appeared to be the right tool to face demand deficiency. Building on this premise, we have basically argued that any country in an area such as the euro area can be deemed to be competitive when it succeeds in minimising the degree of excess supply in its own labour pool and, at the same time, the degree of excess of demand tapping on the global savings pool, i.e. the level of its debt. Such a condition is surely enviable in its own right and it really does not matter whether it has been attained by using the correct incentives to human capital, by attracting a lot of capital, by making big infrastructure investments or through wise management of real exchange rates.

The Great Recession and the ensuing debt crisis have clearly has taken many European countries into dangerous waters, thus a sensible way of assessing macroeconomic competitiveness nowadays is to address directly figures regarding

unemployment and the so-called snowball effect. The latter is one of the three key elements in the standard decomposition of the annual change in the sovereign debt ratio. Unlike the other two – the primary surplus and the stock-flow element, which, to a large extent, are controlled by the government – the snowball effect seems much less under the direct control of any government coalition. The snowball effect is tied more to how the capital market actually assesses the position of the country concerned, rightly or wrongly. Indeed, it does not matter much whether the market actually underestimates or overestimates the risk in the existing debt position, which explains why rating agencies exist and make a profit. Everybody knows that financial markets are dominated by things such as animal spirits, waves of irrationality, jumps in confidence and sudden stops, etc. These phenomena hardly make the capital market able to offer efficient and correct assessments of existing risks and optimal allocations of available savings, but it is also well known that any debtor obliged to rollover its debt can ignore the creditor's sentiment only at its own peril.

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PROBLEMI KONKURENTNOSTI NACIONALNIH EKONOMIJA POSLE VELIKE RECESIJE

Rezime: Velika recesija i dužnička kriza, odvele su mnoge evropske zemlje u opasne vode stagnacije. U takvim uslovima možemo posmatrati nekoliko ključnih faktora koji značajno mogu uticati na unapređenje konkurentnosti određene privrede. Oni mogu biti različiti, imajući u vidu fazu rasta koju je određena zemlja postigla i istorijski kontekst u koji politika konkurentnosti treba da se uklopi. Pored kratkog osvrta koji je u vezi sa dilemom komparativna vs. konkurenska prednost, rad će se baviti i odnosom između rasta, konkurentnosti i realnog deviznog kursa, te najznačajnijim faktorima konkurentnosti u kriznom periodu, kao što su radna snaga i veličina duga. Ovakav način procene konkurentnosti se pomalo razlikuje od onog koga nudi Svetski ekonomski forum, a koji se ogleda kroz kompozitne indikatore. Može se reći da se svaka zemlja u evro-zoni može smatrati konkurentnom ukoliko uspe da svalada prekomernu ponudu radne snage, a u isto vreme minimizira višak tražnje koji pritiska globalni fond štednje, tj. nivo duga.

Ključne reči: konkurentnost, Velika recesija, „efekat grudve", faktori konkurentnosti, javni dug.

STRATEGIC ORIENTATION OF RURAL DEVELOPMENT IN SERBIA – PRODUCTION AND MARKETING OF TRADITIONAL FOOD

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Abstract: The study presented in this paper is based on the fact that increasing the supply of products with geographical designation of origin is an important commitment of rural development in Serbia. In marketing terms, research results presented in this paper should indicate the possibilities for improvement of competitiveness among individual entrepreneurs as well as micro, small an medium sized enterprises - the traditional food producers. Consumers' attitudes toward methods of traditional food production and importance of its geographical origin have been analysed based on answers obtained from 200 respondents in one urban (Belgrade) and one rural area (Zaječar). Recommendations for improvement of traditional food producers' market performance as well as for improvement of overall competitiveness of the Serbian economy (recommendations for policy makers and rural development plans) have been derived.

Keywords: traditional food, consumer attitudes and perceptions, marketing, competitiveness, rural development.

1. Introduction

The agricultural sector in Serbia together with the industry and energy sectors should become one of the main pillars of the country's competitiveness in the global market. Therefore, redesigning Serbian agriculture has been listed as one of the main developmental priorities in the document *Serbia 2020: The Concept of Serbian Development by 2020*. Specifically, the document points out the necessity to standardize and increase the production of final products in the field of traditional and products with geographical indication (Serbia 2020, 15). However,

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it should also be taken into consideration that the local natural, human, production and financial resources have been transformed by policies, procedures and institutions not only into food as a tangible goods, but also into employment, wealth and sustainability of rural community (Kahn 1998, 436). Therefore, the above stated strategic commitment has much broader implications, addressing the overall development of rural economy in Serbia.

Definitions of traditional food may vary. However, this concept has always been linked with human factor (Barham 2003, 129; Dixon 1999, 158). Consumption of traditional food is typically linked with long history and tradition, local culture, learned predispositions from the past and eating habits transferred from one generation to another. The supply of traditional food is directly dependant on the production capacity. In addition, it is dependent of the efficiency of distribution channels from farm production to the local market (Alkon, 2008, 496). In that sense, the local accessibility seems to be the crucial element of supply. In some cases, traditional food refers to farm production or locally grown food. In addition, traditional food refers to home-made food or industrial food produced according to traditional recipes. However, modern definitions mainly focus on food typical for particular region. In consequence, traditional food as a concept has been strongly linked with a new policy of protection of geographic status (PDS). It includes several regimes of geographical indications, namely protected designation of origin (PDO), protected geographical indication (PDI) and traditional speciality guaranteed (TSG). Protection of geographic status (PDS) including PDO, PGI and TSG has been viewed as an initiative for improvement of products' market competitiveness. It may lead to better market positioning while also providing protection against unfair competition and misleading of consumers.

In spite of its perceived potentials, the possibilities for trade and exports of traditional food have been rather weak. The specific characteristics of this type of food are always linked with its cultural roots. Research shows that export of traditional food may be intensified due to emigrant communities (Giraud 2008, 71). This implies that traditional food has been more locally and interregionally oriented. Overall developmental capacity of traditional food is based on specific characteristics of the local supply and demand which are mostly limited at the level of regional and national markets (Stojanović, Ognjanov & Filipović 2010, 356).

Against this backdrop, the main purpose of this paper has been to indicate the possibilities for improvement of competitiveness among individual entrepreneurs as well as micro, small and medium sized enterprises - the traditional food producers. To achieve that, we analyze consumers' perceptions of traditional food, i.e. their attitudes toward methods of traditional food production and their perceived importance given to the geographical origin of such food. Based on our findings, we draw conclusions and provide specific recommendations for improvement of traditional food producers' market performance as well as for improvement of the public policy related with this issue. Therefore, the research

has important marketing implications for traditional food producers as well as policy implications for further development of agro-business in Serbia and its rural economy.

2. Rural Development and Production of Traditional Food among Strategic Priorities in Serbia by 2020

Rural economy refers to a complex of business sectors in one particular area (Zakić & Stojanović 2008, 213). Rural development refers to territorial entities with coherent economic and social structures. In Serbia, those entities account for 86% of the territory and are inhabited with more than half of the overall Serbian population (Zakić & Stojanović 2008, 553). On the other hand, rural areas in Serbia have been highly neglected. For instance, rural economy earns almost 30% less GDP per capita than the national average. It is based on substantial role of primary sectors, especially agriculture (Zakić & Stojanović 2011, 269). However, the initiatives for fuelling rural development in Serbia have been emphasised in the newly passed strategic documents (Serbia 2020; National Programme of Rural Development 2011-2013). The new solutions have been based on the standpoint that rural areas can be recognized by unique economic and social characteristics which may have an impact on the existence of certain traditional activities.

The concept of sustainable development has a special role in building the overall capacities of an economy. Importance of sustainable development and, in particular, its relevance for strategic planning of rural development in Serbia has recently been emphasised in scientific literature (Đekić, Jovanović, Krstić 2011, 635). Strategic commitments related to the future development of Serbian economy are comparable with European model of smart, inclusive and sustainable growth. *Smart growth* is connected with the improvements in human capital. *Inclusive growth* assumes increasing employment, social inclusion and poverty reduction. *Sustainable growth* focuses on improvement of competitiveness of Serbian economy, increase of exports and energy efficiency. Agriculture as one of the main pillars of economic growth and exports deserves special attention.

The extent to which the strategic document *Serbia 2020* will be applicable to rural economy highly depends on the accepted priorities regarding rural development (National Program of Rural Development 2011-2013). For the first time, stipulated increase of developmental potentials of rural areas has been based on integration between food industry and food marketing. *The vision for food industry* is based on consumerism, standardisation and innovativeness. It emphasises the need to give new impetus for development of small and medium-sized enterprises, producing and marketing products with geographical indications, as well as traditional food. In addition to this, *the vision for agriculture* and *vision for rural Serbia* have also been defined. The first one refers to conceptualization of dynamic growth and

development of competitive family agriculture and agribusiness. Family agriculture and agribusiness should be integrated with the food industry thus contributing to sustainable development through environmental protection and protection of scare natural resources. The main aim of *the vision for rural Serbia* is development of a balanced demographic picture of rural regions which will equally as urban areas contribute to GDP growth. Based on this all, it is obvious that standardization and increase in the production of traditional food in Serbia stand as strategically important milestones for future agro-rural economy development.

In line with promotion of traditional food production, it is also important to note a new concept of protected designation of origin (PDO) that has been strongly supported by recent European food marketing practice. PDO is an official name or sign (logo) applied on agricultural food products prepared, processed and produced in a specific geographic location (e.g. place, region or, exceptionally, a country). It proves the claimed quality and reputation of particular food product, which has been derived from its geographical origin. This concept is strongly related with the practice of protection of commercialization of products with specific characteristics which have resulted from physical, chemical and organoleptic qualities linked with its production method and geographic location. Such products are recognised on national markets, while some of those are also internationally recognisable.

In line with European definition of regional food, labelling of traditional products to protect their geographical origin has also been regulated in Serbia (*The Law on Geographic Indications,* Official Gazette of the Republic of Serbia, 18/2010). Geographical indications prove that the product originates from precisely determined geographic territory. According to this law, geographical indications include the *name* and *label of origin. The name of origin* assumes geographic location, region or country and claims that the product originates from this particular territory while its quality and specific characteristics have resulted from specific geographic territory, including its natural and human resources. The *label of origin* identifies geographic origin of particular goods which quality, reputation and other characteristics proving that these are related with the place of production/processing or preparation. It is allowed to use a well-known traditional or historical name as a label of origin.

The Ministry of Agriculture in Serbia has developed a data basis of agricultural-food products with potentials for protection of the designation of origin. The data basis forms a solid ground for provision of support to agricultural producers who wish to apply for protected names or labels of origin. The goal is to provide impetus for protection of designation of origin especially with regards to the traditional products with strong export potentials. The list includes 49 products, with the highest shares of diary products (21%) and fruits, vegetables and related products (19%). For example these are raspberry from Arilje, cherry from Oblacinje, pepper from Horgoš, sowercraft from Futog, prunes, cheese from Svrljig, Homolje, Zlatibor, Sjenica, cream from Pirot, Stara Planina, Kraljevo etc.

The above mentioned strategic commitments and institutions support the improvements of competitiveness of Serbian agriculture by increasing production of traditional food. However, increase of traditional food production is strongly linked with further promotion of traditional food products among the local consumers in the Serbian market. Consumers' perception of traditional products and its labelling is therefore highly relevant for better understanding of their food preferences. Only the products the consumers know about and want to consume may be efficiently marketed.

Protected designation of origin and food labelling leads to increasing production costs while allowing the producers to charge premium prices in the market. However, marketing of traditional food based on geographical indications will highly depend on the perceived value of food labelling. The labels endorse product quality and guarantee food safety. The more the consumers value geographical indications on traditional product, the more ready they will pay premium prices. In addition to it, consumption of traditional food may also be affected by consumers' awareness of the importance of concepts of local and regional development.

3. Consumers' Attitudes toward Traditional Food

Consumers' attitudes, perceptions and preferences regarding food products have been at focus of research studies published in a number of scientific papers in the fields of marketing, food consumption and public health. Food products are vast category which could be divided into a number of subgroups, i.e. types of food. Therefore, research studies nowadays mostly focus on typical types of food such as, for example, fruit and vegetables, organic food, functional food, traditional food, hedonic food, genetically modified food or food with geographical indications. The researchers have mostly been paying attention to factors influencing consumers' choice and frequency of consumption of specific food types (Ognjanov, Stojanović, Filipović 2010), motivation for food consumption (Milosevic, Zezelj, Gorton & Bajorle 2012), consumers' demographic profile (Verbeke 2005) and consumers' segmentation (Sparke, Menrad 2009), as well as influence of consumers' ethnocentrism, patriotism and other cultural and social values on decision making related with consumption of particular type of food. (Notari, Ferenc, Levai, Czegledi 2011)

On the other hand, to our knowledge, a relatively small number of studies addressing consumers' attitudes toward traditional food have been published in both international and Serbian scientific journals. However, one of the most recent papers published in Serbia, initiated a discussion related with better understanding of consumers' perception of traditional food and potentials for further development of rural tourism. Traditional food, should it be positively perceived and accepted by

local consumers, has been viewed as a sound base for promotion of local communities and their typical food (Stojanović, Ognjanov, Filipović 2010).

Contrary to the above, development of potentials for production and promotion of traditional food has recently become a focal point of public policies in Serbia. Therefore, it has been typically emphasised in the new strategic documents, advocating the need for intensifying regional economic development based on sustainable growth model. It has already been explained here that many countries, including developed market economies of the EU, have initiated actions to promote benefits of consumption of traditional food, and especially food with geographical indications. Improvement of production of this type of food and opening of new market opportunities certainly leads to better use of material and human resources within a region, while contributing to its overall economic development. Acquiring the ideas of the concept of sustainable growth and, in particular, the concept of sustainable agriculture leads to better satisfaction of individual needs through simultaneous protection of material and other resources that will be kept for future use as well.

In addition to the above, promotion of consumption of traditional food and food with geographical indications has also been based on a new concept of food sovereignty (Notari, Ferenc, Levai, Czegledi 2011). The concept of food sovereignty emphasises the right of food producers (farmers, entrepreneurs and small cooperatives) to choose what they will produce, as well as the consumers' right to decide which food they will consume, without being influenced by international food industries dominating the food market.

In consequence, consumers' perceptions and attitudes toward traditional food and food with geographical indications remain one of the crucial questions for farmers and small food producers. In Serbia, research on consumers' perceptions related with food labelling and, more specifically, with geographical indications on traditional food products is scarce. Therefore, the primary goal of our research was to provide better insights into consumers' perceptions and attitudes toward this type of food. This paper, however, also aims at initiating further discussion related to the importance of promotion of traditional food. The focus of this particular research is narrow. It addresses local consumers' perceptions of hygienic standards and importance of geographical origin of traditional food. However, the findings make a sound basis for research studies to be conducted in future. The scope of those studies should be much broader, including not only perceptions and attitudes toward these particular issues related with traditional food, but also measuring consumers' motivations for consumption and their purchase intentions.

4. Research Methodology

The data collection was performed through consumer survey conducted in December 2010 in one urban (Belgrade) and one rural area (Zaječar). In total, 200

respondents participated in face-to-face interviews with trained field researchers. The field research followed the methodology of street intercepts, with trained researchers randomly approaching shoppers exiting from the biggest retail chain outlets in Belgrade and Zaječar. In both places, the retail outlets were located closely to the local green markets. The interviews were conducted during the so-called *green market days*, referring to Saturday and Sunday in the capital city and Friday in Zaječar. Screening questionnaire was used to select only the decision makers in household food purchases.

The instrument was a structured questionnaire based on closed questions and five-point Liker type scales. In addition the respondents were asked to perform an experimental task based on conjoint analysis methodology. However, due to the fact that findings obtained in conjoint analysis are out of scope of this study, here we are only presenting the findings related with consumers' perceptions and attitudes toward geographic indications and traditional food.

The field researchers randomly approached shoppers, screening them and asking to participate in the research, taking into consideration their gender and age in order to achieve a balanced sample structure. Respondents were offered a small present (a 500 RSD of value voucher to be used for food purchases in the selected retail outlet) which contributed to an extremely high response rate.

Table 1: Socio-demographic characteristics of respondents

Socio-demographic characteristics	Definition	Total	Belgrade	Zaječar
N	Sample size	200	100	100
Gender	male	89	45	44
	female	111	55	56
Household income (RSD)	Up to 30,000	54	10	44
	30,001 – 75,000	75	35	40
	75,000 +	43	35	8
Employment	unemployed	38	8	30
	students	44	33	11
	retired	26	12	14
	employed	92	47	45
Education	Primary school or less	16	2	14
	Secondary school	120	59	61
	Tertiary education	64	37	27
Age	average	39.69	40.29	39.1

The overall sample included 200 respondents, with two subsamples including 100 respondents from Belgrade and 100 respondents from Zaječar. According to demographic characteristics the two subsamples were kept relatively similar. The detailed sample structure is shown in the table 1.

5. Research Findings and Discussion

The primary goal of our research was to better understand consumers' perceptions and attitudes toward geographic indications and its importance in relation with the concept of traditional food. To achieve that, at the beginning of face-to-face interviews we informed our respondents with the following definition of geographic indications: *an official name or sign applied on particular food products which are prepared/processed and/or produced in specific geographic location (place, region or even country), proving that the food has particular qualities and reputation due to its geographic origin*. The definition, however, didn't emphasise that such a name or sign must be issued by an official authority. Official certification of traditional food products with geographic indication is, unfortunately, still nonexistent in Serbia. Therefore, in this research it was assumed that traditional food produced in specific geographic area (e.g. *Krivoriski young cheese*) could be perceived as food with protected designation of origin.

Table 2: Consumers perceptions and attitudes

Statements	Average	SD	
Production method and hygienic standards			
Food sold on green markets should be produced in accordance with the highest industrial standards	4.17	0.81	196
Home-made food is not safe	2.59	0.95	196
Farmers don't need additional training with regards to hygienic standards	4.22	0.81	196
Location of production – geographic indication			
I wish to know the region from which the food I consume come form	4.16	0.79	196
Taste of food depends on the region where it is produced	3.63	1.04	196
Country of origin is not important to me	4.01	0.92	196

Note: Average values range from 1 to 5, whereas higher average refers to stronger agreement with listed statements.

In the first part of the survey we asked our respondents closed questions with binary answers (yes/no) which mostly focused on their perceptions of food with geographical indications. The most important research findings include the following: 1) to high extent the respondents showed readiness to buy food with geographic indications (156), 2) food with geographic indications may be perceived as traditional food (107) and 3) the majority of our respondents believe that traditional food should be protected by geographic indications (156).

In addition, in the second part we aimed to better understand consumers' attitudes toward home-made traditional food (particularly regarding perceived food safety) as well as its geographic origin. Therefore, using five-point Likert scales we measured their disagreement/agreement with the statements listed in the table 2.

The results shown in Table 2 prove that food safety should be considered an important element in food marketing, due to the fact that our respondents believe that food sold at green markets should be produced in accordance with higher industrial standards. On the other hand, our findings also show positive attitudes toward home-made traditional food, which is supported by our respondents' beliefs that home-made food is safe enough and that the farmers don't need special trainings regarding food safety. Therefore, from the side of consumers it seems that there is a positive environment for small producers to intensify production and commercialization of traditional food production. However, they should pay more attention to marketing of traditional food, building its image and reputation as safe, tasty local food consumed by many generations in Serbia.

In addition to the method of production and perceived food safety, the respondents were asked about the location of production, i.e. perceived importance of geographic indication. The findings clearly show that location of production is regarded highly important by our respondents. Moreover, there is quite a strong belief that the taste of food depends on the region where it is produced. Therefore, we can conclude that providing geographic indications on traditional, already highly recognisable products for their superior quality may bring additional benefits to the local producers, primarily in terms of protecting them from unfair competition.

Statistically significant differences between the two subsamples (Belgrade vs. Zaječar) are present only regarding the following two statements: *Food sold at green markets should be produced in accordance with the highest industrial standards* and *taste of food depends on the region where it is produced*. Namely, respondents from Zaječar showed significantly more positive attitudes (4.3 and 3.79) than respondents from Belgrade (4.03 and 3.47). ANOVA showed statistically significant differences at $p \leq 0.05$ (F= 5.732 and F=4.961 respectively). In the overall sample, however, it was also shown that the respondents with lowest level of education have significantly more positive attitudes regarding these two statements, whereas the least positive attitudes were expressed by students (F=

4.542 and F= 7.031 significant at p≤ 0.001). The statement *Farmers don't need additional training with regards to hygienic standards* evoked more positive attitudes among respondents who grew up in rural areas (4.33 vs. 4.05, F=5.933, significant at p≤ 0.05). *I wish to know the region from which the food I consume come form* was more strongly agreed with by our respondents with primary in comparison with those having secondary school attainment (F=5.476, significant at p≤ 0.01). Statistically significant differences among male and female respondents were not found.

Based on the above, we may conclude that our respondents showed positive reactions toward the concepts of traditional food and geographical indications. However, the findings should be analysed with caution due to the fact that this study didn't address other important issues such as, for example, the level of knowledge of food with geographical indications and readiness to pay higher prices for such food. However, the research stands as a solid ground for decision making regarding further development of traditional food and PDO food markets in Serbia. The findings presented here are useful for individual producers and entrepreneurs wishing to improve market positioning of traditional food and PDO food and fuel the development of this market. However, the finding are also highly relevant for public policy, and therefore could be incorporated in strategic and developmental documents serving as milestones for further development of particular regions. In line with that, we further discuss concrete managerial and policy making implication and list a set of recommendations for further development of traditional food and PDO food market in Serbia.

6. Conclusions and Recommendations

Traditional food is generally linked with specific geographic location and use of the same production methods and/or recipes through various generations. Due to these main characteristics, traditional food makes a food product category with strongest potentials for application of geographical indications. Improvement of commercialization and marketing of these products is, however, strongly dependent on further standardization of quality and production in accordance with high hygienic standards. Current legislation referring to geographical indications of agricultural and food products imposes strict control over quality standards and truthfulness of claims provided in product specifications. Unfortunately, an accredited body for the implementation of these procedures and issuing official certificates has not been established yet. By now, the quality control only refers to fulfilment of hygienic standards and food safety. Generally speaking, lower level of trust in the system of control over products sold at green markets may fuel further development of longer distribution chains which includes retail outlets. On the other hand, imposing a new system of quality control may contribute to higher trust into the quality of products sold on green markets.

In general, traditional food has been produced in households, on small farms as well as in micro and small enterprises owned by individual entrepreneurs. Therefore, it is typically characterised by small production capacities which leads to a number of problems regarding its distribution and commercialization. Such problems are mainly related with insufficient supply, inexistence of systems of quality control, standardization and food safety. While systems of quality control, standardization and food safety are not dependent on further centralization of production capacities, it is highly rational to centralize product commercialization, including certification, marketing and distribution. In consequence, entrepreneurs wishing to develop traditional food and PDO food market should take into consideration the following:

- According to attitudes of consumers living in one urban and one rural settlement in Serbia, there is a relatively positive climate for production and commercialization of traditional food products and PDO food. The research showed that the image of locally produced food and home-made food is positive in Serbia.

- To meet new market requirements, further cooperation among entrepreneurs will be needed. Such cooperation could be institutionalized through the so-called cooperatives for production and marketing of traditional food and PDO food. Cooperation will primarily be needed for various marketing activities, including branding, promotion and distribution. Therefore, while place of production could be kept within small households in one local area or one region, the supply and further distribution toward end-users could, however, be centralized for the whole geographic area.

- Further education of consumers regarding benefits of traditional food and PDO food is highly needed, especially due to the fact that the price of those products is typically higher than their conventional counterparts. Therefore, end-users should be well informed about the added value of traditional food with geographic indications in order to get ready to pay premium prices. Centralization of marketing activities should, therefore, also include education of final consumers.

However, individual entrepreneurs in less developed rural area in Serbia might face a substantial lack in financial and human resources for development of production and marketing of traditional food and PDO food. In consequence, it is crucial to support them through adequate public policy measures that would contribute to further development of particular regions and local rural communities. Such measures should include the following:

- Measures for the improvement of standards of production, including provision of education and training of individual producers but also provision of financial funds for further development of production methods, procedures and human capital.

- Education of individual entrepreneurs on implementation of marketing activities and provision of initial support in branding of traditional food with protecting designation of origin.
- Establishment of institutions for quality standards, food safety control and certification and provision of support for its functioning in the long-run.
- Provision of initial support in product certification, due to the fact that this is quite a new concept with which the local producers don't have enough experience. Such a support could efficiently be provided by the Network for Rural Development, local activists groups or other organizations which operations are connected with promotion of local economic development in rural areas.
- Education of final consumers by initiating an advertising campaign to emphasise benefits of consumption of traditional food with geographic indications, but also through further cooperation with consumers' protection organizations which could also contribute to spread of information and increase of knowledge about these products among consumers.

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STRATEŠKA OPREDELJENJA SRBIJE U DOMENU RURALNOG RAZVOJA - PROIZVODNJA I MARKETING TRADICIONALNE HRANE

Rezime: U ovom radu se polazi od činjenice da je povećanje ponude proizvoda sa zaštićenim geografskim poreklom bitno opredeljenje ruralnog razvoja Srbije. U marketinškom smislu, predstavljeno istraživanje treba da ukaže na mogućnosti unapređenja konkurentnosti individualnih preduzetnika, tj. mikro, malih i srednjih preduzeća - proizvođača tradicionalne hrane, kroz upoznavanje sa percepcijom i stavovima potrošača u Srbiji. Rezultati sprovedene ankete na terenu (na 200 ispitanika) korišćeni su u analizi percepcija i stavova potrošača o načinu proizvodnje tradicionalnih proizvoda i značaju geografskog porekla, u jednom urbanom (Beograd) i jednom ruralnom području (Zaječar). Na osnovu toga, date su preporuke za unapređenje nastupa proizvođača tradicionalnih proizvoda na tržištu, ali i za povećanje konkurentnosti srpske privrede (preporuke za donosioce politike i planova ruralnog razvoja).

Ključne reči: tradicionalna hrana, percepcija i stavovi potrošača, marketing, konkurentnost, ruralni razvoj

THE CONNECTION BETWEEN PROGRESSIVITY AND SUFFICIENCY IN THE PERSONAL INCOME TAX SYSTEM

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Abstract: Personal income tax is one of the most important taxes, because trough this tax, government collects a significant amount of tax revenues. However, its yield will be different depending on the selected tax models and types of tax rates that are applied. Progressive personal income tax provides the highest scope of revenue, while the proportional taxation collects much less funds.The aim of this paper is to show that there is a correlation between the chosen taxation model and height of revenues collected, or that there is a strong link between progressivity and sufficiency in personal income tax system. It is also necessary to point out the need of introducing synthetic income taxation in the tax system in Serbia.

Keywords: tax on personal income, yield, progressivity, tax rates, a dual model, flat taxation

Introduction

Personal income tax is a very important form. The government collects on average about a quarter of tax revenues through this tax. In addition to yield, its importance is reflected in the fact that this tax reduces the regressive nature of indirect taxes and making equity in taxation.

In this paper we will try to show that there is a close link between the progressivity and sufficiency of personal income tax.

The first part of this article will present the place and the role of personal income tax in modern tax systems and will point to its importance in terms of coverage based on the analysis of a part of this tax in total tax revenue in GDP.

The second part will include models for personal income tax, based on three basic models, through their modalities in the form of alternative methods of taxation prevailing in modern economies.

The third part of the article will analyze types of tax rates in taxation income, in order to display the basic characteristics of different methods for calculating tax liability. Here progressive, proportional and regressive tax rates will be displayed. In modern tax systems, there are in use progressive and proportional tax rates, while the regressive tax rates are not used.

Finally, the fourth part of this article will confirm the initial hypothesis by a close connection between progressivity income taxation and its sufficiency. Based on the analysis of model taxation, statutory tax rates and share of revenues from this tax to GDP ratio, the progress and yield tax on personal income will be considered.

1. The Position of the Income Tax in the Structure of Modern Tax System

Personal income tax plays a significant role in the structure of modern tax system. It was, according to the share in total income of OECD countries, one of the most important taxes, including the social security contributions and VAT (Đurović-Todorović, Đorđević 2010, 238-271). With this tax government collects over 25% of public revenue. The relatively high share of personal income tax in total tax in developed countries is of great importance, given that the progressive nature of this tax can reduce the regressive effect of the indirect taxes.

This tax becomes more important with the tax reforms in the 1960s, when began a relative increase in share of personal income tax in tax revenue in most countries throughout the world. The share of income tax in total revenue from 26% in the late 1960s had risen to slightly over 30% in the 1980s of the 20th century. The importance of this tax was increased for several reasons. First of all, it changed the attitude towards direct taxes as a significant source of tax revenue of a modern country, and indirect taxes (taxes on consumption) lost in importance. Reduced tax rates of individual income tax caused a positive response from the public. However, the tax base is expanded, because it did not cover all types of income that a taxpayer is unable to achieve. The number of tax trench is reduced and the number of tax incentives and exemptions are abolished (OECD Tax Policy Studies 2006, 121).

However, in the 1990s of the 20th century, based on the teachings of economics of supply, in which high tax rates are the main cause of stagnation of economic development and reduce the level of savings and investment, there is a reduced share of tax on personal income in total income of developed countries. This percentage decreased to about 25% to 27%, which is roughly equal share of this type of income in the period of the 1960s of the 20th century. During this period, share of income tax in the structure of public revenues ranged from 53,2% to 13%. These vast differences in share of income taxes are the result of numerous economic, social and even political factors.

Based on Table 1, we can see that the share of income tax in total revenues of the state, in the last three decades, is very large. In 1989, the lowest percentage of revenues collected from personal income tax was achieved by France 10,5%, Greece 13,1%, while this percentage was the highest in Denmark 52,0% and Australia 44,1%. After ten years, the increase in revenues from taxes on personal income was observed in seven out of seventeen OECD countries, while there was in other countries a notable reduction in these revenues. Significant revenue growth was recorded in France from 10,5% to 17,4%, while the significant reduction was present in Japan from 24,7% to 18,8%. In 2009, in some countries, there was a slight decrease in revenue from personal income tax, while in the other we can see an increase in these revenues. If we look at the average in OECD countries, we can conclude that through the income tax more than a quarter of total tax revenue was collected, which shows that this tax form is abundant and therefore holds an important place in the tax systems of modern states.

Table 1: Income tax as percentage of total taxation in OECD countries in selected years

Country	1989.	1999.	2009.
Australia	44,1	44,4	37,6
Austria	19,8	22,7	22,3
Belgium	31,1	30,7	30,0
Canada	38,6	37,4	36,6
Denmark	52,0	51,5	55,1
Finland	35,5	29,4	31,2
France	10,5	17,4	17,3
Germany	29,5	25,1	25,2
Greece	13,1	15,6	0
Hungary	-	17,5	18,9
Poland	-	14,2	15,6
Italy	26,7	26,4	26,8
Japan	24,7	18,8	34,4
Norway	27,8	26,6	24,9
Sweden	39,3	34,7	29,1
Turkey	26,4	23,8	16,4
United Kingdom	26,0	28,6	30,4
U.S.	37,5	40,4	32,3
OECD total	***28,9***	***25,7***	***26,8***

Source: http://stats.oecd.org/Index.aspx

Reduced share of personal income tax in total income is compensated by increasing the relative share of indirect taxes, especially value added tax. This change has a regressive effect, that is the tax burden is transferred to the layers of the population who earn a low income, which was not the objective of the reform.

For a better positioning of personal income tax systems in modern states, it is necessary to look at its share in GDP in these countries. The data show that the share of personal income tax to GDP, in the last three decades, has moved about 10%. Observed from country to country this percentage is quite different. One of the examples is Denmark, in which the percentage of revenue from income tax to GDP ratio exceeds 25%. On the other hand, in countries such as Greece, Turkey, France, Hungary and Japan, this percentage is much lower and ranged below 10%. Based on the data we can conclude that there is no hard link between the level of this participation and level of economic development, given that some of the countries where the share of this tax in GDP is low belong to a group of highly developed.

Table 2: Income tax as percentage of GDP in OECD countries

Country	1989.	1999.	2009.
Australia	12,2	13,2	10,2
Austria	7,8	10,0	9,5
Belgium	12,9	13,8	13,0
Canada	13,4	13,6	11,4
Denmark	25,1	25,8	26,5
Finland	15,0	13,5	13,4
France	4,4	7,8	7,3
Germany	10,7	9,3	9,3
Greece	3,1	5,1	0
Hungary	-	6,7	7,4
Poland	9,8	11,2	11,7
Italy	7,3	5,0	5,4
Japan	11,3	11,4	10,2
Norway	20,4	17,7	13,5
Sweden	3,7	5,8	4,0
Turkey	9,2	9,9	10,4
United Kingdom	10,0	11,6	7,7
OECD total	*10,2*	*9,6*	*10,0*

Izvor: http://stats.oecd.org/Index.aspx

All these data suggest that the importance of a personal income tax systems in a modern state is very high.

2. Comparative Models for Personal Income Tax

Personal income may be taxed in three ways and three systems of a personal income tax are identified:

1. analytical (schedular) income taxation,
2. synthetic (global) taxation and
3. mixed system of income taxation.

Analytical (schedular) taxation is a system in which any income derived by a person is taxed separately, applying the appropriate tax, as a rule, proportional rates.

Synthetic (global) taxation is system in which all revenue generated from one person to summed and taxed by progressive rates.

Finally, the mixed system of taxation is that taxation of income which combines the previous two systems.

However, these models in practice do not occur in pure form, but appear as different models of the system of personal income tax, which includes some characteristics of these models. In this way, it is possible to talk about alternative ways of personal income taxation.

In theory and practice there are alternative approaches to the taxation of personal income:

1. dual income tax,
2. proportional income tax (flat tax)
3. negative income tax (negative income tax) (Raičević 2008, 177).

Dual income tax is a way of taxing income that treats funded and unfunded income differently. Capital income is funded revenue and is realized by the taxpayer on the basis of capital investment in certain funds or profitable ventures, or in facilitating enterprise (International Tax Glossary 1988, 42). It is actually a special kind of income to which taxpayers come by investing its capital in various forms of savings, the business activities of a third persons, of engagement or lease. These revenues include: interest, dividends and other forms of participation in the profits of corporations.

On the other hand, income from labor is realized by taxpayer through his/her work, without recourse to equity. These are different types of wages and salaries.

Financial theory and practice, widely discusses the tax treatment of unfunded income and income generated without working taxpayer. It was felt that funded income tax will be sharper than unfunded. The rationale for this view came from the fact that the unfunded revenues are made on the basis of working taxpayer, while funded revenues are realized without the involvement of working taxpayer. However, later, under the influence of economics of supply, the tax legislation of most countries equated the two types of income and gave them the same tax treatment. Later, the position of the funded and unfunded revenue became completely changed, so that contemporary legislation providing privileged tax treatment of funded incomes, in order to stimulate savings and investment (OECD 2000, 341).

From the point of horizontal equity all sources of income should be equal, and funded and unfunded revenue should have equal tax rates. However, modern legislation is not consistent with this principle, but has a different treatment of funded and unfunded income. Some states, within a synthetic income tax, bring certain schedular elements. This model refers to the tax treatment of mild unearned

income, i.e. capital income, in comparison to the earned income and income from work. This method of taxation is represented in Denmark, Sweden, Finland, Norway, Germany, France, the USA, Hungary, Austria, Slovenia, Belgium and others (Raičević 2008, 178).

It is characteristic of the dual system of taxation that it has different treatment of income from labor and capital income. Income from capital is taxed at proportional rates, which are equal to the marginal rate of tax progression in the taxation of income from work or have equal rates of profit tax. Income from labor is taxed at progressive rates. The tax base is determined using the net principle, that is when the costs are deducted in calculating taxable income. Tax on funded income is paid by deduction, but in the end determines the final tax liability.

Proportional income tax (flat tax) is based on Hall-Rabushka model. This system is characterized by determination of the tax base to the taxpayer which provides a great deduction, and after that applies the proportional tax rate for all income levels. Since progressive taxes cause excessive tax burden and lead to "erosion of the tax base", countries are now turning to a proportional income tax. This is a tax in which the tax base consists of income from work rather than capital. This shows the non-taxable savings and investments, which is why this tax is based on consumption. The rate is uniform and proportional, which stimulates productive work and preference for entrepreneurship and risk. Social component in taxation is included, i.e. aside from the subsistence minimum, there are no other deductions and exemptions. In this way, the system of income taxation includes indirect progression. Although there is no direct progression, indirect progression reduces the regressive effects of VAT, customs and excise. This method of taxation is administratively simpler, which is one of its advantages over progressive taxation of income. It only applies to income earned in the country, that is it is represented by the territorial principle of income taxation.

Negative income tax is applicable to cases where the taxpayer's income is below the subsistence minimum, when the state tries to compensate for his/her level of income that he/she needs to survive. This is called a negative income tax or tax credit that an individual receives from the state, because instead of taxable taxpayers it subsidize them.

The idea of negative taxation has been developed by Milton Friedman in the U.S. The negative income taxation implies various forms of social assistance to persons whose economic strength is below the non-taxable minimum as well as various types of takeover and subsidies (Husted 1990, 64). In the case of negative taxation, fiscal policy is in the service of social policy.

The main objective of the negative income tax is to increase personal income to the poverty line. The amount of funds that individuals receive from the state on behalf of negative taxation depends only on the amount of their income. Negative tax will be as much as the income of an individual below the subsistence

minimum. Thus, a person whose earnings have reached a certain level, given the state of the amount of money that should allow him/her at least the minimum resources is necessary to meet basic needs.

Table 3: The prevailing taxation model in selected countries

Country	Taxation model
Denmark	*dual*
Sweden	*dual*
Finland	*dual*
Belgium	*synthetic/dual*
Italy	*dual/synthetic*
United Kingdom	*synthetic*
Austria	*synthetic/dual*
Germany	*synthetic/dual*
Spain	*synthetic*
France	*synthetic*
Netherlands	*synthetic*
Luxembourg	*synthetic*
Irland	*synthetic*
Hungary	*dual/synthetic*
Lithuania	*flat*
Cyprus	*synthetic*
Estonia	*flat*
Latvia	*flat*
Malta	*synthetic*
Slovenia	*dual*
Portugal	*synthetic*
Poland	*flat*
Russia	*flat*
Greece	*synthetic/dual*
Czech Republic	*flat*
Romunia	*flat*
Bulgaria	*flat*
Slovakia	*flat*
Montenegro	*flat*
Serbia	***mixed***

Source: Taxation Trends in the EU, 2009 Edition, European Commission, Luxembourg, 2009

Note: Some countries use one model with elements of other models, so it is stated which model is used. The sequence of the model shows the dominant model.

Based on analysis of taxation models and based on this table we can conclude that synthetic, dual and flat models are prevalent. Countries rarely apply

pure theoretical models of income tax. Therefore, the classification of the EU is carried out according to which performance or features of which models are prevalent.

Synthetic model implies a progressive tax rate, the dual different tax rates for the funded and unfunded revenue, while the flat model implies the existence of a single proportional tax rate. In the following part, we will try to show the relationship between the chosen model of taxation and the amount of revenue collected through taxes on personal income.

3. Types of Tax Rates in Personal Income Taxation

The tax rate is part of the tax base which taxpayer must pay. When the tax base is expressed ad valorem tax rate is in percentage, whereas, the specific tax is expressed in absolute terms.

In accordance with the criterion of change in tax rates in relation to the movement of the tax base, three types of tax rates can be identified :

- proportional,
- progressive and
- regressive (Jelačić 1983, 131-132).

Proportional tax rates are a type of tax rates in which regardless of changes in the tax base, tax rate does not change. Therefore, the proportional tax rates are the same for each level of income in taxation. However, the amount of tax debt will change depending on changes in the amount of the tax base, so that the relationship between the base and the tax debt remains the same. Proportional taxation is represented in many countries. In some of these the personal income tax rate is equal to the corporate income tax rate, when we talk about flat taxes. In the proportional tax rate, it is often indirect progression, due to the subsistence minimum.

Progressive tax rates are those tax rates that increase with the growth of tax base. However, their growth can be balanced, rapid and slow movement relative to the tax base. Accordingly, we can talk about:

- proportional progressive,
- progressive progressive and
- regressive progressive tax rates.

Proportional progressive tax rates are those tax rates which have a uniform increase in tax rates relative to increase in the tax base. There is a percentage increase equal to the tax base and increase in tax rates.

Progressive progressive tax rates are rates which increase more strongly than the tax base. It is, in fact ,that the increase in tax rates is faster than the increase in the tax base. In this way, taxpayers with higher incomes pay a progressively larger amount of tax.

The following kinds of progressive tax rates are regressive progressive tax rates. These are such tax rates where the growth in tax rates is slow compared to the growth of tax base. In other words, tax rates are increased by a smaller percentage than it increases the tax base.

When we speak of progressiveness, it is necessary to note that there is a direct and indirect progression. Direct progression is a way of taxation to which the law prescribes a progressive tax rate for a given level of income. Indirect progression is one in which the law prescribes proportional tax rate, while the effective tax rates are progressive (Popović 1997, 181). Progressive effect is achieved through deductions that reduce taxpayer's income in determining the tax liability. The following table will show an example of indirect progression, with legal proportional and effective progressive tax rates.

Table 4: A hypothetical example of indirect progression

Income	Deduction	Tax base	Legal tax rate	Tax obligation	Effective tax rate
5.000	1.000	4.000	10%	400	8%
7.000	1.000	6.000	10%	600	8,57%
10.000	1.000	9.000	10%	900	9%
12.000	1.000	11.500	10%	1.150	9,2%

Progressive tax rates are considered to be the fairest tax rates, because their application met the horizontal equity in taxation. It really means that taxpayers with different income levels must pay a different amount of taxes. After taxation the order of usefulness must not change. If a person A is wealthier before taxation from a person B, he/she must remain so after taxation. If they are equally wealthy, none of them are afraid to become better-off after taxes.

Regressive tax rates are rates that decrease with increase in income. Supporters of the application of this method of taxation argue that taxpayers who earn higher incomes should be "rewarded" and thus encouraged to work harder. However, this type of tax rates is rarely used in practice. As the argument states that highly digressive tax system is unfair because taxpayers with lower incomes are taxed higher tax rates, while those who earn more income are taxed at lower rates. In this way, tax authorities take a greater amount of income from the poor individuals, thus deepening their poverty.

Most countries in the world opted for the progressive tax rates. These are mostly developed countries. They represent synthetic model taxation, and therefore this type of tax rates. However, recently, a large number of countries are committed to the proportional tax rate, or the flat tax. This method of taxation is occurring in developing countries, given that it is easy to use and does not require a strong tax administration. Also, there are a number of countries using the dual system of taxation or a different tax treat income from labor and capital income.

4. Impact of Tax Rates on the Amount of Revenue Collected

Based on theoretical models and empirical data, we can see that there is a close link between the amount of revenue collected and the used method of taxation. In accordance with the selected method of taxation, certain proportional or progressive tax rates are in use. Proportional tax rate equally burden different levels of income. On the other hand, the progressive tax rates provide greater fairness in taxation, because they grow with the growth of income. Depending on the chosen method of tax rates, the amount of revenue collected will be different. Thus, for example, revenues collected will be higher with the application of progressive tax rates. It will also depend on the slope of progression. If the progressive implementation of a progressive tax rate the amount of revenue collected will be the largest. However, the amount of revenue collected from taxes on personal income and depend on how much the tax base is broad, and the number and scope of standard and non-standard deductions. When taking into consideration all the factors listed, you may safely speak of the existence of rules and close correlation between tax rate and the amount collected. But there is still regularity. If we look at the tax rates and share of revenue from income tax in GDP or in total revenues collected, we will see that there is a relationship between these variables.

In accordance with selected model of taxation, the tax rate will be different. Height, number and range of tax rates vary from country to country. Effective tax rates are often different from the legal, given the existence of various tax incentives and exemptions. Subsistence minimum height significantly affects the level of effective tax rates. The following table will show the tax rate and share of income tax to GDP and total taxation ratio.

Table 5: Tax rates and percentage of income tax in GDP and in total taxation in selected countries in 2009

Country	Tax rates	Income tax as percentage in GDP	Income tax as percentage of total taxation
Denmark	38-59	26,5	55,1
Sweden	0-57	13,5	29,1
Finland	6,5-30	13,4	31,2
Belgium	25-50	13,0	30,0
Italy	23-43	11,7	26,8
Canada	15-29	11,4	36,6
United Kingdom	0-50	10,4	30,4
Austria	21-50	9,5	22,3
Germany	14-45	9,3	25,2
Spain	24-43	7,7	18,6
U.S.	15-35	7,7	32,3

The Connection between Progressivity and Sufficiency in the Personal Income Tax System

Country	Tax rates	Income tax as percentage in GDP	Income tax as percentage of total taxation
Hungary	17/32	7,4	18,9
Netherland	0-52	7,4	18,7
Luxembourg	0-38	7,4	20,9
Irland	20-41	7,3	33,6
France	5,5-40	7,3	17,3
Cyprus	20-30	6,3	10,8
Slovenia	16-41	5,7	9,4
Portugal	0-42	5,7	15,4
Japan	5-50	5,4	11,9
Poland	18/32	5,3	15,6
Serbia	10,12,20	4,8	11,6
Czesh Republic	15	4,3	11,3
Turkey	15-35	4,0	16,4
Slovakia	19	2,6	8,5

Source: http://www.worldwide-tax.com/

Based on data from the table, it can be concluded that the share of personal income tax in GDP is highest in Denmark 26,5%. This country, and the following three from the table (Sweden 13,5%, Finland 13,4% and Belgium 13%) have a dual system of income taxation and high rates of tax progression. Thus, for example, highest statutory rate in Denmark is as much as 59%, while in Sweden the rate is 57%.

The second group of countries is the group with a synthetic system of taxation. In these countries share of income tax to GDP ratio is quite high, ranging from 11,7% to 7,7%. In these countries represented a different degree of tax progression. Thus, in the UK is represented by progressive tax rates and progression ranging from 0 to 50%. In Austria, Germany, Spain and Italy the highest statutory tax rates are high and in some of these countries reach 50%. This is certainly one of the reasons for the high percentage of personal income tax to GDP in these countries. The only exception among these countries is Canada, which has a high degree of tax progression, and yet achieves a large percentage of this tax to GDP ratio which was 11,4%. In the U.S. it is 7,7% as a result of multiple tax rates. Thus, for spouses who completed a joint tax return there is a special tax rate which is the mildest level of tax progression. Those rates favor the institution of marriage. Slightly steeper tax rates are meant for the holders of the family. Unmarried individuals fill out tax returns for the sharpest tax rate, with the aim of stimulating the formation of families.

The third group of countries is group where the share of personal income tax to GDP ratio is below 7,5%. These are mainly countries in which flat tax is present, with proportional tax rates. But among them there are those in which personal income is taxed at a synthetic model with progressive tax rates. In Turkey

is represented wealth tax progression, while a steeper progression in Portugal (0-42%) and Japan (5-50%). Regardless of progression in these countries the share of personal income tax to GDP is slightly. On the other hand, there are countries with proportional taxation, who use only one or two tax rates. Among these countries is Serbia, which has a mixed system of taxation and proportional tax rates. In all these countries, there is a low level of revenue from personal income tax. This tax form is not sufficiently plentiful, as is the case with all developing countries. In them there is a significant indirect taxation from direct or much larger amount of revenue is collected through VAT, excise and customs, rather than through income tax or property taxes. In this way the tax burden shifted to the poorer strata of the population and the fairness in taxation is not satisfied.

The share of this tax to GDP in Serbia is low and less than 5%, which is of concern when compared with countries that have a progressive system of income taxation. Therefore, the reform of personal income tax in our country is necessary, since the introduction of a synthetic income tax contributed to the increase of collected revenues and increase fairness in taxation.

Based on this analysis we can conclude that the yield of taxes on personal income is closely related to the model of taxation and the type of tax rates. The highest incomes are earned in countries with dual and synthetic taxation system and progressive tax rates, and much lower in countries with proportional taxation.

Conclusion

Based on the above analysis, we can conclude that the income tax is one of the most important taxes, both in abundance and in fairness in taxation. It provides a great treasury income and is located just behind the VAT and contributions. Its importance is reflected in the fact that progressive income taxation reduces the effect of regressive taxes, thereby reducing the fiscal burden of the poorer sections of society.

Reviewing existing models of taxation, we can conclude that synthetic, dual and flat model are prevalent. Countries rarely apply pure theoretical models of income tax. Synthetic model of taxation involves collecting all the revenues that a taxpayer realizes from various sources and application of progressive tax rates. Dual income tax is a way of taxing income that treats differently funded and unfunded income. Funded income has preferential tax treatment, that is they are taxed by a proportional tax rates that represent the lowest tax rates in the tax progression according to which the unfunded income are taxed. Finally, the flat model involves using the same proportional tax rate in personal and corporate income taxes.

Accordingly, it can be seen that the yield of personal income tax is closely related to the model of taxation and the type of tax rates. The highest revenues are earned in countries with dual and synthetic taxation system and progressive tax

rates, and much lower in countries with proportional taxation. Serbia is the only country that applies a mixed system of taxation. It is necessary to reform the personal income tax in terms of introduction of synthetic income taxes and progressive tax rates in order to increase the importance and abundance of this tax. This would provide the missing funds and contributed to the reduction of a budget deficit in Serbia.

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POVEZANOST PROGRESIVNOSTI I IZDAŠNOSTI KOD OPOREZIVANJA DOHOTKA FIZIČKIH LICA

Rezime: Porez na dohodak fizičkih lica je jedan od najznačajnijih poreskih oblika. Putem ovog poreskog oblika prikupi se značajan nivo poreskih prihoda. Međutim, njegova izdašnost će biti različita u zavisnosti od izabranog modela oporezivanja i vrste poreskih stopa koje se primenjuju. Progresivnim oporezivanjem dohotka fizičkih lica obezbeđuje se najveći nivo prikupljenih prihoda, dok se proporcionalnim oporezivnjem prikupi mnogo manje prihoda. Cilj rad je da pokaže da postoji uska korelacija između izabranog modela oporezivanja i visine prikupljenih prihoda, odnosno da postoji čvrsta veza progresivnosti i izdašnosti u oporezivnju dohotka fizičkih lica. Takođe, neophodno je ukazati na neminovnost uvođenja sintetičkog oporezivanja dohotka u poreski sistem Srbije.

Ključne reči: porez na dohodak fizičkih lica, izdašnost, progresivnost, poreske stope, dualni model, flat oporezivanje

DETERMINANTS OF MONTENEGRO AND SERBIA TOURISM COMPETITIVENESS IMPROVING IN THE TERMS OF GLOBALISATION

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Abstract: Globalization process offers big possibilities, but also risks for economic, social, and ecologic development of tourism. Also, it makes economic, social, and ecologic risks. These risks are enhanced under current conditions of the world economic crisis. The aim of this paper is to explore development chances and challenges which globalization and the economic crisis bring. After considering tourism development determinants under the current conditions, research focus is on Montenegro and Serbia which strive to be integrated into the European Union. As tourism should contribute to future effective economic integration, it is relevant to undertake the repositioning of the offering of their tourism product in compliance with sustainable tourism principles and make Montenegro and Serbia attractive tourism destinations. In that direction, the current conditions are considered as well as possibilities, and factors for Serbia's and Montenegro's competitiveness improvement in the global tourism market.

Keywords: competitiveness, tourism, Montenegro, Serbia, sustainable tourism, destination marketing, globalisation.

Introduction

Globalization has been not only a mega-trend in the world market in the past decades, but also one of the key research topics in the contemporary economic theory. Basically, the globalization is considered as deeply contradictory process. It brings some positive effects, but also negative additional negative phenomena. Some scientists see that trend as panacea. Others see it as a threat which has to be

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limited until its consequences start being extreme (Ohmae 2005, 232). On the one side, it has many benefits, like increasing competitiveness, stimulation of technological innovations, a greater accessibility of ideas, reduction of barriers to global trades, etc. On the other side, it is frequently accused of supporting world polarization and inequalities, increase of unemployment, ecological destructions, etc. (Mandler, Goldsmith 1996, 122). There has been noticed a trend of reducing technological, political, administrative, and other barriers in the flow of goods/services. Actually, acceleration of liberalisation and deregulation of markets in the last two decades are the most relevant changes in international business surroundings at the end of the 20th century and at the beginning of 21th century. These developments have affected most industries, including tourism. "The development of tourism sector is very important for undeveloped and developing countries. Many destinations in those countries have become very attractive in wider scope in the last years. The former concentration of tourists in only few countries in the world today is dispersed to a much greater number of countries and destinations" (Jovanović, Janković Milić 2011, 40). Orientation toward sustainable tourism and more intensive marketing of tourism destination contribute to increasing of attractiveness of some destinations.

Increasing number of mature and developing tourism destinations, pressure of reaching high profits given by global hotel chains, tour operators, bank and transport sector make competitiveness in that industry complex (Hassan 1999, 232). At the other side, global economic crisis started at the end of the first decade of the 21st century; as well as actual safety and security issues bring increase of business risks in the tourism sector. Besides, in different destinations worldwide, "tourism can become the victim of its own success if a sustainability is not in focus" (Beirman 2003, 130). Therefore, economic, social and environmental sustainability of tourism should be in the function of improving the competitiveness of tourism product in the globalization era.

1. Determinants and Dimensions of Tourism Competitiveness at the Global Level

Generally, competitiveness is the ability of a long-term sustainable participation in the market (Ohmae 2005, 34). It means the ability of long survival and successful functioning under the conditions of globalisation. In recent years, one of the most important dimensions of competitiveness is ability to provide the stable and maintained growth and development. Tourism is one of the most dynamic service industries and increasing generator of income in developed and developing countries, which is confirmed by the data about number of tourist in the world. This number increased from 25 million in 1950 to 277 million in 1980, 435 million in 1990, 675 million in 2000 and 935 million in 2010 ("The Travel and Tourism Competitiveness Report 2011", 45). According to "World Tourism Organization" it is expected that the tourism sector should achieve 1,6 billion of tourism arrivals up to 2020, while 717 million in Europe.

At the national level, it is very important for a creator of tourism development policy to identify the national tourism potentials and performance in comparison to other countries. One of the most important indicators of tourism performance is "*The Travel and Tourism Competitiveness Index*", which is published by the *World Economic Forum*. The aim of this methodology is measurement of the determinants which affect tourism competitiveness in different countries ("The Travel and Tourism Competitiveness Report 2011", 46). Index consists of three subindices ("The Travel and Tourism Competitiveness Report 2011", 4): 1. "*Subindex of Travel and Tourism Regulatory Framework*", consists of elements that refer to the government's policy in tourism; 2. "*Subindex of Travel and Tourism Business Environment and Infrastructure*" incorporates basic elements of business environment which represents hard support to tourism development; 3. "*Subindex of Travel and Tourism of Human, Cultural, and Natural Resources*" monitors availability and quality of these resources and evaluates the so-called soft support to tourism development.

Table 1 shows ten of the best ranked countries in the world according to "*The Travel and Tourism Competitiveness Index*". Among first ten positions, there are seven countries from the EU. Europe is a tourism market for which there is the highest demand at the global level.

Table 1 The ten first-ranked country according to "T&T Competitiveness Index" in 2011

	T&T Competitiveness Index		Regulatory framework		Business environment and infrastructure		Human, cultural, and natural resources	
Country	*Rank*	*Score*	*Rank*	*Score*	*Country*	*Rank*	*Score*	*Rank*
Switzerland	1	5,68	1	5,99	Switzerland	1	5,68	1
Germany	2	5,50	12	5,67	Germany	2	5,50	12
France	3	5,41	7	5,71	France	3	5,41	7
Austria	4	5,41	3	5,89	Austria	4	5,41	3
Sweden	5	5,34	11	5,67	Sweden	5	5,34	11
USA	6	5,30	44	5,01	USA	6	5,30	44
United Kingdom	7	5,30	21	5,35	United Kingdom	7	5,30	21
Spain	8	5,29	22	5,34	Spain	8	5,29	22
Canada	9	5,29	25	5,28	Canada	9	5,29	25
Singapore	10	5,23	6	5,72	Singapore	10	5,23	6

Source: The Travel and Tourism Competitiveness Report 2011, 25-27

Tourism competitiveness in the surrounding countries according to "*The Travel and Tourism Competitiveness Report 2011*" shows that some countries are ranked high (Montenegro), while Serbia, Macedonia, Bosnia and Herzegovina should make more efforts for competitiveness improvement in the international market (Table 2).

Table 2 Position of Montenegro and Serbia related to surrounding countries according to "T&T Competitiveness Index" in 2011

Country	Overall index	
	Overall rank	Score
Slovenia	33	4,64
Croatia	34	4,61
Montenegro	*36*	*4,56*
Hungary	38	4,54
Bulgaria	48	4,39
Romania	63	4,17
Albania	71	4,01
Macedonia	76	3,96
Serbia	*82*	*3,85*
Bosnia and Herzegovina	97	3,63

Source: The Travel and Tourism Competitiveness Report 2011

Beginning in early 2008, the tourism industry was under the influence of the world economic crisis. In October 2008, "the United Nations tourism agency warned that the industry could suffer further downturn. Tourism was hit even harder in the first half of 2009 as the slowdown filters through the global economy. The UNWTO Secretary-General *Francesco Frangialli* reported that numerous tourism businesses worldwide were already suffering from the credit crunch and many consumers were cutting back on travel spending" (Vitić-Ćetković, Willis 2009, 5). Predictions concerning the recovery from the crisis are uncertain. Under the conditions of crisis, it is important to consider the role of tourism in the employment policy. Thus, there exists the challenge in maintaining the number of employees in this sector.

The tourism sector is very sensitive to the situations of crisis and instability. Because of strength and trend of the global economic crisis, challenges facing the tourism industry are likely to continue for a certain period of time. Under such conditions, the trend of decline in world trade will cause a decline in the spending of tourists for holidays and travels. Anyway, we have learned from previous crisis that the trend is that even in those periods, new destinations and possibilities emerge for business tourism. After the crisis it is expected that people will change their travel patterns in contrast to the time before the crisis in the sense of shorter vacations, alternative transport solutions, undiscovered short-distance destinations, etc. Under the conditions of crisis some of the changes that are expected include: in the short time period, the tourism industry is expected to experience downward trend in the reduction of consumption, the demand for luxury travel will have a downturn, demand for cheaper travel or trips that have a good price/quality ratio is likely to rise, demand for domestic travel is likely to increase.

There are some opinions that the current economic crisis represents an opportunity for transition to the 'responsible tourism' model that the world market needs. The great economic power of tourism, used more creatively and responsibly, could ensure a better safety, righteousness and, therefore, stability of social environment (Magnusson 2009, 2).

2. EU Tendencies toward the Sustainable Development of Tourism

In reflection of impacts of different development factors (economic, technologic, demographic, political, cultural....), tourism is often considered as one of the most important sectors of EU economic prosperity. Namely, in Lisbon strategy of EU (http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/00100-r1.en0.htm), tourism has been marked as a basic leverage of the EU competitiveness. It is important to say that in the economies of these countries, tourism has been playing important role. Aside from the economic contribution of tourism to the overall economic growth, it is important that tourism also serves to encourage transnational European identity. It is particularly important for the EU candidate countries.

In 2006, the EU Commission released an important tourism agenda entitled "A Renewed EU Tourism Policy: Towards a Stronger Partnership for European Tourism" (Vitić-Ćetković, Willis 2009, 1). The document is focused on the benefits of tourism, which are gained by shaping European identity and the unity of that identity throughout Europe.[1] "Basically, tourism contributes to a better understanding among people and helps in the process of shaping the European identity. Thanks to tourism, those visiting European destinations are brought into contact with European values and heritage. It also promotes intercultural dialogue, through contact between various social, economic, and cultural groups." ("Communication From the Commission - A Renewed EU Tourism Policy: Towards a stronger partnership for European Tourism 2006", 3).

Besides, in this agenda the focus is placed on "the need to develop economically, socially and environmentally sustainable tourism practices" (Beirman 2003, 102). It is a concept of tourism management which anticipates and prevents problems that occur when carrying capacity/resource is exceeded. Also, sustainable tourism stresses the preservation of the cultural heritage. One of the

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[1] In conjunction with revamping its tourism policies, the EU has initiated a "European Heritage label". "The European Heritage Label, created in 2007, is designed to promote the transnational European dimension of tangible and intangible, contemporary and traditional heritage and sites that have played a key role in building and uniting Europe." (The European Heritage Label 2009) The main objective of this major project is to strengthen the European identity. In addition, it is important to influence the European public awareness of the importance of preserving cultural heritage. For the tourism sector a significant emphasis is placed on the special values of the location and promoting the historical, cultural and natural heritage.

Europe's goals in the Lisbon strategy is to maintain the EU as the most important tourism destination in the world. In order to realize this long-term goal, EU countries are faced with the challenge of consistent implementation of:

- *Sustainable development concept,* and
- *Marketing of tourism destination concept.*

a. Nowadays, we can say that economic dimension is not always essential for tourism competitiveness, having in mind that tourism has multidimensional character ("WTO: Ekonomski memorandum – agenda za definisanje politike rasta i konkurentnosti", 34). Expanding the concept of sustainable development includes new dimensions (Ritchie, Crouch 2003, 32), which are reflected on creating the value of tourism service or tourism destination: a) Economic dimension; b) Political dimension; c) Socio-cultural dimension; d) Technological dimension; e) Environmental dimension. In the essence, these dimensions actually are dimensions of tourism competitiveness.

Economic and political dimensions (profitability and welfare) are reflected on the value of tourism services or tourism destinations. However, there are tourism destinations in which economic and political dimensions don't have significant influence on their attractiveness. Namely, they attract tourists although they face with economic and political problems. In those destinations, *socio-cultural dimensions* (characteristics of tourism destination) are more relevant for creating the value of destination (Ritchie, Crouch 2003, 32). So, the socio-cultural forces of the destination might be the key determinant of competitiveness improvement. *Technological dimension* (dimension of information technologies) has important influence in the sense of better approach of potential tourists to the tourism destination. The Internet provides smaller destination to have access to the global market, while GPS (Global Positioning System) can help informing visitors about the destination. *Environmental dimension* has a greater influence on the value of tourism destination, while environmental awareness has been rising in the recent time, especially from tourists who come from developed countries. The main point is to make balance between attracting tourists and protecting the environment.

Aside from these determinants, "*World Tourism Organization - WTO*" and "*United Nations Environment Programme – UNEP*" are specified as relevant fallowing aims/determinants of sustainable development (www.world-tourism.org /sustainable): "Economic viability, local prosperity, employment quality, social equity, visitor fulfilment, local control, community wellbeing, cultural richness, physical integrity, biological diversity, resource efficiency, and environmental purity." Benefits of sustainable tourism are: a) prolonging tourism season; b) increasing tourism expenditure; c) attracting higher income guests; d) increasing local tourism zones; e) creating jobs for local communities.

Creating unique competitive products, finding a niche and differentiate destination from competitors, have become key in the world facing globalization process (Middleton, Fyall, Morgan, Ranchhod 2009, 78). Therefore, tourism

development strategies and long-term competitiveness should include public-private partnership, improvement of quality of education for tourism needs, consistent implementation of sustainable development concept, development of clusters (Kozak 2003, 67), and destination branding (Vitić, 2007, 34). Marketing of tourism service, i.e. tourism destination in contemporary conditions is core determinant of tourism competitiveness improvement (Kotler, Boven, Makens 2009, 25). Competitiveness of tourism destination becomes fundamental concept in tourism management (Lockwood, Medlik 2001, 134).

b. In the aim of competitiveness, tourist destination should offer more value for tourists in the market in relation to rivals for the same efforts/investments/costs of tourists, or the same value for less efforts/investments/costs. Tourists choose those destinations which offer the highest value for them (the best tourism experience) for less efforts/investments/costs. The value of one tourism experience (experience from tourist point of view) is the result of many factors as well as: selection of the destination, travelling to a destination, stay at a destination, experience during a stay, and so on. However, one can say that a particular experience that brings tourist destination represents a set of various values in which creation participates, for example, tourist guides, representatives of tourist insurance companies, employed in souvenir shops, currency exchange offices, etc.).

This is because consumers usual notice the „tourism experience of great value", which can be realised solely if all the participants in *chains of value creation* provide a high service quality. Continuous improvement of service quality, enlargement of tourism destination attractiveness, offer of diversified tourism experience contribute to improving the competitive advantages and lengthening chain of value creation of overall tourism service.

Tourism development strategies and long-term competitiveness should incorporate development of cluster (Kozak 2003, 67) and destination branding (Vitić 2007, 34). Cluster is a dynamic network of tourism attractions, infrastructure, equipment, business, people, etc. in geographical location where some tourism experience is supposed to be developed (Kozak 2003, 67). Clusters in tourism are supposed to provide following benefits: a) supporting SME development by joining their limited resources; b) better availability of quality human resources; c) possibilities for more successful public-private partnership; d) benefits from destination branding. Attracting tourist and finding market for tourism and hospitality services got a new dimension – destination branding.

3. Determinants of Improving Tourism Competitiveness of Montenegro

Even in the beginning of the 21st century, we can say that tourism in Montenegro tends to encourage destination brand in the global market. There are many problems in connection with current transition from mass tourism and

attracting high-income tourist segment. Anyway, current global/world economic crisis may lead to rethinking concerning attracting guests coming from region who generally spend less on travel. This can be one of the possible solutions to overcoming the current global crisis.

Main document that was created to establish new competitive set of Montenegro is Master plan – *Strategy of Tourism Development in Montenegro up to 2020*, which was accepted in 2001. Vision of Montenegro as competitive tourism destination formulated in that strategic document is the following: in one half of the year to be high-quality Mediterranean destination, while in another half of year to be active-vacation sustainable destination. Since the period of giving a green light to Master plan in 2001, Montenegro has done some improvements in connection with infrastructure, promotion, structure of hotels and accommodations, etc. However, considering Master plan as a basic strategic document for tourism development from current perspective, we can comment on its weaker sides:

- The focus is on the coastal regions – lack of focuses on mountainous and central part of the country;
- Diversification of tourism supply is defined as an goal, but without strategies and actions for its realization;
- Overestimated prognosis in some segments (for example: vision of 20 million overnight staying up to 2020 looks unrealistic from today's perspective, as well high number of 4 and 5 star hotels planned).

Anyway, Master plan represents the most integral document that analyzes and gives recommendations for tourism development. Main problem in connection with the plan is a lack of its implementation. For example, devastating tourism resources and non-sustainable urban policy, particularly in coastal regions are absolutely non-compatible with the document. Besides, the revision of the Master plan from 2008 (http://www.mrt.gov.me/biblioteka?query=strategija%20razvoja% 20turizma&sortDirection=desc) is important in order to integrate projects in area of sustainable tourism development in different parts of Montenegro. Accordingly, that revision of the Master plan included many stakeholders incorporated to create a strategy for more balanced tourism development, based on more integrating coastal, central and mountainous tourism offering of Montenegro.

Structure reforms, environment which supports innovations in tourism, setting education system and research for the tourism needs, are some of the elements to improve competitiveness on the long-term base and to come closer to the European Union tourism development regulation. However, short term approach must adapt to the global economic crisis issues.

Apart from political, economic, and cultural development of Montenegro, Montenegrin tourism agenda is also correlated to the EU's Lisbon Agenda and the European Heritage Label. In effort to regenerate tourist interests in the country and due to the government's desires to become part of the EU, Montenegro is focusing

all its political and economic efforts into creating an environment for tourism development based on European standards and values.

Accordingly, it is necessary to consider some structural aspects of Montenegrin tourism. In the past and nowadays, the majority of international tourists who visit Montenegro, especially during the summer months, stay at coast (southern part), while small percent of them stays in the mountains (northern part). Accordingly, Montenegrin south is much more developed than Montenegrin north which suffers from high rate of unemployment and migration, although it has few national parks and plenty of tourism attractions. In order to make tourism more sustainable, as well to achieve social and economic influence to underdeveloped part of the country, creation of diversified products and implementation of marketing tourism destination approach are needed. Accordingly, the trend towards European standards and values can be seen through three examples: focus on sustainable development, the promotion of eco-labelling, and reimaging its European heritage.

Revised Master Plan of Tourism in 2008 focuses on the need for diversification of supply and adjustment services to meet the new desires of tourists, while at the same time focuses on sustainable development. The country declared itself an "ecological state" in 1991 which has been mainly a nice idea which does not reflect reality (EPCD 2002, 5). However, in 2007 the country developed a National Strategy of Sustainable Development – NSSD (National Strategy of Sustainable Development of Montenegro 2007), which is compatible to the Master plan's reflection to protect the environment through sustainable development. Anyway, it is important to underline the need for more balanced regional development in Montenegro (including tourism), which should be compatible with EU sustainable development trends.

In both documents, it is characteristic that in Montenegro there are significant regional differences. The northern region is underdeveloped, while central and southern regions are more developed. Underdevelopment of the northern region may significantly jeopardize the sustainability in the sense of relation to natural resources. In NSSD, it is given that the "northern region comprises just over one half of Montenegrin territory and has the following characteristics: little share in GDP, high unemployment rate, problem depopulation, significantly higher poverty rate than the average in the Republic, underdeveloped transportation (and other) infrastructure, especially in rural areas (National Strategy of Sustainable Development of Montenegro 2007, 23-24).

In addition to agriculture and forestry, the northern region has significant potential for tourism development, especially the types that could contribute to sustainability of the tourism which is currently primarily focused on the coastal (southern) region.

According to the "*The Travel and Tourism Competitiveness Report 2011*", Montenegro is on the high 36th place in the world, according to the competitiveness of the tourism and the travel sector. This is significant progress, as much as 16th positions, compared to 2009, when Montenegro occupied the 52nd place. Montenegro is in the fifth position in the world according to the tourism infrastructure indicators related to the hotel rooms. It is important to emphasize the high second position in the field of ICT infrastructure according to the number of subscribers to mobile phones. Compared to 139 overall ranked countries, Montenegro is in the 16th position according to the sustainable development of tourism and travel sector, in the 28th place according to the quality of natural resources, and on the fifth position in the segment of the openness population toward tourism. Low rankings in the tourism sector Montenegro recorded in the field of transport infrastructure. According to the quality of roads it is located in the 112th place, the quality of port infrastructure takes 106th place, and the quality of road infrastructure 103rd place. What is missing in the tourism offer of Montenegro, according to the *"World Economic Forum"*, is organizing international trade fairs and exhibitions. According to this parameter of competitiveness, Montenegro is in the 122nd place. Regardless of the low ranking in the cultural resources, Montenegro has a good marketing approach which is indicated by the parameter of the marketing and branding effectiveness, according to which it is in the 13th place in the world.

Table 3 SWOT analysis of sustainable development (tourism) in Montenegro

STRENGHTS	WEAKNESSES
• status of EU candidate country • politically written in the Declaration of Montenegro as an Ecological State • rich biodiversity, specific landscape and culture values	• almost no experience in modern economy and management • weaknesses and old fashion system of environmental protection • weak human system development • undeveloped participatory system of power • weak self governance and civic society
OPPORTUNITIES	TREATS
• process of Balkan region stabilization - integration process with the EU • building development on green jobs - environmentally friendly activity • less environmental pressure	• speeding up economic growth without taking into account social and ecological issues • overexploitation of natural resources and culture values • corruption issues

Source: http://www.undp.org.me/home/archive/nssd/presentations/A.%20Kassenberg%20-%20Opinion%20on%20NSSDM.ppt)

Table 3 provides an overview of the SWOT analysis of sustainable tourism development in Montenegro. It is obvious that Montenegro has the potential to be reflected in their natural wealth and prosperity in the EU accession process, but these potentials are not sufficiently utilized. To ensure progress towards sustainable tourism development, it is necessary to strengthen the environmental management system, affect the people awareness of the necessity of preserving the ecologic and cultural identity, as well as improve the quality of human resources as the key factor of competitiveness in the tourism sector.

The fact that Montenegro was given the status of EU candidate country affected a need for stronger orientation towards sustainable development and more intensive marketing of tourism destination, as well as more balanced regional development. To achieve that goal, the following is necessary: a) "diversification of tourist offer (development of village, agro-, eco-, mountain, cultural, sports and other forms of tourism, especially in the northern part of the Republic) in function of more quality of supply and attraction of guest with the higher purchasing power; b) integration of sustainability criteria in tourism development projects;" (National Strategy of Sustainable development of Montenegro 2007, 80-81), c) diffusion of knowledge on sustainable development.

The Montenegrin *Ministry of Sustainable Development and Tourism* realizes it needs to implement certain directives, in which environmental awareness should be intensely promoted. In Montenegro's case, environmental protection desires are reflected in the government's policies and agendas, and with the help of NGOs they have initiated several campaigns to educate the public about the need for environmental protection, like projects: "let it be clean", an eco-tax campaign for all automobiles, and "every drop is important" have encouraged people to respond to the impacts they have on the limited natural resources of Montenegro. Although they are raising ecological awareness in Montenegro, there is much to do about changing the mentality of the people. Actually, even though Montenegro has been an ecological state for over 20 years, little has been done until now to educate the public on the need to preserve natural resources and the impact they have on the environment. The country lacks a unified state plan for the preservation, development, and presentation of cultural heritage and there is a challenge related to marketing techniques in sustainable destination development.

4. Determinants of Improving the Tourism Competitiveness of Serbia

The tourism sector in Serbia has a large, but unexploited potential that is reflected in comparative advantages in the form of preserved natural resources, variety of tourism supply and human potentials. However, the attractiveness and competitiveness of tourism products, the share of tourism sector in GDP and the level of employment and quality of employees in this sector are not satisfactory.

"Tourism Development Strategy" of the Republic of Serbia in 2006 is the basic document to guide future development of tourism and to achieve the vision that is set until 2015: "The Republic of Serbia is Danubian, Central European and Balkan country which in the same way appreciates all available natural and cultural resources" ("Tourism Development Strategy of the Republic of Serbia 2006", 8). To achieve this vision, it is necessary to position Serbia as a tourist destination based on the following products: city breaks; events; touring, cruising; etc. In addition, it is important to define and promote the brand of Serbia which should contribute to improvement of Serbian image, "with an emphasis on the key spiritual and emotional values of people and a new Republic of Serbia" (Tourism Development Strategy of the Republic of Serbia 2006, 11), which should attract not only tourists but also investors. Identify strategic advantages which the further development of the tourism sector in Serbia is based on, but also strategic disadvantages that through cooperation among of several ministries could be mitigated or eliminated, are presented in Table 4.

Table 4 Main strategic advantages and disadvantages of the tourism sector of Serbia

Strategic advantages	*Strategic disadvantages*
• Positive attitude of population towards tourism • Geostrategic position of Serbia • Great potential of ground and surface waters (spas, rivers) • The intact nature • Valuable historical and artistic heritage (monasteries, archaeological sites)	• Insufficient promotion of Serbia as a tourist destination in the international market • Lack of cooperation and coordination among ministries and relevant stakeholders in tourism • Lack of awareness and understanding of the importance of the system of tourism experiences and the extending of the value chain • Unfavourable transport infrastructure • Lack of qualified staff in the field of tourism

Source: According to Tourism Development Strategy of the Republic of Serbia 2006, 5-6

In recent years, the tourism sector in Serbia has shown a gradual improvement after the impact of the global economic crisis in 2008. This trend speaks to the statistical data that already during of 2010 slowed decline in the number of overnight stays, and during of 2011 recorded an increase in tourist arrivals compared to the year of 2010. However, "despite the fact that some statistics show a gradual recovery of the tourism sector in Serbia, the global picture of Serbian tourism competitiveness in the international market is not encouraging" (*Đekić, Jovanović 2011, 134*). The competitiveness of the tourism sector of Serbia on the basis of the "*The Travel and Tourism Competitiveness Report 2011*" was not satisfactory.

The competitiveness of tourism in Serbia is in the 82nd place in relation to the 139 countries covered by *"The Travel and Tourism Competitiveness Report 2011"* (table 2). Thus, according to the quality of transport infrastructure, Serbia is at the very bottom. According to the quality of air transport Serbia occupies 124th position, and according to the quality of road transport it is in the 123rd place. In similar positions there are parameters of price competitiveness of Serbia in the tourism sector (120th place) and the business environment for attracting foreign direct investment (123rd position). A very important factor of functioning of the tourism sector related to the quality of human resources recieved even more unfavourable rating. If we consider the parameter of qualified and trained personnel in the tourism sector, Serbia is in the 130th position.

According to the statement (http://www.ekoplan.gov.rs/src/Odrzivi-turizam-78-c52-content.htm 2012) of the Ministry of Environment, Mining and Spatial Planning of the Republic of Serbia, "the characteristics of the Serbian territory, i.e. its natural and created values are very good model for the modern concept of sustainable tourism" (http://www.ekoplan.gov.rs/src/Odrzivi-turizam-78-c52-content.htm 2012). Also, according to the tourism development policy, Serbia must make a turnover towards greater appreciation of the ecological components of the concept of sustainability, and to conserve nature. However, in order to achieve this concept in tourism development, it is necessary to significantly improve the level of competitiveness of the Serbian tourism sector according to a parameter related to natural resources. "It is important to emphasize that the natural resources ranked very poorly, which means that the behaviour of the government toward the natural resources is irresponsible (Serbia is in the 124th place according to the parameter that indicates the relationship between the government and regulatory framework of the ecological components of sustainability, and in the 123th place according to the attractiveness of natural resources for potential tourists)" (Jovanović, Janković Milić 2011, 53).

One of the reasons for low competitiveness of Serbian tourism certainly represents very modest national budget resources for this sector. "*World Economic Forum*" estimates that the Serbia, according to the parameter of the overall budget for the tourism sector, is in the 130th position.

"These are just some of the indicators of the competitiveness of the tourism sector, according to which Serbia is in comparison to other countries ranked very poorly. At the same time, these indicators are the areas that should significantly improve in order to contribute to improving the quality of tourism services and sustainable development of the sector. It is necessary to analyze the causes for the bad position of Serbia in the positioning of the tourism industry in the world" (Đekić, Jovanović 2011, 135).

Based on the analysis of some parameters of competitiveness in the "*The Travel and Tourism Competitiveness Report 2011*", it can be concluded or

recommended to policy makers to accelerate tourism development. For improvement of the competitive position of the Serbian tourism, very relevant are the following moments: better promotion of domestic tourism, the diversification of tourism services, encouraging the development of "green economy", improving the quality of transport infrastructure, promotion of price competitiveness, improving the quality of human resources, more national budget resources for the development of this sector.

Conclusion

The process of globalization will inevitably affect the change in patterns of travel and business within the tourism industry. Regardless of the serious negative consequences of the global economic crisis that affected many sectors around the world, the tourism sector remains the world's largest industry. Montenegro and Serbia, as the countries aimed at accession to the EU must focus on creating anti-recession action plans of state institutions, as is done in the tourism organizations and institutions at the global level. Some of the activities in the short term, while still feeling the effects of the global economic crisis on tourism in these countries, can be: a) Ensuring implementation of the concept of "value for money"; b) Orientation on the guests from the region; c) Orientation towards new tourism products; d) Price correction of tourism products, e) Greater focus on quality services and offering free services for the guests.

Sustainable tourism is promoted as the main concept of tourism development in the EU and Montenegro, but in Serbia it is one of the priorities of economic development. However, in Montenegro, this strategy has other motives, which include preparing the country for European integration by promoting EU values: sustainable development, ecological awareness, cultural heritages, and welfare of residents. Attracting visitors and foreign direct investment and building competitive position based on creating a destination that takes into account the concept of sustainable development, can contribute a stronger orientation to the key success factors in the form of a new approach of the government to the tourism sector, as well as modern system of education, the tourism cluster development and branding of destinations.

Montenegro has many competitive advantages for tourism development which are reflected in the richness of natural environment. In addition, some competitive advantages are highlighted in terms of sustainable development of the tourism sector, human resources, the effectiveness of marketing and especially branding. However, some of the challenges facing tourism in Montenegro are the better promotion of cultural heritage, investment for improvement of transport infrastructure, an inadequate system of environmental management, mitigation of regional differences in development through the balanced development of tourism throughout the country. A very important area in the strategic orientation of tourism development in Montenegro is compatible with European trends in the

field of sustainable development. Thus, the tourism sector of Montenegro would raise its competitiveness at the global level.

Increasing the competitiveness of the tourism sector in Serbia is an important factor of growth and development, through stimulating the overall economic development, job creation and improving the standard of living. Some of the important elements for achieving this goal are just recommendations related to a better relationship with natural resources, improving the quality of transport infrastructure, improving the quality of human resources, and allocations from the Republic budget and new investment as a key factor of development. An important challenge for the development of the tourism sector in Serbia should certainly be a sustainable development of tourism and creation of an environment that fosters competitiveness and attractiveness for potential tourists. In addition, the challenge is a better use of comparative advantages of Serbian tourism, expanding and promoting a positive image of tourist destinations in Serbia in the international market with the aim of positioning Serbia as a competitive destination.

Surely that tourism sector should adopt a new business concept, suitable to present conditions of adverse environments and crisis. Through the diversification of tourism services, flexible pricing policy, intensive promotion of domestic tourism and more flexible investment arrangements, the tourism sector in Montenegro and Serbia should become more competitive and should overcome some of the consequences and barriers caused by the crisis.

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DETERMINANTE UNAPREĐENJA KONKURENTNOSTI TURIZMA CRNE GORE I SRBIJE U USLOVIMA GLOBALIZACIJE

Rezime: Proces globalizacije pruža velike mogućnosti, ali i rizike za ekonomski, socijalni i ekološki razvoj turizma. Međutim, on takođe stvara ekonomske, socijalne i ekološke rizike. Ove rizike pojačavaju i trenutni uslovi svetske ekonomske krize. Cilj ovog rada je da istraži šanse i izazove za razvoj turizma koje globalizacija i ekonomska kriza donose. Nakon razmatranja determinanti razvoja turizma u postojećim uslovima, fokus u istraživanju je stavljen na Crnu Goru i Srbiju, koje nastoje da se integrišu u EU. Turizam bi trebalo da pruži doprinos budućoj efektivnoj ekonomskoj integraciji, pa je zbog toga relevantno izvršiti repozicioniranje ponude turističkog proizvoda saglasno principima održivog turizma, i Crnu Goru i Srbiju učiniti atraktivnim turističkim destinacijama. U tom pravcu razmatraju se postojeći uslovi, mogućnosti i faktori za unapređenje konkurentnosti turizma Crne Gore i Srbije na svetskom turističkom tržištu.

Ključne reči: konkurentnost, turizam, Crna Gora, Srbija, održivi turizam, marketing turističke destinacije, globalizacija.

SPATAIL ANALYSIS AND REGIONAL DISPARRITIES
OF THE TRADE SECTOR IN THE REPUBLIC OF SERBIA

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Abstract: Considering regional differences, Serbia is in the very top level in Europe and trade has been considered as one of the activity which could help in diminishing those disparities. Because of that, it is of the highest importance to analyze its spatial diffusion. Considering the methodology change in the trade statistics in the period 2005 – 2009, trade spatial analysis will be given through different indicators of trade development: the basic elements of space and natural conditions (area of territorial units, the homogeneity of spatial units, etc.), dynamical statistical analysis of demographic factors (number and density of population, depopulation) and economic categories (income, retail sales). GIS analysis parameters will be the basis for cartographic output displayed on a series of thematic maps and the results of trade analysis will be used to implement the visualisation, however, without involving business-financial performances and concurrent recognition.

Keywords: GIS analysis, Serbia, trade development, trade geo-spatial indicators, regional differences

1. Introduction

This paper briefly discusses the current situation regarding the spatial changes in the Serbian trade, using different statistical indicators of trade development at the municipal and regional level (NUTS 2 and NUTS 3). The representative alphanumeric data and graphic outputs (GIS and statistical analysis) are becoming useful inputs in the models application of the trade regional

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development as well as for decision making in the planning and management of commercial activities (Manić 2010).

Research methods used in this paper were based on measurements, statistical analysis and surveys. Graphics and GIS mapping method are used for visual representation of trade development (Malone, Palmer, Voigt 2002). Maps showing the trade development are the essential basis for monitoring changes in trade through a period of time and in the territory of Serbia. Taking the municipality level as the basis, the relevant statistical data were used for calculating trade indicators and map presentation. Research is conducted on empirical data, gathered by different statistical methods and techniques (data collection depends on data availability and accuracy at different spatial level). In attempt to achieve the reliability and usability of the results, different econometric models have been used, especially in the cases where it was needed to fulfil missing data by interpolation. For trade potential analysis, one of its instruments for measuring - purchasing power index (PPI) has been used. Through GIS analysis of PPI and its elements (demographic and income trends) overall spatial analysis of trade development has been given. The data source is official national statistics (National Statistical Office - NSO).

Besides these indicators, we used one more trade development indicator and that is trade development index (*rdi*). This index is used to show different levels of trade development in Serbia (throughout different regions). The indicator is compared with other two development indicators: industry development index *(idi)* and transport development index *(tdi)*, in order to show the correlation between industry and transport on the one side, and trade on the other, as well as the level of their mutual influence. Nonparametrical correlation indicators: Spearman coefficient and Kendall coefficient[1], have been used for testing the level of correlation between all three indexes. Spearman coefficient r_s, is used for measuring the quantities of ordinance between ranges of districts according to the chosen indicators in 2008:

$$r_S = 1 - \frac{6 \cdot \sum_{i=1}^{n} d_i^2}{n^3 - n}$$

where n is the amount of sample, d_i is the difference between par of variable's ranges. Spearman's coefficient is not so sensitive on related ranges, so Kendall coefficient τ_b was used also (Baltagi 2001)

$$: \tau_b = \frac{n_c - n_d}{\frac{1}{2} n(n-1)}$$

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[1] If difference between rangs are bigger, than the correlation is smaller and vice versa. Positive Spearman's coeficient shows the significant correlation of districts relative position in the analyzed year.

where n_c, is number of accordant ranges, n_d number of absonant ranges, and $\frac{1}{2}n(n-1)$ shows the total number of possible pars of chosen variables. For simultaneous measurement of the intensity of relation between all three indexes of regional development, we used Kendall's coefficient of concordance W^2:

$$W = \frac{\Sigma(\bar{R}_i - \bar{R})^2}{n(n^2-1)/12}$$

where:

$$\bar{R}_i = \frac{\sum_{k=1}^{K} r_{ki}}{K}$$

is arithmetical average of ranges (r_{ki}) according to all variables k, for each unit i, and where:

$$\bar{R} = \frac{\sum_{i=1}^{N} \sum_{k=1}^{K} r_{ki}}{K \cdot N}$$

is arithmetical average of all ranges (r_{ki}) for all variables k and all units i.

Usage of statistical methods contributes to the research of the territorial and temporal context of the trade development in the given area, as well as to the revealing the correlation between chosen indicators.

2. Area of Study

The area of study in this paper is the area of the Republic of Serbia (7.5 million inhabitants, without Kosovo and Metohija), which is located in the Southeast Europe. The land area of Serbia should be considered as provisional because making of the real estate cadastre for the part of the Republic of Serbia is underway. Because of that, it is still not possible to take over final data on certain municipalities' land area and that results in some slight divergences of land areas' sum by municipalities in the scope of administrative districts and the total land area of the Republic of Serbia.

The territorial organization is regulated by the *Law on Territorial Organization* („Official Gazzete RS" no. 79-05). The basic units of local self-

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[2] Kendall coefficient is used for analyzing the coordinance between more than two variables and his value is between 0 and 1.

government are 150 municipalities and 24 cities and they are gathered into administrative districts, which are regional centres of state authority. But these districts have no assemblies of their own; they present purely administrative divisions, and host various state institutions such as funds, office branches and courts. This kind of territorial organization is asymmetric model where exist two levels of government (central and local) and in some specific condition there is a regional level, too (autonomous provinces with special status). In this kind of territorial organization, Serbia was facing a new challenge – dividing its territory on "statistical" units (NUTS), compatible with such regions in other countries in the EU. Serbia needed this in order to be able to apply for aid from the Structural Funds of the EU, but also because of other things that are supposed to be fulfilled on its path to joining the EU. This year, the Serbian Parliament adopted *Law on Regional Development* in which the new "statistical" regions were defined: two regions at the first level (Serbia - north and Serbia - south), five regions at the second level, and the third level was taken by the organization of administrative districts. The NUTS-2 level was made by grouping districts, but without any administrative or political authority; have no attributes characterized for the EU regions.

Considering its development status, Serbia is an emerging and developing country (International Monetary Fund), with upper-middle income economy (World Bank), neutral country and it is EU membership applicant. It still has not finished the process of transition in its way to a full and functional market economy. In this context, the trade is considered as one of the most important aspects of economical modernization and development, and at the same time, it is one of development level indicators as well as one of the economic instruments for diminishing uneven development (Lovreta, S., Manić, E., Stojković, D., 2009). Trade is under big influence of the secondary sector and transport (distribution), but at the same time, trade make its own influence over industry, the tertiary sector and everyday life of people. This, very complex roll, trade sector developed throughout the time, but has been neglected in the central-planned Serbian economy for a long time. Facing with huge regional disparities and challenges of new transitioned economy, Serbian trade finds itself in a completely new position at the beginning of the 21st century.

Although the Serbian trade sector showed real increase in the period 2001-2007 (15,8% per year) (Group of authors, 2009), in 2009, over a whole of GDP in Serbia had fallen (trade sector fall for 10.9%). The total number of enterprises stores which carried out retail activities in the Republic of Serbia in 2009 amounted to 101.627 of facilities and it is lower by 1.9% than the number of stores in 2008, while the number of employees was 302.344 and it is higher by 1.4% compared to the previous year), (Group of authors, 2009). Goods turnover in retail trade in 2009 (current prices) was by 4.7% lower than the turnover in 2008, while turnover observed in constant prices was lower by 11.6%. The number of employees in wholesale trade in the Republic of Serbia in 2009 amounted to 76 117 and was

higher by 17.7% than the number of employees in the previous year, and the turnover in wholesale trade (current prices) in 2009 was higher by 2.7% compared to 2008 (Saopštenja no. 81). The world economic crises did make its way in Serbian economy too, so the trade sector suffered certain damage. However, it will be interesting to see further trade development in the context of existing regional disparities (regional differences in trade development) and its relations with other development parameters (industry or transport development) („Official Gazette RS" no. 55/05 i 71/05-correction).

## 3. Trade Development Indicators – Spatial Analysis

Trade potential is one of the basic syntactical indicator through which one can see the retail/trade sales volume in some region (Trendovi 2009, RZS). It shows the maximum amount of sale in some region according to the whole national territory (Lovreta, S., Končar, J., Petković, G., 2005). This indicator covers several variables, which are important for describing and analysing the retail/trade turnover. Trade potential could be used in different analysis, among which are: amount of goods which is sold or the kind of goods which is sold in that region. Coefficient of trade potential (%) represents a certain relation of trade potential of one spatial unit (municipality) and the average trade potential in the Republic. One of the most used indicators that show relation between trade potential per inhabitant and the trade potential of the whole territory (national average) is purchasing power index (PPI).

Very often this index is used as a measure or indicator of the development level of some territory, because it shows the strength of one region and its population in the economical and trade sense.

In this research, two years were taken as a comparison of parameters of given PPI analysis. In 2004, as the general trends in the Serbian economy was uprising, the PPI showed certain expected distribution over the national territory. The highest values were in Belgrade's municipalities, Novi Sad and Niš municipalities as two most developed centres, after Belgrade. But also, some other cities showed very high values of PPI: Subotica municipality which lays at the northern part of the Province of Vojvodina, to the border of Hungary (since 2004 the EU member) which brought to those areas influence of the neighbouring EU state; Zrenjanin municipality in the Banat region showed high PPI value as a consequence of industry (privatisation of oil industry).

But when we compare the results from 2004 to those in 2008, it could be noticed that there are certain changes. Only Belgrade and Novi Sad left with high levels of PPI values, and in other cities these values fell. At the same time, the whole the Province of Vojvodina saw the improvement of regional distribution of PPI (greater regional disparities of PPI were in 2004). Certain redistribution of values of PPI occurred in Central Serbia, but in general, the PPI showed decreasing trends in 2008.

Map 1: Spatial distribution of PPI at at the municipality level in Serbia, 2004
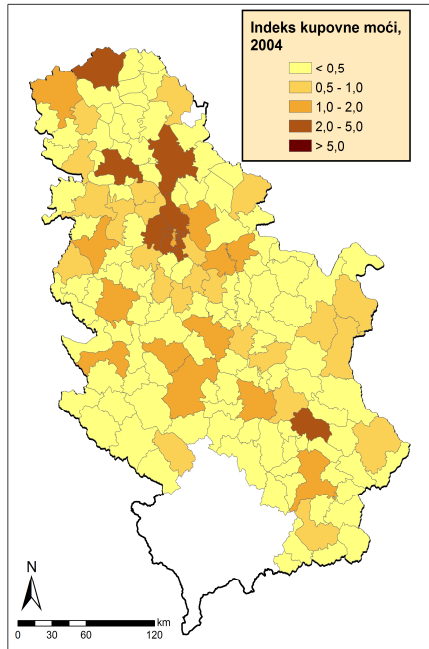
Map 2: Spatial distribution of PPI at the municipality level in Serbia, 2008
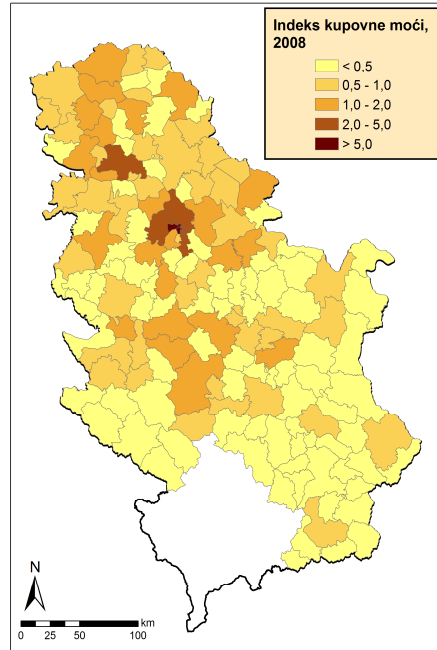
Source: NSO (data), own analysis
Data for Kosovo and Metohija are not available

Such spatial distribution of PPI is the result of interrelations between the three components: population trends, retail trends and income trends. Analysis of these PPI components could reveal the reasons for existing spatial distribution of trade potential in the Serbian territory. We used demographic trends and net income trends for analysis, because the retail trend has been already proven as one of the most influenced component on PPI trends (Lovreta, Končar, Petković 2005).

3.1 Population Trends

Spatial distribution of trade is a reflection of the overall organization of space and the degree of urbanization of the territory of Serbia (population distribution). The position and size of settlements are one of the key factors in addition to demographic characteristics, structure, population migration and their impact on the contemporary distribution of trade.

Serbia has one of the oldest populations in Europe and in the world, and the ageing index puts it into group of deep demographic age. In respect to the population increase, Serbia is facing very serious negative demographic trends. It experienced severe process of depopulation, especially in the period 1991-2008, which led to accelerated process of demographic ageing.

Map 3: Natural increase rate in Serbia, 2008*
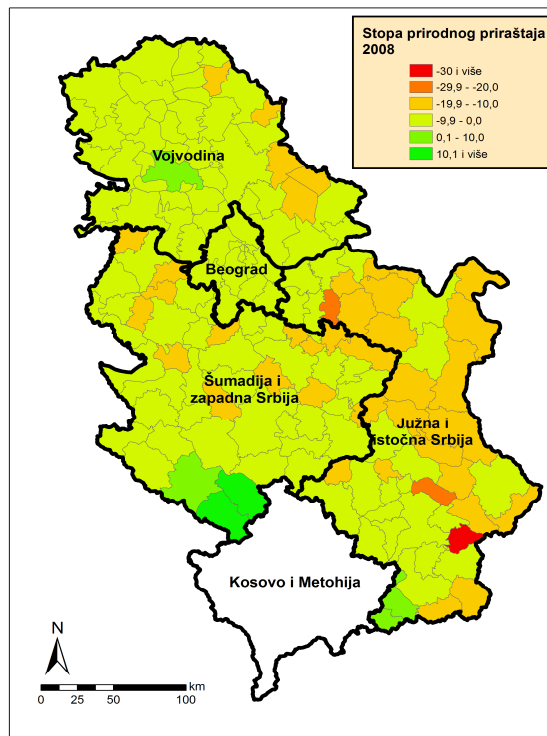
Source: NSO (data), own analysis
Data for Kosovo and Metohija are not available
*The data refer to the municipality level (colour) and the title of given regions on the map refers to the NUTS 2 level.

The mechanical component of demographic increase was also very much complex in respect to the Serbian case. Serbia was facing the processes of immigration and emigration at the same time (refugees from war affected areas, internally displaced people from K&M, and migrations towards urban and developed areas and "brain drain"). All these have their regional inequality picture (at the lower levels, the regional disparities are even greater within one region).

The territory of Belgrade and Novi Sad are the only areas in which there have been significant increases of the population in recent decades (negative natural increase rate is compensated by positive net migration rate - contributes the influx of refugees from war-affested areas in the areas of former Yugoslavia). In the regional context, net migration rate shows that migrations flow from south towards north, from border regions toward central parts of the country and from all over the Serbia to Belgrade region. But within municipalities, the trend of rural-urban migrations is still present.

71

Map 4: Net migration rate in Serbia, 2008*

*The data refer to the municipality level (colour) and the title of given regions on the map refers to the NUTS 2 level

Development of trade sector is in direct correlation with the spatial distribution of population and new settlements. Belgrade becomes the territory in which population is increasing, but also the trade sector as well as the whole economy. In almost all regions of Serbia there is a trend of population declining, settlements and economic activities which are contrary to Belgrade, where these phenomena have increased up to 40 times.

3.2 Income Trends

For the purpose of this research, income trends were considered in the context of net incomes in the Republic of Serbia. Relation between maximum and minimum average net income in Serbia varies very much (Bosković O., Dragutinović Mitrović R., 2010). During 2000, the interval of variation showed certain range (1:1,8), which has been increased in 2005 (1:2,2), and decreased in 2009 (1:1,8) (Trendovi, 2010). Dispersion of average net income in each district is used as a measurement for regional disparities of income on the national territory (Saopštenje LP11, br. 79, 2011).

Analysis of average net income in Serbia has been conducted using data panel of 25 districts, according to two aspects – individual effects and time series effects with F test (Baltagi, B.H., 2001). These methods are used because of the characteristics of the panel data (relatively big sample of N units and shorter time interval T in which these units are analyzed), (Arellano 2003).

National average deviation in income in 2002 was in the interval from -31% in the Pirot District (23) up to 25% in the Južna Bačka District (7). The intensity of the interval increased in 2009 and its spatial distribution has been changed also: from -32% in the Toplica District (22) up to 28% in the Belgrade District (1). Comparing data on the level of average income in 2002 and 2009, it could be noticed that there were smaller number of districts that had average income close to the national average and that the disparities between districts increased.

Graph 1: Average net income on the district level in 2002 and 2009
(national average deviation)*
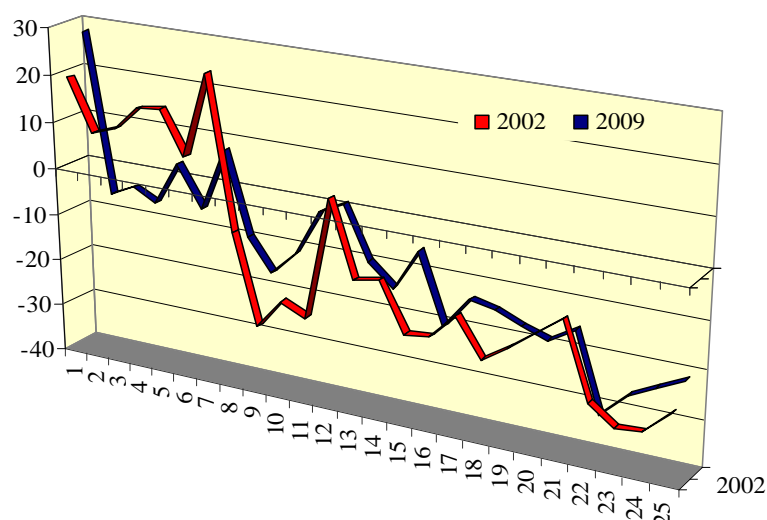
Source: NSO (2002-2009) and income per employee in the Republic of Serbia:
Statistical bulletin ZP14

The district marks from the graph as they folows: 1 (Beogradski), 2 (Severno-bački), 3 (Srednje-banatski), 4 (Severno-banatski), 5 (Južno-banatski), 6 (Zapadno-bački), 7 (Južno-bački), 8 (Sremski), 9 (Mačvanski),10 (Kolubarski), 11 (Podunavski), 12 (Braničevski), 13 (Šumadijski), 14 (Pomoravski), 15 (Borski),16 (Zaječarski), 17 (Zlatiborski), 18 (Moravički), 19 (Raški), 20 (Rasinski), 21 (Nišavski), 22 (Toplički), 23 (Pirotski), 24 (Jablanički), 25 (Pčinjski).

*The y-axe shows the level of average net income of the district

Researching the changes in the net income trends in the first transitional decade in Serbia, the significance of those difference and changes throughout the time is analyzed, using F test of individual and time effects panel data of 25 districts (2002-2009), (Sprent, Smeeton 2001).

Table 1 F test of individual effects – average net income*

F test individual effects	Number of freedom degree	Value of F statistic's test	*p*-value
Average neto income	(24; 175)	0,996	0,474

* Testing is conducting in the Eviews 6.0 software

Data of balanced panels were used because there were available data for all N units in all T time periods. All theses statistical calculation was needed in our analysis because PPI directly depends on the level of net income of the certain area. Although the previous analysis showed certain differences in the net income trends on the district level, individual effects test showed that those differences on the district level are not statistically important in the given period of time (F=0,996; *p*-value=0,474). Regional dispersion of net income doesn't change significantly from year to year, which explains insignificant value of F statistic's test for average income.

On the other hand, the time effects test showed that the value of F statistics test is significant at the level of 1% in the case of the average net income (F=169,101; *p*-value=0,000).

Table 2 F test of time effects – average net income

F test time effects	Number of freedom degree	Value of F statistic's test	*p*-value
Average net income	(7; 192)	169,101	0,000

* Testing is conducting in the Eviews 6.0 software

The test of time effects has been used to test the differences between the time averages (average of chosen indicator for all 25 districts). These results indicate that there is a statistical significance of the variation of regional net income average from year to year (for all 25 districts). This is an expected result because the average net income has been increasing over this period in Serbia, and their time variations are statistically significant.

After analyzing demographic and income trends at the regional level, chosen indicators of trade development showed and further on will show that there are high corrdinance between these variables and trade development on the one side, but also that the level of trade development is in high coordinace with the levels of industry and transport development.

4. Regional Disparities in Trade Development

As it could be seen in previous analysis, PPI and trade potential shows great spatial variations at the municipality and regional level. This is in accordance with general trend of regional development in Serbia: this country is considered to have one with the highest regional disparities in Europe (Regionalni razvoj Srbije 2008, 2008). The regional disparities at the lower level of territorial organization become greater (district level or municipality level). Because of such regional differences and because they have been existing for a long time, certain areas in Serbia are marked under the Law, as areas with special development problems (The Law on Territorial Organization of the Republic of Serbia, 2005):

- *Undeveloped areas* (94 municipalities took some kind of institutional help in the past and 30 of them stayed in this status for almost 40 years);
- *Devastated areas* (20 industrial cities during the period 1990-2008 – lost more than 40% of their revenue and more than 50% of employee in the industry sector);
- *Serbian communities on Kosovo and Metohija* (municipalities and parts of the municipalities which have a large number of Serbian population living there).

All these areas, especially the first two categories, have suffered enormous damage from centrally-planned economy during the socialist era, period of transition in Serbia during the last decade of the 20th and the first decade of the 21st century and now, the challenges of world economic crises. Analyzing the vulnerability index development, defined by the EU methodology (Group of authors, 2006), regional disparities in Serbia are determined as highest in Europe: from 1:7 in regional level up to 1:15 in municipality level („Offical Gazette RS" no. 55/05 i 71/05-correction). These disparities could be analyzed from different aspects: demographic structure, poverty, unemployment and employment, incomes, economy structure, infrastructure capacities, level of education, etc. (Razvojni atlas Srbije, 2008). Showing the regional disparities in the components of trade development, such as net income or demographic trends, it was expected that some of complex trade development parameters would show more or less the same trends.

Trade development index (*rdi*) is one of the complex indicators that show almost the same spatial distribution trends as those individual indicators did.

It could be noticed that there is great polarization between North and South (NUTS-a level) on the one side to the East and South on the other. Two districts are standing out by very high value of this index; the Belgrade District and the Južna Bačka District. This is because they are two most populated and most economically and socially developed centres in the country – Belgrade and Novi Sad. They succeeded to preserve stabile population over the years and to increase it a little bit, as well as to maintain the main economical sectors healthy (privatization of industrial capacities has been finished and great development of service sector).

When we compare the Province of Vojvodina with west part of the Central Serbia (NUTS-2 level), it could be concluded, that Vojvodina has much greater problem with regional disparities within its own territory then it is the case with Western Serbia. One of the reasons for such case lies in the duration of underdevelopment status of some of the municipalities in this area (some municipalities of Western Vojvodina have been in the undeveloped status for almost 30 years).

Map 5: Spatial distribution of trade development index (rdi)
at the district level in Serbia, 2008
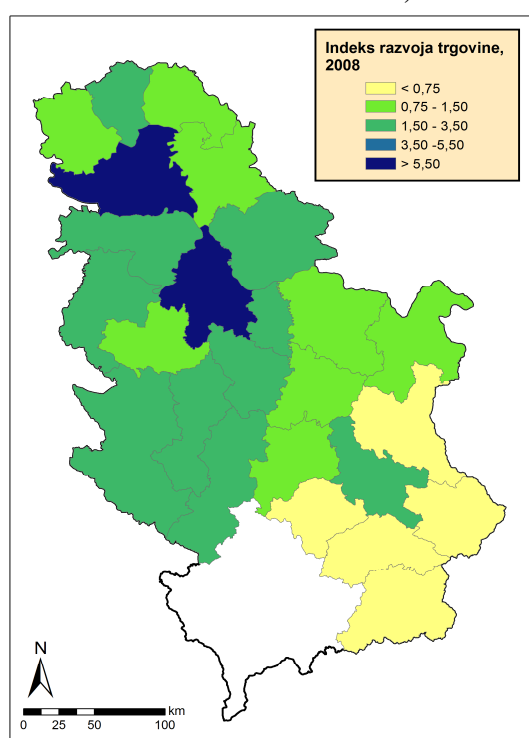
Source: NSO (data), own analysis
Data for Kosovo and Metohija are not available

The peripheral geographical location of this area and its location areas with not so good communication, also, are the reason for the undeveloped status in Vojvodina. Future cross border cooperation with Hungary in North and Croatia at the West could be seen as one of the pull factor for future investments and possible way for taking the path of economic development.

When other two development indexes were introduced into the research (industry development index (*idi*) and transport development index (*tdi*)), we tried to discover whether there were some correlation between these development

indicators and trade development indicator. The main intention of such calculation was to show that any kind of disturbance in any of mentioned sectors would cause the changes in another two.

As it was explained earlier, nonparametrical correlation indicators were used in order to investigate whether there were any correlations between chosen variables (Spearman coefficient and Kendall coefficient).

Tab. 3. Nonparametrical correlation indicators between industry development index (idi), transport development index (tdi) and trade development index (rdi)

Coefficient	*iri-irs*	*iri-irt*	*irt-irs*
r_s	1,000(**)	1,000(**)	1,000(**)
τ_b	,997(**)	,998(**)	,998(**)

Source: NSO 2002 and 2009.
* significant on the level of importance from 0,01 (two-way test), own calculations.

The analysis shows that r_s has perfect correlation out of 1, there was still certain doubt because of the nature of Spearman's coefficient. Knowing that Kendall's coefficient is less sensitive on related ranges, it is used to confirm the results from Spearman parameter calculations. In order to make the most precise results possible, the Kendall's concordance coefficient is also used, but the results showed again very high direct correlation.

Districts which held first positions in 2008 according to industry development index (*idi*), had the same position throughout that year when the transport development index (*tdi*) is in question (Graph 2). The same trend showed trade development index (*rdi*), which confirms our assumption that the regional differences of one of development parameter usually is followed by other parameters, too.

In the context of spatial distribution, it could be noticed that Belgrade Region is far away on the top by all three indexes. Than, other five districts are following: Južna Bačka, Južni Banat, Nišava, Severna Bačka and Srem District. At the end of this row, there are Pčinja, Jablanica, Pirot, Zaječar and Toplica District (all of them are in Southeast Serbia). The rest of the districts do not show any significant variations by these indexes.

It could be concluded that trade has very high correlation with industry and transport sectors. It depends on industry performance of the given area, as well as of transportation network. But this relation is not one-way. We could speak about some sort of backward-forward linkages, because trade is influenced by development of industry and transport, but at the same time trade is the factor of development which has big influence on the social and economical issues as well.

Graph 2: Industry development index (idi), Transport development index (tdi) and Trade development index (rdi) in Serbia (district level), 2008
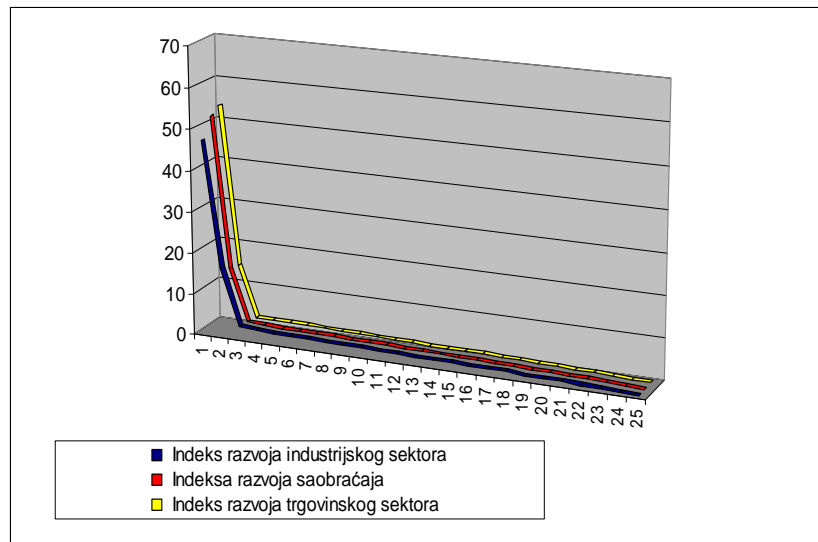
ISource: NSO, 2009-2001.
The district marks like on the graph 1

5. Conclusion

During the period of great economical and political changes in Serbia, trade has entered the very turbulent transition process. This meant huge amount of structural changes in the trade sector: introducing market economy, privatization process, entrepreneurial development, SDI entrance, opening new retail formats, increasing social segregation, consumer behaviour changes etc. Because trade was identified as one of the instruments in connection to urban and rural areas, or in the connection of developed and undeveloped areas, we can think over the trade as one of the future very important activities in the Serbian economy.

One of the most prioritized aims of Serbia in the next decade will be balancing regional development. Numbers of works and studies, among which is also this research, doubtlessly have been confirmed that Serbia has the highest regional disparities in Europe. One of the first steps towards resolving this problem is identifying the underdeveloped regions and those with development difficulties as well (by different indicators: economical, social, and demographical), emphasizing the causes of such state.

Trade has been considering as one of the development factors. Its analysis, especially its spatial context, reveals interesting facts. The analysis of the structure and dynamism of chosen trade development indicators showed that there are great

78

regional disparities at the regional and municipality level in Serbia. The trade development by certain districts in Serbia is the result of the general regional unbalanced development, showing almost the same trends in another two development parameters (industry and transport development indexes). The performances of districts in the beginning of analyzed period (2002-2008/9) are almost the same as it is at the end in most of individual indicators (net income show little bit different trends). This is spatially expressed in the case of Belgrade district and some of the districts in the Province of Vojvodina on the one side, and the districts in Southeast Serbia on the other. An overall note is that trade in Serbia has very low and unbalanced level.

In the future research, the main intention of the economists, as well as planners, should be the orientation towards finding the right set of economic activities for each district or region in order to develop real economic base for economic growth at the first, and after that for the whole development. One of the useful instruments in this research is usage of maps, statistical analysis and graphical representation (in this research it was the case with the regional trade development parameters). The visualisation is giving one more sophisticated level of, not just presentation, but also qualitative understanding of the issue. Visualization of the space at the regional and lower levels contributes to better decision making and helps with a planning and managing future trade development as well as overall development of the country.

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PROSTORNA ANALIZA I REGIONALNE RAZLIKE TRGOVINSKOG SEKTORA U REPUBLICI SRBIJI

Rezime: Srbija je po pitanju regionalnih razlika u samom evropskom vrhu, a trgovina se u tom kontekstu posmatra kao jedna od delatnosti koja može pozitivno uticati na uravnoteživanje tih razlika. U tom smislu, od posebne je važnosti poznavanje njene prostorne difuzije.Uzimajući u obzir promenu metodologije statističkog praćenja u periodu 2005-2009, u radu je prikazana prostorna analiza trgovinskog sektora kroz različite indikatore njenog razvoja: osnovne pokazatelje prostornih i prirodnih uslova (teritorijalne jedinice, homogenost prostornih jedinica), dinamičku statističku analizu demografskih faktora (gustina naseljenosti, depopulacija) i ekonomske kategorije (zarada, promet na malo). GIS analiza je bila osnov za seriju tematskih karata koje su korišćene za vizuelizaciju prostorne strukture trgovine, ali bez upuštanja u analizu poslovno finansijskih performansi i konkurentske prepoznatljivosti.

Ključne reči: GIS analiza, razvoj trgovine, trgovinski geoprostorni indikatori, regionalne razlike.

A CHOICE OF PERFORMANCE MEASUREMENT SYSTEM IN THE SHAREHOLDER VALUE ORIENTED COMPANY

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Abstract*: Companies often define the general business objective as the shareholder value maximization. For such an objective appropriate measures are those that take in account the amount, dynamics and risk of expected cash flows of the company. The aim of this paper is to determine the place and role of performance measures in the efforts of managers to maximize shareholder value. The performance measures are, in that regard, understood not only as criteria for performance evaluation, but also as instruments to guide and motivate managers and employees in the company.*

Key words: *shareholder value, return on invested capital, growth rate, performance measures, performance measurement system.*

Introduction

Companies are facing different and often conflicting demands of a number of stakeholders. This problem is particularly evident when defining the primary objective of company's business. Although objectives such as profit maximization, company's growth and development and market share increase are often stressed, none of these objectives is sufficiently comprehensive to ensure that the requirements of all stakeholders are met. Some authors (Lazonick and O'Sullivan 2000; Rappaport 2006; Stančić 2007; Todorović 2010) suggest that majority of modern companies as a general objective (mission) of their business indentify maximization of shareholder value, usually defined as the present value of future free cash flows. Shareholder value maximization is considered to be objective sufficiently comprehensive to ensure the satisfaction of the requirements of most stakeholders (Jensen 2001; Bloxham 2003; Stančić 2006), and is a cornerstone of value-based management approach.

In basis of all value creation models are several factors that determine the amount and the present value of expected cash flows. These are return on invested capital (ROIC), weighted average cost of capital (WACC), expected company growth rate and planning period (the period during which the company expects to generate positive spread between the return on invested capital and weighted average cost of capital) (Arzac 1986; Arnold 2005). Value is created when a company succeeds to achieve a positive performance spread, ie. when ROIC exceeds WACC. Negative performance spread is reliable sign that current business activity destroys value of a company. The amount of value created or destroyed is a product of invested capital and the performance spread.

The request to maximize shareholder value is connected with a necessity of abandoning of traditional accounting measures (net profit, profit margin, accounting rate of return, etc.) and reorientation to contemporary cash flow and value measures (economic value added, market value added, cash value added etc.). In business practice, managers still usually use measures based on accounting data (according to Ayadi et al. 1996; Krstić 2003; Fitzgerald 2007). Although this approach is simpler, it results in only partially accurate indications and suboptimal decisions, since accounting data weakly correspond with factors determining shareholder value (Stern 1974; Stewart 2003; Rappaport 2005, 2006; Čupić 2011). This is confirmed in many empirical studies suggesting that value measures are, more significantly than accounting measures, related to shareholder returns (Finegan 1991; Lehn and Makhija 1996; O'Byrne 1996; Wortington and West 2004; Wet and Toit 2007). In this relation, Stančić (2005) suggests that, unlike accounting measures, contemporary value measures take in account cash flows, as well as key financial and non-financial factors that determine amount of created value.

Management should establish a performance measurement system consistent with the objective of shareholder value maximization. The selected measures should allow measuring historical and forecasting future performance, consider the expectations of key stakeholders and provide clear guidance to managers and employees in connection with the activities to be undertaken in order to maximize value. The diversity of decisions to be made and the diversity of situations in which they are made do not entitle the managers to rely only on one measure, neither only on value and cash flow measures, but on the integrated performance measurement system.

The Importance of Performance Measures for Value Maximization

Although, in 1890 Marshall (see Marshall 1947) promoted the idea that the growth of equity should be a basic requirement that is placed before the company, and that the cost of equity, as opportunity cost, should be included in the overall cost of capital, companies have more decisively directed their actions towards the

objective of shareholder value maximization only over the last 30 years (according to Lazonick and O'Sullivan 2000; Jensen 2001; Todorović 2010). It was supposed to wait for almost a century for this idea to become widely accepted in theory and practice of corporate governance. Change of the company target orientation was followed by the development of contemporary performance measures, which are largely determined by the real cash flows and cost of capital. Todorović (2010) points out that contemporary performance measures are particularly useful because they show to managers how they can create value, while Kaličanin (2005) points out that these measures provide the motivation for managers in the selection and implementation of those options that maximize value.

Given the importance of performance measures to achieve the objective to maximize shareholder value, numerous authors have studied development of performance measures. Vernimmen et al. (2009) emphasize that the various variants of accounting earnings (net profit, earnings per share - EPS, earnings before interest and taxes - EBIT, earnings before interest, taxes, depreciation and amortization - EBITDA) were used predominantly to the mid-1980s, when they were replaced with profitability indicators (return on equity – ROE, return on invested capital – ROIC, cash flow return on investment – CFROI). Only since the mid-1990s, when the Value-Based Management (VBM) began getting more and more followers, value measures gained on importance (economic value added–EVA, total shareholder return – TSR).

Helfert, similarly indicates that until the 1990s, the performance of companies and managers often were evaluated on the basis of data and indicators from the income statement. Prevailing belief was that the efficiency and profitability of asset management will be maximized if the profit margin and/or absolute amount of profit is maximized (Helfert 2001). Since it has become clear how this belief can be devastating to the survival and development of the company, managers began to rely more on indicators of the rate of return in order to simultaneously monitor profitability of a company and efficiency of asset utilization (Helfert 2001; Bloxham 2003). This was an important step towards the development of more complete approach to performance measurement and the revision of accounting and financial information.

Creating and maximizing shareholder value, as an objective of financial management, includes the use of performance measures that can objectively quantify changes in value of the company. Performance measures should help in finding a link between past achievements and long-term company health, on the one side, and its intrinsic value, on the other side. That is, as Dobbs et al. (2005) point out, performance measures should answer the following three questions:

1. How much value is created in the previous period (as it is expressed in the financial statements)?
2. To what extent does the company have the capacity to create new value in the future and which risks can prevent the value creation?

3. Is the assessment of the current market value of the company complied with the value that is created and one that should be created?

Although the estimate of the past achievements of the company seems as a task that can successfully be completed by applying the accounting indicators (EBIT and net profit), due to the possible manipulation of the accounting data that is often not the case (according to Rappaport 2005; Stančić 2005; Čupić 2011). In addition, numerous empirical studies have not confirmed the reliability of these performance measures (Finegan 1991; Wet and Toit 2007). It is more likely that measures, such as ROIC, economic value added and economic profit, which are directly associated with the process of value creation, will provide a better assessment of past performances (Dobbs and Koller 2005; Čupić 2010). Nevertheless, considering the complexity of value measures, simpler accounting measures are considered to be a solid assessment of past achievements and are widely used in practice (Krstić 2003; Fitzgerald 2007).

The evaluation of company's health, or its long-term ability to create value, cannot rely on accounting measures (Ivanišević 2008), nor only on ROIC and growth rate. For this purpose, it is necessary to analyze the key value drivers that determine the value creation process in short, medium and long term. This is possible to do by the use of specific measures, which should allow for evaluation of contribution which products, staff and processes give to company's efforts to create shareholder value. Dobbs and Koller (2005) divided these measures into four groups as follows:

1. Short-term measures include measures of sales productivity (market share, customer loyalty, the pace of store opening, etc.), operating-cost productivity (production costs, delivery costs, etc.), and capital productivity (turnover ratios, assets management, etc.).
2. Medium-term measures include measures of commercial health (brand strength, customer satisfaction, etc.), cost structure health (opportunities for cost reductions and low cost competition) and asset health measures (property maintenance, modernization, etc.).
3. Long-term measures indicate the company's ability to maintain its position in the current business and to identify and exploit new business areas. The company has continually to measure and assess the challenges, such as new technologies, changes in consumer habits, which could jeopardize its current position in the surrounding. It is difficult to define these challenges more precisely, so companies must rely more on qualitative measures. They must analyze opportunities to cooperate with other companies, to enter new markets, etc.
4. Organizational health measures should help in the assessment of company's capacity (staff, their skills, organizational culture, etc.) to create shareholder value in the future.

All four groups of measures allow the analysis and evaluation of relevant value drivers influence on ROIC and growth rate, and indirectly on the discounted value of expected cash flows and market value of the company. In ideal conditions, on the efficient market, share price and other market indicators would be sufficient to assess the performances and company health (Stančić 2006). Since it is not so, managers and investors, in order to measure the market value of the company, as a result of the appropriate combination of value factors, should rely on several value measures, such as market value added, or total shareholder return (according to Stančić 2007). All performance measures should be linked to value drivers and market expectations, in such a way to provide an insight into a company's ability to create value on sustainable (long-term) basis.

For large, complex companies, except this time dimension, the space, intra-organizational dimension of performance measurement is also important. Multilevel companies, with a number of business units, must rely on numerous measures adapted to the needs of various organizational levels. Measures appropriate to the needs of the company, or those of business units, can hardly be used at lower organizational levels, and vice versa. For this reason, Meyer (2002) points out that in these companies, particular attention should be given to adapting and combining the measures in a following way:

- cascade down of aggregate measures useful for the company level and in business units (e.g., EVA, TSR), in order to convey expectations and guidance on managers and employees at the operational and working group level and
- roll up the specific value measures useful at the operational and working group level (e.g., customer satisfaction, cash cycle), in order to indicate the consequences of their actions for the business units they belong to and the company. (Meyer 2002, 28-31)

Performance measures, in addition to control functions, which include measurement of past and assessment of future achievements, have another two important functions: 1) developing and directing function, as they are an important helpful tool for defining corporate and business units strategies and allocation of resources to alternative use and 2) motivational function, as they allow measurement of achievements of managers and other employees within the compensation system. If, for example, the company's ability to create value depends primarily on the efficiency of current assets management, managers should focus on improvements that will result in increasing the turnover rate of individual current assets items. For this purpose the management should have appropriate measures directly related to current assets (turnover ratios, turnover period etc.). In such a way specified measures, directly linked to value drivers, can serve as a solid basis for measuring the contributions of employees and managers, at various organizational levels, to implementation of general corporate objective.

Meyer (2002) points to seven basic requirements that managers and investors set before the performance measures (Figure 1). Demands placed before measures in small and simple companies, are shown outside the organizational pyramid, while the additional requirements of particular importance for large and complex companies are shown within the pyramid. Requirements related to the measurement of past achievements and long-term company health are shown at the top of the pyramid, since the measures which meet these requirements are useful at the corporate level. Requirements in terms of motivating and directing are shown at the bottom of the pyramid, since the measures that meet these requirements are useful for business units, managers and employees.

Exhibit 1: The seven purposes of performance measures
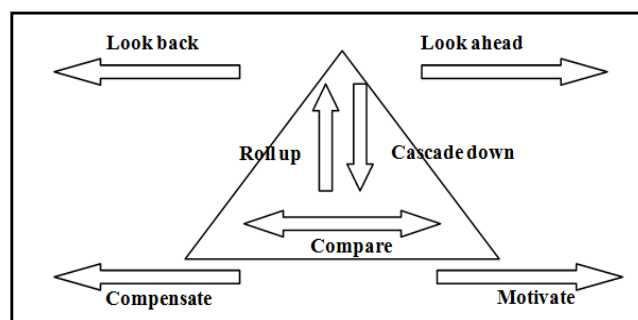
Source: Meyer 2002, 31

The Reasons for Establishing a Performance Measurement System

Companies that as a general objective of their business activities consider the shareholder value maximization, should pay special attention to development of the financial information system that will allow measurement of the value created and motivate managers and employees to create value (Stančić 2007a). Since these tasks cannot be met by a single measure, no matter how comprehensive it is, financial theory has long been debating on the criteria an ideal measure should meet (see Myers 1996).

Morin and Jarrell (2001) emphasize that for the selection of appropriate performance measures, it is necessary to develop criteria for comparing various measures. They suggest the following six criteria: 1) **Measuring accuracy** – the degree to which measure takes into account amount, dynamics and risk of expected cash flows; 2) **Suitability for strategic decision making** - ability of a measure to assess effectiveness of planned strategies and serve as a basis for strategic decision making; 3) **Performance measurement and compensation** –suitability of the measure to provide an accurate evaluation of employees achievement, to be used as a basis for compensation, and to motivate employees to undertake only the

activities that maximize value; 4) **Complexity** - ease of calculating and communicating a measure to external users, operational managers and employees; 5) **Usefulness at different organizational levels -** applicability of a measure at different organizational levels, as well as possibilities for the decomposition of a measure to value drivers appropriate to lower organizational levels; 6) **Robustness** - ability of a measure to reliably evaluate the performance of the company in various stages of company development (establishment, growth, maturity, decline), different stages of economic cycles (expansion or recession) and or different conditions in the financial market (bull or bear market).

Based on the criteria developed by Morin and Jarrell, and taking into account the findings obtained by some other authors (Damodaran 1999; Helfert 2001; Bouwens and Spekle 2007; Wet and Toit 2007; Cwynar 2008; Todorović 2010), Table 1 shows the results of the analysis of the performance measures that are in theory and in practice often discussed and used. Criteria are given horizontally and numbered like in previous passage. Plus (+) sign indicates that the particular measure meets the criterion, and the minus (-) sign that the measure does not meet the criterion, while the question (?) sign indicates that measure partially and only in specific situations meet the specific criteria. From Table 1 it can be concluded that most criteria are met by the total business return (TBR) and shareholder value added (SVA), and the least by EVA and CFROI.

Table 1: Comparability analysis of the performance measures

Performance measures	1	2	3	4	5	6
ROA	-	-	-	+	+	+
NPV	+	+	-	-	+	+
APV	+	+	-	-	+	+
EVA	-	-	-	?	+	?
SVA	+	+	+	-	+	+
MVA	?	+	?	+	-	-
IRR	?	-	-	+	+	+
CFROI	-	-	-	-	+	+
TSR	+	+	?	+	-	-
TBR	+	+	-	+	+	+

By analogy with the approach Stančić and Stancic (2010) applied for assessing measures of liquidity, alternatively it is possible to identify the following six criteria an ideal performance measure should meet: a) applicability regardless of purpose and time horizon; b) ability to comprise all the key value drivers; c) selectivity, i.e. doing away with any factors which are not influencing the value creation; d) feasibility of direct measuring the performances; e) ease of assessing

the performances on the basis of data available to both outside and inside analysts; f) comparability of the quantified performances in a given time and place.

Although it is unlikely that any performance measure will satisfy the requirements of all defined criteria, they are a useful framework for understanding the advantages and disadvantages of different measures. Based on the selection framework managers can decide to use several performance measures, e.g. one for strategic decision making, and the other to assess the effects of earlier decisions. Morin and Jarrell (2001) suggest that as complexity increases, the accuracy of value measure increases (exhibit 2). Thus, measures relatively complex for calculation and communication, such as shareholder value added (SVA), net present value (NPV) and adjusted present value (APV), provide relatively accurate assessment of the value created. However, since they include the application of methods of discounting expected cash flows, they can be subject to manipulation by managers whose performances are evaluated on the basis of these measures and almost useless for assessing the performances of operational managers and other employees (according to Damodaran 1999). On the other hand, measures easy to calculate and communicate, such as ROA or ROE, can be very unreliable since they are based solely on accounting data that may have little or no connection with actual cash flow (according to Stančić 2007).

Exhibit 2: Accuracy and complexity of several performance measures
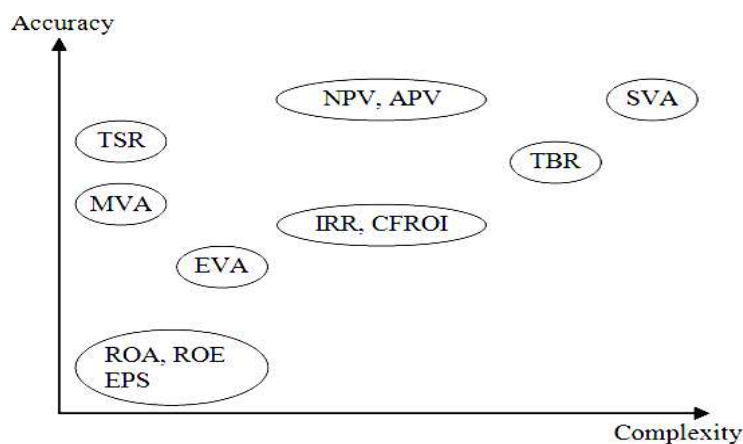
Source: Adapted from Morin and Jarrell 2001, 340

In terms of organizational level at which they can be used in the belief that they will provide reliable guidelines, or in terms of usefulness for the different stakeholders, Helfert (2001) has classified the best-known performance measures considering the following three groups of stakeholders: managers, shareholders and creditors. Managers are interested in the business and investment efficiency, the efficiency of employees, adequate use of resources, all in the context of the goal to

88

maximize shareholder value and the successful implementation of corporate and operational strategies. Shareholders are interested in the returns that the company earns and expect increasing profits, cash flows and dividends, which together should contribute to increasing their wealth. Creditors are interested in liquidity and cash flows of the company, leverage and the value of asset in order to assess company's ability to respond to their obligations.

Feltham and Xie (1994) list several factors that aggravate the measurement of the created value and are causing the use of set of measures. They describe these factors as follows: a) actions of managers and employees are not directly measurable, b) full consequences of the manager's actions are not observable, because they are not precisely limited in space and time, c) due to the influence of uncontrolled factors, it is difficult to assess the actual effects of the undertaken activities, d) managers and employees do not always act in accordance with the interest of the company and shareholders. Bouwens and Spekle (2007) similarly pointed to three potential drawbacks of individual performance measures. These are: a) insensitivity, b) noise and c) incongruity.

Performance measures should help managers to make decisions about future activities, as well as to measure the effects of these activities. In order to fulfill their purpose, measures should be sensitive on the activities initiated and implemented by managers. If they are **insensitive**, they will not be able to provide reliable and objective information necessary for making decisions and assessing the decision effectiveness. In that case, measured value will be different from the created value. For example, if managers assess the success of a shop based on the revenues, it is possible they will not notice the success of sellers measured by customers' satisfaction. In perspective, increasing customers' satisfaction can affect the increase in sales and shareholder value.

The difference between created and measured value may arise as a result of the impact of uncontrolled factors (**noise**), which managers and employees did not affect. Manager can contribute value creation by eliminating some unnecessary expenses. However, if the manager's contribution to the value creation is estimated based on the amount of net profit, it is possible that his/her contribution to the reduction of costs will not be identified due to the influence of uncontrolled factors, such as increasing prices of raw materials.

Performance measure is **incongruent** if it leaves the possibility that managers will undertake activities that are not consistent with the general company's objective and if it positively evaluates such activities (see Cwynar 2008). For example, if the measure of manager's success is the amount of dividend payments, they can be encouraged to fully distribute current profit, although this is not congruent with the goal of shareholder value maximization. Thus, while insensitivity and noise cause the difference between created and measured value, and affect managers' bonuses (Baker 2002), incongruence cause the differences between desired and achieved results.

It is unlikely that one measure can at the same time be deprived of all the deficiencies. Congruent measure is often insufficiently sensitive and is influenced by uncontrolled factors. For example, the share price is congruent with the objective of shareholder value maximization, but it is under the influence of uncontrolled factors and is insufficiently sensitive to the activities of operational managers. By contrast, ROA is usually sensitive to activities of operational managers, and incongruent with the general business objective (see Merchant 2006). Also, a perfectly goal congruent measure can help managers make the best decision, but they probably will not make the maximum effort in the implementation of this decision if the measure is under the influence of uncontrolled factors. That is, managers may be inclined to use sensitive and measures without noise, even if they are incongruent, only not to jeopardize their bonuses (Baker 2002). Therefore, it is recommended to use a set of measures, where primary performance measure should be congruent, and additional measures should be sensitive and without noise (Feltham and Xie 1994; Baker 2002; Bouwens and Spekle 2007). In this way, managers will make the right decisions, and the outputs and compensations will be accurately assessed.

Establishing Performance Measurement System

Performance measurement system can be defined as a set of measures, allowing managers to face large number of business activities and their complexity, and to timely and properly focus on key value drivers. This system should meet the different information requirements, indicate the efficiency of material and intangible resources usage and measure the contribution of employees, managers, and parts of the company to implementation of the overall company objective. Design of performance measurement system is a very complex task, which involves selecting and defining the appropriate set of performance measures, their connecting with each other, and with internal and external environment. Each dimension of performance measurement system should be designed in a way that will ensure consistency throughout the system, and achievement of objective to maximize shareholder value.

The key characteristic of successfully designed performance measurement system is to establish the harmony between the performance measures on the one hand, and general objective and strategy of the company, on the other hand. However, one of the fundamental mistakes companies make is failing to link their measurement systems to the company's strategy (Ittner and Larcker 2003; Marr 2004). In the global study of enterprise performance management, Neely et al. (2007) find that companies still see measurement systems as tactical not strategic. Companies identify assessing performance, aligning employee behaviours and improving operational efficiency as the most important roles of measurement system, while they identify external reporting, validating strategy and strategic planning as the least important roles. Ittner and Larcker (2003) suggest that

90

companies that fail to link measurement system to company's strategy and value drivers allow managers to choose and manipulate measures for making themselves look good and earning bonuses. They also suggest that companies should develop a causal model based on the hypothesis in the strategic plan.

When establishing performance measurement system one should take into account the following requirements:

- **Simultaneous realization of long-term and short-term goals**. Although managers should be focused on a long-term value creation, a necessary condition for the realization of this goal is survival of the company in the short-term. Performance measurement system should therefore enable the measurement of effects of long-term, strategic decisions and short-term, operational decisions.
- **Harmonization of interests of shareholders and managers**. Shareholders are trying to find mechanisms that will motivate managers to make only those decisions that will maximize shareholder value. Usually it is a system of management compensation, in basis of which are performance measures that will be used to estimate the amount of compensation appropriate to accomplishments.
- **Harmonization of activities at different levels in the company**. Since managers at lower organizational levels sometimes make decisions that are inconsistent with the objectives defined at the company level, a problem of reaching intra-company goal congruence may arise. Performance measurement system should synchronize activities of all parts of the company and provide guidelines for action.

When designing a performance measurement system one should also have in mind the characteristics of organizational culture, requirements of all stakeholders and the necessity of vertical and horizontal connection of different measures.

Rappaport (2005) points out that there is no greater impediment to good corporate governance and long-term value creation than short-term earnings obsession. He shows that improvements in the form and content of company's financial statement, as well as incentives designed to defer a part of managers' rewards until some of the uncertainty surrounding their performance can be resolved are promising ways of alleviating this obsession, ultimately leading to more shareholder friendly management behavior and more allocatively efficient market. Also, companies often create measurement system that does not measure intangible assets, which are key value drivers in most companies (Marr 2004). Companies can avoid this oversight by indentifying direct causal links between value drivers and performance measures.

Although it is not necessary, nor possible, that all of the performance measures meet all specific requirements and criteria, it is necessary to include congruent, sensitive and measures without noise (Feltham and Xie 1994; Bouwens and Spekle 2007), as well as financial and non-financial measures (see Ittner and

Larcker 2003), in the performance measurement system. In such a way, the management of the company should be able to convey to managers at lower organizational levels and other employees, expectations of shareholders in terms of value creation, to motivate them to fully contribute to company's success and to reward them in accordance with the contribution.

A number of approaches to performance measurement system design is developed (see Ghalayini and Noble 1996; Neely et al. 1996, 2000; Artley and Stroh 2001; Dobbs et al. 2005). The most prominent among these approaches are the Balance Scorecard (Kaplan and Norton 1992), integrated performance measurement (Nanni et al. 1992), performance measurement in service businesses (see Brignall and Ballantine 1996), and the performance prism (Neely et al. 2001). Despite some differences, they are all based on several common phases of performance measurement system development. Keegan et al. (1989) have systemized these phases as follows: a) defining the strategic goals of the company and its decomposition in order to define the goals of business units and to direct management activities, b) selecting performance measures relevant to the entire company and lower organizational levels and c) communicating expectations in terms of value creation and appropriate performance measures to managers and employees and periodic checks of the performance measurement system.

Figure 3: Targets, incentives and rewards

Senior management	External value metrics: TSR, WAI, MVA, MBR
SBU Management	Discounted cash flow, SVA, EP, EVA
Operational functions	Operating value drivers: e.g. cost of output, customer satisfaction

Source: Arnold (2005)

Arnold (2005) suggests a solution for establishing a performance measurement system shown in Figure 3. This solution indicates the importance of selecting the goals and measures that meet the needs of the organizational level at which they are used. Senior management use external performance measures, which recognize and convey shareholder expectations. These measures are generally highly congruent, and are framework within which other performance measures should range. Since the external measures are not sufficiently sensitive and are affected by uncontrollable factors, at the level of business units more useful are internal performance measures, which are closely related to the value drivers. At the level of business functions, where operational managers have no authority in

terms of defining objectives and strategic solutions, as a measure of contribution to the value creation, useful are simpler performance measures and certain value drivers (customer satisfaction, cost of output, etc.).

Figure 4: Which measure matter
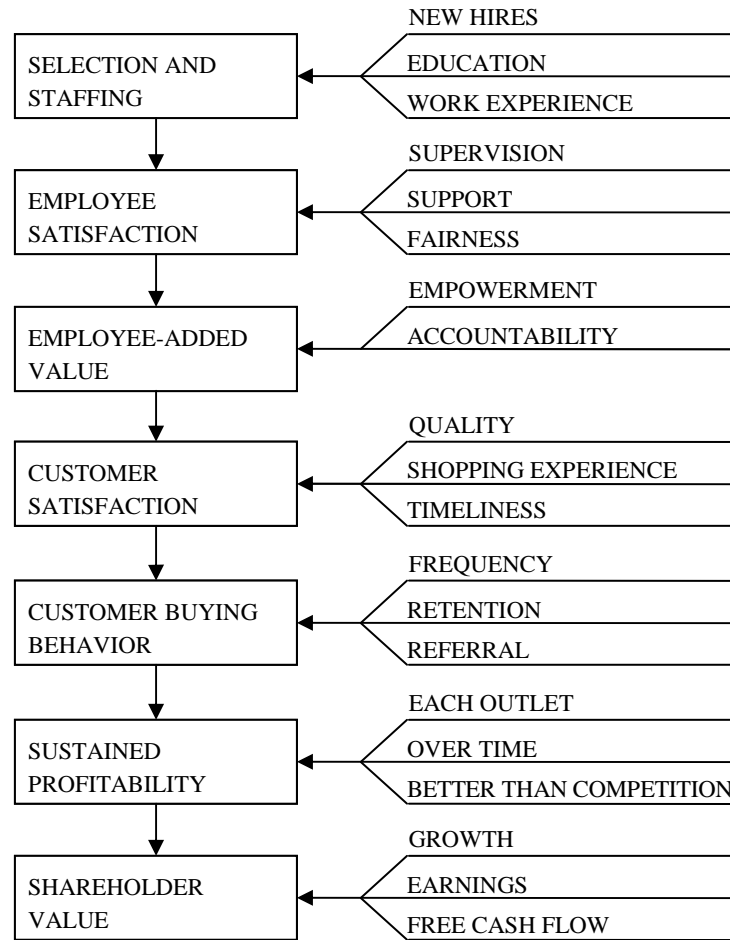
Source: Ittner and Larcker (2003)

Approach presented in Figure 3 is in line with the Performance Planning Value Chain (PPVC), developed by the Center for Business Performance at Cranfield School of Management (Marr 2004; Neely and Jarrar 2004). PPVC suggests that organizations should build business models of causal relationship between the chosen drivers of strategic success and outcomes. Companies can use these causal maps (value driver maps) to visualize links between different aspects of their performance, and as a communication tool of strategic intent and tool to guide company's data (sales, consumer behavior, economic trends, etc.) collection

and analysis. In addition, causal maps can help companies to select performance measures directly tied to the company's objective and strategy. Figure 4 shows an example of such a cause-and-effect map developed by one very successful fast food chain (see Ittner and Larcker 2003). The diagram explains how better employee selection and staffing should lead to higher employee satisfaction and improved employee performance. The latter should increase customer satisfaction, ultimately leading to sales growth and shareholder value maximization.

Wang Laboratories has developed the Strategic Measurement Analysis and Reporting Technique (SMART), with the objective to devise management control system with performance measures designed to define and sustain success (according to Ghalayini and Noble 1996). At the basis of this system is the desire to establish a clear and strong link between corporate goals and performance measures. SMART system can be presented as a four-story performance pyramid (see Figure 5). On top of the performance pyramid is company's vision, i.e. general objective of the company's business and key strategies for its achievement. At this level managers of all business units are assigned a role in realizing the vision and necessary resources. At next level, the vision is further divided by using market and financial measures. Third level defines specific business goals and priorities for small business units and business functions, such as customer satisfaction, flexibility and productivity. At the level of departments and work centres, goals and measures are broken down on more specific business criteria, such as quality, delivery, processing and cost. These more specific criteria, in the basis of the pyramid, allow for successful realization of the vision and defined strategies.

Figure 5: The performance pyramid
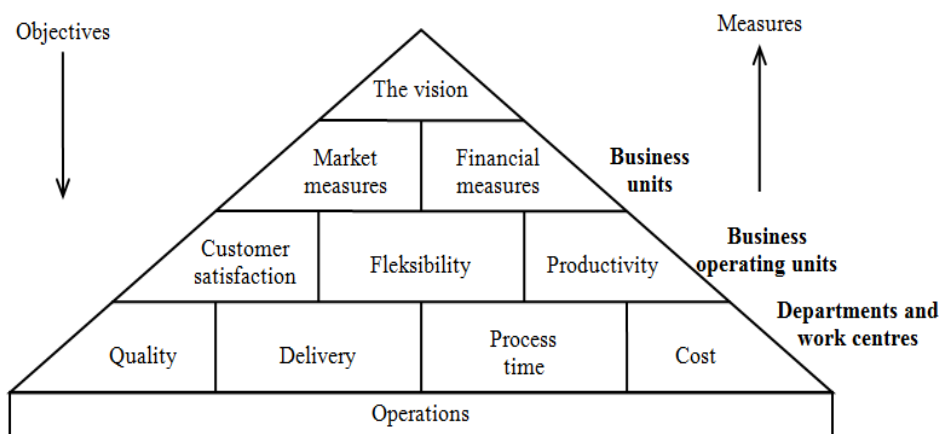
Source: Ghalayini and Noble (1996)

While most financial consulting firms claim to possess an ideal performance measure, i.e. to own a measure which ideally corresponds with the

objective of shareholder value maximization, they all ultimately propose the use of a set of performance measures (see Ameels et al. 2002). For example, in consulting firm Stern Stewart & Co. insist on connection between market and economic value added (Stewart 2003), the Boston Consulting Group on correlation between the total shareholder return (TSR), total business return (TBR), cash value added (CVA) and key performance indicators (KPI) (Stelter 2000), and L.E.K Consulting and Alfred Rappaport stress the link between shareholder value added (SVA) and value drivers specific for different companies (Kunz and Lucatelli 2000). Starting from the premise that there is no perfect measure, Jim McTaggert from Marakon and Charles River Associates proposed to all companies to rely on three basic performance measures, namely:

- Economic profit or economic value added. Such measures allow assessment of the company's success at present. However, company should not rely only on these measures when assessing the profitability of individual transactions.
- Market value added. In contrast, this measure allows assessment of a company's ability to continue to create shareholder value.
- Total shareholder return. This measure allows comparison of the company's success in relation to the overall market (according to Leahy 2000).

McTaggert suggests that these measures are tightly linked, and that they can help companies to eliminate unsuccessful operations in order to maximize shareholder value.

Despite some examples of successful use of value-based measures (Lloyds TSB, Coca Cola, Cadbury), empirical research regarding the use of performance measures and performance measurement system approaches show that companies are still considerably relying on accounting measures (for a review of empirical research on this subject see Ittner and Larcker 2001; Lueg and Schaffer 2010). KPMG study show that 90% of value oriented companies in the sample was still using earnings based measures in 1999, while only 35% was using SVA and EVA (according to Kaličanin 2006). Marr (2004) find that majority of 359 surveyed United States companies using formal performance measurement methodology rely on the Balance Scorecard (BSC) as their main methodology, while a small minority rely on EVA methodology. Bouwens and Van Lent (2007) find on a sample of 81 business unit managers from the Netherlands that they are evaluated on the basis of ROI (68%), EVA (18%), CFROI (11%), or SVA (3%).

Conclusion

Although it is subject to intensive debate in theory and practice only last thirty years, the value concept is not that new idea. More or less explicitly, companies have long been governed bearing in mind the objective of maximizing the value (wealth) for the shareholders and all stakeholders. In the 19th century,

Alfred Marshall emphasized the need for full respect for the interests of shareholders, while many U.S. companies during the 1950s clearly defined the value added maximization as a goal which more fully than profit takes into account the requirements of different stakeholders. Today it can be argued that in the basis of a requirement to maximize net profit, as a goal that has long been advocated as the only and best, was a requirement for maximizing value added. True, net profit is goal and measure insufficiently comprehensive to take into account the interests of shareholders and other stakeholders.

The value concept places in the forefront the need for integrated approach to managing the company, which includes the definition, implementation and evaluation of strategic and operational decisions with respect to the objective of shareholder value maximization. The performance measures, developed keeping in mind the objective of value maximization, are theoretically based on the analysis of real cash flows and relevant value drivers, with full consideration of cost of capital, the time value of money and total risk. These measures are a key link to the value concept implementation and business improvements.

Numerous deficiencies of basic accounting measures and ratios have spurred efforts to design and develop measures that will in greater extent be in line with the objective of shareholder value maximization. However, there is no measure that meets all the requirements that an ideal measure should meet. Companies must therefore rely on the performance measurement system in order to meet different information requirements, enable assessing the efficiency of use of material and intangible resources and enable assessing the contribution of employees, managers, and parts of the company to implementation of the general objective of the company.

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IZBOR SISTEMA MERILA PERFORMANSI U PREDUZEĆU ORIJENTISANOM NA STVARANJE VREDNOSTI ZA AKCIONARE

Rezime: Preduzeća opšti cilj poslovanja često definišu kao maksimiziranje vrednosti za akcionare. Ovako definisanom cilju su primerena merila koja uvažavaju iznos, dinamiku i rizik očekivanih novčanih tokova preduzeća. Cilj ovog rada je da, imajući u vidu ključne faktore stvaranja vrednosti, odredi mesto i ulogu merila performansi u nastojanjima menadžera da maksimiziraju vrednost za akcionare. Merila performansi su, pri tome, shvaćena ne samo kao kriterijumi za ocenu uspeha, već i kao instrumenti za usmeravanje i motivisanje menadžera i zaposlenih u preduzeću.

Ključne reči: vrednost za akcionare, prinos na uloženi kapital, stopa rasta, merila performansi, sistem merenja performansi.

VIABLE SYSTEM MODEL IN (RE)DESIGNING AN ORGANIZATION – CASE STUDY

Dejana Zlatanović[∗]

Abstract: *Viable Systems Model (VSM), as the main methodological tool of Organizational Cybernetics, is one of the most relevant tool for organizational complexity management and designing an efficient and adaptable organization. The Model is based on a few fundamental cybernetic ideas: feedback, feedforward, black box, variety, recursion. Bringing together implementation, coordination, contol, development and identity, VSM can be creatively used in a valid diagnosing and (re)designing of the contemporary organizations. Consequently, a possible application of VSM in the process of (re)designing organization is illustrated in a Case study - the company "XYZ".*

Keywords: *Organizational Complexity, Organizational Cybernetics, Viable System Model, (Re)designing Organization*

1. Introduction

Contemporary organizations are faced with the changes growing in importance in the environment as well as with tendencies that threaten their existence and development. Certain systems approaches to organizational designing are important for understanding organizational viability. In this sense, this paper deals with Organizational Cybernetics as a systems approach to designing complex, adaptable systems, such as modern companies. The research focuses on the Viable System Model (VSM), which is the basic methodological tool of Organizational Cybernetics.

The research goal is to demonstrate theoretical, methodological and most importantly the applicable potentials of VSM in the process of organization (re)designing. In fact, the goal is to specify the manners in which VSM can help managers identify, completely understand and apply fundamental cybernetic principles of managing complex, adaptable systems.

This research is based on the following key hypothesis: If the Viable System Model, through the processes of *diagnosing and (re)designing,* is applied in the management of organizations, more efficient goal achievement is provided; also, learning and adaptability of an organisation are encouraged.

First of all, the paper introduces basic theoretical and methodological features of VSM, as well as the procedure of its application in (re)designing organizations. In addition, the "XYZ" company is examined in conceptual framework of VSM, possible recommendations for redesign are identified, as well as certain strenghts and limitations of Model application in (re)designing the "XYZ" company.

2. Viable System Model – key theoretical and methodological features

Starting from human body and the relevant cybernetics laws, S. Beer built a model that consists of five major subsystems identified in brain and body, and the appropriate feedback loops and information flows. It is the Viable System Model, which is the model of the key characteristics that each viable system must have (Beer, 1994 a; 1994 b; 1994 c).

In order for a system to become viable and develop successfully, it must possess the following features (Petrović, 2010, 388-389):

- Firstly, these systems must possess the capability to solve problems. It means that they can respond not only to some usual events, such as customer orders, but also to some unusual, untypical events like the emergence of new technologies. Bearing in mind that contemporary environment is characterised by pronounced turbulence and uncertainty, the capability of a system to also respond to some unanticipated stimuli, is a key feature of the viable system. As a result, the system can confront not only inner interruptions and errors, but to adapt to environmental actions as well. These systems, also, grow and develop, since, according to their experience, they can learn what their optimal response to a stimulus is. So, the key features of each viable system are adaptability and learning.
- Also, contemporary organisations, viewed as viable systems, do not operate in a vacuum, but they are inextricably linked to the environment they operate in. Survival and development of organisations will depend on their capability to adapt to demands of the environment or to put them under their own control. Changes in environment affect work, manner of management and organisation of a company. Therefore it is necessary to identify, anticipate and evaluate them. The basic assumption for this is a continuous exchange of correct and timely information with the environment. Any attempt to artificially isolate the system from the environment would lead to negative consequences and it would preclude it of achieving its basic purpose – survival.

102

- Finally, in addition to multiple, bilateral couplings between the system and the environment, meaningful, dynamic, relatively autonomous subsystems that the system is split into, are linked to each other and are in constant interactions with each other.

Organisations can possess the above features only if they possess high complexity, that is, complexity above certain "complexity barrier".

Theoretically, of particular importance for the Model are the principles that it is based on, such as the Law of Requisite Variety and the principle of recursion. Variety is the cybernetic measure of complexity, i.e. the number of potential systems states (Beer, 1994 b, 35). If the subject of observation is contemporary organizations, the problem is great difference in variety between the organization, its environment and the process of managing it. As a rule, environment is much more complex than organization, and the organization is more complex than the process which manages it. In order for the management to control the system and the system to persist in the changeable environment, their varieties must be balanced. The above means that *the Law of Requisite Variety* must be respected, and it says: "Only variety can absorb variety" (Beer, 1994 a, 86). That further means that the variety of highly variety systems must be decreased and the variety of low variety systems must be increased. This process, defined as *variety engineering*, can be effective if organizations deal only with the part of the environment that causes obstacles that the organization must react on in order to persist. It is the so called residual variety of environment. The analogous also applies to the organization and its management, for which the residual variety of organization is relevant, that is, the variety which is not absorbed by the processes of self-organization and self-regulation (Espejo et al, 1996, 106-107).

In addition to the Law of Requisite Variety, the theoretical core of VSM is the principle of recursion. The principle of *recursion* concerns the fact that systems are hierarchically arranged, and that organizational forms of higher system levels can be repeated in their parts. In other words, the same principles of VSM can be used for modeling the subsystems of an organization, the organization itself and supra system that the organization is a part of (Schwaninger, 2004, 518).

Namely, as a functionalist systems approach, Organisational Cybernetics and VSM - its key methodological tool, imply that, in organisations, there is a general agreement about direct and indirect goals which are to be pursued. They insist on exploring the interior of the system in order to reveal those features of system design necessary for them to be more efficient as time passes, that is, to be viable and to develop in turbulent environments. The concept of efficiency of system functioning refers to the fact that the explored system "does the things in the right way". It means that the system is able to determine and implement appropriate manner of its own functioning and choose and use the means which are appropriate for achieving the established indirect and direct goals of its functioning

(Petrović, 2010, 270). In this regard, for the Viable System Model, in addition to mentioned cybernetic principles – the Law of requisite variety and recursion - feedback, feedforward and black box are also relevant.

In this context, primarily negative feedback is of particular importance. Negative feedback results in balancing effects in functioning of subsystems, that is the system, and presents the basic instrument of their self-regulation, that is self-control, in which, by selecting and implementing certain responses to changes, identified exceptions are eliminated from achieved results while purposeful behaviour of subsystems, that is the system, is provided. (Jackson, 2003, 7).

As a specific, relevant expression of internal regulation, feedforward control of organisation implies certain response, system's reaction the aim of which is to prevent disproportion between a future, real condition and certain referent condition of the system. In this sense, contemporay companies are not only adaptive, feedback systems, but also are able to behave proactively. It means that organizations can create the changes in order to be viable and adapt to the changes in the relevant environment (Petrović, 2010, 106).

Black box presents such an instrumentarium of cybernetics in which the studied phenomenon, process, problem, is viewed as a system whose internal organisation, that is the structure, researcher knows nothing about. The only available information relates to inputs and outputs of the viewed system, which means that the researcher is expected to identify essential features of the manner the system functions and reach relevant conclusions about its arrangement, that is the structure, by establishing functional relations between the achieved results (outputs of the relevant system) and presumptions for achieving those results (inputs of the system) (Beer, 1994 a, 45).

VSM functions on the idea that an organization can be conceptualized as an organism with developed intellectual capacities which enable systems thinking, vision and strategy of persistence in the state of constant changes of environment. Accordingly, VSM includes the following five functions - *Ill. 1* (Broclersby and Cummings, 50): the *implementation* function, that is, operational elements which directly interface with the external environment; *coordination* function which ensures that operational elements work harmoniously, *control* function which allocates resources to the operational elements; *intelligence, i.e. development* function which considers the system as a whole – its strategic potentials, threats and future direction; the *identity* function which conceives of the purpose or raison d'être of the system.

For understanding VSM, of great importance is to precise vital features of five mutually connected, functional segments (Petrović, 2010, 395-396):

The components of the S_1 segment are operational elements of the system, which are responsible for one of the five functions included in VSM - implementation. Operational elements are the core of recursive model and ought to

have a high level of autonomy to be able to adapt to demands of environment. The S_2 segment coordinates operational elements, ensuring their harmonious operation. The control function is represented by the S_3 segment and because of that the system maintains internal stability. To complement the control function, the S_3^* segment occurs, which, through its audit channels, enables the control function to perform necessary audits of the operation of operational elements. The intelligence function is represented by the S_4 segment. This function is a necessary requirement for system adaptability because: it gathers all the relevant information from the environment, both internal and external, and sends organizational response to the environment. Lastly, the S_5 segment represents the identity function. In this segment the mission or raison d'être of the system is defined, that is, the policy of organization is determined and its modification is performed.

Illustration 1: Conceptual framework of VSM
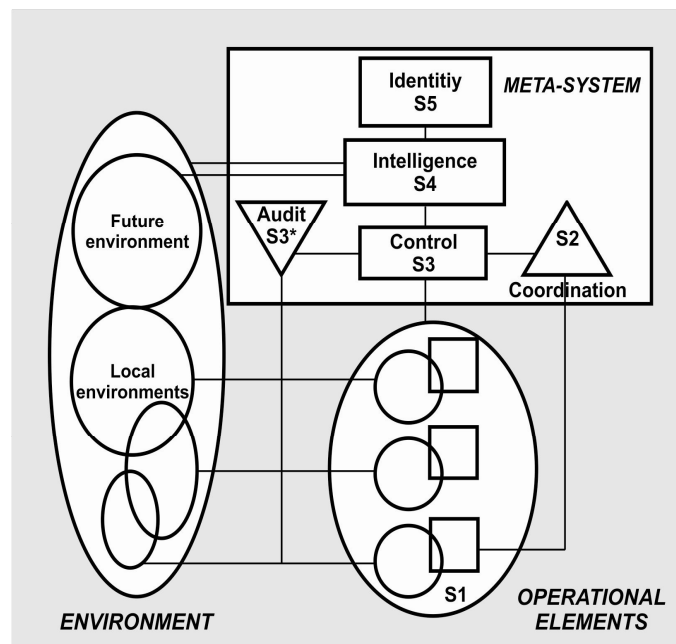
Source: (Brocklersby and Cummings, 1996, 51)

Also, of particular importance for the Model are communication channels and information flows, which are presented by the lines of orders and control, audit channels, vital information regarding the problems in operations and relevant information concerning opportunities and threats from the environment (Petrović, 2003, p. 79).

In the process of VSM application in (re)designing an organization, three relevant sub-processes can be distinguished (Flood, 1996, 149-157): *system*

identification, *system diagnosing* and *redesigning* (when required). System identification starts with specifying the purpose or reason of the organization existence. Identification can help detect the following entities of triple recursive level: *system in focus* - recursive level 1, *supra system of the system in focus* - recursive level 0, *the operational elements of the system in focus* - recursive level 2.

After the identification in the process of VSM application is carried out, the sub-process of system diagnosis follows. It is conducted through careful analysis of, primarily, the S_1, S_2, S_3, S_4 and S_5 segments of the system in focus, and then by the analysis of all information channels, transmitters and control loops.

One starts with studying the S_1 segment, the parts of which are presented through the operational elements of the system, that is, organizational divisions. In studying the S_2 segment one starts from the fact that the coordination function is necessary when the operational elements themselves cannot adequately respond to the changes that occur in the environment, but what must be performed is the coordination of their processes with the processes of other operational elements. The study continues in the S_3 segment by which the function of control is represented. During this process one must respect the fact that the control is the next management function; it is necessary when coordination cannot manage a changeable situation on a long-term basis. Studying the S_4 segment which represents the intelligence function, one must respect the fact that this function serves to collect all the relevant information from both external and internal environment. In this manner, it performs a kind of SWOT analysis (Strengths, Weaknesses, Opportunities and Threats). The diagnosing must also include the S_5 segment, that is, the identity function. Since it deals with formulating the purpose and indirect goals of organization, the knowledge, achieved through the function of intelligence, that formal purpose is not adequate any more, is of particular importance. With the study of this segment the process of system diagnosing ends.

The mere application of VSM in designing a system or an organization does not mean it is devoid of all the flaws and errors. These errors are revealed and specified through diagnosing. Errors can occur in all the segments and levels, such as errors in determining the level of recursion, inadequate estimation of importance of the parts of the S_1 segment, inadequate identity of the created in the S_5 segment and the like. When some of the mentioned errors are revealed in an organization, one starts redesigning the system which is the last sub-process in VSM application (Flood, 1995,157-161). The first step in redesigning a system is a diagram presentation of the identified problems of organization. Then, their examination and analysis are performed. Thereat, of great importance is the formulation of certain procedures: *the procedure for the processes of operational elements and procedure for management functions*. Therefore, diagnosis and resulting analysis, i.e. described redesign, ensure appropriate and complete tool kit which deals with the problem of designing an efficient and adaptable organization.

3. The ″XYZ″ company as a viable system

The paper focuses on the research of the ″XYZ″ company[1], whose main service is the transportation of passengers in urban, suburban and intercity traffic. Additional services are trade, tourist agency, craft and repair services, business services (vehicle technical inspection) and other (services such as driver training for all categories). In this sense, organizational structure of the Company is illustrated in the following picture:

Illustration 2: Organizational structure of the ″XYZ″ company
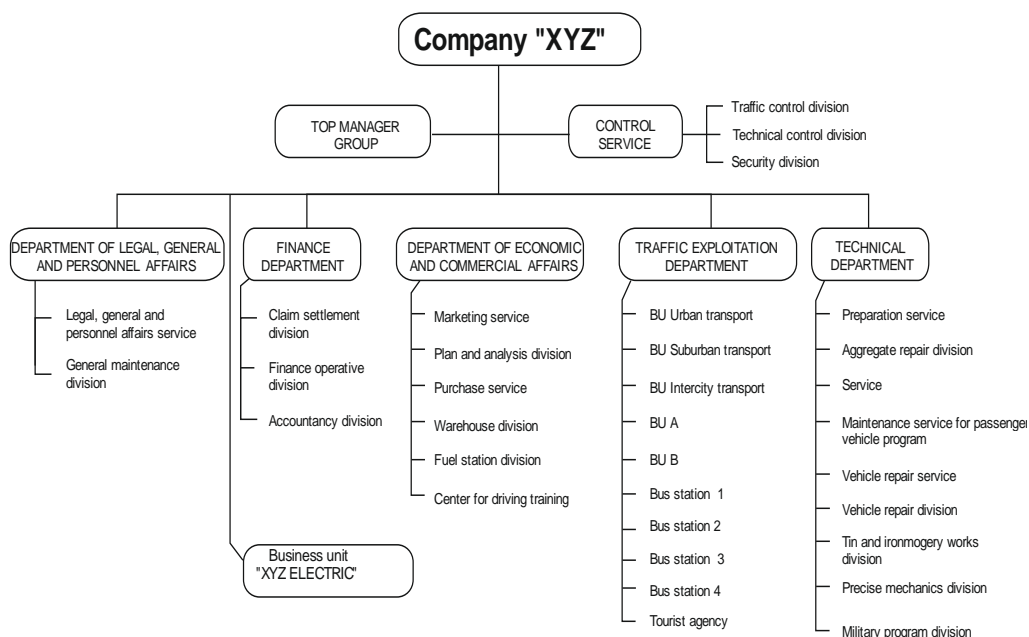
3.1. System identification

The study of the respective company in the conceptual framework of VSM starts with specifying its mission. The mission or the *main purpose* of business operations of the company could be specified as follows:

″We want to provide the best quality of transport to our clients. Our aspirations are directed towards satisfying the needs and expectations of our clients in the best way possible, providing a comprehensive transportation system – urban, suburban and intercity transport and services that support it.″

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[1] In order to protect the identity, the company which is researched in this paper is marked as ″XYZ″. The data were gathered from the relevant documentation of the Company, as well as through interviews with relevant managers and employees.

According to the purpose of the company and relying on VSM and its application, the following levels of recursion can be determined:

- System in focus – recursive level 1. It is the system which ensures achievement of pre-determined purpose, and which is represented by the S_1 segment. In this case, it is about the Traffic Exploitation Department, which is the system in focus, that is, recursive level 1. Parts of the S_1 segment, more precisely its operational elements, could be determined as follows: urban, suburban and intercity transport.
- High-order system, whose subsystem is the system in focus – recursive level 0. The ″XYZ″ company as a whole, represents this level of recursion and, in conceptual framework of VSM, it could be split into: core business – the Traffic Exploitation Department, Core business supportive services and Future affairs.
- The viable units of the system in focus – recursive level 2. Each of the determined operational elements - urban, suburban and intercity transport, could further be divided into different lines: line 1, line 2, line 3, etc.

The determined recursive levels can be presented as follows:

Illustration 3: Recursion levels in the ″XYZ″ company
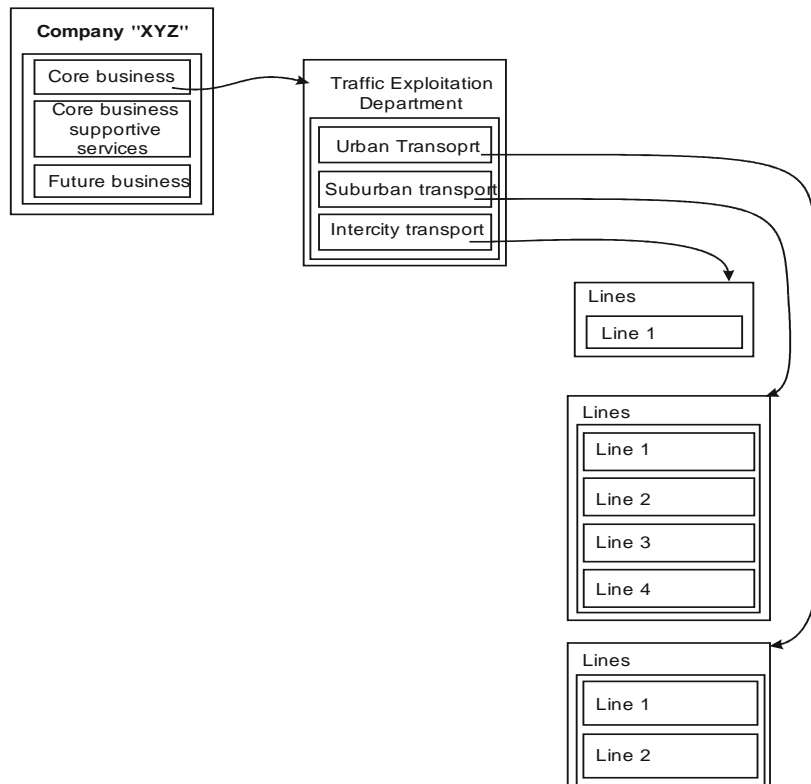
3.2. System diagnosis

Urban, Suburban and Intercity transport as operational elements of system

After the identification phase, the phase of diagnosing of each of the separated segments and corresponding management functions (coordination, control, intelligence and identity) follows. The operational elements of the system responsible for purpose implementation are: Urban, Suburban and Intercity Transport. Urban transport can also be denoted as Public Urban Transport of Passengers (PUTP). In late 2005 the institution of integrated transport is introduced in PUTP. In other words, the City Council established an Agency that dealt with tickets pricing and their sale. The agency sells single and monthly tickets for all the user categories: workers, pupils and students, pensioners. The ″XYZ″ company as a passenger carrier receives compensation from the City per car day. This means that the exploitation of a bus per day is charged. PUTP has 38 buses at its disposal, whereas car day price for a ″solo″ bus differs from car day price for an articulated bus. The ″XYZ″ company holds 29 lines in urban transport. In Suburban transport, it holds over 80 lines, in *Intercity transport* - 10-15 lines, and since 1997 the ″XYZ″ company has been engaged in international transport as well.

In the diagnosing of this segment, of particular importance is to identify the problems that operational elements face with in their operation, to determine local and prospective environments, to specify the indicators of functioning and to determine localized management for the respective segment. Some of the key problems that the determined operational elements face with are various financial limitations (e.g. great costs of amortization due to unfavorable age vehicle structure), then problems closely connected to seasonal influences ("snow in winter – Force Majeure"), which requires additional investments in equipment and the like.

As for the *localized management* of the S_1 segment, it is necessary to emphasize that for the lines maintenance in all types of transport the key role is played by dispatchers, who are responsible to business unit managers. Business unit managers are inferior to the Traffic Manager, and he is directly responsible to the Top manager. In the study of this segment it is also possible to determine appropriate *indicators of functioning*. In each of the elements of this segment the key indicator of successful operation is the volume of services performed, and it is expressed by *the mileage and the number of passengers transported*. The data are taken from individual travel orders filled in by the drivers, whereas the number of passengers is recorded from the lists filled in by conductors, that is, from the records of the number of sold tickets.

Determining local environments of operational elements can be performed through, primarily, identification of key direct competitors (companies "A", "B", "C", etc.) and indirect competitors (taxi services). Since this is the company which does not use electrically-driven vehicles in Urban Transport, then the future

environment of this segment is connected to the development of electrical transport, and the development of vehicles that respond to ecological demands, and which are, at the same time, economically more rational. Future environment of this segment is also connected to the development of traffic infrastructure.

Coordination function

When studying the *coordination function*, the attention should be paid to both, coordination in each of the separated parts of the S_1 segment, and coordination of operational elements themselves. Operation coordination in each of the operational elements is the responsibility of *dispatchers*. Their responsibility is to monitor and coordinate the functioning of different lines. The key document, that is, the basic procedure through which the transport takes place is the *schedule* for both, work days and weekend. In case of a breakdown or some other problem, driving personnel informs the competent dispatcher. If it is a short-term problem (e.g. less serious breakdown on a vehicle) the dispatchers deal with it by sending another vehicle and driving personnel and/or by repairing the breakdown on the vehicle. If there are long-term problems, the information is sent to the competent managers, and further through the hierarchy.

When it comes to the coordination between the operational elements in question - urban, suburban and intercity transport - the following can be emphasized: Separated operational elements are complete, relatively independent units. Each of the elements has its own capacities, employees, management. Since the role of the coordination function is to deal with short-term problems in operational elements, their fluctuations or conflicts, it can be stressed that, in the company in question it is present ad hoc. The thing is: A problem can occur in one operational element – for instance, a bus breakdown in Urban transport. In case that, at that very moment, there are no available buses from Urban transport, a bus from Suburban transport is sent, for example. All those who are responsible for normal traffic operation, starting from the driving personnel, dispatchers and business units managers, are willing to ask for and give help to another operational element.

Therefore, one can conclude that there is a willingness of local managers to cooperate and provide the cohesion of the elements. Information flows or communication channels are of relevant importance for the cooperation between the operational elements. There were situations when the information flows were such that it took much time for the information to reach those who were supposed to make decisions, which required the responses to certain claims to be very slow. Since this is a business activity where the time is one of the key factors, radio communication is introduced in buses in order to improve communication channels, and since 2005 local communication network was also introduced through which the employees could exchange the relevant information between themselves. However, in spite of certain aspects of cooperation and mutual help between operational elements, it is necessary to expand *coordination*.

Control function

Control is the next management function which is to be diagnosed in the VSM application. The control in the examined company is a continuos activity which is quite important for undisturbed conduction of the company's basic purpose. In the organizational chart one can see that it is singled out into a special company service – Control service.

The control in the Company can be divided as follows: First of all, for the transport safety and normal course of process of particular importance is *vehicle technical inspection*, that is, the control of technical condition of buses, which is performed by Technical Control Service. Vehicles are subject to this kind of control twice a year. Additionally, vehicles are subjected to an extraordinary technical inspection if necessary. Particularly important segment of the control concerns the *control of vehicle travel speed*. Such kind of control is performed by Workshop for tachographs. Speed adjustment is carefully monitored and one must be careful not to deviate from the established standards. *The activities of driving personnel and fieldwork conductors* are also controlled, and it is the responsibility of Internal control. This segment may be joined by the Claim Settlement Office which organizationally belongs to the Finance department which *controls and monitors selling tickets and fare collection* by conductors.

The diagnosis of this function can be continued by examining the ways of performing the allocation of resources between different operational elements. Resource allocation in the "XYZ" company is different for PUTP, that is, for public transport compared to suburban and intercity transport. Namely, in PUTP, the City Council directly manages the lines and has the right to entrust transport with various carriers, that is, it has the right to choose carriers among those who apply for the tender calls that it itself invites. Work equipment and driving personnel are provided by the Company. Money from the fare collection goes to the City Council, and the "*XYZ*" company receives compensation for transport performed in form of car days.

In contrast, in Suburban and Intercity transport the lines are provided on the basis of agreeing schedules made by the Serbian Chamber of Commerce. The respective company performs the transportation with its own facilities and driving personnel and gets the income from fare collection.

In the line with the above, one can conclude that the resources allocation is an issue that is not entirely the responsibility of the Company, especially when it comes to PUTP. To achieve more efficient Urban transport, it is necessary to provide active assistance from the Municipality in the form of certain subventions, donations and the like in order to provide the long-term PUTP operation. More attention should be paid to the manner in which decisions are made concerning resources allocation, that is, to questions how and why certain allocations are done.

Because of the fact that, according to VSM, the integral part of this segment is also the audit of the functioning of operational elements, the diagnosis of the function of control also includes the examination of certain audit channels. In the ″XYZ″ company, external audit of financial reports is conducted. Of relevant importance is also the Plan and Analysis Department, which keeps records of the most significant inputs (fuel, oil and grease, car tires, spare parts and the like), as well as the records of the physical volume of services presented through mileage and the number of passengers.

Examining the manner in which this segment applies authority, it can be said that the function of control is, in a certain sense centralized, which does not imply weakness in the respective company. Namely, since this is a business activity where the safety of passengers is in the first place, it takes rigid, but explicit procedures that must be followed in order to meet this goal. For example, during vehicle technical inspection, and tachograph check, it is necessary to follow certain standards, that is, procedures. Accordingly, this is the function which represents the support to the implementation of the established policy and stability maintenance, that is, providing quality and reliance of transport.

From the above considerations, it is evident that there are three relatively autonomous units: Urban, Suburban and Intercity transport. They are operationally connected to each other, primarily through overlaps in the markets they serve, and through the technology they share (e.g. certain types of vehicles, repair services, workshops for tachographs, etc.). Of particular importance for the viability is to provide their cohesion, i.e. to achieve a level of unity between these parts. Accordingly, what is important is following: *monitoring* their activities (audit of the operational elements), *negotiating the program* which is to be realized and resources, as well as the strong *coordination function*, as integral segments of *cohesive mechanism*. From the previous diagnosis of operational elements, the coordination and control functions, one can conclude that some of these activities are present in the company, such as ad hoc cooperation between operational elements in the event of a breakdown on one of the vehicles. *Monitoring* activities are primarily embodied in the control function (sudden vehicle controls and fieldwork driving personnel). Yet, it is necessary to develop these activities according to VSM recommendations, that is, recommendations that would provide viability of the company.

Intelligence function

The intelligence function is supposed to gather all the relevant information on opportunities, threats, strengths and weaknesses of the company, that is, to conduct a kind of SWOT analysis. The key *opportunities* of the Company ought to be searched for in electro-transport. Also, the opportunities of the Company are closely related to the construction of local roads, highways and motorways. Except the already said, one can observe opportunities that relate to the segment of

Intercity, i.e. international transport. These are, for instance, transport of students on excursions or the transport of passengers/tourists with tourist organizations.

The main *threats* can be identified through legal and illegal competition (firms that do not pay their dues, employ pensioners, stop outside bus stops, etc.). Also, a threat for the Company can even be a regulation on mandatory introduction of vehicles with Euro engines, which would require significant assets for the renewal of vehicle fleet.

The strengths of this company are reflected in the quality personnel (primarily high-quality driving personnel), number of facilities available (the most important ones are definitely bus stations), good technical department and other quality services provided. In other words, the key strength of this company is that it has a complete transportation system and accompanying services (vehicle technical inspection, driver trainings for all categories, repair vehicle service, etc.).

Finally, certain *weaknesses* can be identified, such as high costs of depreciation due to unfavorable age structure of the vehicles and lack of financial resources.

The study of the intelligence function in the Company can start with the following question: Is there such a function in the Company at all? The function which deals with market research, estimation of the necessity of certain lines, introduction of new lines, is the function of *marketing.* Also, there is a special unit in the Company called *"XYZ-electric"*, which deals with one of the greatest opportunities of this company – electro-transport. Besides, some of the issues related to further development of the company are the responsibility of the highest management bodies.

When diagnosing this function, the following questions may be asked: Is the function of intelligence up to date with the strengths and weaknesses of the operational elements, as well as with opportunities and threats in the relevant environment? Also, are these pieces of information available to all the relevant parts and management functions? Does one care for the future and is this function open to new ideas? Is the gathered information useful for establishing policy and identity of the company, etc.? In the context of previous issues it can be emphasized that the intelligence function – according to the conception and logics of VSM – in the respective company is insufficiently developed. In other words, some of these issues are dealt by different functions and parts in the company, such as marketing, *"XYZ-electric"* unit and others. In a certain sense, some of the relevant pieces of information are present in the company, but they are scattered throughout the architecture of the system and it takes long time to make them available to those who make decisions.

Identity function

The identity function is a special management function which ought to be diagnosed in VSM application. It is a function used for determining the vision of the company, that is, for formulating the policy and goals to be achieved through the company business operation. This function is the responsibility of the highest management bodies in the "XYZ" company - the *Assembly and Board of Directors*. The Assembly consists of the representatives of shareholders. In order for a shareholder to become a member of the Assembly he must possess at least 1250 shares. Then, the Assembly elects and appoints the members of the Board of Directors, which reviews the company activities, makes relevant decisions and gives guidance and recommendations to the Top manger, who makes final decisions. The Board of Directors, also, appoints the Top manager, who is obliged to implement decisions of the Board of Directors. Therefore, there is a hierarchy in decision making and management.

In the diagnosing of the identity function one should start from the following: Is there a clear vision and specific course of action? According to the knowledge reached during the research of this company, one can conclude that such a vision exists, that is, it can be stressed that the company intends to continue providing the quality transport system, as well as to become the leader in the industry.

Also, the study of the *identity* function can be continued through examination *procedures* which would lead to a change of the formulated policy if it were found out that the activities that enable the achievement of the set goals cannot be coordinated and controlled or if the information concerning threats and opportunities were such that it is necessary to change the formulated policy. This issue is closely related to the effectiveness of other contemplated management functions. The effectiveness of this function will depend on their effectiveness. Since it is necessary to further develop the function of coordination and the function of intelligence, it can be said that such kind of procedure in the respective company does not exist. However, it is necessary to emphasize that decisions are made with respect to various pieces of information available to the Board of Directors and which concern the complete company business operations. The Computer Center has an important role in the integration of the relevant information in the respective company. This center receives information from different parts of the Company.

Except the above, it should be stressed that this segment ought to be engaged in the improvement of the corporate culture and strengthening the team spirit and cooperation between the employees. Value systems, opinions, interest of all the relevant stakeholders, both internal (primarily the employees) and external (primarily service users) must be respected in establishing a clear identity and policy of the company. Involving relevant stakeholders in the formulation process of the Company policy will provide a greater commitment to its implementation.

114

Some of the key problems in the functioning of the company in question, in conceptual framework of VSM, are presented on *Illustration 4*.

4. Potential re-design of the "XYZ" company

In order to resolve problems identified in the diagnosis of "XYZ" company, it is necessary to analyze them carefully and specify relevant recommendations for the potential re-design of the Company. Firstly, when it comes to internal problems of the company, it is necessary to expand the coordination between the operational elements, to improve the cooperation between the coordination and control functions. Thereat, of particular importance are certain procedures, as well as relevant coordination teams which would improve the coordination function. For example, one of the methods are regular meetings of coordination teams composed of managers of each of separated operational elements, where the key problems they are faced with would be discussed; this would prevent the coordination function to represent ad hoc activity.

Illustration 4: Diagnosis of *"XYZ"* company in conceptual framework of VSM
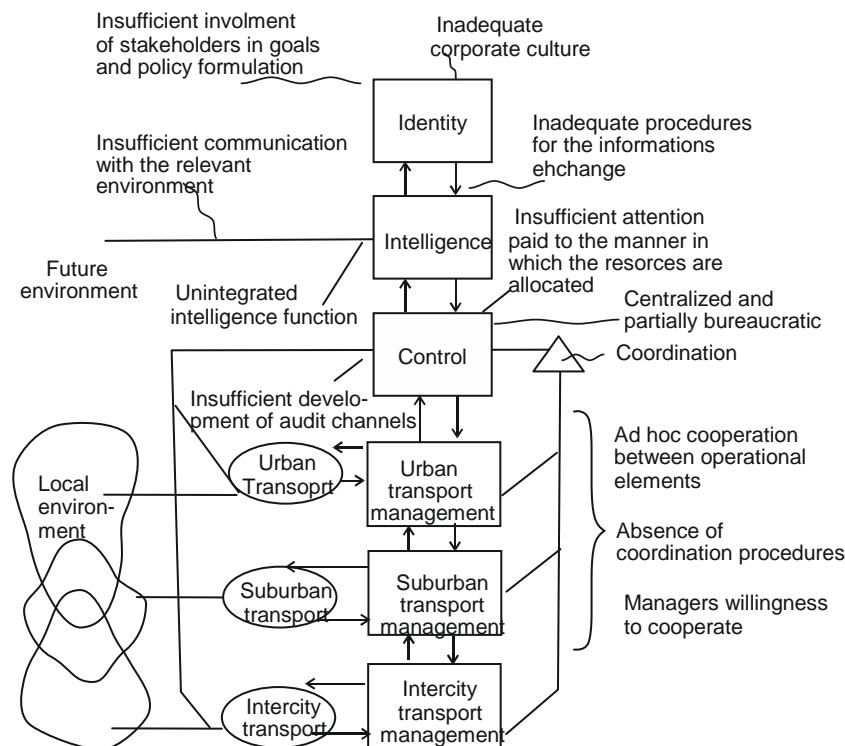
As for the control function, what could be emphasized as a recommendation for strengthening this segment refers to the strengthening of self-

115

control of each operational element. In that sense, continuous feedback mechanism as the key cybernetic tool of self-control is necessary, which would ensure constant comparison of achieved results with planned goals, relevant discrepancies would be identified and corrective actions to be undertaken would be determined. Also, in strengthening this segment it is necessary to develop audit channels, for instance, control of service quality. Therefore, here we talk about internal or the so called "inside and now" complexity of the respective company, which requires certain cohesion mechanism, which ensures that different operational elements function as an effective whole. The function of cohesion requires certain support in order to decipher reports received from these organizational parts, that is, to rightly interpret their current worries, the manner in which they face them, and their readiness to take certain risks. Accordingly, certain communication channels are necessary, through which the information from higher levels would be transmitted to certain programs which are to be realized, and information from lower levels should be transmitted upwards in the sense of achieved results and implementation of certain safety policies. Additionally, it is necessary to minimize the use of direct orders and supervisions, to expand monitoring activities, to stimulate negotiation process concerning various programs and resources and to improve the coordination function, as integral elements of the cohesion mechanism. Of certain importance is also the development of information system on the principles of VSM. The above is necessary in order to ensure that different operational elements function as an effective whole.

Except the above, the problems that are not entirely the responsibility of the company itself, should be considered. This is "outside and then" sort of problem such as illegal competition. Solving these problems requires active support from the state in terms of more rigorous sanctions for this kind of competition. Also, greater support from the City Council is necessary in strengthening PUTP in the form of different donations, grants and the like. In this regard, there are also issues of resource allocation, first of all in PUTP, which are only partly the responsibility of the company. The problems that arise in winter conditions are due to, on the one hand, the need for additional equipment and increased fuel and lubricants consumption. On the other hand, problems arise due to poor road conditions. This sort of problem the company should solve in interaction with the relevant city departments and central government services for road maintenance and the like. In other words, these problems suggest the need for stronger and better interaction between the Company and the relevant environment in order to restore huge complexity of the environment. So, a proper adaptation mechanism which deals with both, the so-called "outside and then" issues and identity issues, is necessary.

The possible organization redesign might refer to the following: Firstly, active involvement of local managers of operational elements in the intelligence and the control functions, improvement of communication and change of the management philosophy. Better communication between local managers and their

integration into a comprehensive intelligence function would have positive effects both for the individual parts and the whole company. Also, in order for some of these opportunities to be used, it is necessary to intensify activities aimed at further development (electro-transport, for instance). In this sense, adequate attention should be paid to the "XYZ-Electric" unit, as well as to its intensive communication with the relevant environment, that is, competent institutions. In the context of the openness of this function to new ideas it is necessary to emphasize the importance of continuous monitoring techniques and technology development and readiness to accept and develop new technical achievements. Also, one of the challenges of the respective company concerns the manners in which the environmental pollution problems could be solved (e.g. purchase of the so-called Euro engine).

Finally, as for the identity function, certain recommendations could be directed to encouraging wider stakeholders participation in deciding on the identity and formulating appropriate company policies, which would encourage the more effective implementation of adopted policy. Of certain importance is development and expansion of proper corporate culture, that is, encouraging self-discipline, self-control, strengthening the team spirit, cooperation and community, focusing on the interests of the whole rather than the interests of its individual parts. In fact, a holistic view of the company is necessary, according to which each part is viewed from the viewpoint of the fact that it belongs to the whole.

Respecting the above, it can be concluded the following: Each of the operational elements (Urban, Suburban and Intercity transport) should be a viable system, with all the relevant functions (coordination, control, intelligence and identity) distributed in all recursive levels. In this manner, we can create efficient and adaptable organization.

5. Strenghts and limitations of VSM application in (re)designing the "XYZ" company

Taking into account the previous considerations related to the "XYZ" company, one can conclude that it is a relatively efficient company. In other words, there is a high utilization of capacities in the respective company, primarily high utilization of technical capacities (e.g. vehicles and related equipment). Common indicators of efficiency in achieving the basic purposes in the researched company are the mileage and the number of passengers transported.

Within the conceptual framework of VSM, three levels of goals achievement can be distinguished (Beer, 1994 c, 164): (*actuality* or what the organization achieves with existing resources, *capability* - what the organization can do with its resources and limitations and *potentiality* or what the organization should do through resources development and limitations removal) and three indicators of the system functioning (*Productivity* – it is achieved when comparing

actuality to capability, *Latency* - the relationship between capability and potentiality and P*erformance* - the relationship between actuality and potentiality). Accordingly, and relying on certain information obtained by the Company, it is possible to display the respective levels and indicators of achieved functioning (*Ill.5.*):

Previous analysis and research of the "XYZ" company in the conceptual framework of VSM were intended to show specific features and potential advantages and disadvantages of direct Model application in the respective company. Since it is a tool with highly diagnostic potential, VSM could contribute to easier and faster detection of various problems that the respective company faces. Also, the Model could contribute to the detection of some hidden resources within the company and to help their possible activation. For example, greater engagement and involvement of highly qualified personnel in different types of activities concerned with coordination, control, intelligence and identity.

Illustration 5: Measurement system for Suburban transport for the first six months of 2010 expressed according to the number of passengers transported
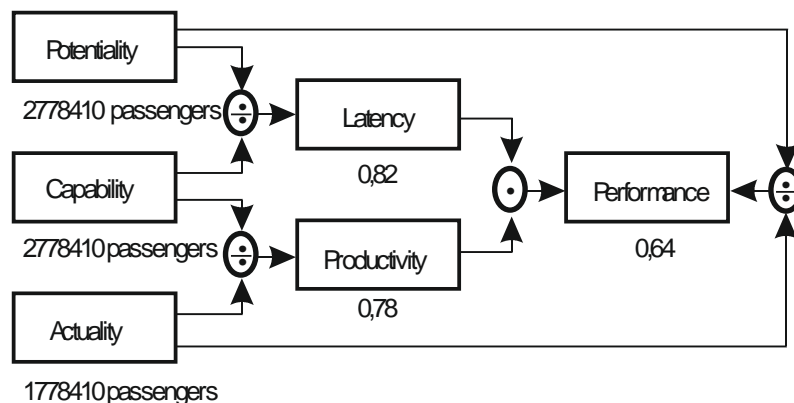
VSM can be a valuable help and support for the respective company in designing and implementation of the relevant information system. Namely, various information concerning the current system operation, information concerning its opportunities and threats, that is, the future of the Company, and their timely availability to decision-makers would significantly improve the viability of the company. In other words, this model could reconcile certain requirements for stability with the requirements for changes and adaptation in the respective organization. Thus, an extraordinarily efficient and adaptable organizational structure could be provided. In fact, VSM application in the respective company could help continuous studying and improvement of the organization; it could also contribute to building the necessary recursiveness, i.e. provide the necessary variety required for effective management.

Limitations of this model application in the "XYZ" company can be observed in the context of various objections and critiques primarily directed to VSM. One of the main critiques concerns the fact that the purposeful role of individuals in organizations is insufficiently respected in VSM. Thus, the insistence on serving the purpose encourages the so-called "innate control", not "innate motivation". This may be verified through observations of the "XYZ" company as a viable system. Precisely, the study of the "XYZ" company as a viable system begins by identifying its basic purposes. In the respective case, it is the transport of passengers as a basic, primary activity of the company. Further research of the Company is subjected to basic, identified purpose, that is, to examining whether and how it is achieved. Therefore, the focus is on exploring the alternative manners in which to reach known, pre-set goals, not on how to set these goals.

Namely, the aim is to encompass the relevant stakeholders and companies through the S5 segment, that is, through established identity, and one of the recommendations for the possible redesign of the company concerns the wider participation of all the relevant stakeholders. That is, the involvement of shareholders and other stakeholders in defining different immediate goals for the already established purpose.

Also, the Model suggests certain autonomy of elements and their establishment as a viable system (primarily due to the principle of recursion). Nevertheless, this model does not provide guidance on how the wider participation can be achieved. In fact, we should start from the fact that the key components of social systems are human beings, whose behavior is determined primarily by their self-interests. Therefore, emphasis must be placed on managing negotiation processes between different interest groups in organizations, their views and value systems.

Finally, when it generally comes to VSM application in (re)designing organizations, of certain importance is to emphasize that despite the limitations, VSM is one of the most commonly applied models in the development of effective and adaptable organization. In fact, numerous case studies elaborated in the works of various authors, have shown broad applicability of the Model in organizations of all sizes and properties (Broclersby and Cumings, 1996, 51-57; Flood, 1995, 161-171; Jackson, 2003, 101-106; Stephens and Haslett, 2011). In this context, VSM is applied as an appropriate diagnostic tool, which, primarily, enables the identification of the key organizational problems. Also, the basis for redesigning respective organizations is provided. VSM has been successfully applied in the management of a state. In this sense, it could be emphasized VSM application in Chile in 1971 (Beer, 1994 d, 423-452).

6. Conclusion

Critical evaluation of theoretical, methodological and practical potentials of VSM, as the key methodological tools of Organizational Cybernetics, demonstrates that Organizational Cybernetics, provides a better understanding of organizational complexity, design and structure, stability and change, control and coordination. Namely, based on the understanding of an organization as a system that simultaneously seeks to develop and adapt itself in a turbulent environment, Organizational Cybernetics helps continuous learning and improvement of the organization, contributes to providing the necessary recursiveness, i.e. supplies management entities with the required variety.

Thus, Organisational Cybernetics and VSM, according to their philosophical and theoretical fundaments, belong to the functionalist systems paradigm. In this sense, VSM enables the identification of relevant exceptions in the functioning of organisation from the key cybernetic principles, and implementation of certain changes in all the aspects of organisation contributes to more efficient achievement of defined goals. Also, trying to balance demands for stability with demands for changes, the model provides continuous reconsideration and adaptation of the organisation.

However, the emphasis placed on *organizational design* can prevent the adequate attention to be paid to common beliefs, i.e. to organizational culture. It is considered that VSM does not pay enough attention to *power* implementation in organizations. In practice, this model can be easily converted into a tool of autocratic control that serves the interests of powerful groups because it does not provide any mechanisms for democratically determined purposes or for facilitation the debate on the nature of the purpose it serves.

Nevertheless, it is a successful methodological tool of organisational analysis and making organisational changes, which enables more efficient goals achievement and encourages studying and adaptability of organisations; all this can confirm the key hypothesis in the paper.

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MODEL SISTEMA SPOSOBNOG DA OPSTANE U (RE)DIZAJNIRANJU ORGANIZACIJE – STUDIJA SLUČAJA

Rezime: Model Sistema Sposobnog da Opstane (SSO model), kao ključni metodološki instrument Organizacione Kibernetike, predstavlja jedan od najznačajnijih instrumenata upravljanja organizacionom kompleksnošću i kreiranja efikasne i adaptibilne organizacije. U koncepcijski okvir Modela ugrađene su neke od fundamentalnih kibernetskih ideja: feedback, feedforward, black box, varijetetnost, rekurzija. Povezujući implementaciju, koordinaciju, kontrolu, razvoj i identitet, SSO model se može kreativno primeniti u validnom dijagnostikovanju i (re)dizajniranju savremenih organizacija. U radu će, shodno tome, biti predstavljena studija slučaja koja ilustruje moguće neposredno korišćenje SSO modela u procesu (re)dizajniranja preduzeća "XYZ".

Ključne reči: Organizaciona kompleksnost, Organizaciona Kibernetika, Model Sistema Sposobnog da Opstane, (Re)dizajniranje Organizacije

THE REASONS FOR LESSER SUCCESS OF INSTITUTIONAL INVESTORS IN THE SERBIAN FINANCIAL MARKET

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Abstract: Eastern European countries, including former Yugoslav countries, have marked economic development rates much higher than they were in developed countries. Development was primarily based on foreign resources that were secured through donations, foreign direct investments or foreign banks' loans. However, the achievement of sustainable economic growth cannot be feasible without the mobilisation of domestic financial savings that is done by institutional investors. Although they appeared later than banks, institutional investors as financial institutions considerably contribute to capital market's deepening and development and by that they also facilitate economic development. We analyse the role of institutional investors, investment funds, pension funds and insurance companies, as sources of long-term financial resources for sustainable economic development. We denote their position in the financial system structure, parallels of their development in former Yugoslav countries, diverse impact of the world economic crisis on institutional investors, and specify reasons of their lesser successful emerging and business in the Serbian financial market.

Keywords: insurance companies, investment fund, pension fund, global financial crisis

Introduction

Institutional investors are financial institutions that institutionally invest collected capital and, at the same time, join the individual risks of small investors. This helps in ensuring a better balance between risk and return than is generally available through direct investments of individual investors. Institutional investors have a number of common characteristics, but that does not mean that they are homogeneous. Generally, institutional investors are different in terms of the contractual relationship with the owners of capital, or the rules that determine the

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distribution of risk and return as well as in terms of defining their duties. The most important institutional investors are pension funds, insurance companies and investment funds.

The subject of this research are institutional investors - insurance, pension and investment funds in the financial market of Serbia. The aim of this paper is to explore the implications of the global financial crisis in the shallow and underdeveloped Serbian financial market and performances of institutional investors in that market. Simultaneously, performances of institutional investors in the financial markets of Serbia and former Yugoslav countries will be displayed in the period before and after the beginning of the global financial crisis. The expected outcome of the paper is to identify the factors and reasons of weak performances of institutional investors in the Serbian financial market.

2. The Importance of Insurance Companies as Institutional Investors

Since the mid of the twentieth century, insurance companies, as mobilizators of financial savings, are increasingly appearing in the financial market as institutional investors. The degree of institutionalization of financial savings and the role of insurance companies varies from country to country. It is particularly expressed in developed countries like the USA, the UK, Germany and others, where the insurance sector mobilizes huge capital and plays an important role in the financial markets. Investment function of insurance and reinsurance companies ensure that the premiums are collected in advance and can be invested until the need for payment of costs and claims connected with the insured cases (Njegomir 2010, 50-68). In this way, insurance and reinsurance companies are an important element in the structure of the financial system. Their investment portfolio is based on the collected premiums of life and non-life insurance. Because of their importance, functions and characteristics as institutional investors deserve adequate attention.

Insurance and reinsurance companies, by participating in the financial market as institutional investors, contribute to improving not only the financial markets, but also the overall economic development (Skipper, Kwon 2007). Insurance companies achieve their financial function (Kočović, Šulejić 2002, 36) and create funds, so that insurance premiums are paid in advance, and claims based on the damages are paid out successively during the year. Here appears surplus of funds that through the market, directly or indirectly, can be directed in financing of reproduction. However, the main motive for investing from the aspect of insurance company is additional liquidity and profitability as a way to increase security for policyholders and returns on capital employed (ROCE) for the shareholders. For insurance companies, investments are extremely important, because they affect their profitability, solvency and credit rating.

2.1 Insurance in Serbia and the Former Yugoslav Republics

Approximation of the growing importance of insurance companies in the region shows the table in which premium of life and non-life insurance are represented in the period 2004- 2008. Non-life insurance premiums in Serbia in 2004 declined due to regulatory changes. In the reporting period, in all countries the continued growth of premiums in life and non-life insurance are manifested with some noticeable slowdown in 2008 thanks to first signs of the global financial crisis.

Table 1: Changes in life and non-life insurance premiums in the period 2004-2008 in Serbia and the countries of the region

		2004	2005	2006	2007	2008
Serbia	The growth of life insurance premiums	82.98%	63.41%	24.32%	29.95%	14.88%
	The growth of non-life insurance premiums	-5.11%	17.99%	18.14%	15.92%	2.90%
Slovenia	The growth of life insurance premiums	40.66%	8.35%	16.31%	12.69%	5.48%
	The growth of non-life insurance premiums	5.96%	5.49%	9.25%	8.45%	7.13%
Croatia	The growth of life insurance premiums	17.32%	22.35%	15.41%	14.47%	4.15%
	The growth of non-life insurance premiums	8.20%	9.24%	11.44%	9.23%	10.08%
Bosnia and Herzegovina	The growth of life insurance premiums	83.64%	9.50%	25.03%	36.45%	20.98%
	The growth of non-life insurance premiums	8.21%	12.66%	6.18%	8.43%	11.36%
FYR Macedonia	The growth of life insurance premiums	0.38%	3.24%	5.85%	48.01%	55.76%
	The growth of non-life insurance premiums	4.04%	3.19%	19.94%	10.35%	3.66%

Source: Calculations by the authors; Data obtained from: Insurance Supervision Agency, Croatian Financial Services Supervisory Agency, the National Bank of Serbia, Insurance Agency of Bosnia and Herzegovina, the National Bureau for insurance of Macedonia

The impact of the crisis on the insurance and reinsurance sector in Serbia in the previous period was much milder than in the banking sector. This is proved by a significantly larger number of banks affected by the financial crisis in comparison with insurers and reinsurers (25 banks in Serbia in 2008 had financial problems). The reasons for the different impact of the crisis arise from the specific business of insurers and reinsurers. Cash inflows are based primarily on the

insurance premiums and they are relatively independent of trends in the financial markets. Payment of claims are based on the realisation of loss events regardless of the will of the insured. Insurance companies base their business on lower financial leverage, their investments are of long-term nature, i.e. without exposure to short-term fluctuations and regulatory supervision is more rigorous. Also, unlike banks, insurers and reinsurers apply much stricter criteria in accepting risk and the possibility of a spiral effect, when the bankruptcy of a company causes the bankruptcy of others, in the insurance and reinsurance sector is almost completely excluded, in contrast to the banking sector. Despite the less impact, the crisis has short-and long-term impact on the business of insurers and reinsurers and because of the complexity of their business, it should be analysed from various aspects. The key aspects to be considered are impact of financial crisis on the acceptance of risk in the insurance coverage, investment activities and risk transfers.

The development of the insurance industry follows economic development, as confirmed in the case of Serbia (Marović et al. 2009, 24). Hyperinflation in 1993 had the most destructive impact on the insurance industry as it had almost completely eliminated all the accumulated funds of insurance companies. Also, until the introduction of the Insurance Law in 2004, the insurance market had been poorly regulated, so thus numerous insurance companies offered only the services of obligatory liability insurance by vehicle registration (Njegomir 2010b, 272-306). Funds of collected insurance premiums were not managed adequately, that resulted in a number of claims that have never been paid although they were justified. As a result, public confidence in the institution of insurance has been destroyed. However, after the introduction of new regulations and redirection of supervision to the National Bank of Serbia, all insolvent insurance companies were liquidated so that the total number of companies for a period of two years fell from 36 to 19. Regarding that the generall economic conditions were improved, and public confidence in the institution of insurance partially restored, the insurance industry started to mark an increase in gross premiums during the entire period 2004-2008. However, the relative premium growth fell in 2008 primarily due to a significant slowdown in non-life insurance premiums. Although the trend in life insurance premiums almost halved, the growth of non-life insurance premiums is nearly five times decreased during the financial crisis. This trend followed by an increase of costs and damages resulted in a negative result from operating activities of accepting risks in insurance coverage. The more significant impact of the financial crisis on this result was avoided thanks to the structure of the risks, accepted in insurance coverage. In fact, the largest share in gross premiums had obligatory liability insurance, while the share of "crisis-sensitive" type of insurance, such as credit insurance, general liability and professional liability insurance, were less than 2%. Transactions of the financial market in Serbia are realized by the Belgrade Stock Exchange (BSE), where the most traded securities include shares and bonds. Although BELEXline index, (general index of the Belgrade Stock Exchange) recorded a sharp fall in 2008, insurance companies achieved positive

investment results. During 2008, the investment results of insurance companies were even better than in 2007. The reason for unusual investment results under the conditions of the financial crisis was a conservative approach to investing.

Table 2: Investment structure and trends in the volume of technical reserves and investment returns of insurance companies in Serbia in the period 2004-2009

		2004	2005	2006	2007	2008	2009
Investment of assets covering technical reserves	Bank deposits	n.a.	13.00%	28.00%	27.00%	30.00%	27.00%
	Cash	n.a.	n.a.	n.a.	n.a.	20.00%	21.00%
	Premiums receivables	n.a.	n.a.	n.a.	n.a.	12.00%	10.00%
	Government securities	n.a.	n.a.	14.00%	10.00%	10.00%	16.00%
	Shares	n.a.	n.a.	17.00%	20.00%	7.00%	8.00%
	Real estate	n.a.	30.00%	n.a.	n.a.	n.a.	n.a.
	Other investments	n.a.	57.00%	41.00%	43.00%	21.00%	12.00%
Investment of assets covering mathematical reserves	Bank deposits	n.a.	n.a.	16.00%	12.00%	19.00%	20.00%
	Cash	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Receivables	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Government securities	n.a.	n.a.	n.a.	n.a.	71.00%	72.00%
	Shares	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Other securities	n.a.	33.00%	57.00%	69.00%	n.a.	n.a.
	Exchange traded bonds	n.a.	30.00%	n.a.	n.a.	n.a.	n.a.
	Other investments	n.a.	37.00%	27.00%	19.00%	10.00%	8.00%
Technical reserves (in millions of EUR)		145.42	267.84	365.82	498.51	581.26	632.85
Relative year on year changes of technical reserves		n.a.	84.18%	36.58%	36.27%	16.60%	17.60%
Investment returns (in millions of EUR)		n.a.	9.59	13.13	17.25	52.01	51.08
Relative year on year change of BELEXline index (start date 2004-09-30)		n.a.	68.29%	36.01%	44.12%	-68.72%	9.47%

Source: calculations by authors; data obtained from the National Bank of Serbia and the Association of Serbian Insurers; n.a – not available

Available data for the investment of assets covering technical reserves are not fully transparent and comparable by years. Only data for the largest share of investments are available and other investments are included under "other investments".

As shown in the table, the largest share in investment portfolios of non-life insurance companies have bank deposits, cash, receivables on the base of insurance premiums and government securities, while shares have almost negligible participation in the portfolio structure. In the case of life insurance companies, the government securities and bank deposits are dominated. Although in the recent years a trend of increasing participation of shares in the investment structure has been noticed, in 2008 insurance companies reduced the participation of shares as riskier investments in the current financial crisis.

In spite of the financial crisis, the insurance industry in Serbia in 2008 realized a higher profitability rate than in year 2007. Also, return on assets and return on equity were increased compared to 2007 for the industry as a whole, although the total level of capital fell by 8.2%. However, due to the expansion in the volume of life insurance contracts, insurance companies that operate mainly this type of insurance made a negative profitability (-0.44%) in 2008. Business conditions of insurers became worse in 2009 due to the economic recession. Gross premiums in the first six months of 2009 declined by 0.73% (National Bank of Serbia). Similar to the situation in 2008 non-life insurance premiums fell by 3.77%, while the life insurance premiums increased by 25.53%. The total damage increased by 13.21%, which could imply that the industry generated a negative result from insurance operations. We think that the recession conditions have more negative impact on the life insurance than on the non-life insurance considering that the value of claims from life insurance increased by 58.85% and from non-life insurance by 10.19%.

Although data availability is limited, it is clear that the structure of the portfolio of insurance companies in Serbia is inadequate regarding the possibility of generating returns. This conclusion applies especially if one bears in mind that most of the debt securities are government bonds.[1] Further development of the financial system, especially of financial instruments should contribute to the similarity of investment portfolio of domestic insurance companies to investment portfolios of insurance companies in developed countries. Thus, the domestic insurance companies would be able to give full contribution to the economic development of a country.

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[1] Serbian government debt to the citizens for their former unpaid foreign currency savings

**Table 3: Yield on investments of insurance companies in Serbia
and the countries of the region, 2004-2008**

	2004	2005	2006	2007	2008
Serbia	n.a.	5.06%	2.84%	3.20%	10.65%
Slovenia	6.52%	4.72%	3.93%	5.81%	0.63%
Croatia	4.90%	3.90%	4.50%	5.70%	1.88%
Bosnia and Herzegovina	8.50%	4.40%	1.90%	2.40%	0.60%
FYR Macedonia	6.91%	5.10%	1.20%	3.00%	-2.60%

Source: calculations by authors; data obtained from Insurance Supervision Agency,
Croatian Financial Services Supervisory Agency, the National Bank of Serbia, Insurance
Agency of Bosnia and Herzegovina, the National Bureau for insurance of Macedonia

The table above shows that insurance companies during the reported period realized positive investment returns with a tendency of reducing it in 2008, with the exception of Serbia, where growth of return on investment is realized. An exception is the insurance sector of FYR Macedonia, where for the first time in the reported period a negative return on investment was realized. Due to relative underdevelopment of domestic financial markets insurance companies still do not have great importance in Serbia and other countries of the region, although they consistently achieve positive results from the core business, providing services of insurance coverage.

3. Investment Funds as Institutional Investors

Investment funds or commonly used term *mutual funds* are financial intermediates that collect the savings of individual investors and place collected funds in the financial markets. According to Gitman and Joehnk (Gitman, Joehnk 2003, 541) when investors buy shares in a mutual fund, they become part owners of a widely diversified portfolio of securities. They appeared later than the banks, but as financial institutions they contribute significantly to the deepening of capital markets and its development (Njegomir, Ćirić 2010). There are many benefits offered by investment funds: professional management, diversification of the portfolio, ease of (re)investment. The owners of capital should also know that investing in mutual funds is generally recommended as a long-term investment, i.e. for a period of at least three to five years. Given that the funds offer higher yields than those which can be achieved by savings in banks, to them the higher risk is imminent. Investors must be aware of the fact that funds do not guarantee a specific rate of return, or the government's guarantees for the funds. But they must respect legal regulative and decisions of the Securities and Exchange Commission, which is their supervisor.

3.1 Investment Funds in Serbia and the Former Yugoslav Republics

The first investment funds in the financial market in Serbia have emerged nearly three years ago and it was expected much from them. Funds increased the number of financial intermediates, and the expected rate of return was several times higher than the interest rates on deposits offered by commercial banks. Experiences from the region also confirmed the expected rate of return of 20 to 30%. A large number of capital owners decided to invest capital in investment funds, as newness in the local financial market. But after the first successful year and generated positive returns of domestic investment funds, the financial crisis happened and knocked the value of indexes at all stock exchanges, as well as at the BSE. That further reflected value of investment units of all investment funds and caused their negative yields. Changes in the legislative field of investment funds should reduce funds dependence on the fluctuation of the domestic stock exchange.

Table 4: Market share and return of investment funds in Serbian financial market in period 2009-2010

Fund	Type	Return in year 2009 (in %)	Return from fund establishing (in %)	Market share at end of the Q1-2010. (in %)	Market share at 2010/11/30 (in %)
Delta Plus	Balanced	+ 2,01	-28,59	21,26	21,99
Triumph (Hypo) Balance	Balanced	+ 7,63	+ 29,15	4,00	2,25
Erste EURO Balanced 35	Balanced	+16,37	+27,86	3,30	3,56
Fima Proactive	Growth	+10,15	-60,28	19,80	21,81
Delta Dynamic	Growth	- 6,59	-66,57	3,09	3,31
Raiffeisen Akcije	Growth	-16,22	-73,99	17,69	4,14
Citadel Triumph	Growth	+5,10	-36,78	6,82	6,46
Kombank InFond	Growth	-1,72	-27,80	9,41	10,29
Ilirika Global	Growth	+9,26	-55,66	2,05	2,75
Focus Premium	Growth	-13,56	-74,77	3,12	2,97
Raiffeisen World	Growth	+3,79	+ 3,79	-	n.a
Erste Cash	Money market	+7,95	+9,22	6,53	15,4
Fima Novac	Money market	+6,91	+12,68	1,78	1,75
Citadel novčani fond	Money market	+6,83	+21,77	-	n.a
Raiffeisen Cash	Money market	+7,25	+ 7,25	-	n.a

Source: calculations by authors; data obtained from www.investicionifondovi.com
n.a – not available

From the table above it can be seen that at the end of 2010 in the financial market of Serbia operated 15 investment funds, and at the end of the first quarter of same year 13 investment funds operated. Eight out of 15 funds had growth of net asset value of the fund as a long-term investment objective. Four funds were money market funds and they invested in short-term debt securities and cash deposits. Three funds were balanced, i.e. invested in both stocks and bonds. Nine investment companies were licensed by the Serbian Securities and Exchange Commission. The total value of investment funds' net assets at the end of the first quarter (Q1) of 2010 was around 1.1 billion dinars (RSD), or about EUR 11 million (www.kamatica.com). Investment funds' net assets at the end of 2010 were RSD 933 million, or about EUR 8.7 million, indicating a decrease in net assets of investment funds. Although the global financial market is gradually recovering, local financial market is still shallow and underdeveloped, and reflects accumulated problems in the real sector of a country.

In September 2008 in the Serbian financial market there were 10 funds with total net asset value of RSD 3 billion. The first fund was established in February 2007 and until the economic crisis in October 2008, funds had recorded the positive rate of return. They expected the returns achieved in the Croatian financial market after the establishing of funds, and they ranged from 20 to 30%, even 60% return in one fund (Croatian Financial Services Supervisory Agency). But the effects of the global financial crisis have drastically affected the shallow and volatile financial markets not only in Serbia, but in all countries of the region. Stock exchange indexes fell down, as well as securities demand and negative returns were marked during the entire 2009. The table above shows negative rates of return of even 75% and value of fund's shares was consistently lower than their value at the establishment. Law changes are proposed in order to provide higher level of investor protection, to prevent suspicious transactions, to increase transparency of companies, which would to some extent help investors in making decisions. Due to the effects of the global financial crisis and unflexible law regulations, funds on domestic financial market have not yet justified the expectations and trust of the capital owners. On the base of next facts, it is realistic to expect recovery of the investment funds sector and new interests of investors: a) the recovery of investment funds at the global level began more than a year ago, b) an important amount of citizens' capital is still out of financial flows, and c) time is important factor for investing because the most profitable are long-term investments in funds.

When we look at the situation in the region, the first investment funds emerged in Croatia and Slovenia in the second half of the nineties, after process of mass voucher privatisation (MVP), as in most former European socialist countries. Today, in Croatia 128 open-end funds operate with total net asset value of about EUR 2 billion. The latest figures (November 2010) show that money market fund are dominated by 40%, then by equity funds, mixed funds, and bond funds. Except open-end funds, there are also 4 closed-end investment fund, and 4 real estate

closed-end funds with total value of net assets of approximately EUR 200 millions. Three years ago, in March 2007 in the Croatian financial market there were 77 open-end investment funds with a net asset value of about EUR 3 billion and 4 closed-end investment fund with a net asset value of about EUR 500 millions. Despite the global financial crisis that especially affected less developed countries and economies, the absolute number of investment funds in Croatia increased by 51, but the value of the assets of all 128 funds decreased by one third.

The total value of investment funds in Slovenia in February 2010 was around EUR 1.8 billion and EUR 1.98 billion in October 2010 (Securities Market Agency of Slovenia). Around EUR 1 billion or more than half of the total value of all the funds is invested in foreign issuers equities, and only about EUR 300 million is invested in home issuers equities. This fact also points out shallow financial markets and the lack of qualitatve home issuer securities. According to the data at the end of October 2010 there are 130 investment funds (97 equity funds, 16 mixed, 11 bond funds and 2 money market funds) in Slovenian financial market. In January of the same year there were 128 investment funds in comparison with 127 funds at end of the year 2008 and 110 funds at the end of year 2007. This shows that during the global financial crisis absolute number of investment funds in Slovenia increased, but net asset value of funds was significantly reduced. Net assets of Slovenian investment funds at the end of year 2007 was nearly EUR 3 billion, and one year later was halved. In 2009, the net assets value of funds was slightly increased for approximately EUR 350 million and reached EUR 1.85 billion. That amount of the funds net assets was kept in the first quarter of 2010, while at the end of the third quarter of 2010 rose to EUR 1.98 billion. During this period funds had positive net inflows, but in 2010 net inflows were negative. In terms of types of funds, equity funds are dominant with approximately 80% of total funds number, while in 2006 was only 52% equity funds. Slovenia is one of the 24 members of EFAMA (European Funds and Assets Management Association), and 167 investment funds in Slovenian financial market are from the European Union. There are also three investment companies with total assets of EUR 276 millions. It should be noted that out of 2 million citizens of Slovenia about 350,000 invest in mutual funds.

In Republika Srpska there are 3 open and 14 closed-end funds (Komisija za hartije od vrednosti Republike Srpske). Most closed-end investment funds were previously operating as privatization investment funds, but they are transformed into closed-end funds. Three open-ended funds are mixed type funds. On the financial market of Montenegro (based on data from September 2009) there are seven mutual funds (Securities Commision of Republic of Montenegro), which increasing the total number of funds by one, compared to May 2007. For three years only one new fund is established, that also signalizes shallow and under-developed market and lack of "blue chips" securities, as same as in other former Yugoslav countries. Individual capital owners and institutional investors too, do not have a lot of possibilities for investing. In FYRM Macedonia there were six

investment companies at the end of year 2009 that managed funds net assets value of around EUR 2.5 million, in 9 open-end and 13 private investment funds (Securities Commision of FYR of Macedonia). Much better fund results were achieved in 2009 compared to 2008, and returns were up to 35%. In 2010, the number of open-end funds was reduced to six funds.

4. Pension Funds as Institutional Investors

Pension funds are also very important for the normal functioning of capital markets, especially in periods of great disbalance between capital supply and demand. Pension funds similar to insurance companies have regular and automatic cash inflows. In order to protect funds' members' contributions and to enlarge them, pension funds invest collected sums on investment markets (Rakonjac Antić 2010, 97). Results of pension funds depend on portfolio diversification. Most state pension funds operating on the model of "pay as you earn" (Stickney et al. 2010, 523), which means that the current generation of employees allocate a part of monthly earnings to the pension fund in order to raise funds for paying out pensions to the current retirees. It is based on the principle of the mutual generational solidarity. The other alternative is "fund plans" means accumulation of a particular fund based on contributions paid by its members. After a certain period, the fund will have enough funds to pay pensions or other benefits to its members. In the financial markets of developing countries, pension funds usually have preferential tax treatment in terms of corporate tax and capital gains tax in order to support their greater share in the financial market.

Figure 1 Pension funds' real returns in 2008 in OECD countries
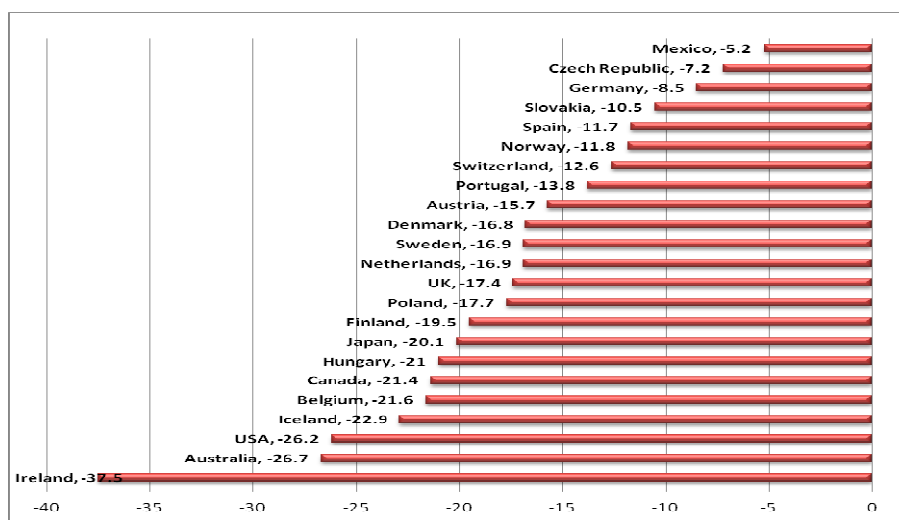
Source: OECD Pensions at a Glance 2009,
(obtained from http://www.oecd.org/dataoecd/10/26/43060101.pdf)

Pension system of every country was influenced by the financial crisis. Private pension funds in the OECD countries lost 23% of their value in 2008, worth a heady US$ 5.4 trillion. Economic output is falling and unemployment is rising, putting pressure on the finances of public pension schemes as well [2].

Based on Figure 1, it can be seen that in all OECD countries, pension funds have recorded a negative rate of return during 2008, although the financial crisis culminated only in the last quarter of that year. In Ireland is recorded a negative rate of return as high as 37.5%.

4.1 Pension Funds in Serbia and the Former Yugoslav Republics

The introduction of the two pillar based pension system in Serbia in 2006 was a key milestone in its development and reform (Lisov 2006, 158-167). Unlike mutual funds, pension funds in Serbia are more successful in the keeping value of investment units, because the law regulation is more restrictive than to investment of pension funds. It enables better and safer investment of pension funds in comparison to mutual funds. Pension fund is by law disabled from investing too large percentage of their assets in risky securities, such as shares are. Thus, during the crisis pension funds recorded a smaller decline in value of investment units in comparison to mutual funds. It is important to emphasize that despite the bad situation in which the institutional investors are, investment companies are actively seeking to develop the industry and make it close to the citizens.

In Serbia, there are six licensed investment companies to manage voluntary pension funds. The net assets value of 9 voluntary pension funds in November 2010 was approximately EUR 95 millions (National Bank of Serbia, www.nbs.rs). However it is considered that the market of private pension funds is still undeveloped. If we observe the currency structure of voluntary pension funds portfolio, 2/3 of investment are in domestic currency (RSD) and 1/3 in foreign currency (EUR). Most investments are in home issuers securities, particulary in debt securities - treasury bills and government bonds, considering that the voluntary pension funds are by law prevented from investing large amounts of capital in risky securities. In this period there were about 170,000 pension funds' members in the accumulation phase, and 52,000 active members who regularly pay the monthly payment. That is a very small number of memebers compared to the population in Serbia (7.2 million) and number of employees (about 1.9 million). This means that only about 10% of employees invest in the voluntary pension funds and that there is still a lack of interest of the population for investment in pension funds. Some of the reasons are the lack of information and confidence, low living standard of citizens of Serbia, with an average monthly net income of EUR 350. It should be noted that the system of obligatory pension insurance based on intergenerational solidarity survives only thanks to the regular budget funding (40%), while expenditure for pensions represent 14% of gross domestic product (GDP).

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[2] Pensions and the crisis http://www.oecd.org/dataoecd/10/26/43060101.pdf

In order to compare development of pension funds sector in the former Yugoslav republics, this paper represents data for each country. Slovenian pension funds have about 250,000 members. Net assets value of the funds is about EUR 750 million (Securities Market Agency of Slovenia) and investment portfolios are mostly invested in bank deposits and loans. In Croatia there are 6 open-end voluntary pension funds with 164,000 members and 15 closed-end funds with 17,000 members. Since 2003, there are also 4 obligatory pension funds, which are the second pillar [3] in the Croatian insurance system. In November 2010 obligatory pension funds had about 1.5 million members, and the net assets value of EUR 5 billion (Croatian Financial Services Supervisory Agency). Net assets value of open-end funds in the same period was around EUR 200 million. Majority of pension funds in the region invest more in domestic than in foreign securities, mostly in government bonds as less risky securities. The same situation is with the Croatian pension funds. The Croatian state supports investing in pension funds and contributes about EUR 160 per year to those who invest monthly up to EUR 30 in the voluntary pension fund. In Montenegro there are only two voluntary pension funds (Securities Comission of Republic of Montenegro), while in Republika Srpska there is reserve pension fund. In FYR Macedonia there are two open-end voluntary pension funds (MAPAS).

5. The Reasons for Difficulties in the Development of Serbian Capital Markets and Insufficient Presence of Institutional Investors

Due to the underdevelopment of capital markets and the BSE, state as well as companies and entrepreneurs have to borrow capital from international and domestic banks, by very risky and not favorable conditions. The capital market is important because it allows the flow of capital, but also because it is an alternative to bank loans. At the BSE there are no financial instruments such as corporate bonds, nor the less risky government securities, or municipal bonds. The government securities would support the development of the Serbian capital markets. The biggest crisis of the BSE occurred when foreign investors withdrew their investments.

Considering only one stock exchange (Belgrade Stock Exchange - BSE) in the Serbian financial market it is proposed to develop alternative financial markets. On the BSE prime market there are only 4 local companies and 3 more companies (one of them is a bank) on the standard market (Beogradska berza), and most of the other (about 1600 companies) are in the unregulated market. Those 1600 companies will not soon become public companies whose shares will be traded publicly, so that they should be withdrawn from the stock market. In the prime market are only government bonds issued on the base of former government debt to the citizens. There are no bonds on the standard market and on the unregulated

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[3] Employees are required to allocate 5% of their monthly income

market is only one issuer of the bonds (one local bank). Due to lack of audit firms (only 35) and the Certified Auditors (200), financial reports are late and usually their audits for companies that are not active in the stock market are not required. Also, corporate governance in Serbia is at a very low level and most of the companies publish financial reports only to fulfill its legal obligation and to avoid sanctions. Companies in Serbia still not take seriously the importance of the availability of financial reports to the public. Through financial reports companies increase the degree of transparency of their business, because current and potential investors as external users of financial information only by those reports can find out performances of the some company. The obligation of the audit of financial statements has its purpose in an independent and objective verification of the accuracy of these data and in increasing the reliability of the financial reports.

It is necessary to change legislation. From the point of the organizers of the stock market, liberalization of the financial markets is desirable, but with the use of stronger control and protection mechanisms, in order to increase confidence and security of investors. By this reorganization of undeveloped local financial market considerable funds are required, which are otherwise scarce. The capital market is still shallow and there is a lack of the so-called "Blue chip" shares and municipal bonds. Although privatization of state companies began over a decade, has not yet been fully completed. Serbia is the only country in the region that has not applied a mass voucher privatization (MVP) (Ćirić 2008, 129). Other methods of privatization that are carried in Serbia were also slow down and delay the emergence of institutional investors in the Serbian financial market. Capital inflow from the privatization of the few remaining state companies is mainly directed at current consumption and the foreign direct investments (FDI) are becoming smaller per years, as it can be seen from the table.

Table 5: Foreign Direct Investments (nett) in Serbia 2000. – 2010. godine in US$ millions

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
50,0	165,0	475,0	1.365,0	966,0	1.550,0	4.264,0	2.523,2	2.716,9	1.864,8	1364,1

Source: European Bank for Research and Development (EBRD) - Transition Report

Without strengthening the capital market, the greater presence of institutional investors and other financial intermediates, the capital of domestic and foreign owners needed for financing the real sector cannot be immobilized. Without that there is no sustainable economic development of a country.

Emergence of municipal bonds (or popularly called "munis") was expected during 2011. They represent a great way for cities, municipalities and local governments to supply capital necessary for various projects, by issuing bonds with different maturities. Municipal bonds are very attractive to investors because of their relatively low risk and satisfying return. We should also bear in mind the fact

that in commercial banks there are EUR 6.3 billion foreign currency savings of Serbian citizens. It is estimated that another EUR 1 billion is by the citizens, out of financial flows, which is a good signal for institutional investors.

6. Conclusion

The growing institutionalization of financial savings followed by the growing importance of the role of pension and investment funds and insurance companies represents the most important change in the financial markets in recent times. By mobilization of fragmented capital of individual owners and its investment, institutional investors contribute to economic development and creation of social welfare, and at the same time realize their primary goal -profit maximization with a certain tolerance of risk. It is in the interest of not only institutional investors but also the insured, shareholders, economy and society as a whole. This is particularly important in less developed countries where there is permanent "hunger" for capital.

Without the development of the financial market, especially the capital market, the greater presence of institutional investors and other financial intermediates, capital of domestic and foreign owners, required for financing the real sector cannot be immobilized, and without that there is no sustainable economic development of a country. Problems arising from the shallow and underdeveloped financial market in Serbia, further overloaded by the influence of the global financial crisis, neutralized a good start of newer institutional investors such as investment and pension funds are. Additional difficulties are very bad situation in the real sector, high dependence on imports, weak and volatile local currency, a large number of unemployed and pensioners and other users of social benefits, then the non-confidence of the population resulted from a bad experience with the banking system during the nineties, and the lack of information about the benefits of investing to institutional investors, as well as the lack of "blue chips" securities and municipal bonds. All of this resulted in negative returns of institutional investors on the Serbian financial market, although they recorded positive returns before the beginning of the global financial crisis. Also emerging of new institutional investors is slowed and there is now significant interest of capital owners for investing in institutional investors.

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RAZLOZI SLABIJEG USPEHA INSTITUCIONALNIH INVESTITORA NA FINANSIJSKOM TRŽIŠTU SRBIJE

Rezime: Zemlje Istočne Evrope, uključujući i zemlje regiona bivše Jugoslavije, poslednjih godina beležile su stope ekonomskog rasta znatno veće nego razvijene zemlje. Dosadašnji razvoj je, prvenstveno, bio baziran na stranim sredstvima plasiranim bilo kroz donacije, strane direktne investicije, kredite inostranih banaka. Međutim, obezbeđenje održivog ekonomskog razvoja nije moguće bez mobilizacije domaće finansijske štednje koju ostvaruju institucionalni investitori. Iako se pojavljuju kasnije u odnosu na banke, institucionalni investitori kao finansijske institucije značajno doprinose produbljivanju tržišta kapitala i njegovom razvoju a time i ukupnom ekonomskom razvoju. U radu analiziramo ulogu institucionalnih investitora - investicionih fondova i osiguravajućih društava, kao izvora dugoročnih sredstava finansiranja održivog ekonomskog razvoja. Ukazujemo na njihovu poziciju u strukturi finansijskog sistema, paralele njihovog značaja u razvijenim i zemljama regiona bivše Jugoslavije, različitost uticaja svetske ekonomske krize na osiguravajuća društva i investicione fondove, njihove specifične karakteristike i strukturu investicionih portfelja.

Ključne reči: ekonomski razvoj, institucionalni investitori, osiguravajuća društva, investicioni fondovi

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