

Ekonomika preduzeća



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Tekstilni podovi za poslovne i javne prostore



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- Proizvedeni od sirovina renomiranih proizvođača
- Poseduju dobra mehanička i protivpožarna svojstva
- Sertifikovani od strane akreditovanih evropskih instituta

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Want to know why we publish so many articles on transition? Simply because a lot can go wrong. The spotlight of this issue is on addressing that challenge. Namely, the issue starts with the introductory article written by economic science doyen *Prof. Lj. Madžar*. The article is only the first part of a broad discussion *Prof. Madžar* opens concerning the perils of misused and/or abused government interventionism, which will be published in the following issues. Subtly interweaving interesting parts from postwar Yugoslav literature on *fight for freedom*, he opposes liberal thought against antiliberal orientation in time of recession.

In *Organization and management* section, *N. Janičijević* and *M. Milovanović* explore rather complex relation between the organizational culture and effects ICT has on decentralization. The authors analyzed possible culture types and concluded that, in extreme cases, people culture leads to high decentralization, while role culture leads to highly centralized organization.

In the first paper in section *Finance*, *S. Stojadinović*, *M. Jakšić*, and *V. Todorović* present the research on the influence of FDI on trade in CEE transition economies. Their findings potentially change the perception of investment and trade flows of these countries and provide new perspective for the analysis of trade and investment.

In the next paper in this section, *I. Domazet* and *I. Simeunović* explore company's fiduciary responsibility for the automobile liability insurance imposed by particularities of financial services. The authors also present the results of the market research considering attitudes of vehicle insurance services users in selected Western Balkans countries.

In *Transition and restructuring* section, *M. Filipović*, *M. Nikolić*, and *S. Cvetanović* analyze entrepreneurial sector in Serbia as a basis for competitiveness improvement. The authors examine conditions and tendencies in this sector since the emergence of global economic crisis. They particularly focus on the so-called "gazelles" presenting the driving force for innovation and overall economic development.

In the following paper, *N. Savić*, *M. Džunić*, and *I. Brkić* conduct comparative analysis of clusters contribution to economic development in selected SEE countries. The analysis reveals that knowledge-intensive services, creative industries and life science show strong positive correlation with GDPpc.

Don't miss this issue's big idea presented by *N. Mrđa* in *Information technology* section. His paper deals with application software for measuring capital return rate via successive company valuation. The author presents powerful financial tool for tracking the realization of the business plan and decision making based on monthly review of relevant financial information.

Prof. Dragan Đuričin, Editor in Chief



KOPAONIK CONSENSUS 2015

Only fast and deep reforms can enable Serbia to play to win, instead of playing to play

Serbia's economy does not ensure sustainable growth and employment. Such a situation is a consequence of misconceptions and flaws in transition strategy as well as economic policy platform that have persisted for a quarter-century. In 2014 GDP fell by 1.8%, investment fell by 2.7%, while fiscal deficit reached 6.6% of GDP. Meanwhile, public debt surpassed 70% of GDP. In Q4 2014 negative trends were halted, and fiscal deficit strongly declines as consequence of fiscal consolidation. However, in Q1 2015 there are still not enough reasons for qualifying the previous trends as a start of sustainable growth path.

Trying to escape the middle-income trap at the beginning of the 1990s Serbia fell into transition trap from which it has not escaped so far. Deindustrialization followed by financialization of the economy opened profound flaw in the economic system. Economic policy predominantly based on monetary policy (inflation targeting) is not capable of solving the problem of low economic base.

The outcome is an economy largely dependent on import and foreign savings and highly vulnerable to external risk factors, without significant advantages that could allow it to escape from threats and capitalize on opportunities brought by changes.

Negative trends can be stopped only by refocusing social energy from distributable to entrepreneurial mindset, from speculative to real investments, while hitting the lost level of production and income requires knowledge and motivation of relevant social groups, especially statesmen, entrepreneurs, technocrats and unemployed young people.

The start of fiscal consolidation (introduction of austerity measures and fiscal discipline) was the crucial event

for the economy in 2014. Policy of "hard budget constraint" and fiscal discipline are prerequisites for the mid-term sustainability of the state functioning and implementation of structural reforms. The legacies of long regression are of such a nature that only fast and deep reforms can provide turnaround, i.e. growth of economic base, catching up with developed economies, and convergence effect.

The crisis in the EU should not slow down reforms in Serbia. Measures aimed at eliminating negative effects of sovereign debt crisis, decrease of bank activities, and recession accompanied by deflation in the EU must be carefully followed up. Also, the effects of geopolitical spillover on economy are seen as a very sensitive issue, particularly from the perspective of small economies that are highly dependent on import (energy and technology, primarily) as well as foreign savings. Different positions in monetary policies in the USA (restrictive policy through tapering) and the EU (stimulating policy through quantitative easing), currency war, demand and investment squeeze are phenomena that the Government and the NBS must address with original, effective and coordinated responses.

In uncompetitive economy in a country burdened by debt austerity policy is inevitable. In order to overcome structural crisis, Serbia should, first of all, turn to itself. Own capabilities should be at the core of the vision for new industrialization and, based on it, modernization of the society in the period 2015-30. The implementation of that vision depends on new growth model and new platform for conducting economic policy. Since it strives toward EU integration, the vision of development of Serbia must be in



line with strategic directions and corresponding mechanisms of budgetary policy and macro management in the EU.

At this year's Forum we have again confirmed a paradox that "while Serbia is becoming politically closer to the EU, its economy is still gravitating away from it" due to structural imbalances and inadequate macroeconomic fundamentals of the system. The mission of the Forum is to exert constructive pressure on the government to, in parallel with political and normative convergence toward the EU, besides unavoidable but insufficient policy of strong fiscal discipline, turn to economic reforms to provide economic base increase.

Serbia has to continue with structural reforms until it definitely reaches the path to sustainable development, with the economy that is competitive and fully compatible with the EU. The credibility of fiscal consolidation is confirmed by the IMF's approval of precautionary stand-by arrangement. Also, good news for Serbia is that international financial institutions (notably, the World Bank and EBRD) are willing to finance programs of restructuring of large public enterprises, as well as investments in infrastructure development. Fiscal consolidation is only the first step in the implementation of reforms. Austerity measures that are not accompanied by the reform of government, restructuring of the public sector and private investment quickly lead to a new explosion of budget deficit and sovereign debt. Without structural reforms, austerity measures cannot provide growth and sustainable employment.

Unfortunately, socially sensitive problem of the transformation of companies under restructuring is rescheduled to 2015 although the adoption of new regulatory framework (the Labor Law and the Law on Privatization) has enabled its completion. This task must be accomplished as soon as possible. In the case of business-controversial companies (companies that report losses despite their profit-making potential) that could attract the interest of buyers/strategic partners the best option would be to undertake their privatization. If it turns out that these companies do not have buyers/partners nor internal capabilities to continue with production, it is advisable to consider their

liquidation. However, a true start of reforms this year will be marked by the reform of the government in terms of public administration reform and restructuring of public enterprises. The public administration is characterized by a human resources paradox, namely, too many inadequate people and not enough adequate ones. Serbia needs small, motivated and efficient public administration. Efficient government should have adequate administrative capacity to, inter alia, deploy so far approved funds for investment granted by international financial organizations and friendly countries (more than EUR 3.5 billion) which have not been activated due to sluggish administration and lack of knowledge in the field of project management. Also, the public administration should be empowered to as soon as possible create physical and conceptual infrastructure compatible with the EU. Normally, this would also require an appropriate budgetary policy and macro management that are aligned with EU rules.

After restructuring public enterprises should be able to create value and thus contribute to the increase in budget revenues (state and local governments) or at least to stop using subventions. In this regard, it is necessary to implement crisis management measures. At the same time, rightsizing of the companies to an adequate amount of capital, assets and employees should be implemented. Strategic partners have a considerable role in restructuring of state-owned and public enterprises operating in the fields of network technologies, natural monopolies and utility services. Selecting credible partner, model of transferring ownership rights to partner (privatization vs. public-private partnership) and right business model for the new entity (ownership structure, management concept and investment financing) is key to success. Consistent implementation of corporate governance displacing party interests based governance is essential for sustaining positive effects of restructuring of public and state-owned enterprises.

Privatization is not an end in itself. The purpose of privatization is an increase in efficiency and use of privatization proceeds to eliminate structural imbalances. Privatization proceeds should not be used to fuel consumption, but to



finance capital investment and/or sovereign debt repayment. In order to bring budget deficit and public debt back to acceptable levels (3.5% of GDP and 60% of GDP, respectively), and to reform the government and restructure the public sector, it is essential to adopt an adequate platform for conducting economic policies.

Policymakers should take into consideration positive experiences with industrial policies in developing countries as well as a shift in attitude toward this issue in the economic theory and policy in developed countries after the crisis 2008-.

We need an economic policy model in which industrial policies "lead" and macroeconomic policies "follow" using automatic stabilizers in monetary and fiscal sphere. In monetary policy the biggest dilemma refers to tenets and instruments. Arguments for and against current monetary model have been confronted at the Forum. The uniform standing is that, parallel with strong fiscal discipline conducted by the Government, we need a gradual decrease of monetary policy rigidity through policy rate and obligatory reserves reduction. Also, the NBS strivings to deploy certain relaxations in case of mortgages denominated in CHF in order to preserve financial system stability have gained positive support. The biggest challenge in 2015 for the NBS will be to solve the problem of non-performing loans.

Besides positive effects of EU integration process on institutional framework, it is necessary to formulate and implement the policy of new industrialization. Industrial policies are formulated for the industries of top priority for economic development and should be an integral part of carefully conceived long-term strategy of economic and social development that is necessary for the economy, among other things, as a predictable framework for its own plans and investments. In the process of new industrialization it is necessary to define priority sectors and appropriate industrial policies for industries that bear potential to achieve advantages over competitors. The most frequently mentioned sectors with comparative advantage are agriculture and agri-food industry, energy, manufacturing, infrastructure and tourism (especially health tourism). The sectors with competitive advantages include ICT, vehicles, transport and logistics, and construction. The importance of creative industries with sustainable competitive advantage has been highlighted at this year's Forum. Growth opportunities of these sectors are immense. For instance, only ICT sector could employ up to 5,000 engineers over the next three years. Industrial policies are applied in order to invigorate the sectors of tradable goods and services (increasing export and/or substituting import), but also to eliminate extreme regional differences and depopulation of regions distant from large cities.

A lot of useful sector-specific recommendations of tactical importance were presented at the Forum. For example, as regards the ICT sector, the focus was on the importance

of industrial policy which is to define the state's role in the development of digital infrastructure, education (parallel and permanent) of appropriate professionals, as well as in tax treatment of certain activities. The main proposals for the agriculture sector relate to subsidies for the development of milk and meat production, organic production, and anti-dumping measures. As far as the energy sector is concerned, initiative for the establishment of the Institute for Strategic Studies was revisited, as well as the need for corrections in feed-in tariffs and adjustments in electricity price whose effects should be used exclusively to finance investments. Suggestions about how to tackle the problem of NPLs in the banking sector were exposed. Representatives of the insurance sector presented recommendations concerning the introduction of tax exemptions for certain forms of insurance that could contribute to more efficient deployment of savings, as well as cheaper and safer public borrowing without threatening to banking sector liquidity. In the construction sector, there is a need for more proactive policy of local authorities in determining the value of assets entering into concession and setting time limits for making adequate decisions concerning the projects of public private partnerships.

Reaching full compatibility with the EU means that reforms in Serbia must be in accordance with the priorities of the EU, such as: energy efficiency and sustainability, safe water and food, environmental protection, mitigation of economic consequences of population aging, creative industries etc. Compatibility with the EU technological platforms is of particular importance for new industrialization and competitiveness improvement. Therefore, special attention should be given to education and science that support the development of tradable sectors.

A general impression is that the vast majority of participants came to this Forum with the idea of how to fix the system in structural crisis rather than to criticize it. This year the media also gave a valuable contribution to this mission, not only during the panel dedicated to their role in reforms but also by their way of reporting which echoed the motto of the gathering "playing to win instead of playing to play." In order to play to win, which for Serbia means new industrialization and modernization of the society, Serbia must first be capable of overcoming its own weaknesses and get rid of the burdensome legacy of misguided policies.



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ME AGAINST THEM: A DECISIVE SETTLING OF ACCOUNTS – THE PERILS OF OVERSIZED GOVERNMENTAL INTERFERENCE (PART ONE)

Moj obračun s njima – pošast preteranog državnog
intervencionizma (prvi deo)

Abstract

The first part of the title is borrowed from a famous book of the great (then) Yugoslav writer from Croatia Miroslav Krleža. He forcefully raised his voice against the strongly exercised so called social tendency in literature and arts, persistently having been imposed during the interwar period on the left oriented writers and energetically having been endorsed by the Communist Party. The Party was powerful on the literary left and some of the best artists found it extremely difficult to resist. The vigorous revolt against the tendency proved to be one of the spectacular fights for *freedom* of artistic creation and here it is taken much broader as a metaphor for raising freedom to the platform of the most important, unquestionably dominant social value. This so called *Struggle on the literary left* is taken as a convenient metaphor for pointing out the significance of freedom in all walks of social life, particularly in the economy.

The introductory part is devoted to clarifying the difference between the liberal thought (*L*) and the antiliberal orientation (*AL*) in contemporary economic science in Serbia. It turns out that, contrary to popular views, the *L* is not against the government and exclusively for the market and that, with obvious changes of qualifying words, the same goes for the *AL*. Being oriented towards the market as a matter of principle, the *L* is aware of the corresponding institutional support which can only be provided by an efficient government. It follows then

that the *L* is a doctrine of strong government. The *AL*, on the contrary, opting for the strong government as a matter of principle, insists on the governmental interference on a broad front, which, in view of the limited governmental capacity, implies that government is destined to be weak in performing of its proper functions. The usual view of who is determined for what type of government is turned upside down: the *L* contains the concept of strong government and the *AL* in fact opts for a weak government. Due to the vast interference in other fields, those not covered by the proper governmental functions, governments may amass huge quantities of power and be exceedingly strong in relation to the rest of the society, but that is not a desirable way of arriving at a strong government.

Another area of controversy is the (non)recognition of the institutional and political constraints on the economy and its growth. The *L* recognizes these constraints and studies them with careful scrutiny, while the *AL* believes that these constraints, to the extent that they exist at all, can be quickly and easily removed. The *L*'s accepting these constraints as a serious obstacle to economic growth and social modernization is interpreted by the *AL* as an opportunistic siding with government providing an excuse for its mistakes that could under no conditions be excused.

The next part of the study is devoted to the complex of values as a determinant of general social orientation and overall evolution. Freedom, equality, solidarity, truth and justice are analyzed and it is shown that, due to the fact that values can be not only complementary but also substitutable, that individuals and collectivities are frequently in a situation to sacrifice some values for a more complete realization of others. Two theorems, considered to be basic, are proved. The first one is about freedom as the supreme and absolutely dominant value: without freedom humans cannot make any choices and none of their values can be manifested or realized. The second theorem is about logical impossibility of equality as thought of in the general public ad as

* The author is an associate of the Institute of Strategic Studies and Development "Petar Karić" of the Alfa University in Novi Beograd. The author is happily positioned in the Institute and so far no complaints have been voiced addressed to the writer. Milija Mihailović, as usual, has contributed a lot in terms of clarity and precision to the much larger Serbian version of the text and dr Dejan Trifunović has identified a number of weak spots, contributing immensely to the tidiness of the manuscript. It would be agreeable to place responsibility for the remaining errors on these two irreplaceable friends, but, alas, it has to stay with me.

visualized by some adherents of the *AL*: there are multiple levels at which equality may be postulated and they are simply inconsistent – equality at one level implies inequality at another(s). The most important special case is the impossibility of having equal conditions of earning income (or achieving anything else) and obtaining equal results.

Key words: *liberalism, antiliberalism, market failures, government failures, economic policies, deregulation, overregulation, redistribution as a factor constraining growth*

Sažetak

Prvi deo naslova pozajmljen je iz jedne čuvene knjige velikog (tada) jugoslovenskog književnika iz Hrvatske, Miroslava Krležea. On je snažno digao glas protiv silno upražnjavane tzv. društvene tendencije u književnosti i umetnosti, koja je uporno bila nametana tokom međuratnog perioda levo orijentisanim piscima i energično bila podupirana od strane Komunističke partije. Partija je bila moćna na književnoj levisi i za neke od najboljih umetnika bilo je veoma teško da joj se odupiru. Snažna pobuna protiv te tendencije ispoljila se kao jedna od najspektakularnijih bitaka za slobodu umetničkog stvaralaštva, a ovde je uzeta kao metafora za podizanje slobode na platformu najvažnije, neupitno dominantne društvene vrednosti. Ova tzv. *borba na književnoj levisi* uzeta je daleko šire i kao prikladna metafora za isticanje važnosti slobode u svim sferama društvenog života, a posebno u privredi.

Uvodni deo je posvećen razjašnjavanju razlika između liberalne misli (*L*) i antiliberalne orijentacije (*AL*) u savremenoj ekonomskoj nauci u Srbiji. Ispostavlja se da, suprotno popularnim predstavama, *L* nije protiv države i isključivo za tržište i da, sa očiglednom promenom kvalifikativa, isto važe i za *AL*. Budući u načelu orijentisani na tržište, pripadnici *L* su svesni pripadajuće institucionalne podrške koju jedino može da pruži efikasna država. Sledi da je *L* doktrina jake države. Nasuprot tome, *AL*, opredeljujući se u principu za jaku državu, insistira na državnom uplitanju na širokom frontu, što, s obzirom na ograničen vladin administrativni kapacitet, implicira da je vlada predodređena da bude slaba u obavljanju svojih istinskih funkcija. Preokrenuto je uobičajeno gledište o tome ko je opredeljen za koju vrstu države: *L* sadrži koncept jake države, dok se *AL* faktički opredeljuje za slabu vladu. Zbog golemog uplitanja u druga područja, ona koja ne spadaju u prikladne državne funkcije, vlade mogu da nagomilaju ogromnu moć i postanu preterano jake u odnosu na ostatak društva, ali to nije poželjan način dolaska do jake države.

Dalje područje razmimoilaženja je (ne)priznavanje institucionalnih i političkih ograničenja na privredu i njen rast. *L* uvažava ta ograničenja i proučava ih sa brižljivom pažnjom, dok *AL* veruje da ova ograničenja, u meri u kojoj uopšte postoje, mogu brzo i lako da budu uklonjena. To što *L* prihvata ta ograničenja kao ozbiljnu prepreku za privredni rast i društvenu modernizaciju – u krugovima *AL* se tumači kao oportunističko priklanjanje državi i kao fabrikovanje izgovora za njene greške koje ni pod kakvim uslovima ne treba da budu opravdavane.

Sledeći deo studije posvećen je kompleksu vrednosti kao determinanti opšte društvene orijentacije i sveukupne evolucije. Analizirane su sloboda, jednakost, solidarnost, istina i pravda i pokazano je da, zbog činjenice da vrednosti ne mogu da budu samo komplementarne nego i supstitutabilne, pojedinci i kolektivi često bivaju u situaciji da žrtvuju neke vrednosti za

potpunije ostvarivanje drugih. Dokazane su dve teoreme za koje se smatra da su fundamentalne. Prva se odnosi na slobodu kao vrhovnu i apsolutno dominantnu vrednost: bez slobode ljudska bića ne mogu da biraju i sve njihove vrednosti ne mogu niti da se ispolje niti da se realizuju. Druga teorema odnosi se na logičku nemogućnost jednakosti kako se prihvata u široj javnosti i kako je sagledavaju neki poklonici *AL*; postoji veći broj nivoa na kojima može da se postulira jednakost a oni su jednostavno nekonzistentni – jednakost na jednom nivou implicira nejednakost na drug(om)(ima). Najvažniji specijalni slučaj je nemogućnost održavanja jednakih uslova u zarađivanju dohotka (ili postizanja bilo čega drugoga) i dobijanja jednakih rezultata.

Ključne reči: *liberalizam, antiliberalizam, otkazi tržišta, propusti države, ekonomska politika, deregulacija, preterana regulacija, preraspodela kao ograničenje na privredni rast*

Introduction: The superficial view and the true picture of the differing views of the functions of government

The paper deals with a deep and seemingly irreconcilable doctrinal and pragmatic split between the two prevailing streams of professional thinking in the contemporary Serbian economic thought. In fact, the split extends into a number of other social sciences such as sociology, political science and geopolitics, as well as to philosophy and law. The book is more narrowly centered at professional disputes in economics, whereas differences in other kindred sciences are only touched upon in passing. The two streams are liberally oriented economists, on the one, and the advocates of a broader and more intense state intervention, on the other hand. The differences between the two streams are numerous and far-reaching, but all of them center on the role of the government and the extent to which the spontaneous functioning of the market(s) should be relied on in pursuing given or presumed social aims. The liberal party (henceforth *L*) is, generally speaking, in favor of a more consistent reliance on the market, while the antiliberal side (hereafter *AL*) is characterized by a stronger belief in government's efficiency and benevolence and markedly inclined to inviting the governments to interfere into a large range of economic processes.

This is a rather general and imprecise characterization of the two schools, while a more precise picture of the doctrinal and associated much subtler divergences will be made more apparent in the sequel.

The two schools do not have particularly favorable views of each other's doctrinal competence and analytical proficiency. It looks as if the *AL* believes that the *L* is seduced and blinded by the Western teachings and the associated powerful influences of the high-positioned centers of learning of the economically developed countries, accepting uncritically the concepts and interpretations coming from the West. The *AL* contends that much social harm is being produced because the *L* under Western influence imposes policy options which are inappropriate for less developed and differently structured countries like Serbia. Moreover, they believe that liberally conceived institutional solutions and policies are badly suited even for the developed countries' challenges and that they contributed greatly to the current world's economic crisis. More extreme *AL* views go much further than that and treat the liberal thought and policy concepts derived from it as the key determinant of the crisis and the basic obstacle in government led endeavors to curb it.

The *L* stream, on the contrary, sees the crisis as government induced and understand the current massive government attempts to minimize the disturbances generated by the crisis as endeavors to come to grips with problems which government itself created by its ill-conceived policies [e.g. 8, pp. 68-116].

As to professional competence, there is a marked disregard for the educational level and scientific all-round capacity of the other side. The *AL* seem to think that the *L* received the wrong kind of training, while the *L* think that their opponents are not up to date with their professional education and that they rely on obsolete skills acquired in the socialist educational system of the long gone socialist past. The fact is that the *L* publishes and, as it seems, read much more than the *AL*. In particular, they publish incomparably more abroad, travel more frequently to the West and have a much denser and more diversified network of professional contacts and working relations. Regarding the practical relevance to economic policies and the forms and directions of institutional adjustments, none of the parties can boast any particular influence on what is currently being undertaken and eventually achieved by the authorities. The government is obsessed by its politically inspired goals, economically desirable

changes can only by rare chances coincide with what is profitable from a political point of view and the policies are conducted along the lines seen as desirable by politicians. This is likely to be continued until the collapse of the system imposes itself as a near threat in which case the feasible set of available policy options will narrow down and the profession may acquire somewhat more influence on the course and modes of implementation of policies which are in fact forced upon authorities.

In the general public and even in some professional circles there is an oversimplified, false belief that *L* is exclusively pro-market and anti-government, while the opposite inclinations prevail in the *AL* doctrinal orientation. The truth is that both streams are both for the market and for a significant range of the state functions, but with extremely varied composition and in vastly different ways. The *AL* accepts the market but a significantly regulated one, taking it for granted that, whenever any market failures might be observed, the government will automatically cure the deficiencies. Heavily regulated market loses much of its driving power and allocative efficiency and, as *L* frequently notices, many government produced deficiencies are typically ascribed to the market as its inherent weaknesses. The *L*, on the contrary, recognizes the imperfections of the market but does *not* infer automatically that the state will rectify the failures for sure. *L* calls attention to the vast literature in which various forms of the *government failure* are elaborated to rather impressive and well documented detail. Based on the contemporary literature and, even more, on the local Serbian experience, it concludes that each case should be judged on its own merit and that the solution should be sought by comparing the weaknesses of both competing regulating mechanisms and choosing the lesser of the two "evils".

Diverging views on the functions of government

The *L* and *AL* have widely differing theories of the government. There are proper governmental functions (*PF*) and the highly varying other dealings taken on by the government for political reasons and detrimental to the economy (*OD*). By insisting on a wide range of *OD*

the *AL* economists argue in fact for a weak government. Due to notoriously limited capacity, an overstretched government will in fact be weak in many fields and in *PF* in particular. The *L*, on the contrary, insists on a strong government and argues that this can be only achieved by limiting its constrained capacity on executing the *PF* and pulling out of *OD* which is not its proper field of acting.

In behaving in line with the *AL* recommendations, the government can amass a large amount of power and be strong in a wrong and counterindicative way: strong with respect to the rest of the society and able to oppress it without any agency to control its potentially arbitrary and coercive dealings; at the same time it turns out weak in performing functions which no other agency can perform and which are absolutely indispensable for normal functioning of a market economy. The *L*, on the contrary, believes that the government can only be strong by concentrating its activities on true social priorities: developing a strong and stable legal order, seeing to it that it be applied equally to all agents within the system, protecting and transparently registering the property rights, guaranteeing the fulfillment of promises and honoring of contracts and providing for public goods which no one else could offer.

Many adherents of *L* would readily confess that there has not been in modern times any in some measure significant success in economic growth without reliance on an efficient, tolerably honest and enlightened government. The *L* would then sum up the stands of the two competing doctrines on the role and functions of government as follows: the *AL*, by insisting on an excessively broad front of the state interference ends up with a weak government in areas where its strength and efficiency are indispensable; the *L*, on the contrary, by insisting on eliminating the governmental interventions from areas where they don't belong anyway, ends up with a strong government in the fields in which it is socially the most productive.

In views of the *L*, an overstretched government can produce social harm in disturbingly large quantities and in several distinct ways. *Firstly*, an excessively large government has disproportionately large opportunity costs: massive resources appropriated by it can produce a much higher income and a larger quantity of other

social desiderata in other parts of the system. *Secondly*, a significant part of coercively appropriated income and wealth is used in redistributive ways, i.e. for "correcting" the market generated distribution of income; in that way the state greatly demotivates economic actors in persecuting their development related activities (work, learning, saving, investing, innovating, entrepreneurship) at both expropriating and receiving end of this redistributive link. *Thirdly*, by massive redistribution of income and wealth the government becomes overly strong because the number of those indebted through redistribution is much bigger than the number of the expropriated. A society with overgrown government loses much of its ability to control the power holders with prerogatives of coercing and constraining; that is tantamount to the loss of democratic potential and the unsought consequences for limitation of freedom. *Fourthly*, by performing the redistribution and taking upon itself many other, economically damaging functions, the government becomes too big and comes to employ ever larger number of people; that is the way in which the society becomes burdened with a numerous and powerful social stratum which easily becomes a true menace to both democracy and civic liberties. Disintegration of a healthy social structure is a predictable consequence of the uncontrolled growth of the governmental machinery and the associated bureaucracy. There is also a *fifth* unexpected and certainly undesirable consequence: an overly big government, with a large mass of accumulated resources becomes a power base of the incumbent party or the coalition; such power holders become almost impossible to replace, the opposition turns out too weak to challenge the existing government effectively and the political system, having become monopolized, becomes rigid and unaffected by any type of social pressure. This variety of "democratically begotten" authoritarianism is a permanent danger in the societies in which governments are allowed to grow excessively big and strong.

A parallel with a case of imposition of constraints on artistic creation

As will be elaborated to some detail in the sequel, freedom is supreme value in any society. It opens wide spaces of human creativity and makes it possible to achieve results

which are beyond any comparison with what may be achieved in a collectivity deprived of freedom or even with a number of dysfunctional constraints imposed upon it. Freedom has inherent and pragmatic, instrumental dimensions. Both are important but the first one is basic and absolutely determining in the normatively desirable set-up of social organization. A sane, and even healthy in the general sense, society cannot be conceived without the freedom permeating all its segments and being the basis of all of its major institutional arrangements.

To illustrate the importance and determinative role of freedom in all human pursuits, even those which are functionally at a huge distance from the economy, a poignant example from the history of the Yugoslav literature is described to some detail. The case to be described was produced by an unusual coincidence of circumstances in which strong social forces combined to streamline the literary (and even more broadly defined) creation – poetry, prose, drama, essay – so as to make it instrumental to cultivating a preassigned *social tendency* in all of literature and more broadly than that. The social tendency was the subject matter and the trigger of the so called *conflict on the literary left* (*sukob na književnoj l/j/evici*). It openly occurred in 1939 and extended partly into 1940. This conflict was so significant and with such wide ramifications that it was researched into and analyzed by many authors, with all of that activity culminating into something resembling a new branch of literary science. Many works on the subject have been assembled and a number of them, including *Lasić* [4] and *Črnja* [2], are cited in this work.

The central figure in the conflict was the great and already at that time famous Croat and Yugoslav writer – novelist, dramatist, essayist, literary historian and poet – *Miroslav Krleža*. Beside being a largely popular writer, *Krleža* had and visibly displayed his left linings – the fight for the interests and improvement of the position of the “working class”, the open dislike for the major inequalities in the distribution of income, the venous distaste for the remnants of the medieval aristocratic privileges and the hope for the comprehensive, possibly bloody, revolution which would even out social differences and, being the dawn of the civilization, open the way for unprecedented social progress. As a famous writer and left oriented

intellectual, *Krleža* had close ties with the well organized and then truly powerful – at least among the circles of the left leaned intellectuals – Communist Party of Yugoslavia.

The Party was able to impose the above mentioned *social tendency* upon the majority of writers associated to the political left. That meant that the writers had to incorporate the “progressive spirit” in all of their writings, which in turn meant the extolling of the working class, praising its social virtues, predicting its revolutionary victory for the benefit of the entire society and upholding all social forces which sided with the working class in the noble struggle for the liberation of the society from the class shackles. All of this sounded magnificently, but there was a big obstacle: there surfaced an untoward trade-off between the *social tendency* and the esthetic value of the work of arts. Much of the *social tendency* turned out to be achieved at the expense of the beauty and the artistic effect of the literary work. Moreover, many untalented writers smuggled into the what should have been serious literature by developing *social tendency* as an impermissible substitute for the true esthetic value. That came down to degrading the literature and making it, quite instrumentally, the servant of politics, including the profane daily politics.

For some time and to some extent *Krleža* abided by the instructions and orders of the Party, but relatively soon discovered that – to put it into economic jargon – opportunity cost in terms of sacrificed artistic effects was too big to continue in the commanded fashion. He disobeyed by, among other, writing a number of highly influential programmatic texts and *the conflict on the literary left* broke out. The best known and most influential was his collection *My Settling Accounts with Them* (*Moj obračun s njima*), an effective title which served as an inspiration for the title of this book. *Krleža*’s book of polemics turned out a big event in the cultural life of Yugoslavia of that time and general assessment seems to have been that the book had been extraordinary; *Črnja* [2, p. 89, p. 100] expresses the view that this book produced a lasting trace influencing heavily future artistic production and that the level of the book remained high above the level of the writings of the intellectuals who remained loyal to the Party and attacked it uncompromisingly from many

sides (Party periodicals, newspapers, separate publications including the entire books...).

Later on it became apparent that *Krleža's* problem consisted not only in his unwillingness to compromise with the Party line but also in his information on what was really happening in the Soviet Union of that time: he was among the few, if not the only one outside the narrowest party leadership, who were well informed about the so called *csistkas* with some 50 highest level Yugoslav Party functionaries having lost their lives in the process. The rank and file among the Party members were not aware of the fact that the issue raised by *Krleža* had not been just an esthetic one but, perhaps much more importantly, an ethical one. The upshot of this great controversy is that limiting freedom, typically by imposing requirements and constraints not associated with the nature and purpose of the relevant activity, unavoidably reduces its productivity in the widest sense of the word and, quite frequently and not accidentally, defeats its purpose.

Systemic implications of the individual decisions and the associated constraints

Preferences, constraints and the alternatives are probably the basic categories with which economists deal on a daily basis and which can be neglected under no circumstances. Thus, generally speaking, economists are not oblivious of the constraining factors in analyzing or proposing decisions to be taken under many varied circumstances. Yet, a certain class of constraints is not easily visible and even is not subject to systematic attention of the analysts producing recommendations to the policy makers. Institutional constraints are most frequently among those not receiving sufficient attention of the professionals and thus being bypassed in working out the best solutions for various policy problems. It happens quite frequently that economists recommend actions which, true, don't run up against technological and resource constraints but which are not feasible in view of what appears to be politically and socially (un)acceptable. Many constraints derive directly from the structure of the government: for lots of reasons the governmental machinery cannot simply grind out the decisions which are so ardently recommended by the

professionals. One of the clearly visible differences between the *AL* and the *L* party in the economic guild is that the *L* has much more understanding than the *AL* for the political and administrative constraints in the functioning of the governmental machinery. The *L* is therefore subject to considerable unjustified criticism from those who side with the *AL*. In fact, a part of controversies turn around the recognition of institutional and administrative constraints which cannot be rapidly – if at all – removed despite their being man-made.

It is argued in this study that all major social phenomena and significant events have – in addition to contributions made by authorized individuals, who as a rule are high-placed politicians – their objective, not controlled and uncontrollable components which to a large extent determine the rhythm and directions of development in the principal segments of the economy and the economy as a whole. Along with many exogenous determinants of the trends and dynamics of grand macroeconomic aggregates, even the system of screening the political directoria is a given, objective element of the overall institutional order; the composition of the dignitaries taking or framing the strategic and other predetermining decisions is by itself being objectively produced. What we observe as strictly individual has thus its objective roots in the wider system of selecting and moreover educating, indoctrinating and motivating such individuals.

The implications of decisions are much more numerous, more versatile and much further reaching than thought of most of the time. Major decisions frequently create regulative systems with further powerful influences on future decisions and their likely effects. They thus have determinative influences on hosts of future decisions by generating systemic constraints and motivations for considerable numbers of future decision makers. When generic, decisions also give rise to the entire clusters of future decisions. If not resulting in the creation of the entire new systems, some decisions may create a number of system-like features or attributes on the existing system(s). All this amounts to asserting that major social changes cannot be either explained by or attributed to the current acts and decisions of the existing authorities. In their doings and omissions there is much to be found that can

be reduced to the heritage of the past, the legacy which inspires, constrains and motivates the present agents on the policy scene, both political and economic. Recognizing such objective components of the present and likely or expected future unfoldings is the best way of warding off fallacies which *Popper* generically formalized with his theory of conspiracy [5, p. 195, p. 484].

There are at least two important lessons to be derived from recognizing objective determinants of the observed dynamic tendencies of economic processes and the resulting aggregates. *Firstly*, by separating what is objective and exogenous from what is ascribable to the individuals and bodies taking various sorts of decisions one can more reliably weigh the individual responsibility, more effectively influence the behavior of the important decision makers and ultimately be more successful in steering flows of events and goods in (for whomever) desirable directions. Ignoring the uncontrollable factors and recommending actions independent of them makes for no satisfactory set of advices and cannot contribute to successful implementation of whatever task could be given. *Secondly*, by producing future systemic constellations or system-like attributes of the existing systems, as well as by having the role of a generic basis for future decisions, the current decisions do not play themselves out in the current period; on the contrary, they are often loaded with significant and far-reaching future implications which have to be carefully taken into account if the present decisions are to be rationally taken. The present discretionary decisions turn into objective drivers or inhibitors of the entire clusters of future decisions. One aspect of these interdependencies is the fact that even those actions which are unequivocally assignable to concrete, unambiguously identifiable individuals may *in ultima linea* have their *objective causae causans* because of the *given* institutional arrangements which have *motivated* and possibly *made feasible* behavior(s) leading to such actions.

The temporary interdependence of the decisions, the fact that many decisions create systemic configurations which induce or constrain the future decision making, as well as other forms of conversion of the present discretionary decisions into future *objective* causal contributors of future decisions and resulting changes – all of these generate

objective and uncontrollable tendencies even in the processes of institutional adjustment and building new institutions from scratch: when it comes down to creating and modifying institutional framework, the actual turns out widely different from the planned, the unexpected outcomes are an unavoidable part of life of individuals, organizations and the society as a whole. It is argued in the study that such a more sober view of institutional and social engineering is germane to the *L* camp of economic profession and very much removed from the thinking of the *AL* party. That, too, is a matter of pitched controversy. If one is determined to identify the responsibility for the stagnant or declining trends in economic development, that is usually discovered not to be an easy matter. One could speak of immediate responsibility – what could have been done better taking carefully account of the objective constraints and even motivating factors – and what imposes itself at the present as a set of insurmountable constraints which are the consequences of the decisions taken in the, perhaps far removed, past.

Much attention is devoted in this study to the nexus of uncontrollable forces which may or may not be the result of the past decisions but which, taken as a whole, give an autonomous, unmanageable component in the directions and the tempo of institutional development. Thus, the naive notion of adjusting institutions instantly as to secure immediate economic gains has, among other, two sets of obstacles which make it unrealistic and unachievable: (1) conceptualizing and then constructing, testing, implementing and correcting institutional solutions requires enormous quantities of time and any idea of shortening this processes – which, on top of all of that, is resource intensive and costly – is far beyond the limits of the achievable, and (2) once started, the process of institutional development is far from being fully controllable and its tempo and direction, because of turning out vastly different from what was envisaged, make for a wide divergence of actual trends from planned path of systemic development. There is much room for differences in acknowledging these objective constraints and exogenous tendencies in institutional development: the *AL* participants of the debate demonstrate a salient lack of recognition of these exogenously given uncontrollables,

whereas much of what is argued in this study is along the lines of skepticism regarding the potential for producing the systemic change considered as desirable and beneficial.

It was gratifying to find out that a recent study [1, pp. 110-38] finds systemic (institutional) development completely out of control of any state or social agency. Observing systemic transformations over centuries and even millennia, one could say *sub specie saeculis nisi aeternitatis*, they find that the truly significant, epoch making changes occurred as random mutations, as completely stochastic phenomena, without anybody influencing them in the conscious way and with all of concerned not even being able to understand them while happening. To contribute to observing more fully the complexity of the interactions, the behaviors partly constrained and motivated by the present system are the initiating factors and the vastly contributing ingredients of the future institutional configurations which are likely to induce widely differing, at present unpredictable future behaviors. Participants of the *L* school cannot help much – nobody can – in overcoming these complexities, but they at least recognize them and thus help concocting more realistic policy recommendations. This, of course, happens within extremely narrow limits of what remains eventually controllable in the presence of such a large number so powerful unmanageable forces at work.

The system of values as a social given and an unfolding substance

The source of all values are people taken as individuals. That should be a logical derivative of the fact, so frequently emphasized by Buchanan, that the individual is a unit of consciousness, that awareness of anything can only reside in individuals. On the other hand, individuals are to a large extent defined and made recognizable by values. It is almost impossible to imagine a human being without values and preferences defined on grand axiological orientations belonging to the determining features of humanity as such. Despite strictly individual ultimate origin of values, one can meaningfully speak of collective values such as patriotism, clan alliance, nationalism or even chauvinism. Collective values are more than just

a mechanical sum of the individual values; through interactions and synergic effects, collective valuations take on new qualities and acquire attributes which cannot be generated at the strictly individual level.

The liberally oriented social scientists (*L*) acknowledge the existence and importance of social, collective values but don't lose sight of the fact that they ultimately emanate from the individual(s). The antileberal thinkers (*AL*) are prone to hypostatize social values as independent entities having a genuine logic of their own, not necessarily reducible to the individual valuations of facts and features of social life and human destiny. Much of the basic difference in the value orientations of the two camps can be summarized through significantly varying weights assigned to the two value nexus: the *L* turn more attention and give larger weights to individual values while the case with the *AL* is approximately the opposite. This is the basis on which the *L* would claim, and the *AL* energetically deny, that the *L* world outlook is closer to the man as a bearer of awareness and more human. The differences in value orientations are among the major sources of conspicuous differences in interpreting economic phenomena as well as wider social interdependencies.

It is through alternative value orientations, exemplified mostly by collective values, that coexisting and successive civilizations can be distinguished. The values belong to the most basic determinants of behavior providing the general backdrop for evaluating the human action and the widest framework within which social processes unfold. Much of success and failure in economic and various aspects of social development can be explained through the differences in value orientations and their – as a rule very slow – evolving through epochs of human history. The *L* would occasionally insist on an empirically recognizable and even predictable secular trend in the changes of values, with individual component of such valuations systematically increasing weight. This evolutionary trend can be explained by observable changes in the social organization and the mode of life. In the early stages of human development much of what was needed for sustaining life was achievable only through collective action: killing a mammoth called for sharing meat with the members of the tribe as there had been no way of preserving it for any longer time period...

Technological progress and development of the economy and the society at large made it increasingly possible to individualize distribution and consumption and to free the individual from bonds of strong collective interdependencies. One of the possible ways of interpreting economic and social development is to view it as a continuing process of augmenting the realm of individual freedom and emancipating the individual from the ties to the collectivity. As a grand value and as a quality of life, freedom is fundamentally individual; secular development of the economy and the society at large has been followed by and even exemplified through expanding spheres of freedom accompanied by ever more individualized, and thereby automatically freer, forms and patterns of human action and life in general. The history of human development is, among other, a history of permanently increasing autonomy of individual action and, thereby and therefore, of predictably expanding human freedom. In such an objectively existing set of dynamic tendencies in comprehensively conceived social development the *L* sees an empirical vindication of its views, whereas the *AL* would in many points disagree with such interpretation of the history of mankind.

Morals and law are derivatives of the valuation nexus of the society and more concrete ways in which such valuations are expressed. Morals could be seen as a set of operative instructions and rules of human behavior which streamline the patterns of acting of individuals and their manifold organizations and generate the *spontaneous order* [3, *passim*, pp. 133-137, pp. 142-144] in the economy and the society as a whole. A basic tenet in the liberal thinking is that the human capacities in *direct (through orders and immediate actions)* coordinating and steering social processes are extremely limited and that effective coordination in very large systems can only be achieved through rules and their operationalization by means of morals and the law.

Direct endeavors to order and direct a prohibitive multitude of dynamic processes, as through overextended state interventionism, are futile and ineffective; they can only produce chaos over and above the disorder which would prevail without any governmental interference. But creating the rules and building institutions, while

erecting and strengthening the legal, order is the right governmental approach to coordinating and streamlining the economic activities as well as a much wider set of social processes. A metaphoric way of expressing this idea is by reference to a gardener: even if equipped with the strongest imaginable microscope and accompanying most precise tools, he will never be able to construct a leaf by collecting and duly placing the individual molecules; however, by providing the *general conditions* in the form of the right temperature, light, humidity...he will without difficulties be able to produce lush plants with rich leafage, not having to enter into the molecular structure of the things.

This is the point of wide divergence of the *L* and the *AL* thinking on the proper role of governments and the effective *ways* of their getting involved into the control of the economy. The *AL* believe in both the government's benevolence and ability to order activities in the direct way; the *L* evaluate governmental efficiency and integrity in about the opposite way; by pooling out of the direct interference, the government frees its precious limited capacity for creating new laws and improving the existing ones, which is also a field with much lesser space for bureaucratic abuse. As operationalization of the essentially needed rules both morals and laws play a crucial role in coordinating and steering social processes, with laws being accompanied with legitimized use of coercive means exercised by the state machinery. Morals also have a set of effective imperatives behind them, but the pressures are of an informal nature and produced by socially confirmed judgments of what is good and desirable. Morals and laws have a much larger weight in the normatively pictured machinery of coordination and steering as conceived by *L* than in the blueprints of a healthy and efficient society launched by *AL*. That difference is likely to persist and to provide a clear separating line between the two paradigmatically opposed schools of social thought.

Being the consistent advocates of freedom, the *L* envisage a much wider differentiation of values, and within them, adhered to by individuals; the limits of this variations are set by the imperative to allow for the same kind of freedom *of others* and not to interfere unduly with the ways and means of its exercise. The *AL*, on the contrary, prefers a more homogenous society and a convergence of individual

values to patterns which will have recognizable common features. Rather than having the state to make for the above mentioned convergence of values, the *L* would orient the government to build and continually develop the “right” – meaning neutral, unbiased and equally applied to *all* – institutional framework within which every member of the society will be able to behave in accordance with his own mix of values and thereby coexist peacefully with all others members of the community.

Among the institutional prerequisites of such exercising of freely selected values are (1) *minimal* (in scope, i.e. centered at its proper functions) and *strong* (i.e. in exercising such functions, primarily developing the rules of just and socially sanctified behavior) government, (2) the rule of law, meaning the existence of consistent, transparent and equally applied laws, and (3) free entry and operating in a competitive market without bureaucratic obstructions, where, as a matter of deeply seated principle, everyone will be awarded according to his contribution to the society as determined and measured by the readiness of *others* to spend their income on what the given agent offers in the very same market.

Selective remarks on some particular values and their analogues

Different writers come up with widely differing lists of values and with varying orders arranged so as to reflect their relative importance. Listing different assortments of values will not be undertaken in this overview; much more on this subject is exposed in the main text. Before going into elaborating some important individual elements appearing in more or less all value systems, a few general remarks are in order. *Firstly*, the lists of values are expectedly different. *Next*, these differences reflect at least two things: the degree of detail to which the values are being described and, quite predictably, the value judgments of the exposing writers. *Thirdly*, whatever the list and sequence of particular items, the values themselves are in all instances taken quite seriously. And, *fourthly*, the naming of values, their layout and sequencing together with the accompanying descriptions clearly suggest that they are not taken to be equally significant; there is an implied and occasionally

explicit hierarchy unequivocally suggesting that some values are more important than the others.

It should come as no surprise that the lists of values are widely varied both in terms of length indicating comprehensiveness and in terms of composition. Thus one frequently comes across the lists containing such values as *liberty (freedom), equality, solidarity (brotherhood), welfare, justice and truth*. These could be termed *inherent values* or *values in themselves*, not having to be justified by any other values occupying higher ranks in the axiological hierarchy. In addition to these primary values, which appear to be logically independent of any other elements of axiological scale and equally independent among themselves, it appears apposite to adduce a set of instrumental values, significant in that they are needed for realization of the above indicated primary values. In the first order of significance of so conceived instrumentality the already mentioned three values are regularly cited: *The rule of law, the freedom of acting in a competitive market and minimal government* [6, p. 129].

So, in the most varied contexts one runs up against such elements which can be considered values or possess some attributes of values as: *utility, efficiency, quality of life, loyalty to the elders or to some equivalent authority, patriotism, devotion to the divinity, various collective goods...* Some of the values are further subdivided into more narrowly defined categories. Thus, equality is typically subdivided into *equality in opportunity* and *equality in sharing results of economic activity*. Liberty is also subdivided into *freedom to choose the style of life, freedom of religious expression, freedom to possess property, freedom to trade and freedom from arbitrary prosecution*. Very frequently and devotedly *the freedom of speech, the freedom of political organization (including the freedom of organizing for the purposes of taking over the control of the government) and the freedom to pursue freely one's personal interests* (with undeniable understanding that this realization of self-interest is always within the limits of law) are cited in addition to the values enumerated above. Quite close to the notion of values is the category of virtues upheld by a society. Prior to that a list of *civic virtues* as a more proximate indication of values could be given; Boaz [2, p. 147] enumerates the following *virtues*

which could be taken as socially accepted since long ago: *work, thriftiness, soberness, frugality, self-reliance and the caring about self-esteem and reputation.*

An important category of analytically used and socially sanctioned elements of institutional framework regulating broad relations within the society is *the set of rights*. The purpose of rights is to protect the features of individual existence and social relations involving the individuals; the catalogue of rights is therefore a vivid reflection and a reliable indication of values held up by a society. The lists are again numerous and versatile and a few among them can be cited. *Boaz* [2, p. 104] speaks of three basic rights: *possessing property, political participation and the right to concluding contracts*. The “hexagon of rights” of the well known Serbian Kopaonik School of Natural Rights (2003) contains the following items: *the right to...life, freedom, property, intellectual creation, justice and a state ruled by law*. The first item in the list could be modified to the **right of life and limb**. One of the most comprehensive list of rights is found in *Svensen* [7, pp. 107-108]; these are the rights to *security, the status of the legal subject implying protection by law against arbitrary prosecution and arrest, privacy and protection of personal data, freedom of expression, freedom of thought and religious expression, protection of property and security against arbitrary expropriation, political participation, political organization, education and development of natural talents, independent deciding on the style of life and choices giving it meaning and substance and even adequate nutrition, accommodation and health*. This last “right” is no-right or quasi-right at best: who is to be taken to the court if somebody’s “right” to adequate nutrition is violated? Coming back to the deep conceptual rupture between the *AL* and *L* paradigmatic divisions within economic profession, one can discern their *very different stands with respect to rights*. The *AL* believes that they will demonstrate an outstanding feel for generosity and humanity if they lavishly *postulate and enumerate* a large number of “rights” for fulfillment of which nobody appears responsible. Such rights abound in the UN Declaration on Human Rights, criticized heavily on several occasions by Hayek, such as right to satisfactory pay and decent standard of life and full development of personality. Nobody can determine in advance what the

satisfactory level of these welfare indicators should/could be. Whatever that level, no one can be certain that the material conditions and development of the economy will be sufficient to meet the declared rights. On the other hand, barring severe market failures and excessively skewed distributive relations, such “rights” will be automatically satisfied if the improving economic conditions become ripe for that. Moreover, since these social desiderata do not possess the defining qualities of rights, no judicial procedures can be developed for handling the cases in which such “rights” are violated. These arguments should be sufficient to prove that the oboe described *AL* inspired collection of “rights” is futile and *irrelevant*; it is contrary to the inner, structurally conditioned logic of economic process and legally misconstrued as not to be conducive to meaningful judicial operationalization. The *L* is quite far from this ludicrous set of notions and judicially unrealizable “legal” artifacts. The *L* take rights seriously and as a minimum require unequivocal identification of the subjects at both ends of the presumed legal relationship and the administrative machinery combined with the judicial procedure needed to secure their predictable implementation.

Not all of the enumerated values and quasi-values will be dealt with in the sequel. A narrow selection will be made on that large and not quite coherent collection. The criterion of choice is straightforward: instrumental values are skipped because they are elaborated to the necessary detail in the main text, while among the primary, independent values those will be selected which are truly determinative and on which the difference between the *AL* and *L* conceptual approaches comes to the sharpest relief. In view of the proposed criterion the following values will be the subject of further discussion: *liberty, equality and solidarity*. The values *truth* and *welfare* will be mentioned in passing.

Hierarchical and functional relations among the values

Multiplicity of values and their indisputable legitimacy are a fact of life, but their equivalence and equal significance does not follow from their unquestionable relevance. There

is a hierarchy of values which can be demonstrated and substantiated in several ways. Let it immediately be stated that *liberty* is the supreme value, the one ruling above all. It is supreme both axiologically and logically. These two lines of supremacy can be taken to show its top-flight place in the constellation of values. Before proceeding to demonstration of this statement, let it be conveyed that there is a third way, the approach based on a definition. *Prokopijević* [6, p. 128] takes the dominant place of liberty among all other conceivable values as a determining thread in the definition of liberalism. He rightly points out that liberalism is a paradigmatic construction and an institutional order based on *liberty* as a determining, uncompromisingly held value, unwaveringly held above all other axiological elements. He even enumerates a long list of various values or their analogues and explicitly states for all of them that they yield in significance and semantic content to liberty as the overriding and ruling above all of them. This proof is clearly conditional: it applies only to those who for one reason or the other accept *liberalism* as the optimal order and the institutional system of the future.

This certainly is a cognitively productive way of both providing the definition of liberalism and pointing out liberty as ruling supreme. The other side of such an approach, however, is the limiting the dominant position of liberty exclusively to liberalism as a major option in social thinking and institutional development. One would wish to extend the supremacy of liberty to all other social environments, to make it universally dominant in all value systems experienced and erected on all of mankind. That takes us to the above mentioned axiological and logical demonstration of the supremacy of freedom.

Axiologically, one can refer to various segments of most broadly defined culture and find out that liberty is extolled above all other imaginable values. All of literature, both written and verbally transmitted through uncountable generations, speaks about freedom incomparably more than about equality, brotherhood, welfare...or any other evaluative category of distinguishable axiological concepts. It is easy to cite examples confirming the observation of liberty having been given by far the highest place in the human axiological universe. At the see entrance to New York there is the famous statue of liberty and not, for instance,

of equality or even justice. All of us remember with love the *Gundulić's* verse "O lijepa, o draga, o slatka sloboda, dar u kom *sva* blaga višnji nam Bog je d'o..." (bolded by Lj.M.). The well known also is the glorious inscription on the fortress of Lovrijenac in Dubrovnik: *Non bene pro toto libertas venditur auro*. Let the given account be extended by two more admirable Latin sentences: (1) *Estimatio libertatis ad infinitum extenditur*, (2) *Amor libertatis omnibus hominibus insitus est*. Whoever ventured challenging the statement that liberty is the most frequently mentioned in works of arts and similar fruits of human creativity would have to find equally frequent citation of other values in human artistic and intellectual heritage, which would clearly be impossible. Another undeniable fact is that artistic and other spiritual heritage is – at least in the here analyzed dimension – a reliable reflection of values heeded by the mankind over centuries and millennia. Granting this, the supremacy of liberty among all other values inevitably follows.

Logical demonstration of the supremacy of liberty – and, indeed in all societal environments and institutional setups – is more straightforward and more rigorous. One starts with stating that all values are products of human thought and spiritual capacity and that they can be expressed only by free men. Even if men are not free in some dimensions of their existence, they can demonstrate and confirm the relevant values only if they remain free in the dimensions to which the manifested values belong. In other words, in order to be able to effectively value anything a man has to be free. Turning the proposition the other way around, if man is not free, he is incapable of valuing; in dimensions in which his freedom is denied, the corresponding values cannot be generated and, in particular, revealed. For any (other) values to show up, liberty is necessary (in the logical sense of the word) condition. It is certainly not sufficient – liberty does *not* imply solidarity, equality or any other values. But *necessary* it certainly remains under all of circumstances. This appears to be so important that it deserves to be formulated in the form of a theorem:

Theorem 1 on the relation of liberty to other values: Given the fact that only a free person can undertake acts of his own choosing and that, if deprived of freedom he loses his creative identity, in order to exercise and reveal any values, he

must be free; it follows that freedom is a necessary condition for all values that a person may develop and manifest.

Doctrinal systems and constitutional arrangements are deeply affected and in fact characterized and determined by the values they embody. Unlike other social systems and doctrinal structures, *liberalism is based on liberty as a determining and logically defining value*. Is it far-fetched to conclude that the supremacy of liberty among (all) human values implies the superiority of liberalism over other institutional structures and other analogous modes of social organization?

Until eventually refuted, Theorem 1 is considered to be of fundamental significance. It points to the universality of freedom as a social value: no other values are imaginable in the absence of freedom; an enslaved society is a valueless society. To put this basic value into sharper relief, a result on equality, which could be considered its axiological antipode, will be demonstrated. The two values show a wide range of mutual interrelationships, including both substitutability and complementarity, but the former prevails in the vast majority of the possible interdependencies. Providing freedom to a set of agents in any environment of interactive behaviors means putting them into the same position, i.e. offering them a level playing field. As agents are different in many dimensions, and indeed for a boundless number of reasons, when performing under the same conditions, they will produce widely differing results and thus, to the extent that what they are after depends on their performance, they will command equally differing utility. Equality of conditions implies inequality of performance and utility, and equality in this latter sense would require general differentiation of conditions so that agents of unequal strength would realize the same results. As it appears to be absolutely impossible to differentiate the conditions in the way that is exactly needed for reaching the same performance, it directly follows that the inequality of results, with all other inequalities logically following from it, has to be accepted as a fact of life, a feature of the world in which we are destined to live. The two levels of “equality” are frequently confused. Any intention to have them realized at the same time necessarily results in the frustrating realization that none of them is achieved. The lack of

achievement of the two aspects of equality is simply due to their impossibility to be realized simultaneously.

Svensen [7, pp. 154-155] formulates the same insight by stating that it is simply impossible to have the same conditions in the given interactive environment and the same results deriving therefrom. He illustrates this impossibility in the most illuminating way. He takes the example of securing by some social policies the *same* sanitary conditions to men and women; with such conditions exactly secured, biology teaches us that women will have a longer life expectancy, will simply outlive men. That is a case of certain equality leading to inequality at a different level within the set of interdependent quantities. An attempt to differentiate the sanitary protection in such a way as to secure equal life expectancies – a cognitive and operational impossibility – would imply unequal sanitary protection. Equality at both levels is impossible because leveling outcomes at one level implies differentiation at the other. There is also a third factor – the industriousness or diligence. Suppose the impossible were possible and the conditions be so adjusted as to make it possible for all to achieve the same results. But people have different preferences for leisure and have the right – perhaps within certain, but certainly broad enough, limits – to enjoy as much leisure as they find convenient. Who is, and how, to take account of differences appearing on that score? Is the difference in income due to varying propensity to work, save, learn, take risks ever going to be measurable? Not to speak about the administrative, political and even ethical problems of putting people under different conditions so as to make them produce the same results.

The Sven’s example can be generalized and thereby enriched. One could introduce the third level of equality in providing the sanitary protection to men and women – *per capita* spending. With equal amount of money spent per human being, it should be apparent that the level of sanitary protection will be differentiated between men and women. It goes without saying that the life expectancy will be varied between the two sexes on that account. Thus one arrives to the conclusion that arranging for equality at any of the just introduced three levels implies inequality at the other two. It is easy to imagine sets of interrelated elements with 4, 5...*n* dimensions with equality secured

in one of these dimensions implying the inequality in the remaining $n-1$ dimensions. In a multidimensional evaluative universe total equality, prevailing in *all* dimensions is a logical impossibility. Thus, one can formulate the following

Theorem 2 on the impossibility of overall equality: In a multidimensional universe in which equality can be defined in all or just several dimensions the universalized equality, prevailing simultaneously in all or several (more than 1) dimensions is logically impossible.

The two theorems point to the superiority of liberal, as opposed to the antiliberal, understanding of the world. The superiority is the strongest imaginable: it asserts itself and is rigorously demonstrable at the elementary *logical* level. Freedom is a necessary condition for realization of all other values, including equality. But this latter implication requires a major qualification regarding the type of equality included into the corresponding relation. As one of the several types of equality, corresponding to a particular dimension, can be obtained, the above formulation could be duly rephrased by saying that freedom is a necessary condition for any type of equality that can be thought of in a multidimensional universe. In any way, this points to a sort of universality of freedom, to its, as it were, cardinality in the *universe of values*. The *L* insists on liberty as the determining value, underlying in the logical sense all other values; that fact alone should give *L* a particular significance, its superiority over doctrinal systems and social orders based on some other, evidently less crucial considerations or evaluation standards.

The freedom as a value permeating liberal thinking seems to be fundamental not only to liberals but also to the affiliates of many other paradigmatic orientations, including perhaps even the adherents of the antiliberal school(s). On the other hand, the equality as the centerpiece of the antiliberal system of valuation, not only does *not* figure as a necessary condition for other values but even seems logically impossible, at least as an ordering relation referring to several (more than one!) axiological dimensions of the universe being evaluated. To the extent that even the academically placed *AL*, not being careful in their reasoning, insist on several mutually incompatible types of inequality, they can be criticized at the most elementary level of logical (in)consistency.

Relations among the values: Supplementary considerations

As a generic term equality has no definite meaning because it intrinsically depends on the dimension along which it is being considered. When proceeding to analyzing anything about equality one has to make up his mind as to which type of the several distinct varieties of equality one will have in mind. It turns out that many theoretically conceived types of equality are beyond the reach of practical dealing. The inaccessibility of many sorts of equality is due to the impossibility to practically secure the conditions under which they would eventually materialize. Such are all types of equality conceived as evenness or even similarity of outcomes/results. The reason is the practical impossibility to measure the needed differences in conditions and, even more, the inability of any agency to manipulate with conditions so as to arrive at the needed configuration of results. It turns out that the only practically realizable sort of equality is the equality of the position(s) under the rules, i.e. the equality of legal status in the sense that the same legal acts and the provisions are applied to all agents, and indeed consistently, indiscriminately and in the same way. This is a very basic type of equality. It comes out quite clearly, but probably to the surprise of many adherents of the *AL*, that liberalism is, among other, an egalitarian system. Egalitarian, as it seems, in the only way that is practically feasible.

Freedom under the law appears as an essential prerequisite for the type of equality described in the preceding paragraph. The rule of law implies equal treatment of all actors under and by the same set of rules. Thus freedom surfaces as a necessary for equality, in fact for the only practically realizable type of equality. The *AL*, being so bent towards equality may not be aware of the fact that a very fundamental liberal value – liberty – figures in the very foundations of their normatively conceived system. That freedom is fundamental to equality can best be seen by taking into account that the only way of annulling freedom is to place humans into utterly unequal position. One should remember that freedom is defined as a purely social category, as the absence of man-made obstacles to unhampered human behavior, including the absence of

institutional impediments to free choice of actions within the set of options having the property of not interfering with equal freedom of others. Inequality in the sense of violating the principle of equal status can only occur in the case of some agents being excessively privileged and having incomparably more power than the others. Therefore the lack of freedom defined as an element of social set-up implies an extreme violation of equality, which is logically the same as saying that freedom in relation to equality has the status of a necessary condition. One should take into account that the relation of implication does *not* run the opposite way: equality is *not* a necessary condition for freedom. In pure logic, people may be arbitrarily unequal and yet free even though in practical interactions inequality, particularly when excessive, is not conducive to freedom. The so revealed relational asymmetry should also indicate quite clearly the logical and axiological superiority of liberty over other values, particularly over ill-defined equality.

To translate the above finding into a quite common mode of expression, it could be noticed that the logical necessity of freedom for existence and exercising of all other values means that without freedom one can have *nothing* in the world of values, while obtaining any value presupposes having liberty to begin with. Particularly significant is juxtaposition of freedom and equality as the latter is most frequently and often aggressively posted against liberty and hailed as an axiological basis of a markedly improved society. However, as freedom is defined as a social category and its absence means that one human being is completely constrained by the action of other human being(s), it comes out clearly that *the elimination of liberty is the utmost degree of inequality*. Just as any other value, equality is conditioned by freedom, while the opposite implication does not hold: one can have unequally placed individuals without curtailment of freedom whatsoever. True, inequality of individuals is not conducive to freedom, but it does *not* amount to logical necessity of equality for this supreme value.

It should particularly be stressed that freedom appears to be a necessity even for the values which are usually not being associated to it. It's coming out as a necessity for wellbeing is the corollary of the fact that

it could easily be conceived as figuring as an argument in the individual utility functions and that it is basic to unleashing the irreplaceable forces of entrepreneurship and the impulses of technical progress, and thereby of the only sustainable component(s) of economic development generally. Many analysts take truth as one of the key values. Clearly, truth can successively be sought only by uninhibited research and unfettered discussion; it is hard to imagine how the enslaved people could effectively pursue search approximating the truth, while freedom without truth is easy to imagine. In fact, as *Popper* has repeatedly emphasized, we are not in the possession of truth and whatever we know is just a temporary insight valid only until proven otherwise. The Latin expression for this could be *praesumptio ignorantiae*. Throughout history, many relatively and even significantly free societies have lived and functioned with grand illusions about the set-up of the world, such as a long lasting belief in the geocentric system. As a matter of fact, the *AL* live with grossly mistaken notion that markets without (*private*) property are a possibility, but this illusion in itself does *not* prevent them from living as free men.

Solidarity or brotherhood is often set up against liberty as an alternative and, to some extent at least, competing value. However, it retains its pure, genuine nature only if voluntary, i.e. in the form of charity; as soon as a collective body, such as the state, starts intervening, the risk arises for it to be transformed into coercion, an attack on freedom of individuals to dispose off freely income which they have created under socially legitimized set of rules. "Socially" imposed solidarity also implies forceful redistribution of income, demotivating both those who are expropriated and those who are privileged through this violent interference into the autonomy of the market subjects and social agents in general.

Much has been thought and concluded about relation between freedom and justice. Justice is a notoriously difficult notion to define: each mature and sane individual has his particular notion of justice and these notions obviously don't coincide. A unique, socially accepted and approved notion of justice is impossible to come by. However, there may be plenty of interactions and phenomena on whose *injustice* a vast majority of people will easily and

unequivocally agree. This could prove to be an operational way of – certainly quite partial and vastly incomplete – approximating some widely agreed notion of justice. If one accepts the judgment that depriving people of freedom is unjust, one could then readily arrive at an, admittedly rough and only approximate, relation between the freedom and justice: freedom is needed for justice, while justice turns out being important and helpful for freedom but not amounting to its necessary condition in the logical sense.

Values matter in any society. This is where the liberal thought points again to the state and government as important social institutions. Values have to be endorsed, upheld and promoted. They cannot promote and preserve themselves *by themselves*. The values define a context in which *the ideology* imposes itself as an important social phenomenon. Ideology is a value orientation on the social scale. It informs the individual about the values of *the others* and helps coordinating the values maintained by the individuals. In many of his value choices the individual is related to others and shown the lead by them. To be effective and genuine, the individual values have to be coordinated; the socially accepted values, embodied in ideologies, are in this respect of enormous assistance. Only (relatively, as usual) free societies provide possibilities and frameworks for convergence of values, thereby contributing to forging social consensus on various issues. Yet, not every such consensus carries positive connotations nor can it be judged as desirable. The totalitarian, aggressive and intolerant ideologies are well known; consensus therefore could be considered *necessary* for desirable humanistically refined strategic lines along which the individual values might converge, but by far *not sufficient*.



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Graduated at the Faculty of Economics, University of Belgrade in 1961, became MA in 1964 at Williams College Mass., USA, and PhD at the Faculty of Economics, University of Belgrade in 1968. His basic orientation refers to the field of economic growth, institutional aspects of development and the problems of governance, macroeconomics and stabilization, etc. He has published ten books and over 400 articles in professional journals. He dealt with the privatization and formation of permanent institutions based on market economy. He was member of the Council of Economic Advisers in the Government of A. Marković, the Chief Editor of "Economic Thought" 1987-11, and a member of the Government of M. Panić 1992-93. He was full professor at the Faculty of Economics University of Belgrade since 1982, then rector and professor of the University "Braca Karic" – today "Alpha University", where he is still engaged.

Broader public is not quite proficient in judging the ideologies. Certain totalitarian ideologies like National Socialism and Communism are considered as opposite to each other by the majority of the uninformed observers, including quite a few sympathizers and professional contributors of the *AL*. However, despite many differences, the two have an important, one could say defining, common feature: they push the individual to the most distant, least significant margins of the society, while putting the collective and the commanding elite, ruling on its behalf, at the center of the entire social life. Communism and Socialism, as its diluted variety, National Socialism and Fascism belong in fact to the same *genus proximum* and the real opposites are all these, on the one hand, and Liberalism, as a society having the free individual in its very center, on the other.

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THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON DECENTRALIZATION: THE ROLE OF ORGANIZATIONAL CULTURE*

Uticaj informaciono-komunikacione tehnologije na decentralizaciju – uloga organizacione kulture

Abstract

The paper explores the impact of organizational culture on the effects that the implementation of information and communication technology has on decentralization of organization. The starting assumption is that the implementation of information and communication technology does not have a predetermined and unique impact on centralization or decentralization of organization, but this impact rather depends on the context in which the implementation is performed. Organizational culture has a considerable influence on thinking and behavior of employees and managers since it shapes their interpretive schemes through assumptions, values, and norms that it contains. Therefore, organizational culture must be considered as one of the possible elements of the context on which the impact of information and communication technology (ICT) on structure decentralization depends. Starting with Handy's classification of organizational culture types, hypotheses on different impacts that ICT might have on decentralization in each of the culture types are generated. The conclusion is the following: ICT implementation in people culture will lead to a high decentralization, ICT implementation in task culture will lead to a moderate decentralization, ICT implementation in power culture will lead to a moderate centralization, and ICT implementation in role culture will lead to a high centralization.

Key words: *organizational structure, information and communication technology, organizational culture, decentralization*

Sažetak

U radu se istražuje uticaj organizacione kulture na efekte koje primena informaciono-komunikacione tehnologije ima na decentralizaciju organizacije. Polazi se od pretpostavke da primena informaciono-komunikacione tehnologije nema unapred određen i jedinstven uticaj na centralizaciju ili decentralizaciju organizacije, već da taj uticaj zavisi od konteksta u kome se primena vrši. Organizaciona kultura snažno utiče na mišljenje i ponašanje zaposlenih i menadžera budući da pretpostavkama, vrednostima i normama koje sadrži oblikuje njihove interpretativne šeme. Stoga se organizaciona kultura mora uzeti u razmatranje kao jedan od mogućih elemenata konteksta od koga zavisi uticaj informaciono-komunikacione tehnologije na decentralizaciju strukture. Polazeći od Hendijeve klasifikacije tipova organizacionih kultura, generišu se hipoteze o različitom uticaju koji IKT ima na decentralizaciju u svakom od njih. Zaključak je da će primena IKT u kulturi podrške voditi ka visokoj decentralizaciji, u kulturi zadatka ka umerenoj decentralizaciji, u kulturi moći ka umerenoj centralizaciji i u kulturi uloga ka visokoj centralizaciji.

Ključne reči: *organizaciona struktura, informaciono-komunikaciona tehnologija, organizaciona kultura, decentralizacija*

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Introduction

Without a doubt, information and communication technology (ICT) impacts on different aspects of modern organizations. There are numerous, both theoretical and empirical, confirmations that support this claim [3], [8], [34]. It has been proven that ICT leads to information processing cost reduction, decision-making quality improvement, decrease in the number of hierarchical levels and organization “thinning”, and also to decrease in middle-level management. But, what is particularly interesting is the impact that ICT has on delegation of authority and its consequence – the degree of centralization or decentralization of organizational structure. This impact has been the focus of the attention of academic and expert community [5]. The reason surely lies in a controversial nature of the relationship between ICT and this dimension of organization. While some authors find that ICT leads to a higher decentralization, others argue that that ICT in fact leads to a higher centralization of structure [21].

The degree of organizational structure decentralization is a consequence of delegation of authority as one of the subprocesses in organizational structure designing. Each organization must in some way delegate the decision-making authority vertically (through hierarchical levels), as well as horizontally (between managers and experts) [26]. In other words, an organization must determine who makes a particular decision. The consequence of authority delegation is a certain level of (de)centralization of structure. Organizational structure can be either centralized or decentralized. In the case when it is centralized, all or most of the decisions are made at the organization’s top by the leader or a small number of top managers; in the case when it is decentralized, the decision-making authority is more evenly dispersed across hierarchical levels so some decisions are made by managers at lower hierarchical level as well. Also, in a decentralized structure, the authority to make some complex or creative decisions is delegated to experts, that is, to non-managers.

Decentralized structure has its advantages and disadvantages [26]. The advantages of authority delegation, that is, decentralization are the following: 1. It frees managers from routine, operative tasks and makes space

for strategic, developmental or creative activities; 2. It improves the quality of decision-making since it is closer to the real problem and because a specialized manager who noticed the problem in the first place actually makes decisions; 3. It speeds up decision-making because it is not necessary to transfer information to higher hierarchical levels, nor to transfer the decisions made at those hierarchical levels back to the operative sphere where they are actually realized, whereby communication chain is shortened and the number of participants in decision-making is decreased; 4. It improves working morale and motivation and develops the competencies of middle and lower level managers who are in this way better prepared for career advancement.

Besides the obvious advantages, delegation of authority has some disadvantages as well. The first and major concern is the problem of controlling delegated decisions. Namely, when all the decisions are made by one or several managers at the organization’s top, it is relatively easy to control the effects of those decisions. When the right to make decisions is widely distributed, top management can easily lose control over the events in the organization, which could have unimaginable consequences. Also, the problem of control is always accompanied by the problem of coordination. When a larger number of decision-makers are present in the structure, the problem is how to coordinate them so that their decisions are not mutually contradictory.

Since decentralization has both advantages and disadvantages, choosing the right level of structure decentralization in the process of structure designing is always followed by a trade-off. There is no ideal level of decentralization – it all depends on the situation which a company is facing. The degree in which structure will be centralized or decentralized depends on many factors. According to the contingency theory of organization, the degree of (de)centralization depends on the size and age of organization [16], type of technology [35], environment [28], or strategy [7]. ICT holds a special place among these factors.

ICT implementation in an organization strongly impacts on the degree of its centralization or decentralization. The reason for this is the fact that the whole point of authority

delegation process is actually to locate accountability for decision-making. Decision-making is, in its nature, the process of information processing. Since ICT to the largest extent affects precisely the information processing in an organization, it is therefore clear that authority delegation as well as its consequence – decentralization – will be under the impact of ICT. However, in what way and in which direction does ICT impact on decentralization is a very controversial question. In that respect, there are three different schools of thought.

According to one school of thought, information technology leads to decentralization of decision-making in companies [21], [22]. The argument supporting this claim is based on the fact that ICT eliminates at least two barriers to decision-making decentralization in organizations. First, ICT enables all hierarchical levels, even the lowest ones, to have enough quality and updated information to make the right decisions. Namely, one of the crucial barriers to delegation of decision-making authority to lower hierarchical levels is the fact that executives and managers at lower levels of organization do not have enough information, and even not enough knowledge, that would enable them to make quality decisions. A specific problem is also that employees and managers at lower organization levels do not see the big picture, that is, they lack the information significant for an organization as a whole. This is the reason why delegation of authority to those levels could carry a high risk of making decisions at those levels that would have a parochial character and would optimize the goals of the particular unit where decisions were made, but would actually do harm to the organization as a whole. Simply stated, it is necessary to create a balance of authority and information: decision-making authority should be located at the level and the position that have enough information to make a quality decision. ICT enables that the necessary level of information exists at most hierarchical levels and most organizational positions, which would guarantee quality decision-making. Another barrier to decentralization which ICT eliminates and, therefore, favors in an organization, is the possibility of effective managerial control. Namely, in order for top management to delegate decision-making authority to lower levels, it must previously or simultaneously keep

control over delegated decisions and their effects. If top management does not have a mechanism for controlling the decisions delegated to lower levels, it will not be willing to delegate decision-making authority and hence the consequence would be a high centralization of decision-making. This inadequate competence of the organization's leader to create the mechanism of control is precisely the main reason for centralization of young and growing companies [16]. ICT enables faster, more effective, and cheaper information processing, and thereby also a more effective control by top management over decisions and processes happening at lower organizational levels. By enabling more effective control over delegated decisions, ICT eliminates the barrier to decentralization of decision-making.

The second school of opinion about the impact of ICT on decentralization argues in favor of the claim that ICT in fact leads to centralization [21]. Actually, this argument is based on the idea that ICT incites centralization because it eliminates some barriers which disable centralized decision-making. The key barrier to decision-making centralization is a limited ability of top management to gather and process information. Namely, in order to centralize decision-making, which means to make all or most of the decisions in an organization, top management must have all the information necessary for making the decisions. Since the number of decisions to be made in organizations, especially in large ones, can be substantial, it may easily happen that top management simply does not have the capacity to process all the necessary information. This is the reason why top management must delegate decision-making authority, especially for operative decisions, to lower levels of organization, which leads to decentralization. Gathering and processing the information from the operative sphere, which is very distant from top management, represent a problem *per se*. In most cases, it is very useful to delegate such decisions to lower-level management, simply because the gathering of the information for making those decisions, transferring of the information to the organization's top and processing of the said information would be accompanied by such distortions, delays, and costs that it would by no means be economic. However, ICT enables quick gathering, transferring and

processing of all the information, even the information from the operative sphere, by the organization's top. Thus, ICT actually leads to disappearance of middle management and decrease in the number of hierarchical levels. Since middle management mostly serves to transfer information from the bottom up and orders from the top to bottom in an organization, once ICT enables direct, effective, and quick information flow between the organization's operative sphere and the strategic organization's top, middle management will become redundant. This means that ICT eliminates barriers to decision-making centralization and, thereby, also leads to increased degree of centralization in modern organizations.

Besides these two contradictory points of view on ICT impact on decentralization, a third opinion also exists [21], [22]. According to this opinion, ICT has the capacity to increase both centralization and decentralization of organization. How will ICT impact on (de)centralization of structure in each individual organization depends on some other factors, such as information technology type used in a company, size and age of the company, degree of uncertainty in the company's environment, degree of repetitiveness of tasks in the structure, etc. These factors create a particular context in which ICT is implemented, so what effects ICT will have on (de)centralization of organizational structure depends precisely on the said context. One of the important components of every organization's context is the organization's culture. As a system of assumptions, values, and norms shared by employees and managers, organizational culture affects all decisions, actions, and interactions in a company [27]. This is why organizational culture should be explored as a possible factor determining in which direction ICT will impact on the degree of organization's (de)centralization.

The aim of this paper is to explore the way in which organizational culture influences ICT impact on decentralization of organization. The paper is explorative in character, and its purpose is to generate hypotheses on the culture as a factor which determines the character of the relation between ICT and authority delegation. This will be done by setting assumptions, based on characteristics of individual organizational culture types, about different effects of ICT on (de)centralization.

The paper is structured as follows: after defining organizational culture and its content, one of the widely accepted classifications of organizational culture types will be presented. Next, the character and effects of ICT impact on (de)centralization of organization in the context of four types of organizational culture will be analyzed. This will result in the hypotheses that formulate the assumptions about the direction of ICT impact in different types of organizational cultures.

Organizational culture: Concept, content and types

Organizational culture can be defined as *"a system of assumptions, values, norms and attitudes manifested through symbols which the members of organization have developed and adopted through mutual experience and which help them determine the meaning of the world around them and how to behave in it"* [27, p. 26]. As it can be noticed in the definition, organizational culture has a cognitive and a symbolic component in its content [31]. Cognitive component consists of mutual assumptions, values, and norms which the members of organization share and which shape their mental (interpretive) schemes. Thereby organizational culture determines the way in which the members of organization perceive and interpret the world around them but also how they behave in it. Cognitive content of organizational culture enables the members of organization to assign meanings to phenomena inside and outside of the organization in a unique way and also to uniquely react to the said phenomena. Symbols are visible part of organizational culture and they manifest its cognitive component. Semantic, behavioral and material symbols strengthen and convey, but also change the organizational culture [9].

Understanding of the concept of organizational culture implies noticing some of its important and distinctive characteristics [1], [25]. First, organizational culture is a social phenomenon since it occurs through social interactions and reveals itself only at the level of a social group. Second, creation of organizational culture takes a lot of time, because it emerges through accumulating the experience of people in organizations. Therefore, culture

changes slowly and with difficulty and the fact that a part of its content is subconscious in character also contributes to that. Third, culture gives uniqueness to an organization. It emerges as a combination of unique experiences of the members of organization due to which an organization differs from any other organization in its environment. Fourth, organizational culture provides a sense of certainty, order and safety to the members of an organization, because it gives purpose to phenomena and occurrences in the organization and around it by its own meaning.

Cultural assumptions as hypotheses on reality [31], values as ideal states which organization should strive to [30], and cultural norms as social expectations of their own kind with respect to behavior of the organization members [4], [20], represent strong guidelines for the members of organization with respect to understanding and treating of the people, phenomena, and occurrences in the organization. Everyday decisions that employees and managers make, actions they take, as well as interactions in which they engage, are all largely determined by the assumptions, values, and norms of organizational culture. The reason for this is by all means the fact that assumptions, values, norms, and attitudes shared by the members of organization significantly shape their interpretive schemes. Through interpretive schemes, the members of organization assign meanings to things and occurrences in the organization and outside of it, and in this way understand the reality that surrounds them [33], [12]. The behavior and also actions and interactions of the members of organization emerge from the meanings that the reality of organization has for them [1], [25]. Actually, organizational culture represents a form of collective interpretive scheme of the members of organization due to which they in a similar way assign meanings to phenomena, people, and occurrences inside and outside of the organization and also similarly deal with them [31]. In this way, a strong culture of an organization implies that all members of the organization in a similar way understand the organization, as well as a suitable way of its structuring, functioning, managing, and changing.

By impacting on decisions, actions, and interactions between managers and employees, organizational culture also impacts on many other important elements

of management and organization. Extensive empirical research has documented that organizational culture affects strategy [23], [38], performance control [13], organizational structure [29], compensation systems [37], performance appraisal [18], organizational learning [14], leadership [15], and organizational performance [36]. Organizational culture also influences job satisfaction, which is an aspect of organizational behavior [24], [32].

As we have already concluded, dispersion and implementation of ICT in an organization will have different effects on delegation of authority, depending on the context in which it is conducted. Organizational culture is an important component of organizational context since it shapes everyday actions and decisions of the organization's managers and employees through its assumptions, values, and norms. Therefore, it is clear that in different organizational cultures, the impact of ICT on decentralization will be different. Different types of organizational cultures, through their specific assumptions, values, and norms, create a specific context in which ICT is implemented and in which this implementation implies specific degree of (de)centralization. In order to be able to identify the role of organizational culture in determining the impact of ICT on decentralization, we must analyze the content and characteristics of different organizational culture types. In order to do this, however, it is necessary to first classify types of organizational cultures.

There are numerous classifications of organizational cultures in the literature [4], [6], [11], [17]. All these classifications differ from one another in terms of the criteria based on which organizational culture types are differentiated. In this paper, we will use *Handy's* classification, since it is based on the criteria that have implications for the relation between ICT and decentralization.

In *Handy's* classification [17], organizational cultures differentiate according to two criteria. The first criterion according to which organizational culture types are differentiated in *Handy's* classification is the assumption about distribution of power in organization. Distribution of power among members of a social group, such as an organization, is always set as one of the key questions that each social group must answer, and this goes for organizations as well. The solution of this issue is built

into the culture of the said group in the form of cultural assumptions [19]. According to power distribution criterion, we make distinction between organizational cultures that contain assumption about the need for authoritarian (that is, uneven or hierarchical) distribution of power and organizational cultures that contain assumption about the need for egalitarian, democratic (that is, even) distribution of power. Authoritarian, or hierarchical, organizational cultures contain the assumption that uneven distribution of power in a social system is inevitable, useful, and necessary for achieving its goals and purpose. In contrast, egalitarian cultures contain the assumption that in social systems, such as organizations, it is useful, possible, and necessary to have as even power distribution as possible and that only such power distribution enables achieving of the goals of social systems.

The second criterion according to which organizational culture types are differentiated is the primary framework of collective action, through which an organization achieves its goals. Each organization emerges in order to accomplish goals of its members or stakeholders by means of taking collective, coordinate actions. On the other hand, the nature of organizations is dichotomous: it contains work component (tasks and structures) and social component (people and their relations). This is why an organization must decide whether it will satisfy the goals and interests of its stakeholders and members primarily through social structure or through work structure. According to the criterion of suitable framework of collective action in organizations, we differentiate organizational cultures that contain the assumption that collective action should be taken within the framework of work structure and organizational cultures that contain the assumption that collective actions should be taken within the framework of social structure. The former organizational culture type implies task orientation, while the latter organizational culture type implies people orientation.

By using both criteria simultaneously, a matrix with four organizational culture types can be constructed (see Figure 1).

Power culture and role culture contain assumptions, values and norms of uneven, or hierarchical, distribution of power in organizations. On the other hand, people culture

Figure 1: Handy’s classification of organizational culture types

	Social or people orientation		
Authoritarian or hierarchical distribution of power	Power culture	People culture	Egalitarian distribution of power
	Role culture	Task culture	
	Work or task orientation		

Source: [17]

and task culture contain assumptions, values and norms of egalitarian distribution of power in organizations. Power culture and people culture have a common characteristic that they are primarily oriented to people, that is, to social component of organization. On the other hand, task culture and role culture contain the assumption that the primary component of organization is work, that is, tasks.

Power culture combines people orientation and orientation to uneven distribution of power in organization. The main characteristic of power culture is its orientation to the leader. Power culture is based on the assumption that organization is a means for achieving goals in the hands of its owner or leader. Power culture observes organization as a family: the almighty father of the family (*paterfamilias*) who knows everything and looks after all its members is at the head of organization, and in return the members obey him with no questions asked. The source of the leader’s power in this culture is the control over resources (money, information) and/or charisma. In this culture, everything is based on the leader’s personal supervision, so effectiveness of the organization’s functioning largely depends on the leader’s competence. The leader personalizes work in the organization to a large extent, so everything in it receives the leader’s personal touch and depends on his/her style and competencies. Organizational structure is highly underdeveloped and informal and it often changes. In power culture, communication is very intensive and informal. Political processes and the battle of power are highly evident because the members of organization compete with each other to get closer to the leader, to attract his/her attention and, based on all of that, to gain better position in the organization. The main

advantage of power culture is the speed of its reaction. Since everything in this type of culture depends on the leader, then once he/she makes the decision about changes, this decision is put into action in a fast and effective way. Organizations with power culture, especially if they are also small, are among the most flexible organizations. The main disadvantage of power culture is that it is very risky – practically everything depends on just one person and his/her competencies. The problem with power culture is that it favors obedience to the leader and not competencies of people. In time, people with high competencies who do not agree with complete centralization of power at the organization's top will leave this culture, while mediocrities who do not mind that someone else makes decisions and takes risks and who obediently follow orders will stay. Power culture is suitable for relatively small and young organizations, in which highly educated people are not predominant, that do business in turbulent industries that require fast reactions.

Role culture is a truly bureaucratic culture. Formal rules and procedures are dominant in this type of culture, and everyone, including the leader and other managers, is expected to strictly follow rules and procedures. What the leader and his/her personality represent in power culture applies to formal rules and standards in role culture. There is a strong tendency to standardize and formalize each process, every behavior, and all the relations in the organization. In role culture, everything is based on logic, sense and rationality. Role culture is based on observing organization as an ordered social structure, regulated by preset rules and procedures. The metaphor for an organization with this type of culture is a machine. Contrary to power culture, which is always colored by the leader's personality, role culture is depersonalized. The very name of this type of culture suggests that the main elements of organization are impersonally assigned roles, rather than individuals as personalities. In this type of culture, power is gained based on hierarchical position and partly also based on expert knowledge. Role culture is most often found in large bureaucratized companies and other organizations (especially in public services). It can even be said that role culture implies a bureaucratic organizational structure.

Task culture is such a system of values and norms of behavior in which success and accomplishment are put on the highest pedestal. This is the reason why many call this culture a culture of accomplishment. Task culture is based on the assumption that organizations exist to complete tasks. Everything is oriented to work that needs to be done and everything is subordinated to it. People are not valued according to their position in the hierarchy, but according to their capability to contribute to performing of tasks. Power is derived from competence. Task culture is most suitable for people who are motivated by accomplishments, that is, by the work *per se*, rather than by material rewards. In task culture, values such as independence of individuals, flexibility, and adaptability predominate. This type of culture is most suitable for relatively small, specialized organizations with highly educated employees and sophisticated technologies, such as consulting agencies, law offices, advertising agencies, research agencies, and the like. Task culture most often implies team or project organizational structure. Its main advantages emerge from its orientation to success and results, flexibility, initiative, creativity, and entrepreneurship. The main disadvantage of this type of culture is its excessive dependence on people and their qualities.

People culture is the type of culture that is very rarely seen in companies. Its original name itself implies that people culture exists for the people in it. Its basic purpose is, according to the assumption of its members, to enable them to achieve their individual goals and interests. The focus is on an individual and his/her interests, while the goals of organization as a whole are neglected. This is also the reason why it is difficult to assume that a company would be able to survive with such a culture. The power in people culture is very widely distributed, so comparing to all other aforementioned types of culture, people culture is democratic to the largest extent. Individual freedom is highly valued and a fierce resistance is put up against any attempt to jeopardize this personal freedom through organizational rules. This is why organizations with this type of culture face the problem of loyalty of its members, who are more often loyal to themselves and their profession than to their organization. This type of culture can be most often found in universities, hospitals, institutes, and research facilities.

Organizational culture as a factor that shapes ICT impact on decentralization

The criteria according to which organizational cultures differ from one another, that is, the assumptions about desirable distribution of power and primary component of organization, have significant impact on the relation between ICT and decentralization of organization. The assumption about desirable distribution of power has quite clear implications for ICT impact on decentralization of organization. When ICT is implemented in an organization with predominant assumption about hierarchical or authoritative distribution of power as desirable distribution of power in the organization, it is quite clear that it will lead to centralization of decision-making. ICT is, as any other technology, just a means of achieving certain goals. Organizational structure is, on the other hand, also a tool for achieving the company's goals. A company will always have an organizational structure which, in the opinion of its top management, best contributes to achievement of the company's goals. The top management's opinion on what organizational structure is the best for the company largely depends on the assumptions and values of organizational culture. When the assumption of hierarchical, that is, uneven, distribution of power predominates in an organization, then managers and employees think that the best thing for the organization is to have a small group of people at its top who decide, while the others should respect and execute those decisions. In such a context, ICT will be used to achieve centralization of decision-making as a suitable model of organization's functioning. As already mentioned, ICT has the potential to increase both centralization and decentralization. When ICT is implemented in organizations with authoritative culture, it will be used by the leader and his/her associates to enable centralization of decision-making at the organization's top and to make it more effective. In the context of authoritative, hierarchical culture, a potential of ICT to eliminate barriers to centralization will be activated. On the other hand, when ICT is implemented in organizations in which the assumption that it is desirable to evenly distribute power in organization prevails, then ICT will lead to decentralization of decision-making. Since the assumption that it is good to

have the power of decision-making distributed as evenly as possible across all hierarchical levels in an organization prevails in egalitarian types of organizational cultures, it is only natural that in such cultures ICT will be used to increase decentralization of decision-making. Since ICT has the capacity to increase decentralization in organization, this will probably occur if the egalitarian cultural assumptions about power distribution are predominant in an organization. Following the above-stated, we can make the assumptions that implementation of ICT in power culture and role culture will lead to centralization of organizational structure, whereas implementation of ICT in people culture and task culture will lead to decentralization of organizational structure. Based on all said above, we may set two hypotheses:

H₁: Implementation of ICT in organizations dominated by power culture and role culture will lead to centralization of decision-making.

H₂: Implementation of ICT in organizations dominated by task culture and people culture will lead to decentralization of decision-making.

Assumptions, values and norms of the primary component of organization also impact on the effects of ICT implementation in an organization on (de) centralization of its structure. However, this impact is less direct, visible, and strong than the impact of the assumption of power distribution in the organization. If organization, due to organizational culture, perceives that a collective action is most effectively conducted through social structure, then people, their competences, motivation, values, and interactions will be of primary importance for the achievement of organization's goals. In such context, ICT is used above all for empowerment of people. Since in such a culture it is considered that everything depends on people, and not on formal roles or structure, ICT is used primarily as a tool for increasing the people's capacity to perform tasks. The ability of ICT to increase the speed and capacity and decrease the cost of information transferring will be used for development of people in the organization, regardless of their hierarchical position. Thus, ICT implementation in the context of culture preferring social component of organization will be the stimulus for decentralization.

If organization, due to organizational culture, perceives that a collective action is most effectively conducted through work structure or task structure, then formally defined roles, positions, organizational units, and hierarchical levels, and not the people and their relations, will be of primary importance in achieving organization's goals. When organizational goals are achieved through a system of formally defined roles, then ICT is used to provide the information and knowledge necessary for realization of these roles, as well as for controlling the realization of these roles by top management. In this case, ICT enables top management to more simply, more quickly and with higher quality provide the information necessary for performing tasks, and also for controlling the accomplishment of these tasks. In this way, ICT actually makes the process of decision-making centralization in the structure easier.

Based on all stated above, we can set the following two hypotheses:

H₃: Implementation of ICT in organizations dominated by power culture and people culture will lead to decentralization of decision-making.

H₄: Implementation of ICT in organizations dominated by task culture and role culture will lead to centralization of decision-making.

If we summarize at this point the analysis of the organizational culture's impact on the effects of ICT on (de)centralization of organizational structure, several conclusions can be made. First, organizational culture impacts on the relation between ICT and decentralization through two important assumptions: the assumption about desirable power distribution and the assumption about the primary component of organization. Accordingly, four types of organizational culture in which these assumptions are combined also have different effects on ICT impact on structure decentralization. Second, in role culture both assumptions create the context in which ICT is used for centralization of decision-making. Third, in people culture both assumptions create the context which leads to decentralization of decision-making. Fourth, in power culture the assumption about desirable distribution of power creates conditions for the ICT to provoke centralization, but the assumption about social component as the primary

component of organization creates conditions for the ICT to provoke decentralization. But, since the impact of the assumption about desirable distribution of power is stronger, we conclude that the ICT implementation in power culture will lead to moderate centralization. Fifth, in task culture the assumption about desirable distribution of power creates the context in which ICT leads to decentralization, but the assumption about work structure or task structure as the primary component of organization creates conditions for ICT to implicate centralization. Since the impact of the assumption about desirable distribution of power is stronger, we therefore conclude that that implementation of ICT in task culture will lead to moderate decentralization. Based on all said above, we may formulate a synthetic hypothesis:

H₅: Implementation of ICT in people culture will lead to a high decentralization; implementation of ICT in task culture will lead to a moderate decentralization; implementation of ICT in power culture will lead to a moderate centralization; and implementation of ICT in role culture will lead to a high centralization.

Conclusion

Information and communication technology (ICT) undoubtedly changes the appearance of modern organizations. It impacts on the changes of many important components of organization and management. Organizational structure is certainly one of them. Most researchers agree that organizational structure suffers changes when modern ICT is implemented in an organization. But, they disagree on the direction of these changes. One group of researchers holds the view that ICT implementation will lead, among other things, to structure decentralization, that is, to more even distribution of decision-making authority. By all means, there are arguments supporting this thesis. But, on the other hand, other group of researchers argues that ICT implementation in an organization can also lead to centralization, that is, to concentration of decision-making authority at the organization's top. A contemporary and very often encountered approach to management, called the contingency approach, brings a third perspective in explaining the relation between ICT and decentralization.

The contingency approach implies that relations between management components depend on the context in which these relations are set. Thus, in the case of ICT impact on decentralization it is assumed that this impact may lead to both centralization and decentralization of structure, depending on some third factors that constitute the context in which this impact is done. So far, numerous factors have been identified that may shape the context and modify the relation between ICT and decentralization. The aim of this paper is to suggest considering one more important element of organizational context that determines the nature of the relation between ICT and organizational structure – and that element is organizational culture.

Organizational culture as a set of assumptions, values, and norms shared by the members of organization significantly determines their opinions and behavior. Organizational culture imposes on the organization members the meanings of things and occurrences inside and outside of organization, whereby it directs the members to understand the world that surrounds them and act within in a specific way. Consequently, organizational culture represents an important element of the context in which processes within organization are conducted, which also applies to processes of structuring and ICT implementation. It is only natural that the nature of the impact that ICT implementation has on organization's decentralization depends on the organization's culture. If this is true, then it is also natural that the impact of ICT on decentralization will be different in different types of organizational cultures.

Based on *Handy's* classification of organizational culture types it can be assumed that organizational cultures which contain assumptions about the need for unequal or hierarchical distribution of power in the organization imply that ICT leads to centralization of decision-making, and that organizational cultures which contain the assumption about the need for equal of egalitarian distribution of power imply that ICT leads to decentralization of structure. On the other hand, organizational cultures that in their values favor social component or people imply that ICT implementation leads to decentralization of structure, while organizational cultures that favor work component or tasks will imply that ICT implementation leads to

centralization of structure. The conclusion is that ICT implementation in people culture will lead to a high decentralization; ICT implementation in task culture will lead to a moderate decentralization; ICT implementation in power culture will lead to a moderate centralization; and ICT implementation in role culture will lead to a high centralization.

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TRADE FOR CEE**

SDI – izvor finansiranja ili izvor trgovine za CIE

Abstract

The paper is devoted to the study of relationship between foreign direct investments and trade of transition economies of Central and East European region. The increasing internationalization and globalization of production make the question of the relationship between foreign direct investments and trade more important, especially with the upsurge of transition economies' foreign direct investments. Foreign direct investments are usually analyzed separately, as a form of investment, financial flows. There is enormous literature researching the inflows of foreign direct investments into countries of Central and East European region and recent literature about foreign direct investment outflows from these countries. With the increase of region's foreign direct investments, the question of their impact and relation with trade stands out and the paper will focus on the relationship between investment and trade flows of this group of countries revealing their connection and intertwining and the necessity of different international trade analysis of these countries.

Key words: *foreign direct investments, trade, transition economies, Central and East Europe, export, import*

Sažetak

Rad se bavi odnosom stranih direktnih investicija i spoljne trgovine tranzicionih zemalja regiona Centralne i Istočne Evrope. Rastuća internacionalizacija i globalizacija proizvodnje povećavaju značaj razmatranja odnosa između stranih direktnih investicija i trgovine, naročito sa porastom stranih direktnih investicija tranzicionih zemalja. Strane direktne investicije se obično analiziraju zasebno, kao oblik investicionih, finansijskih tokova. Značajan deo literature se bavi prilivima stranih direktnih investicija u zemlje regiona Centralne i Istočne Evrope, dok se novija literatura bavi odlivima stranih direktnih investicija iz ovih zemalja. Sa porastom stranih direktnih investicija ovog regiona, ističe se pitanje njihovog uticaja i odnosa sa spoljnom trgovinom tako da će se rad fokusirati na vezu između investicionih i trgovinskih tokova ove grupe zemalja otkrivajući njihovu povezanost i isprepletanost i potrebu drugačije međunarodne trgovinske analize ovih zemalja.

Ključne reči: *strane direktne investicije, trgovina, zemlje u tranziciji, Centralna i Istočna Evropa, izvoz, uvoz*

Introduction

The region of Central and Eastern Europe (CEE) covers a large geographic area. Although there are many differences between the countries of the region, the paper will analyze the region as a whole. The common characteristics of these countries, that they were all behind the Iron Curtain before its fall, make us define a region as an entity – Eastern Europe – whose development has been very different from the other part of the Europe, Western Europe. This group of transition countries is also known as Eastern Europe, which is an overarching term for different sub-regions: Central Europe, the Baltics, Southeastern Europe and Eastern Europe. The paper deals with the foreign direct investment and trade flows of these transition economies of CEE region.

Among other aspects and impacts of foreign direct investments (FDI), their relationship with trade is very important in the trade analysis and the paper deals with it on the case of CEE economies. Foreign direct investments are usually analyzed separately, as a form of investment, financial flows. There is enormous literature researching the inflows of FDI into transition economies describing the value and sectoral structure of these flows, policy issues, effects on economic growth and other aspects of FDI related to economies. Literature on FDI from transition economies is relatively undeveloped as these countries had virtually no outward FDI before 1995. Both the literature and the outflows of FDI from these countries have been developing more slowly than inflows and national authorities did not begin to provide detailed data on outward FDI until mid 1990s [10]. However, all these literature and studies primarily research the FDI as investment, financial flow and different aspects of its impacts. The field of relationship between FDI and trade of transition economies stays relatively open and insufficiently researched. Therefore the subject of the paper is to research this relationship and to show that understanding of their interconnection is important for the further trade analysis of these countries.

The paper approaches the FDI-trade relationship on one different way. Considering the participations of the selected group of countries in world FDI and world

trade, and proceeding from the assumption that FDI flows generate trade flows, it reveals that, in the circumstances of increasing FDI, it is necessary to approach on different way to the analysis of trade flows of these as well as other countries. The paper is based on a hypothesis that trade flows, as well, are realized through investment flows in such a way that a specific, indirect type of export, i.e. import, is realized via FDI outflows, i.e. inflows. Furthermore if in addition to classic, direct, cross-border forms of trade of CEE countries there are some other forms of trade, comprehensive trade analysis of these countries must include both. Therefore the aim of the paper is to indicate the new type of trade flows of CEE region and the necessity of consideration of both types of trade flows – classic, direct and specific, indirect – in trade analysis of CEE countries.

In the following section of the paper the literature review is given. The third part of the paper will give the short snapshot of FDI and trade of countries of the CEE region. Special attention and central part of the paper is devoted to the analysis of connection and intertwining of trade and investment flows of the CEE region, examining both relations between FDI outflows and export and FDI inflows and imports, and showing the need for changes in the trade analysis. The two parallel, comparative analyses between FDI outflows and export, on one side, and FDI inflows and imports, on the other side, applied in the paper, will lead to consequential findings about current and possible future trade performance of these countries.

Literature review

The literature about FDI and also about FDI and trade is broad and extensive. There is a lot of literature about FDI and motives and determinants of FDI. A systematic review of the literature on FDI determinants is given by *Blonigen* [2], indicating the factors affecting FDI decisions and locations worldwide. The recent studies of the FDI determinants accentuate the role of non-traditional home-country and host-country characteristics, such as corruption [9, p. 648] or status as a tax haven and offshore location, explaining the importance of the costs of moving money across borders [8] tending to affect FDI flows.

The literature about FDI and trade is also broad and brings the different, sometimes opposite, results about the FDI-trade relation. Researching the relationship between FDI and trade, the traditional theory of multinational corporation (MNC) finds substitution, while a significant number of empirical studies find complementary relation. Presenting models which show that factor mobility leads to an increase of world trade, *Markusen* [32] concluded that “trade in goods and factors as substitutes is in fact a rather special result which is a general characteristic only of factor proportions models”. *Lipsey* and *Weiss* [27] find that foreign production and exports are not substitutes and that the higher a firm’s output in a foreign location is, the larger its exports from the country to that location are. Analyzing whether factor mobility and commodity trade are substitutes or complements, *Wong* [46] brings out the necessary and sufficient condition for substitutability and complementarity. Using the proximity-concentration hypothesis, *Brainard* [11] shows when the complementarity between trade and affiliate sales arises and when it moves in opposite directions. According to *Clausing* [12] multinational activity and trade are complementary activities, particularly multinational activity and intra-firm trade. Examining the topic of foreign (affiliate) production and exports substitutes or complements, *Blonigen* [1] finds evidence for both. Investigating the effect of FDI on exports, *Head* and *Ries* [15] find complementarity for the whole sample of firms. However, for some firms that don’t ship intermediates to production abroad, they find substitution. *Swenson* [39] asserts that the mismatch between theoretical premise of substitute relationship between FDI and trade and empirical findings of complementary relationship is a byproduct of data aggregation.

The links between trade and FDI in transition countries have been examined by *Broadman* [3, p. 339], stating that “increasing complementarity between FDI and trade has been the result of growing fragmentation of production combined with the creation of distribution networks spanning across countries”. According to UNCTAD [42], “the issue is no longer whether trade leads to FDI or FDI to trade, whether FDI substitutes trade or trade substitutes FDI, or whether they complement each other. Rather it is: how do firms access resources...” The specificity of the paper is

that focusing on the relationship between FDI flows and trade flows on the case of CEE region and showing that FDI outflows through affiliates abroad may be identified with export, while FDI inflows through affiliates of foreign companies may be identified as imports (i.e. the source of import substitution), it indicates the necessity of changes in trade analysis of the region’s countries.

Methods and materials

The nature of research subject determined the application of appropriate methods and materials. For the purpose of exploring the existing trade flows and their statistical registration analytical method is applied. Insight into official trade statistics data and relevant international publication (UN methodology of international trade statistics) leads to identification of shortcomings of existing international trade coverage and trade analysis which include only classic, direct, trade transactions being performed across national borders. As the paper starts from the hypothesis that trade flows are also realized through investment flows, the aim of the paper is to indicate the necessity of consideration of both types of trade flows (direct and indirect) in CEE trade analysis. Therefore, in key part of the paper, the flows, motion and intertwining of FDI and trade are examined by using the comparative analysis and also the inductive and deductive method of reasoning. In order to accomplish this research applied methods also include the analysis of statistical data, professional literature and international organizations’ publications. Research and data analysis are carried out on the basis of relevant materials and data come from different sources: UN methodology of international trade statistics, UNCTAD data and WTO data as well as from professional studies and findings from relevant domestic and foreign publications. Selected data are systematized in the tables and figures enabling the interpretation of findings.

Snapshot of CEE’s FDI and trade

Compared to the other two forms of international capital movements, loans and portfolio investments, FDIs represent the most important form of international capital movements

for transition economies [38]. Unlike portfolio investments that are volatile and concentrated in a handful of countries, the main source of private inflows for transition economies are FDIs [14, p. 125]. Their significance became evident in the second half of the 80s when, after the debt crisis, the private sector reduced loans to countries in transition and intensified private capital in the form of direct investments. Since the 80s, and especially the 90s of the 20th century the increasing FDI flows and their growing significance for transition economies have been an important trait of global world economy.

Following the changes of global FDI flows, FDI flows of transition economies also went through changes, i.e. rises and falls. Global financial crisis also influenced these flows. However, the fall of FDI of CEE region did not occur immediately in 2008, after the beginning of crisis in the second half of 2007, as it was the case with the total global FDIs (considering the fact that this fall was foreseen by the fall of developed countries' FDI), but later on, as the

crisis was growing and spreading onto less developed countries, in 2009, when FDIs of these countries got reduced by more than a half. The recovery started in 2010 and has lasted since (Table 1). FDI inflows into this region reached their maximal value of 164 billion USD in 2008, while FDI outflows also accomplished their maximum of 74 billion USD in pre-crisis period, in 2008, and after post-crisis recovery in 2011, of 79 billion USD. In 2009, FDI inflows experienced two times bigger fall (52%) than FDI outflows (25%). FDI volumes in 2011, surpassing the pre-crisis average in 2001-2007, suggest the recovery and further increase of the region's FDIs.

Trade flows of CEE region as well, as a part of changes in world trade flows, experience their own changes. Trends in trade of the region are similar to world trade trends in a way that until 2008 their motion followed the motion of global trade flows, so that the region's trade reached its maximal value in 2008, after which a considerable fall took place in 2009, together

Table 1a: CEE: FDI inflows (millions of dollars)

Countries	FDI inflows					
	2001	2007	2008	2009	2010	2011
1. Central European Countries	17241	43051	34249	17248	18158	28384
Czech Republic	5639	10444	6451	2927	6141	5405
Hungary	3936	3951	6325	2048	2274	4698
Poland	5713	23561	14839	12932	8858	15139
Slovakia	1584	3581	4687	-6	526	2143
Slovenia	369	1514	1947	-653	359	999
2. Southeastern European Countries	3318	24930	22512	11674	5576	8513
Albania	207	659	974	996	1051	1031
Bosnia and Herzegovina	130	1819	1002	251	230	435
Croatia	1561	4997	6180	3355	394	1494
Serbia	165	3439	2955	1959	1329	2709
Montenegro	-	934	960	1527	760	558
FYR Macedonia	442	693	586	201	211	422
Bulgaria	813	12389	9855	3385	1601	1864
3. The Baltic Countries	1151	7053	4955	1999	2672	3036
Estonia	542	2716	1729	1839	1540	257
Latvia	163	2322	1261	94	379	1562
Lithuania	446	2015	1965	66	753	1217
4. Eastern European Countries	4660	77231	102716	48189	54323	67015
Romania	1157	9921	13909	4844	2940	2670
Belarus	96	1805	2181	1884	1403	3986
Moldova	146	541	711	145	197	274
Russian Federation	2469	55073	75002	36500	43288	52878
Ukraine	792	9891	10913	4816	6495	7207
CEE (total)	26370	152265	164432	79110	80723	106948
World (total)	817574	1975537	1790706	1 197 824	1 309 001	1 524 422
Share of CEE in the world (%)	3.2	7.7	9.2	6.6	6.2	7.0

Note: For 2001, data are given together for Serbia and Montenegro.

Source: Authors' calculation of shares based on UNCTAD [43, p. 367, 371, 372, 375] & UNCTAD [45, p. 169-172].

Table 1b: CEE: FDI outflows (millions of dollars)

Countries	FDI outflows					
	2001	2007	2008	2009	2010	2011
1. Central European Countries	622	13048	12941	8796	8076	12144
Czech Republic	165	1620	4323	949	1167	1152
Hungary	368	3621	2234	1984	1307	4530
Poland	-90	5405	4414	4699	5487	5860
Slovakia	35	600	530	904	327	490
Slovenia	144	1802	1440	260	-212	112
2. Southeastern European Countries	165	1733	2661	1290	347	485
Albania	-	24	81	36	6	42
Bosnia and Herzegovina	-	28	17	6	42	20
Croatia	155	296	1421	1234	-150	44
Serbia	-	947	283	52	189	170
Montenegro	-	157	108	46	29	17
FYR Macedonia	-	-1	-14	11	2	2
Bulgaria	10	282	765	-95	229	190
3. The Baltic Countries	219	2713	1691	1704	233	- 1200
Estonia	200	1747	1112	1549	133	- 1458
Latvia	12	369	243	-62	21	93
Lithuania	7	597	336	217	79	165
4. Eastern European Countries	2 539	46 900	56 925	43 848		67 585
Romania	-17	279	274	-88	-20	32
Belarus	-	15	31	102	50	57
Moldova	-	17	16	7	4	21
Russian Federation	2533	45916	55 594	43665	52523	67 283
Ukraine	23	673	1010	162	736	192
CEE (total)	3545	64394	74218	55638	53293	79014
World (total)	721501	2198025	1969336	1175108	1451365	1694396
Share of CEE in the world (%)	0.5	2.9	3.8	4.7	3.7	4.7

Note: For 2001, data are given together for Serbia and Montenegro.

Source: Authors' calculation of shares based on UNCTAD [43, p. 367, 371, 372, 375] & UNCTAD [45, pp. 169-172].

with the global economic crisis (Table 2). Following the global trend on the world level, merchandise trade of this group of countries experienced recovery in 2010 and expansion in 2011 to the level which considerably surpassed the maximal value from 2008.

Trade flows of CEE region do not have a significant share in total world trade flows, bearing in mind that accomplished joint share of countries from this region in world export is on the level of 4.6-7.8%, and in the world import on the level of 4.3-7.6% (Table 2). For countries from this region, trade flows are not just a significant element of economic growth, but they also reflect a significant degree of these countries' dependence on foreign market, considering the values of import of a majority of the region countries which significantly exceed the values of realized export. A majority of the region countries are characterized by higher individual values of import compared with export and considerable values of merchandise trade deficits. All Southeastern Europe and Baltic countries experience

considerable trade deficits, and deficits are also realized by Central European and Eastern European Countries (with the exception of the Czech Republic, Hungary and Russia, as well as Slovakia in some years).

A general image of the trade, both on the global, world level and on the national, individual country level, is provided by official statistic data on registered trade. However, official statistics trade figures comprise only the classic, traditional cross-border trade. The existing statistical registration of merchandise trade flows is based on the UN methodology of international trade statistics and includes only classic trade transactions being performed across national borders and recorded in national balance of payments accounts [40], [41]. UN methodology recommendations from 2010 [41] recognizes changes in the way international merchandise trade is conducted, but dynamics of adoption of these recommendations depends on national statistical authorities and they haven't still been largely embedded in the national statistics. In this

way the existing coverage and registration of trade flows comprises only traditional, classic, direct, cross-border forms of trade and our analysis of the world trade and the foreign trade of individual countries is based only on these data. However, the trade flows that are realized through FDI flows, that will be the subject of the following part of the paper, are not encompassed in the registered trade flows and make our trade analysis limited.

The analysis of FDI flows and international trade flows of these and other countries is usually performed separately. However, our research is going to show in the following section that these flows, both on the global level and on CEE region level, should not be observed and analyzed only separately, but also together, as a whole, with comparative making of a parallel between their motion and their intertwining. As the analysis in the paper will show these flows are closely connected and intertwined

and therefore have to be taken into consideration in the trade analysis of these countries.

Relationship between FDI and trade of CEE region: Research results

The relationship between FDI and trade is greatly influenced by the motivations and characteristics of FDIs. According to UNCTAD [44], the impact of FDI on the country's trade, either home or host country, will be different, and it will depend on FDI motives. Efficiency-seeking, market-seeking, resource-seeking or strategic asset-seeking FDI makes the impacts in different ways. In case of efficiency-seeking FDI, whose output is intended for export, the impact on host-country trade should be an export growth. But, if intermediate goods are imported from the other countries, this kind of FDI is likely to increase

Table 2a: CEE: merchandise trade (export)
(millions of dollars)

Countries	Export					
	2001	2007	2008	2009	2010	2011
1. Central European Countries	121620	446663	531031	414726	482053	575939
Czech Republic	33324	122498	146799	112956	132982	162260
Hungary	30436	95400	108504	83008	95483	112217
Poland	35998	140147	170458	136503	159724	187405
Slovakia	12595	58516	71142	56082	64664	79308
Slovenia	9267	30102	34128	26177	29200	34749
2. Southeastern European Countries	14184	48961	58430	43178	52368	66191
Albania	307	1078	1355	1091	1545	1948
Bosnia and Herzegovina	1032	4152	5021	3954	4803	5850
Croatia	4666	12364	14112	10474	11807	13375
Serbia	1903	8825	10972	8345	9795	11775
Montenegro	-	626	617	288	437	632
FYR Macedonia	1158	3398	3991	2708	3351	4455
Bulgaria	5118	18518	22362	16318	20630	28156
3. The Baltic Countries	10599	36462	46248	33204	41873	57934
Estonia	4015	11010	12458	9048	11593	16734
Latvia	2001	8308	10144	7702	9532	13124
Lithuania	4583	17144	23646	16454	20748	28076
4. Eastern European Countries	137562	469804	622257	406324	528432	695671
Romania	11394	40488	49535	40567	49499	62687
Belarus	7451	24275	32571	21304	25284	40294
Moldova	568	1342	1591	1283	1541	2217
Russian Federation	101884	354403	471606	303388	400630	522013
Ukraine	16265	49296	66954	39782	51478	68460
CEE (total)	283965	1001890	1257966	897432	1104726	1395735
World (total)	6191000	14012000	16140000	12542000	15274000	18255000
Share of CEE in the world (%)	4,6	7,1	7,8	7,1	7,2	7,6

Note: For 2001, data are given together for Serbia and Montenegro.

Source: Authors' calculation of shares based on WTO [47, pp. 211-212].

Table 2b: CEE: merchandise trade (import)
(millions of dollars)

Countries	Import					
	2001	2007	2008	2009	2010	2011
1. Central European Countries	145018	471619	570728	414425	488002	574613
Czech Republic	36297	118169	142038	105048	126652	151559
Hungary	33617	95565	108940	77761	88178	102589
Poland	50184	165710	208804	149459	178049	207672
Slovakia	14760	60616	73912	55650	65029	77305
Slovenia	10160	31559	37034	26507	30094	35488
2. Southeastern European Countries	27638	97020	120021	81498	83586	101341
Albania	1327	4188	5251	4550	4406	5395
Bosnia and Herzegovina	3354	9720	12189	8773	9223	11050
Croatia	9147	25839	30728	21203	20054	22708
Serbia	4837	19164	24331	16047	16734	20139
Montenegro	-	2867	3731	2313	2182	2544
FYR Macedonia	1694	5281	6883	5073	5474	7007
Bulgaria	7279	29961	36908	23539	25513	32498
3. The Baltic Countries	15089	55411	63268	38255	130946	65297
Estonia	5230	15677	16026	10140	12266	17583
Latvia	3506	15322	16143	9811	11691	16204
Lithuania	6353	24412	31099	18304	23403	31510
4. Eastern European Countries	94285	386801	505729	323461	410412	533665
Romania	15568	70314	84053	54324	62128	76302
Belarus	8286	28693	39381	28569	34884	45747
Moldova	892	3690	4899	3278	3855	5191
Russian Federation	53764	223486	291861	191803	248634	323831
Ukraine	15775	60618	85535	45487	60911	82594
CEE (total)	282030	1010851	1259746	857639	1112946	1274916
World (total)	6483000	14311000	16541000	12736000	15464000	18438000
Share of CEE in the world (%)	4.3	7.1	7.6	6.7	7.2	6.9

Note: For 2001, data are given together for Serbia and Montenegro.

Source: Authors' calculation of shares based on WTO [47, pp. 215-216].

both exports and imports. Market-seeking FDI primarily oriented to the host-country market will impact mostly imports inasmuch as foreign affiliates would be focused on purchasing intermediate products abroad and selling output on domestic market. However, if local production of affiliate replaces imports, this kind of FDI can reduce a host country's imports. The kind of FDI that is directed to the seeking of resources almost always increases a host country's exports. In case of asset-seeking FDI, its impact will usually be increase in import if FDI seeks a distribution network or the brand name production known to the host country's consumers.

Obviously the impact of FDI on host-country trade and its trade balance depends on many factors. Among them, the importance of one factor stands out – the reason of affiliate establishment (to serve only local market or to serve other country markets using host country as an

export platform). If affiliate is established in order to serve the local market, it is not likely to be a large exporter. However, if it is established as export platform, it will be, by itself, a great exporter. In this case, impacts on the country's trade balance will depend on import intensity of production and export operations of affiliate.

Accordingly, there are many impacts of FDIs on trade flows and trade balances of individual countries and their net effect depends on many factors. In addition to this relation between FDI and trade, depending on different FDI motives and resulting in different impacts on trade and trade balance of the country, it is also important to observe the investment flow itself, in terms of its nature, either inflow or outflow, and its identification with the trade flow meaning that for the country it also represents the kind of flow through which the selling and buying are realized, and this flow is in our focus.

Although the countries of CEE region are both home countries and host countries of FDIs, they more frequently play the role of host countries of FDI inflows, and less of home countries of FDI outflows. FDI inflows in the region surpassed FDI outflows from it considerably, more than double until 2008 (Table 1), which shows the predominant role of the region as recipient of FDI inflows. In global FDI flows, unlike leading highly developed countries which are both the major source and recipients of FDI, transition economies have much smaller share (less than 10% in FDI inflows and less than 5% in FDI outflows).

In 2001 CEE economies accounted for 0.5% of world FDI outflows and 3.2% of world FDI inflows, while in 2008 these shares were 3.8% of world FDI outflows and 9.2% of inflows (Table 3). With these more than two times higher shares in world FDI inflows than in world FDI outflows, transition economies primary appear as receiving countries of FDI inflows, that is host countries of FDIs. Although, in recent years, there was an increase of FDI from these countries so the difference between inflows and outflows is much smaller.

FDI outflows and export

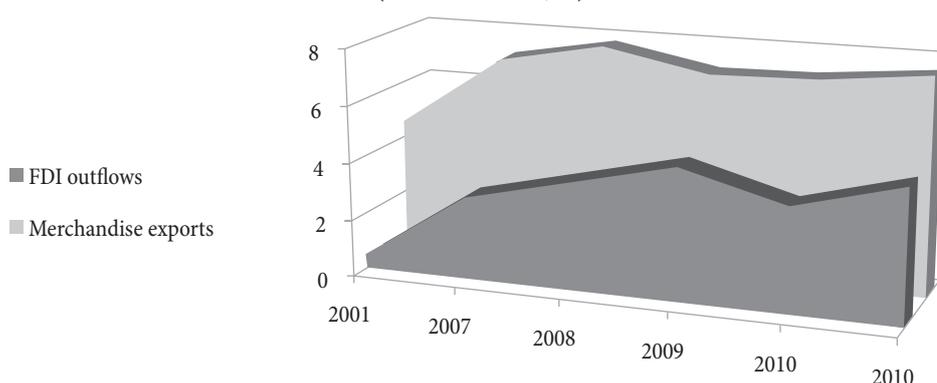
Observation of relation of FDI flows and international trade flows suggests that FDI outflows may be considered as accomplishment of specific form of export [36], while FDI inflows in host country may be considered as a kind of import i.e. source of import substitution.

Regarding relationship between FDI outflows and export, it can be observed that FDI outflow in foreign

country means establishment of affiliate and organization of production in it with the aim of selling on local market and other markets outside the host country. Instead of organizing production in the home country and performing traditional (direct) export to foreign country, indirect export is performed through outflow of FDIs and affiliate in foreign country. That's why FDI outflow from home country can be considered as specific (indirect) form of export. This exact tendency – to realize its export via FDI outflows more increasingly – is a trait of developed countries. As the countries with the largest FDI outflows, they carry out their export much more through FDI outflows than through traditional (direct) export, while regarding import they mainly rely on classic import forms [37, p. 496]. The countries in transition and CEE region are characterized by the opposite tendency.

Comparative analysis of trade and investment flows of transition economies of CEE (Figure 1) shows that this group of countries accomplished smaller share in world FDI outflows (3.8%) than their share in world merchandise export (7.8%) in 2008 (Table 3), which signifies that these countries in export rely more on traditional forms of merchandise export. In the previous period, according to 2007 data, these countries in export also relied more on traditional forms of merchandise export, while in recent period, according to 2011 data, the relation was 4.7% versus 7.6% with also a larger use of traditional forms of merchandise export. It can be concluded that this group of countries in export relied more on traditional forms of merchandise export, but with increasing importance of FDI outflows as form of export.

Figure 1: CEE: FDI outflows and merchandise exports
(share in world, %)



Source: Authors' graphic presentation of the data from Table 3.

Although CEE economies primary appear as receiving countries of FDI inflows, in recent years, there was an increase of FDI from these countries. In 2011 the difference between inflows and outflows was much smaller than double, it was 1.3 times, while in 2008 this difference was 2.2 times and in 2001 even 7.4 times, reflecting the rise of FDI outflows from these economies. It can also be observed that the share of these economies in world FDI outflows increased from 0.5% in 2001 to 4.7% in 2011 which represents an increase that's more than nine times higher, while their share in world merchandise export increased only for 1.6 times in the same period. With further increase of FDI outflows from CEE economies, it can be predicted that FDI outflows will represent increasingly more significant form of export for these countries.

As FDI from CEE economies began to increase, the literature examining the outward FDI from CEE and later showing the growing FDI from these economies started appearing. *Kalotay* [29] discussed that outward FDI of the region has not yet become a prominent factor and that, regarding the theory of investment development path, the region is in stage 2, with inflows still growing faster

than outflows, finding the primary reason for this in the latecomer status of the region's transnational corporations and the transition shock. Later, *Zemplerová* [48, p. 27] finds that outward FDI flows out of the Check Republic accelerated in 2009 and 2010, *Radlo* [34, p. 67] reports the increase of Polish OFDI in recent years, *Ferencikova* and *Ferencikova* [13] report that investments going abroad from Slovakia in recent years have been consistently rising, and *Radlo* and *Sass* [35] report that after several years of FDI inflows to CEE countries in recent decades, OFDI from these economies has appeared and grown dramatically, especially in all four Visegrád countries. Driving forces and motives for FDI from transition economies are different. Much of FDI from transition economies were market-seeking, aiming to serve customers on foreign markets through affiliates, while they later focused on using their acquired firm-specific competitive advantage abroad and on seeking new locations and resources abroad such as lower wages. Another factor also influenced FDI from these economies and that is facilitation of illicit movements of money such as money laundering [33, p.118]. Among others, an important motive for outward

**Table 3: CEE: FDI and trade
(millions of dollars and %)**

	CEE (1) (millions of dollars)					
	2001	2007	2008	2009	2010	2011
Merchandise exports	283 965	1 001 890	1 257 966	897 432	1 104 726	1 395 735
FDI outflows	3 545	64 394	73 218	55 638	53 293	79 014
Merchandise imports	282 030	1 010 851	1 259 746	857 639	1 112 946	1 274 916
FDI inflows	26 370	152 265	164 432	79 110	80 723	106 948
	World (2) (millions of dollars)					
	2001	2007	2008	2009	2010	2011
Merchandise exports	6 191 000	14 012 000	16 140 000	12 542 000	15 274 000	18 255 000
FDI outflows	721 501	2 198 025	1 969 336	1 175 108	1 451 365	1 694 396
Merchandise imports	6 483 000	14 311 000	16 541 000	12 736 000	15 464 000	18 438 000
FDI inflows	817 574	1 975 537	1 790 706	1 197 824	1 309 001	1 524 422
	Share in the world (1/2) (%)					
	2001	2007	2008	2009	2010	2011
Merchandise exports	4.6	7.1	7.8	7.1	7.2	7.6
FDI outflows	0.5	2.9	3.8	4.7	3.7	4.7
Merchandise imports	4.3	7.1	7.6	6.7	7.2	6.9
FDI inflows	3.2	7.7	9.2	6.6	6.2	7.0

Source: Authors' calculation based on Table 1 and Table 2.

FDI from transition economies is also expanding foreign sales and reducing non-labor costs in foreign countries [26]. So in analyzing FDI outflows from these economies we must bear in mind all these factors. It should be also kept in mind that one part of outward FDI from these countries are so called “indirect” FDI made by the affiliates of foreign, transnational corporations headquartered in other countries [10]. That’s why, in this analysis of outward investments from CEE region, we have to bear in mind that a part of these flows is not from domestic firms of CEE economies, which makes this analysis obscure.

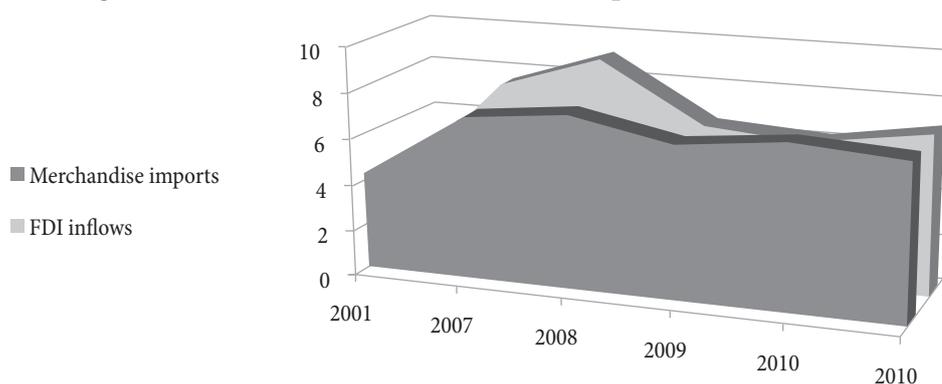
FDI inflows and import

The liberalization of investment flows to CEE twenty years ago, the progress in transition and the increase of FDI inflows to CEE attracted the attention of the researchers and resulted in numerous papers. Zemplerová [48] compared foreign investment enterprises with domestic enterprises, analyzing the share in total manufacturing output, allocation pattern, specialization and concentration. Hunya discussed the FDI situation in South East European countries and made recommendations for these countries based on Central European countries experience [16], and also examined the competitiveness impacts of FDI [17], the question of restructuring through FDI [18], FDI impacts on growth and restructuring in Central European transition countries [19], manufacturing FDI in new EU member states [20] and FDI of Baltic states [21] and also different aspects of FDI database in Central, East and Southeast Europe [22], [23], [24], [25]. *Kalotay* and *Hunya*

[28] analyzed the close relation between privatization and FDI, while *Kalotay* [29], [30] applied the flying geese paradigm to emerging European FDI patterns, showing that the special attention should be given to the potential of CEE countries, and also examined the contribution of FDI to structural changes in different groups of transition countries [31]. *Brada, Kutan, & Yigit* [5], [6] examined the effect of transition and political instability on FDI flows to the transition economies finding that conflict and instability had reduced FDI inflows below what one could be expected for comparable West European countries and concluding that the economic costs of instability in the Balkans had been quite high. *Brada* and *Tomšik* [4], [7] showed that investment inflows in transition economics had caused large distortions in their current account deficits. They showed that imputation of reinvested earnings from FDI as a debit in the balance of payments exaggerates the current account deficit and that this phenomenon is of major importance for transition economies as they had received large inflows of FDI in the late 1990s. Modeling the FDI financial life cycle, they also showed that these countries as host countries were more vulnerable to financial crisis. Besides these different aspects of FDI impacts, with the increase of FDI inflows in the region, the question of their impact and relation with trade stands out.

Regarding relationship between FDI inflows and import, it can be observed that FDI inflow in host country includes the establishment of affiliate and organization of production in it on local territory. By buying products from this (foreign) affiliate which is the result of FDI inflow, instead of traditional (direct) importing from its home

Figure 2: CEE: FDI inflows and merchandise imports (share in world, %)



Source: Authors’ graphic presentation of the data from Table 3.

country, specific (indirect) form of import is accomplished. That's why FDI inflow in host country may be seen as a source of import substitution and identified with import.

Comparative analysis of trade and investment flows of CEE region (Figure 2) shows that this group of countries achieved much higher share in world FDI inflows (9.2%) than their share in world merchandise import (7.6%) in 2008 (Table 3). This means that this group of countries in import rely more on FDI inflows (buying products from affiliate which is the result of FDI inflow), than on classic import which takes place across the national borders and which is registered in trade balances of countries and official trade statistic figures of national economy which are included in the values of official world import figures. This trend is not a new feature of these countries' foreign trade flows, and it can be observed in other years. In previous period (2007 data), these countries also relied more on FDI inflows than on classic import as well as in recent period (2011 data).

Smaller shares of FDI inflows in 2009 and 2010 may be explained with crisis effect. Together with the financial crisis in 2008, which influenced the FDIs of these countries somewhat later, in 2009 and 2010, and with the decrease of FDIs inflow, their share and their prevailing role decreased compared with the classic import share. Following the recovery in 2011, FDI inflows again become the prevailing form of import for this group of countries. With further increase of FDI inflow into these countries, their predominant role as a form of import of these countries can be foreseen.

In line with everything aforementioned, it is observed that for CEE economies inflows of FDI, i.e. buying from affiliates established by foreign companies on their territory, are a significant source of import substitution, as well as that countries use these inflows increasingly more in order to realize their import – by buying from the affiliate which is the result of FDI inflow onto their territory. Regarding export, it can be observed that in the previous period these countries performed their export more via traditional form of classic, cross-border export than through FDI outflows, but this relation has become more balanced lately. With further increase of FDI outflows from these countries, it can be expected that FDI outflows

will, also, represent the prevailing form of export for them. However, here we must bear in mind different motives as well as forms of FDI (as already mentioned 'indirect' FDI) from these countries.

Conclusions

Preliminary findings can be summarized as follows:

- the paper shows that, in order to perform a complete analysis of trade flows of countries from CEE region, the analysis of international flows of direct investments and trade should not be done separately, but jointly, with respect for their connection. The paper has shown that there is a close mutual intertwinement of these flows, especially FDI inflows and import, when it comes to CEE countries, which inevitably has a great influence and has to be taken into account and reflect on the analysis of foreign trade of these countries and their trade balances; it has also shown that the significance of connection of these countries' FDI outflows and their export will grow in time.
- the CEE region, as a prevailing recipient of FDI inflows, imports more through FDI inflows than through traditional form of international, cross-border import.

Comparative analysis of investment and trade flows of CEE countries shows that these countries realize one new international trade flow – import flow – via flows of direct investments from abroad – via FDI inflows. The analysis has shown that these countries perform more considerable import via FDI inflows, more precisely by buying from affiliate established as a result of that FDI inflow onto the these countries' market, than by means of classic import. Therefore, they use indirect import forms, by means of FDI, more than direct import forms which are realized in classic manner, by exchange across national borders, and which are registered by official trade statistic figures available to us.

Because of this import realized through FDI inflows, officially reported trade figures of these countries are not complete.

- with upsurge of FDI from these countries, there is an obvious sign that FDI outflows will represent increasingly more significant form of export for this group of countries. Further, there are specificities of FDIs from these economies (such as “indirect” FDIs) that make this analysis difficult and obscure;
- because of the fact that increasingly more trade flows are realized through FDI flows and significant part of trade is missing from the reported trade figures, official trade statistics show only one side of the state of trade of these countries;
- these findings necessarily change our comprehension of investment and trade flows of these countries and inevitably affect our analysis of their trade and investment. Complete analysis of trade flows of these countries must include both: traditional cross-border forms of international trade and FDI as a new, specific form of international trade.
- such conclusions inevitably influence our trade analysis of CEE countries, as well as the analysis of their trade balances. The findings show that the real import of these countries is larger than the one presented by official statistics which comprise figures which indicate the value of only classic, cross-border import of the countries.

As shown in the paper, most of these countries are characterized by import values which exceed the export values considerably and significant deficits in their foreign trade. The existing image and analysis of trade of these countries must be completed with new trade flows, i.e. import flow which these countries realize by means of FDI inflows. That means that in addition to the existing, registered import flows, the analysis of import of CEE countries should also include the fact that FDI inflow led to substitution of one part of the import, which indicates that the import, without this FDI inflow, would be even larger, as well as that by means of this FDI inflow one part of import is realized, indirectly. That is why the establishing of the real value of these countries’ import should also include this new, indirect import flow. In that way the existing, already unfavorable image of foreign trade of the majority of these countries, increased by indirect import, would become even more unfavorable, and deficits even

larger. On the other hand, the increase of FDI outflow from these countries and increased realization of their export should also be taken in consideration in trade analysis of these countries. This will inevitably lead to a different investment and trade image of these countries. However, that is the only way that we can get the real idea about the value of these countries’ trade and the result (surplus or deficit) of that trade.

Therefore the paper opens the door for further researches and proposals for the new coverage of trade flows of these countries and new analysis based on it.

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COMPANY'S FIDUCIARY RESPONSIBILITY FOR THE AUTOMOBILE LIABILITY INSURANCE*

Poverenička odgovornost kompanija za osiguranje od autoodgovornosti

Abstract

The subject of this paper is company's fiduciary responsibility for the automobile liability insurance imposed by particularities of financial services. Business result of insurance companies depends on the optimal business decisions of their managers, and it is extremely important that they should understand the specific nature of financial services and their complexity from the users' standpoint. Also, in this paper we present the results of market research and attitudes of vehicle insurance services users in the countries of the Western Balkans (Serbia, Bosnia and Herzegovina, Croatia and Montenegro). The premise of our study was that there are several factors that influence the selection of the car insurance company, and that the reliability of the insurer to compensate the damage to the claimant when it occurs, in other words, the fiduciary responsibility of automobile liability insurance company to its clients, is decisive in that choice.

Key words: *fiduciary responsibility, financial services, insurance, marketing research*

Sažetak

Predmet istraživanja ovog rada je poverenička odgovornost kompanija za osiguranje od autoodgovornosti uslovljena posebnim karakteristikama finansijskih usluga. Poslovni rezultat osiguravajućih kompanija zavisi od optimalnih poslovnih odluka menadžera, te je izuzetno značajno da oni razumeju specifičnu prirodu finansijskih usluga i njihovu kompleksnost iz ugla korisnika. Takođe, u radu ćemo predstaviti rezultate istraživanja tržišta, odnosno stavove korisnika finansijskih usluga osiguranja od autoodgovornosti u zemljama Zapadnog Balkana (Srbiji, Bosni i Hercegovini, Hrvatskoj i Crnoj Gori). Polazna hipoteza našeg istraživanja bila je da postoji više faktora koji utiču na izbor kompanije za autoosiguranje, a da je najznačajniji faktor izbora poverenje da će osiguravač isplatiti štetu klijentu kada se ona dogodi, odnosno da je opredeljujući faktor izbora poverenička odgovornost kompanije za autoosiguranje prema svojim klijentima.

Ključne reči: *poverenička odgovornost, finansijske usluge, osiguranje, tržišno istraživanje*

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Introduction

To be competitive, financial organizations must focus on fostering customer loyalty, integration of various communication channels, lowering operating costs and good risk management. Financial institutions (banks, insurance companies, leasing companies, investment and pension funds, etc.), strongly influence the economic activities flows in the real economy. In the Western Balkans, this influence is particularly notable in last five years. Therefore, it is important for marketers to acknowledge and well perceive the specific nature of financial services and their complexity from the perspective of their users.

The high degree of competitiveness in the financial services market, which is related with the fact that particular non-financial organizations are involved in “production” and providing certain financial services (direct and “lateral” competition), is forcing financial institutions to compete in the market by developing innovative activities and offering more differentiated and better quality range of products and services in relation to the competition. In addition, the financial institution should have very apparent dimension of social responsibility in their entire business, because it is often a decisive factor when selecting in highly competitive financial services market [4, p. 125]. Therefore, the primary activity of financial institutions must be a research of needs, preferences, habits, desires and requirements of current and potential customers and finding profitable ways of satisfying these demands, with taking care of socially responsible behavior [7, p. 86].

In order to identify, anticipate, and profitably meet the requirements of their clients and, on that basis, ensure continued growth and development, it is essential that the entire financial organization and activity of all its employees are based on modern preferences of financial services marketing [10, p. 4]. This especially applies to those who are in constant contact with clients. Some of the postulates of modern marketing in financial organizations are [4]: assets of a financial company is worthless without customers; The task of marketing management of a financial organization is not only to attract new, but also to retain existing customers; New customers can be obtained only by delivering superior

value / offering; Only satisfied customers can be loyal to an organization; The role of marketing is to create a superior offer and achieve the satisfaction of clients, but also to anticipate their future needs.

Specifics of the financial and insurance services market research

The financial services sector has undergone significant changes in recent years. Solutions, products and services that are available today, including basic data processing, cash machines, various types of credit and debit cards, modern IT architecture and IT security and data communications management, enable financial institutions to offer the market a high level of service quality. And in order to remain competitive, financial organizations must focus on the following [2, p. 78]: encouraging customer loyalty, integration of various communication channels, reduction of labor costs, identifying and managing risk.

Organizations (banks, insurance companies, leasing companies, pension and investment funds, etc.) that deal with financial services have outstanding (both positive and negative) impact on the real economy, as we can observe, especially in recent years. Hence, it is of great importance that the marketers understand the particular nature of financial services and what they actually involve. It is undisputed that the marketing of financial organizations carries with it additional challenges for marketing managers [5, pp. 28-42]. These challenges are mainly deriving from the unique characteristics of services, because they are often produced and used simultaneously, unlike products that are made in the factory, are kept in stock and then delivered to the market, sometimes over long distribution channels. In this regard, the most important characteristics of financial services are [6, pp. 3-14]: Intangibility (immateriality), Indivisibility (simultaneity) of production and consumption, Variability (heterogeneity), Impermanence, Fiduciary responsibility, Duration of consumption, Contingent of consumption.

Marketing managers of financial organizations are planning a roadmap of future actions based on the analysis of the current position their organization holds in the external environment, as well as on the analysis of

the most important internal factors of business. Analysis of direct factors of macro environment includes research of demographic, economic, technological, political and legal factors, as well as environmental and socio-cultural factors. Studying internal environmental factors takes into account the marketing instruments (product/service, price, distribution channels, promotion/marketing communications), business philosophy of the financial organization, its organizational structure and resources [1, p. 49].

Analysis of internal factors in financial organization business provides an answer to the question to which extent it meets the needs and demands of its clients, whether it is satisfied with the achieved profits and market position. Analysis of internal and external environment factors is the basis for making the marketing plan. The plan defines marketing objectives and strategies that provide a means for achieving these goals. When it comes to financial organization, the basic starting options for defining the objectives include: the increase of market share, expanding existing markets, developing new services both in the existing and new markets, increasing profitability within existing organization, etc.

Upon defining the objectives for each selected target one should plan an appropriate strategy which will allow the intended objectives to be achieved in the most efficient way, while focusing better understanding the current and future needs of the financial organizations' clients and their best possible satisfaction [3, p. 200]. Financial organizations often use the concept of target marketing, which means to choose one or more segments, and to develop marketing mix strategies that are tailored to each of the selected segment. Target marketing involves a process that includes the following phases: market research and segmentation, target market selection and product positioning. Given that financial organizations have limited knowledge and resources, they are unable to meet the increasingly diverse needs of customers with just one or several products/services which are why they are oriented to serving specific market segments and develop new products for them to best suit demands and needs of clients who belong to the selected segments. The process of research and market segmentation directs all

subsequent steps in financial organizations' marketing, and includes [5, pp. 114-118]:

1. Analysis of the current financial position of the organization,
2. Identify current and anticipate future needs of customers,
3. Division of the market in accordance with the characteristics of clients that provide internal homogeneity of targeted segments,
4. Deciding on a strategy of segmentation,
5. Developing a strategy to position the product / service,
6. Designing marketing mix strategy,
7. Measurement of the results achieved and audit of activities.

Upon the division of the market in certain segments which differ due to the specific needs of clients, financial organization needs to opt for the target markets, or segments, against which it will focus their marketing activities to meet the needs of customers from selected market segments. Naturally, the financial organization will orient to the most profitable segments in carrying out their business activities.

The objectives of the research in the financial services sector significantly coincide with the goals of companies from other industries, in terms of research of demands and desires of consumers, exploring discontent and the perception of future trends in the development of demand. However, there are a number of specifics that characterize the research in the service sector. They derive from the characteristics of these services and the specificity of the entire business, which is visible through continuous monitoring of services and service provisioning process, because the outcome is related to the variability and heterogeneity of services. The monitoring is done on the level of individuals, teams, and up to the level of the market. In addition, the gap between expectations and perceptions is continuously monitored and analyzed. Gap is dynamic because both perceptions and expectations are constantly changing.

Market research consists of a series of interconnected activities that should be carried out in a particular time succession to achieve the planned objectives of the

research. The research process can be analyzed through the following stages [7, p. 16]:

1. Defining a marketing problem and research objectives and determining the necessary information;
2. Identifying sources of information;
3. Developing a sampling strategy;
4. Determining the methods and techniques of data collection;
5. Data collection;
6. Processing, analysis and interpretation of data;
7. Presenting (transferring) results (to decision makers).

Besides the above mentioned, the market research in the area of financial services includes [13, p.143]:

- Combining qualitative and quantitative research techniques (as it is often only their combination can lead to real and desired data).
- Analysis of customer expectations and perceptions of financial institutions, because these two categories will determine the level of customer satisfaction.
- Cost-benefit analysis of the research, where the value of research results must be higher than the cost of the research (money, time, effort).
- Measurement of priority or importance of certain attributes, since not all attributes are equally important for the client. Hence attributes have different weightings in the assessment of services and different influence to satisfaction.
- Continuous research, not a single ad-hoc study, because of the nature of services makes it difficult to standardize, and variations are common.
- Measuring loyalty, purchase intentions and behaviors of clients. The personality of the client is complex, since it builds different types of relationships (with family, environment, financial organization, etc.), therefore the different dimensions in the process of deciding on the choice of financial services must be taken into account and analyzed.

A special research challenge is to explore the attitudes of clients in the financial services sector of insurance because raising the level of insurance culture in our country is a very complex process [8, p. 186]. On the one hand, it

requires fulfillment of numerous conditions related to the macroeconomic indicators of the insurance market as a whole, and on the other urges for continuous research of criteria that determine customers' behavior during the insurance procedure, as well as implementation of the results obtained in practice [12, pp. 313-325]. The most common surveys conducted in this area are focused on the examination of the attitudes of individuals on certain types of insurance that are not mandatory (life, property, rent insurance, etc.), while insufficient attention is paid to the analysis of the attitudes of clients who are using the compulsory automobile liability insurance [11]. This is supported by the very fact that the said insurance is mandatory. Just for this reason, that factor can be conclusive, that is a factor which determined the empirical research whose segments we shall expose in the sequel.

Research methodology

Conducted field research was based on the analysis and identification of the most important criteria of clients when making the decision on the choice of insurance company when concluding contracts on compulsory auto liability insurance. Subject conducted field research was to examine the attitudes of clients on the criteria used in the selection of auto liability insurer. The aim of the research was targeted on the observation of attitudes of insured persons on certain factors that have been selected as the most important when choosing the insurer, on determining the importance (rankings) of the selected deciding factors, as well as on examining relations regarding the characteristics of the insured.

The premise of our study was that the starting point of the largest number of insured persons in the selection of auto liability insurance company is related to the attitude of the individual on the performance of the selected insurer. This is demonstrated by the reputation of the insurance company and the customer confidence that the insurer will pay the damage when it occurs, or how much is the insurance company accountable to their customers. We assumed that in the decision to choose auto liability insurance company, in addition to trust, the price of such services is of great importance.

Other initial hypotheses in this study are related to the correlation of the individual characteristics of analyzed subjects (level of education, monthly household income, etc.) and their viewpoints regarding the importance of auto liability insurance, trust in the insurer to reimburse the damage in case of its occurrence, and adequacy of insurance rates.

The method that we used during the field research was a survey of respondents conducted by direct structured interview, and the survey instrument was a questionnaire consisting of 22 questions divided into three parts. The first group of questions is related to the demographic characteristics of respondents which aim at understanding the representativeness of the sample. The second unit of the questionnaire consists of questions related to certain characteristics of the motor vehicle, as well as to respondents themselves, who are, on the basis of the studied insurance, deemed relevant to the occurrence of the insured event, which is to say that they are responsible for the occurrence of a traffic accident.

Of particular importance is the examination of the dependencies between the individual demographic characteristics of the insured drivers with a selection criteria that they consider important when deciding at which company auto liability insurance will be provided. In addition to the research of aforementioned correlation, the second group of questions of the questionnaire are important in studying impact of certain characteristics of the surveyed drivers to their views about the importance of automobile insurance, and the to their views on the price of this type of insurance. In the same way, questions related to individual characteristics of the vehicle (engine capacity, age of the vehicle, accessories, etc.) may indicate a correlation with the positions of the insured persons about the significance and justification of the price of automobile insurance. The last third of the questionnaire consists of questions targeted on the problem of identifying

and ranking the most important criteria that insured respondents' use when making decisions about the auto liability insurer. The study included a sample of 1155 respondents. When selecting the elements of the sample we have taken into account that only respondents who own a policy of compulsory auto liability insurance (MTPL) could be the subject of the research. Also, given the fact that in all countries included in the research, in the population of this type of insured persons insured males have a significant share, we have considered that an appropriate percentage of individual males and females be represented.

The sample has fulfilled the basic requirements of representativeness and adequacy of the population of MTPL insured persons from the point of age, gender, occupation, driving experience, vehicle age, etc. The survey was conducted in Serbia, Bosnia and Herzegovina, Croatia and Montenegro in the period February-June 2014.

Results and discussion

In order to draw conclusions on the most important factors for the decision when selecting an insurance company, we were using the SPSS program for processing the database that was created in the poll. The conducted analysis is based on the most important indicators of descriptive statistics (mean value, frequency schedule, contingency tables, etc.), and the χ^2 tests used in order to detect the correlation between certain variables, since most of the analyzed statistical characteristics was measured on a nominal or ordinal scale. In this sense, we used the χ^2 test on independence of statistical parameters modalities.

In the first part of the study, we have examined the standpoints of insured persons in terms of importance, and the adequacy of the price of Auto Liability Insurance (ALI). The following tables show the distribution of answers of the respondents according to the above specified criteria.

Table 1: Structure of the sample

Country	Number of examinees	% in total sample	Male	Female
Serbia	512	44.33	387	125
Croatia	255	22.08	163	92
Bosnia & Herzegovina	293	25.37	194	99
Montenegro	95	8.22	60	35
Total	1.155	100	774	381

Table 2: Distribution of beneficiaries according to their standpoints about the importance of ALI

		Frequency	%
Insignificant insurance	(1)	42	3.64
Significant insurance	(2)	647	56.02
Extremely significant insurance	(3)	415	35.925
No opinion	(4)	51	4.415
Total		1155	100.0

From the above data we can see that 92% of respondents find the auto liability insurance significant (or extremely significant), while on the other hand, approximately 58% of the insured share the opinion that the price of this type of insurance is high. The dominant position of respondents, from the standpoint of the above, indicates that given price of insurance, which is rated as significant, is not justified in terms of fulfillment of the insurers' defined obligations

One of the most important tests covered by the survey is to examine the existence of dependence between monthly household income of the insured and their standpoints on the importance of auto liability insurance. The outcome of this testing conducted using SPSS, gave the following results (Table 2).

Table 3: Distribution of beneficiaries according to their standpoints about the price of ALI

		Frequency	%
The price is low	(1)	28	2.42
The price is well set	(2)	462	40
The price is high	(3)	601	52.04
The price is extremely high	(4)	64	5.54
Total		1155	100.0

From the above table it can be concluded ($p < 0.05$) that the amount of the monthly household income of the insured significantly affects the attitude that these individuals have in terms of the importance of particular insurance. The same conclusion was reached by testing the hypothesis on the existence of dependence between the positions of the insured on the adequacy of the price of auto liability insurance and the amount of their monthly income (Table 3). Thus we have proved one of the starting research hypotheses.

In the next part of the study, we have examined correlation between the standpoints of respondents with respect to the adequacy of the price of auto liability insurance, as well as its importance in terms of their different level of education.

Table 4: Testing of dependence between monthly household income of the insured and their standpoints about the importance of ALI

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62.325 ^a	15	.013
Likelihood Ratio	71.357	15	.004
Linear-by-Linear Association	17.677	1	.024
N of Valid Cases	1155		

a. 39 cells (14.3%) have expected count less than 5. The minimum expected count is .32.

Table 5: Testing of dependence between monthly household income of the insured and their standpoints about the price of ALI

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.105 ^a	15	.012
Likelihood Ratio	28.619	15	.029
Linear-by-Linear Association	1.275	1	.158
N of Valid Cases	1155		

a. 20 cells (7.4%) have expected count less than 5. The minimum expected count is .21.

It is well known that the level of education of the individual directly correlates with its employment status, as well as its level in the society in general. This still produces an impact on creation of an environment in which the individual, or the insured in the present case, more easily and effectively establishes a system of orientation in traffic, which is further reflected on his awareness regarding the importance of compulsory auto liability insurance. These individuals actually want to protect themselves from conscienceless and irresponsible drivers, or from the harmful consequences of traffic accidents, which is why it can be assumed that their views on the evaluation and the importance of the particular insurance, are highly correlated with the corresponding level of education. Similar conclusions we might expect in the case of investigating the attitudes of respondents in terms of the adequacy of the price of auto liability insurance, bearing in mind the fact that the largest number of highly educated individuals are in position to bear a cost of compulsory insurance through their work status.

However, one should not ignore the fact that the employment status of an individual that usually reflect its level of education, which is further reflected through his personal income is often not proportional with the costs,

which become a burden as such. This fact is particularly recognized in all countries surveyed, as well as in the system of all the countries in transition, where the largest part of the population does not achieve sufficient per capita income. The results showed that there is no statistically significant correlation ($p>0.05$) between the positions of the insured with respect to the adequacy of the price of insurance, as well as their perceptions in respect to the importance of this particular insurance from the point of educational attainment. The testing was conducted using the χ^2 test, and the results are shown in the following tables.

Table 6: Testing the dependence of standpoints of the insured persons regarding the adequacy of the ALI price and their level of education

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.824 ^a	3	.328
Likelihood Ratio	3.817	3	.412
Linear-by-Linear Association	1.714	1	.184
N of Valid Cases	1155		

a. 41 cells (13.97%) have expected count less than 5. The minimum expected count is .67.

Table 7: Testing the dependence of standpoints of the insured persons regarding the importance of ALI and their level of education

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.693 ^a	3	.692
Likelihood Ratio	.754	3	.851
Linear-by-Linear Association	.001	1	.972
N of Valid Cases	1155		

a. 27 cells (9.3%) have expected count less than 5. The minimum expected count is 1.13.

The next part of the survey refers to research of satisfaction of the insured with the fulfillment of contractual obligations by the insurer. Table 8 shows the distribution of frequencies of the insured in the sample according to the described factor of satisfaction.

Table 8: Distribution of the insured in terms of meeting the contractual obligations by the selected insurer

	Frequency	%
Extremely unsatisfied	(1) 124	10.74
Unsatisfied	(2) 228	19.74
Partly satisfied	(3) 732	63.38
Extremely satisfied	(4) 71	6.14
Total	1155	100.0

The presented distribution shows that approximately two-thirds of the interviewees expressed the standpoint on partial satisfaction of contractual obligations by the MTPL insurer company at which they concluded insurance, while almost a third of respondents pointed out their dissatisfaction with this criterion. We studied the most common reasons for dissatisfaction of the insured from a selected sample in terms of fulfilling the contractual obligations by the insurance company and came to the conclusion that approximately 85% of respondents alleged at least three reasons in this regard. The reason, which is dominantly present in the majority of dissatisfied insured persons, is the complicated procedure of compensation, in regard to organizational and technical as well as the time aspect.

Another important reason for dissatisfaction that the insured often point out is inadequate information on changes in operations that insurers occasionally introduce. This fact alone could serve as an evidence for all auto liability insurance companies doing business in the countries surveyed that a continuous informing of the insured about various changes that are introduced into very business, is of great importance both for raising the confidence of existing insured persons, and to enlarge the number of future ones.

The central part of this study aimed to determine the importance of the criteria that respondents choose as the starting point for the selection of an insurance company. In that sense, we have made the ranking of these criteria and conducted analysis of the results. When assigning ranks certain selected criteria we used the following scale: rank 1 - the criterion of greatest importance, rank 2 - next criteria in order of importance, etc.

The following table shows the results of the conducted ranking, where we have particularly pointed out values for the average and the most frequently awarded rank for each criterion. The described method has led to the expected conclusion, which is that the criteria that respondents perceive as the most important in the selection of auto liability insurance company, are the criteria with the best achieved ranking.

Table 9: Ranking of the selected criteria when selecting the insuring company

Criteria	Average rank	The most frequently awarded rank
The confidence that the insurer will compensate the damage when it occurs	1.12	1
Acquaintance with the employees of the insurance company	3.24	3
Habit	3.74	4
Reputation of the insurance company	2.78	3
Price of services	2.42	2
The proximity of the service for technical inspection of vehicles	3.58	3
A large number of branches	7.2	6
Wide range of services	6.84	7
Payment in installments	4.45	5
Other	7.03	8

The Table 9 reveals that the most common and the best ranked criterion for respondents, observed from the aspect of choice of the insurer (measured by the average achieved ranking), is the confidence that the insurer will compensate for the damage when it occurs. By relevance, the next criterion for the choice of the insured is undoubtedly the price of the service in question – the price of auto liability insurance, which justified one of the starting presumptions that is one of the main objectives of the research. The next highly rated criterion is the reputation of the insurance company which occurs as a consequence of the very same requirement that each insured person places in front of the selected insurer – the compensation of damage. An interesting effect has the criteria acquaintance with the employees of the selected insurance company, which is opted by every third respondent when deciding on the insurance provider. Then there is the category proximity of the service for technical inspection of vehicles, which is also a guideline for many policyholders.

Conclusions

In order to identify, anticipate, and profitably meet the requirements of their clients, and ensure continued growth and development on that basis, it is essential that the entire organization and activity of all its employees, especially ones that are in a constant contact with the clients, are based on modern preferences of financial services marketing. Hence, our research, aimed at identifying the most important criteria, which are the basis for the insured in the selection of auto liability insurance company, reveals

that the most dominant criterion for the largest number of individuals is the confidence that they will be reimbursed if the insured event to occurs. In order to establish the described confidence reference in respect to the selected insurer, first it is necessary to create an environment for the establishment of a favorable attitude of the insured on the overall status of the insurer, which is reflected in the insurer company's reputation and further implies that it is accountable in fulfilling its obligations. Therefore, the majority of respondents argues that auto liability insurance is significant, but the following paragraphs are not positively correlated with their opinion on the price of this type of insurance. This fact initiates a series of issues, especially with regards to the factors of dissatisfaction of the insured in respect to the fulfillment of contractual obligations by the selected insurer.

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DEVELOPMENT OF ENTREPRENEURIAL SECTOR AS THE BASIS FOR STRENGTHENING COMPETITIVENESS

Razvoj preduzetničkog sektora kao osnove jačanja konkurentnosti privrede

Abstract

The entrepreneurial sector in modern countries is the driving force of the national economy, which generates new ideas, products, and technologies. As such, it is the source and the basis of sustainable economic growth and the implementation of structural changes, as necessary parts of the development process. It is the quality that the entrepreneurial sector gives to the growth of the economy that has made this sphere the subject of a number of policies, measures, and regulations, which the most advanced countries use to acquire and/or maintain a competitive advantage over other competitors on the international, global, market. Therefore, this paper will provide a critical analysis of the position of the entrepreneurial sector in Serbia during the crisis (from 2008 to the present time), point to vulnerabilities of the sector that prevent its rapid growth and development, and particularly emphasize the unfavorable position of the fastest growing companies (the so-called "gazelles"), which should be the backbone of the development of innovative segment of the national economy. In addition, the paper analyzes indicators concerning business demography of entrepreneurial sector of Serbia, and the global entrepreneurship index, which also point to poor condition and unfavorable position of the entrepreneurial sector in Serbia, with uncertain prospects for improvement in the future.

Key words: *entrepreneurial sector, business environment, investment, industrial and export competitiveness, business demography, high-growth enterprises, gazelles*

Sažetak

Preduzetnički sektor u modernim državama predstavlja pokretački deo nacionalne ekonomije iz koga se generišu nove ideje, proizvodi i tehnologije. Kao takav on je izvor na kome se zasniva održivost privrednog rasta i sprovođenje strukturnih promena kao neophodnog dela razvojnog procesa. Upravo zbog kvaliteta koji rastu jedne privrede daje preduzetnički sektor on je predmet mnogih politika, mera i regulativa kojima se u najnaprednijim zemljama pokušava steći i/ili održati konkurentska prednost u odnosu na druge takmičare na međunarodnom, globalnom, tržištu. Stoga smo u ovom radu pokušali da kritički analiziramo položaj preduzetničkog sektora u Srbiji u uslovima krize (od 2008. godine do danas), da na osnovu toga ukažemo na slabe tačke sektora koje onemogućavaju njegov brži rast i razvoj, a posebno da podvučemo nepovoljan položaj najbrže rastućih preduzeća (takozvanih „Gazela“) koja bi trebalo da budu okosnica razvoja inovativnog segmenta nacionalne privrede. Pored toga u radu su analizirani indikatori koji se tiču poslovne demografije preduzetničkog sektora Srbije kao i globalnog indeksa preduzetništva koji takođe pokazuju loše stanje i nepovoljan položaj preduzetničkog sektora u Srbiji sa neizvesnim perspektivama poboljšanja u narednom periodu.

Ključne reči: *preduzetnički sektor, poslovni ambijent, investicije, industrijska i izvozna konkurentnost, poslovna demografija, brzorastuća preduzeća, gazele*

Introduction

Constructing a knowledge-based economy brings into focus the necessity of increasing national competitiveness and productivity, in order to participate in the global innovation race. Only countries with a high level of productivity of enterprises operating within their jurisdiction succeed in the competitive game on the world market, and improve their position in the industries in which they created competitive advantage in relation to other nations. Unlike *Porter's* claim that “at the global level, it is not nations and countries that compete, but multinational companies and enterprises” [3], the reality is quite the opposite – countries with developed innovation strategies and institutions implementing them achieve the fastest progress, i.e. the highest rates of growth and development of national economies, whether in terms of market-oriented economies or economies guided by state intervention. Typical representatives of the first group of countries are the USA and Great Britain, while the typical representatives of the second group are China, Brazil, India, South Korea, and others.

In the case of Serbia, the position of the entrepreneurial sector can be described as ambivalent: on the one hand, there is a series of regulations, strategies, and measures of state authorities, which nominally encourage this part of the national economy, but, on the other hand, the results of these stimuli and the reached level of competitiveness are very low, so that, based on all rankings in respect of competitiveness and innovation, Serbia occupies the unenviable low position in the world, especially in Europe. Therefore, the main motive behind this paper is to analyze the causes of this situation, examine relevant internationally verified indicators in this area, and give a proposal of some measures to improve the situation and the position of the entrepreneurial sector of Serbia.

The key concepts in this paper are related to competitiveness and productivity, entrepreneurship, small and medium-sized enterprises, fast-growing companies, gazelles, and business demography. Therefore, what follows are some of the definitions of these terms, and the literature overview of their role in the process of building a knowledge economy.

Theoretical background: Literature overview

The World Economic Forum defines competitiveness as “the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity determines the level of prosperity that the country can reach and maintain in the long term” [26].

Productivity and competitiveness, although different, are two very closely related concepts. In broader terms, “competitiveness” includes the relative productivity. According to this definition, the most competitive economies are those that ensure the emergence and development of highly productive enterprises that contribute significantly to the long-term development of the economy and society as a whole.

What is important when analyzing the competitiveness of a country is the awareness of its position in the international environment, defined primarily by its size (both in terms of territory and population). For small economies, export competitiveness is fundamental in promoting economic development and progress of the country in global terms. “The level of export of a country is an important indicator that shows whether the underlying fundamentals of the economy are well-established. Among others, the volume and rate of export growth, the degree of diversification of export, and the achieved level of sophistication of export (share in export of products with high added value)” are commonly analyzed useful indicators [8].

The export volume, structure, and trends show the ability of domestic enterprises to compete in an open world economy. For *Porter, Ketels, and Delgado*, “competitiveness is a country’s share of world markets for its products”. In accordance with this definition, they further state that “it makes the competitiveness a zero-sum game, because one country’s gain comes at the expense of others” [25, p. 6]. This notion of competitiveness is used to justify intervention in the direction of influencing market outcomes in the country’s own favor, especially in the so-called strategic industrial policies, through artificial depreciation of wages, subsidies to export companies, and influencing artificially depreciated exchange rate of the national currency. The authors themselves agree that “lower wages and currency devaluation make the nations

more competitive” [25, p. 2]. To achieve a certain level of competitiveness, required for effective participation on the global market, it is necessary to encourage the development of entrepreneurship and small and medium-sized enterprises at the national level, which are the main carriers of these activities. A number of empirical studies have shown a link between entrepreneurship, small and medium-sized enterprises, and economic growth and job creation. In addition, various studies have shown a correlation between the increase in the number of small and medium-sized enterprises and start-up businesses and accelerating the growth rate of an economy [22, p. 24].

There is also indisputably established relation between the activities of small and medium-sized enterprises and job creation. Specifically, practice has shown that “small and medium-sized enterprises absorb the labor force that is released during the reduction of the volume of activity in other parts of the economy and raise national and local competitiveness” [22, p. 24].

Other authors state that “in proportion to their size, small enterprises create more jobs than large ones, and have an advantage in the creation of radical innovation” [5], [17].

The establishment of a large number of new enterprises and business improvement of existing small and medium-sized enterprises is crucial for the development of a modern economy. Therefore, the development of entrepreneurship and SMEs occupies an important place in the development strategies of the most developed world countries. Despite their importance for strengthening competitiveness and overall economic development, support for small and medium-sized enterprises and entrepreneurs has not yet been sufficiently integrated into development policies of a large number of countries.

What is more, one must always bear in mind that small and medium-sized enterprises make a very heterogeneous group, differing in size, age, activity, willingness to take risks, propensity for innovation, and orientation towards growth and development. Although heterogeneous, each group of small and medium-sized enterprises has its place in the economy, and the state, through its development policy, should support them and facilitate their business, growth, and development. There is a big difference between

SMEs that make the economic core (a large number of enterprises in the field of handicraft production, trade, and other services) and which are not oriented to rapid growth and the introduction of significant innovation, and a small number of fast-growing innovative enterprises that are focused on rapid growth and change in the existing situation on the market, which enable the transition of the economy and society to a higher stage of development, based on knowledge, innovation, and entrepreneurship.

Entrepreneurs, i.e. new, fast-growing, and innovative SMEs, are the largest makers of changes in the economy, because the introduction of new products and services, new production, organizational, and marketing models and methods increase productivity and efficiency, and strengthen the competitiveness of the economy. Although fast-growing companies and gazelles have a small share in the total number of enterprises (OECD data on 11 countries in this group show that fast-growing enterprises make up only 2% to 8% of the total number of enterprises with 10 or more employees, while “gazelles” make less than 1% of enterprises [22, p. 24]), they create a disproportionate number of new jobs and record above-average growth of other business indicators (turnover, GVA, productivity, profit, etc.). *Hölzl* and *Friesenbichler* suggest that “high growth firms are recognised as a central source of dynamism not least because of their contribution to job creation and employment” [15, p. 91], and Acs, Parson and Tracy emphasize that “employment is not the only way how high-growth enterprises affect the economy. This can happen in many ways but there are at least three ways identified in the economic literature: through productivity growth, innovation or employment change” [1]. With their presence in the economy considered promising for the creation of more jobs and innovation, interest in high-growth firms is high among policy makers [24]. *Hölzl* and *Friesenbichler* summarise a number of fields that they assume to be important for firm growth. They discuss the determinants of education, finance, labour market, regulation, entrepreneurship, technology and networking [15, p. 91]. Although governments, in most of the countries, are increasingly aware of the importance of high-growth entrepreneurship, it is difficult to design effective policies, because these enterprises experience

specific problems [27]. Therefore, the state should use its development policy to make a distinction between fast-growing and other enterprises, and, in accordance with its development priorities and capacities, support enterprises that are most important for rapid and sustainable economic development.

Finally, when one takes into account the situation in terms of unemployment in Serbia, as well as potential new unemployed people, resulting from solving problems in the public sector and its surplus, the attitude of the OECD on the relationship between entrepreneurship, small and medium-sized enterprises, and employment must not be neglected. Specifically, job creation in the entrepreneurial sector is of great importance for overcoming the impact of the current global economic and financial crisis. Policies that encourage entrepreneurship and innovation in this sector will not only bring the improvement of products and processes, or raise productivity of the service sector, but will also result in the creation of new jobs in conditions of high unemployment in other parts of the economy. OECD experts point to a great opportunity for a number of countries, and state that “in the short and medium term, there is a real possibility for the use of policies that will encourage entrepreneurship and innovation of small and medium-sized enterprises, and contribute not only to increased productivity, but also to the creation of new jobs at the same time” [22, p. 25].

In the end, it is necessary to explain the concept of business demography, which is increasingly recognized as a key determinant of success and sustainability of the entrepreneurial sector. Two important aspects are important here: the net entry of enterprises in the market and the causal link between the entry and exit from the market. First, the net entry, i.e. the number of newly established minus the number of closed enterprises, indicates whether the number of enterprises increases or decreases over time [7]. The positive net entry is a good indicator of adoption of new technologies, growth of the service sector, market deregulation, and cultural steering towards greater degree of self-employment [6], [29]. Second, in the analysis of the interdependence of the process of entry and exit from the market, it is important to distinguish between two possible directions of changes:

- After the exit from the market, a new entry occurs, which reduces the process to the replacement of one organization with another, expectedly more efficient and productive;
- The process when, after the entry of an enterprise in the market, another one exits, is treated differently, and is marked as the pushing out. In this case, enterprises are forced to operate in a better and more productive manner, in order not to be pushed out of the market. This means that companies release less efficiently allocated resources (plants, production programs, etc.) and invest released resources into other, more productive activities, thereby improving overall allocative efficiency [9].

The development of entrepreneurial sector in Serbia in conditions of crisis

The entrepreneurial sector, which consists of small and medium-sized enterprises and entrepreneurs, is the basis of the development of the Serbian economy, because, in addition to its 99.8% share (315,412 out of 315,906 enterprises in 2013) in the total number of enterprises, it has a dominant share in the formation of other significant non-financial performance indicators of the economy of Serbia. In 2013, the entrepreneurial sector employed more than two thirds (768,550) of employees, generated 64.3% of turnover (5,713.9 billion RSD), generated 54.1% of GVA (964.0 billion RSD), achieved 43.2% (519,1 billion RSD) of exports, 56.5% of imports (938.2 billion RSD) of the non-financial part of the economy, and accounted for about 34% in the formation of GDP of the Republic of Serbia [See more in 10].

The development of the entrepreneurial sector in Serbia has experienced significant slowdown during the economic crisis. Compared to the pre-crisis year, 2007, basic performance indicators of entrepreneurial sector (employment, GVA, and productivity) decreased, and the negative effects of the crisis hit the entrepreneurial sector stronger than large enterprises (see Figure 1). Compared to 2007, in 2013, the entrepreneurial sector recorded a decline in employment by 15.2% and GVA by 19.5%, which resulted in a decline in productivity by 5.0%. At the same

time, large enterprises increased productivity (by 9.2%), due to a more pronounced decline in employment (12.7%), compared to GVA (4.7%). Smaller drop of GVA in large enterprises, in relation to entrepreneurial sector, i.e. high increase of productivity in large enterprises, in relation to a drop in productivity of the entrepreneurial sector, led to a slight increase in productivity of non-financial part of the economy. However, as productivity growth (1.2%) was accompanied by further decline in employment (by 14.4%), and a decrease in GVA, the competitiveness of Serbian economy and economic development did not improve, but resulted in an overall decline in economic activity, and the establishment of balance in the economy at a lower level, compared to the pre-crisis period.

Slower pace of recession recovery of the entrepreneurial sector, in relation to the rest of the economy (decline in productivity, accompanied by a fall in GVA and employment), with constant generation of below-average gross earnings (for example, 88.4% in 2007 and 89.9% in 2013, in relation to the average of the economy) points to low competitiveness of the entrepreneurial sector, and the inability to make significant contribution to the economic development of Serbia.

Recessionary crisis deepened the key development problems of the entrepreneurial sector in Serbia:

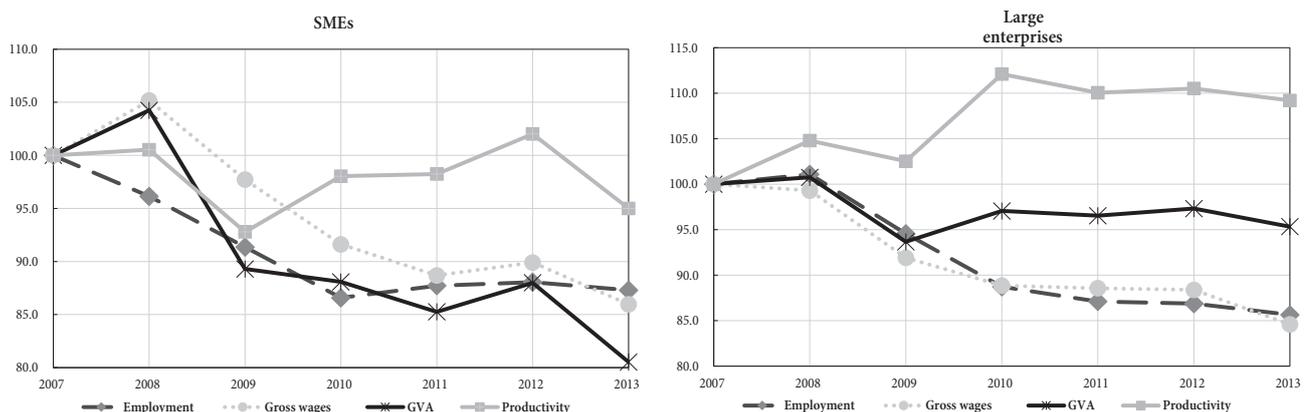
- 1) *Unfavorable business environment.* Indicators of business demography statistics show a slow recovery of the entrepreneurial sector from the negative effects of the crisis, and point to the fact that the anti-crisis measures and actions, taken by the government, have not led to significant

improvement in the business environment and better conditions for entrepreneurship development. The unfavorable conditions for the development of entrepreneurship in Serbia are reflected in a reduced number of new SMEs (entrepreneurs and enterprises), as well as fast-growing enterprises and gazelles, which significantly reduces the opportunities for job creation, productivity growth, and competitiveness of the economy. Although the rate of survival of enterprises improved in 2014, low purchasing power, reduced aggregate demand, difficult access to financial market, unfavorable conditions of financing, as well as the persistent institutional, administrative, and regulatory constraints have led to the fact that out of 100 companies, established in 2012, 67 survived the first two years, whereas 33 enterprises stopped working. Unfavorable conditions are even more manifested with entrepreneurs, where even 38.8% fails within two years.

Although the negative tendencies, recorded from 2008, were interrupted in 2013, the main indicators of business demography deteriorated again in 2014 (number of established and closed enterprises, i.e. the net effect, the rate of establishment and the rate of closing of enterprises), indicating reduced opportunities for the development of the entrepreneurial sector of the economy.

- 2) *Low investment activity and low investment efficiency.* In the period 2007-2012, the investment

Figure 1: The effects of the crisis (index 2007 = 100)



Source: Author's calculations based on SORS database

in fixed assets of the entrepreneurial sector decreased by 37.8%, at an average annual rate of -0.3%, due to an average annual decline of entrepreneurs (-7.8%) and small enterprises (-1.0%), although the investment with the micro and medium-sized enterprises recorded average annual increase by 8.5% and 5.9%, respectively. In 2012, 277.1 billion RSD were invested in the development of the entrepreneurial sector, which is 19.0% more than in 2011 (investments of small and medium-sized enterprises increased by 51.1% and 39.9%, respectively, while investments of entrepreneurs and micro enterprises decreased by 11.5% and 7.2%, respectively). However, it is significantly less than the investment of large enterprises (351.3 billion RSD – an increase of 22.5%), indicating a low level of investment within the entrepreneurial sector, which significantly limits the implementation of development opportunities of the potentially most dynamic sector of the economy. The low level of investment within the entrepreneurial sector is accompanied by low investment activity (4.5% of turnover) and low investment efficiency (26.3% of GVA), which points to structural problems and adverse conditions in which the entrepreneurial sector in Serbia operates.

- 3) *Low level of industrial and export competitiveness.* Industrial competitiveness predominantly affects the overall competitiveness of the economy, and is the basis of export competitiveness. The Serbian

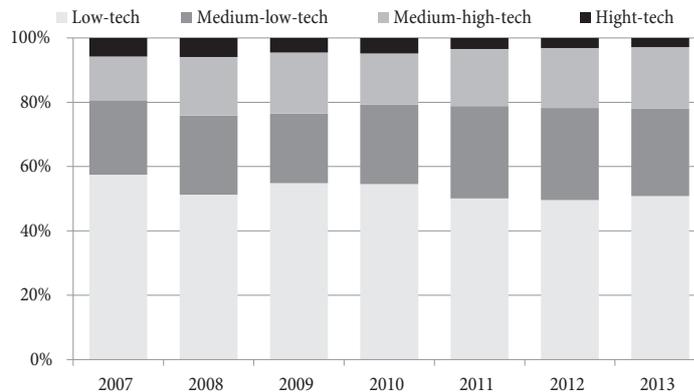
manufacturing industry predominantly consists of sectors characterized by lower technological intensity and lower productivity (labor- and resource-intensive activities), and the situation is less favorable in the entrepreneurial sector than in large enterprises. In 2013, medium-high-tech and high-tech companies accounted for only 10% of production firms in the entrepreneurial sector, employing 17% of workers and generating 21% of GVA, which is less than the large production companies, where medium-high-tech and high-tech companies accounted for 28%, employed 32% of workers, and generated 27% of GVA (see Table 1). Unfavorable trends in employment, GVA, and productivity in the period 2007-2013 show low competitiveness, as well as a reduced pace of development of production-oriented entrepreneurial sector. Overall productivity of manufacturing firms within the entrepreneurial sector decreased by 5.0% in 2013, compared to 2007 (slightly increased only in medium-high-tech sector, by 1.1%, and high-tech sector, by 0.7%, and decreased in low-tech sector, by 6.6%, and medium-low-tech sector, by 1.8%), and only the medium-high-tech sector achieved positive growth of GVA, accompanied by an increase in productivity and stable level of employment, which indicates that it is a dynamic sector that enhances its competitiveness. The situation regarding the trend of GVA significantly worsened, compared to 2012, because GVA in the entrepreneurial

Table 1: Structure of the manufacturing industry according to technological intensity and size of the company in 2013

		SMEs	Large enterprises
Number of enterprises	Low-tech	62.6	46.6
	Medium-low-tech	27.8	25.5
	Medium-high-tech	6.7	25.0
	Hight-tech	2.9	2.9
Employment	Low-tech	58.3	39.3
	Medium-low-tech	25.1	28.3
	Medium-high-tech	13.1	28.7
	Hight-tech	3.5	3.7
GVE	Low-tech	52.0	48.2
	Medium-low-tech	26.8	25.2
	Medium-high-tech	16.0	19.8
	Hight-tech	5.1	6.8

Source: Author's calculations based on SORS database

Figure 2: Structure of export manufacturing enterprises entrepreneurial sector towards technological intensity



Source: Author's calculations based on SORS database

part of the economy declined in all sectors, and was accompanied by a drop in employment and productivity, indicating reduced dynamics of the entrepreneurial sector, and the deterioration of its competitiveness.

In 2013, the entrepreneurial sector of Serbia recorded a deficit of 419.1 billion RSD (91.5% of deficit of the non-financial sector) in foreign trade with the world, with the export-import ratio (55.3%) significantly below the average of the non-financial part of the economy (72.4%) and large enterprises (94.6%). Decrease of foreign trade activity of the entrepreneurial sector by 8.2% led to a fall in its share in the structure of exports and imports of the economy, and more intense decline in imports (-10.6%) than exports (-3.5%) contributed to the real decrease in foreign trade deficit of entrepreneurial sector by -18.1%, compared to 2012.

Companies from the manufacturing industry achieved a surplus in 2013 by 169.6 billion RSD, despite the deficit of firms from the entrepreneurial sector, of 24.8 billion RSD. Within the entrepreneurial sector, only companies in the field of low-tech production achieved surplus from commodity exchange, due to the above-average surplus, achieved in *The production of food products*. The greatest impact on the level of the deficit in the production part of the entrepreneurial sector was exerted by companies operating in *The production of computers, electrical, and optical products (High-tech)* and *The production of motor*

vehicles and trailers (Medium-high-tech).

The foreign trade balance of manufacturing firms in the entrepreneurial sector predominantly consists of low-tech and medium-low-tech products, with a share of 70.4%, which is less favorable situation in relation to large companies, where these products in foreign trade exchange account for 48.2%. Even worse is the situation in the export structure, as low-tech and medium-low-tech products in the export structure of manufacturing enterprises from the entrepreneurial sector account for 80.0%, while that share in large manufacturing enterprises is 47.5% (see Figure 2).

In 2013, the production companies from the entrepreneurial sector decreased foreign trade exchange by 4.5%, and particularly unfavorable situation was in exports of high-tech products¹ requiring highly qualified labor, which recorded decline by 15.2%, compared to 2012 (see Table 2).

In the transition period, the entrepreneurial sector's structure of production and exports of high technology products of greater added value, whose production required highly skilled workers and where knowledge is the main factor of competitiveness, did not improve. The competitiveness of production and exports of the entrepreneurial sector, based on the factor intensity, is low, because of the prevailing products at the lower stages of processing (finalization) and

¹ Manufacture of basic pharmaceutical products and pharmaceutical preparations and manufacture of computer, electronic and optical products

Table 2: Foreign trade exchange - real rate of increase/decrease 2013/2012, %

	Foreign trade exchange			Export			Import		
	SMEs	Large	Total	SMEs	Large	Total	SMEs	Large	Total
Economy	-8.2	16.3	2.4	-3.5	32.8	14.3	-10.6	4.1	-4.8
Manufacturing industries	-4.5	26.8	12.8	-4.5	37.2	19.9	-4.4	14.1	5.1
Low-tech	-5.8	4.5	-1.2	-2.1	7.5	2.3	-10.4	0.4	-5.7
Medium-low-tech	-8.4	-6.3	-7.2	-9.4	-3.4	-5.7	-7.6	-10.1	-8.9
Medium-high-tech	4.5	86.9	59.3	-1.6	120.3	83.8	9.3	50.9	35.5
Hight-tech	-5.4	-14.4	-9.7	-15.2	-14.7	-14.9	-2.9	-14.1	-6.7

Source: Author's calculations based on SORS database

lower added value (raw materials and labor- and resource-intensive products), on the basis of which countries like Serbia cannot build a competitive advantage on the global market in the 21st century. Therefore, it is necessary to change the structure of production and exports in favor of price- and quality-competitive products at higher level of finalization, which is possible only by investing in knowledge, research and development, the development of own and implementation of the most advanced modern technology, which will lead to the growth of productivity, reduction of production costs, more efficient use of factors of production, improved product characteristics, growth in export revenue, i.e. export, and overall competitiveness of Serbian economy.

- 4) *Unfavorable sectoral structure.* The dominant share of enterprises from the non-tradable sector (with relatively low investment and rapid turnover of capital intended for the domestic market) within the entrepreneurial sector, and the small number and low business performance of companies in the tradable sector (products intended for foreign trade), indicate low business, financial, and development performance of the entrepreneurial

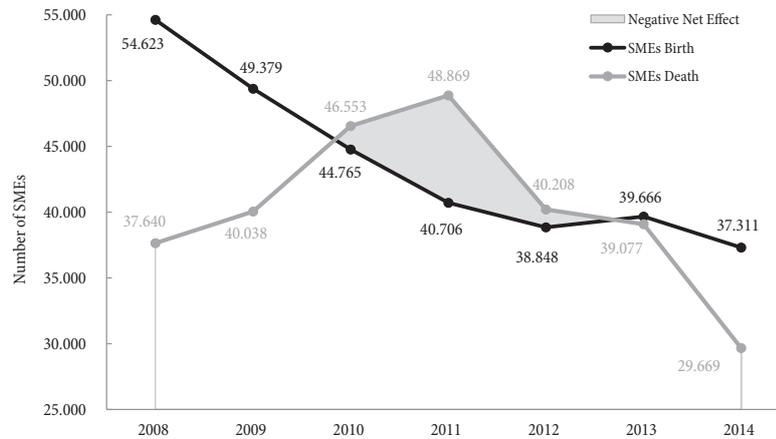
sector in Serbia. The change in the sectoral structure of entrepreneurial sector in favor of the production of products intended for international trade is one of the main prerequisites for increasing competitiveness and faster development of the entrepreneurial sector in Serbia (see Table 3).

- 5) *Uneven regional distribution of activities of the entrepreneurial sector.* Large disproportion in development among regions and areas is a great long-term developmental obstacle to Serbia. Although the entrepreneurial sector dominates in all regions and most areas in Serbia, there is a pronounced concentration in the economically developed regions and areas. The entrepreneurial sector of the most developed Belgrade region makes 1/3 of the total, employs 1/5 of total labor of non-financial part of the economy, and is 2 times more productive compared to Southern and Eastern Serbia, 1.7 times to the region of Šumadija and Western Serbia, and 1.3 times to the Vojvodina region. There is a large disproportion in development among regions, as evidenced by the large differences in productivity (2.3:1) in the entrepreneurial sector between the most developed (Belgrade) and the least developed (Pčinja) region.
- 6) *Unfavorable international position.* Unfavorable

Table 3: Business indicators of enterprise sector by sectoral structure in 2013

Sector	Number of enterprises		Employment		Turnover		GVA	
	number	%	number	%	billion RSD	%	billion RSD	%
Enterprise sector	315,412	100.0	768,550	100	5,713,9	100	964.0	100
<i>Non-tradable sector</i>	257,238	81.6	497,399	64.7	3,909.7	68.4	657.4	68.2
Construction	23,240	7.4	57,400	7.5	348.3	6.1	78.1	8.1
Trade	94,605	30.0	214,897	28.0	2,577.1	45.1	256.4	26.6
Professional, scientific act.	36,926	11.7	55,345	7.2	262.2	4.6	90.4	9.4
Other non-tradables sectors	102,466	32.5	169,757	22.1	722.0	12.6	232.4	24.1
<i>Tradable sector</i>	58,174	18.4	271,151	35.3	1,804.2	31.6	306.6	31.8
Manufacturing	50,044	15.9	217,296	28.3	1,290.5	22.6	239.0	24.8
Other tradables sectors	8,131	2.6	53,855	7.0	513.6	9.0	67.7	7.0

Source: Author's calculations based on SORS database

Figure 3: Number of births and deaths of SMEs in Serbia, 2008-2014

Source: author's calculations based on SBRA database

international position of the national economy, due to slow and inefficient structural reforms, negatively affects the development and competitiveness of the entrepreneurial sector and its positioning in relation to the EU and the neighboring countries. Basic (number of enterprises, business activity, GVA, productivity, level of foreign trade exchange, exports and imports) and derived (employment by the company, GVA per employee, average firm size, etc.) performance indicators, as well as most indicators of business demography and development of entrepreneurship, have deteriorated compared to last year, and are less favorable in Serbia, compared to the average and the majority of EU countries and advanced neighboring countries. Due to the general deterioration in business conditions, a significant decline in employment and gross wages did not increase productivity, or the competitiveness of the entrepreneurial sector in Serbia.

The quality of entrepreneurial development in Serbia

Business demography

Since 2008, as a result of the economic crisis and the deterioration of economic conditions (reduction in external and domestic demand, decline in investment, increased business risk, illiquidity, investment costs, as well as fear of failure), the number of new business entities decreased

and the number of closed business entities increased², with the trends in respect of establishment and closing differing for enterprises and entrepreneurs. Unlike enterprises, whose net number increased in the period from 2008 to 2014 (except in 2011), in the period from 2010 to 2013, the number of entrepreneurs who stopped working was greater than the number of new entrepreneurs (see Figure 3).

At the end of 2014, 331,059 active enterprises³ operated in Serbia (215,367 entrepreneurs and 115,692 enterprises), which is by 7,642 (2,034 entrepreneurs and 5,608 enterprises) more than in 2013. More favorable business demography in 2014 is reflected in the total net effect (1.3 to 1.1, respectively). The ratio of the number of established and closed business entities (net effect) in 2004 shows that for every 10 closed businesses entities, 13 new were established, with this ratio being more favorable for the enterprises (for 10 closed enterprises, 31 new were established) in relation to entrepreneurs (for 10 closed entrepreneurs, 11 new were established).

Positive trends were observed with entrepreneurs – the number of closed entrepreneurs was lower, compared to 2013, by 25.9%, which caused the positive net result of established and closed entrepreneurs in 2014 for the first time in the last five years. The ratio of closed and established

² The largest number of enterprises was deleted from the Registry of Business Entities, in accordance with the Law on Bankruptcy, through the application of the provisions on the automatic bankruptcy (a total of 16,572 enterprises), and most entrepreneurs were deleted on the basis of Article 91 of the Company Law, due to blockade of the business account for a period longer than two years (13,355 in 2013 and 2146 in 2014).

³ 7,740 business entities in the process of liquidation and 2,062 business entities in the process of bankruptcy.

Table 4: Number of births and deaths of SMEs (enterprise and entrepreneurs) in Serbia, 2008-2014

		2008	2009	2010	2011	2012	2013	2014
Births	Entrepreneurs	43,375	39,365	35,296	32,236	30,200	30,931	29,102
	Enterprise	11,248	10,014	9,469	8,470	8,648	8,735	8,209
	SMEs	54,623	49,379	44,765	40,706	38,848	39,666	37,311
Deaths	Entrepreneurs	34,572	36,441	37,165	35,288	32,853	36,520	27,068
	Enterprise	3,068	3,597	9,388	13,581	7,355	2,557	2,601
	SMEs	37,640	40,038	46,553	48,869	40,208	39,077	29,669
Net	Entrepreneurs	8,803	2,924	-1,869	-3,052	-2,653	-5,589	2,034
	Enterprise	8,180	6,417	81	-5,111	1,293	6,178	5,608
	SMEs	16,983	9,341	-1,788	-8,163	-1,360	589	7,642
Net effect	Entrepreneurs	1.3	1.1	0.9	0.9	0.9	0.8	1.1
	Enterprise	3.7	2.8	1.0	0.6	1.2	3.4	3.2
	SMEs	1.5	1.2	1.0	0.8	1.0	1.0	1.3

Source: Author's calculations based on SBRA database

enterprises in 2014 deteriorated, compared to the previous year, due to the reduction in the number of established (-6.0%), and growth in the number of closed enterprises (+1.7%). However, despite the negative demographic trends in respect of enterprises, the net effect of established and closed enterprises was more favorable in 2014, in relation to entrepreneurs (3.2 to 1.1, respectively) (see Table 4).

In the crisis period, divergent trends of values of basic business demography indicators were recorded – increasingly lower rates of establishment of enterprises/entrepreneurs and increasingly higher rates of closing of enterprises/entrepreneurs, which resulted in lower overall rates of establishment and higher overall rates of closing of SMEs (see Table 5). In 2014, the rate of establishment was higher than the rate of closing of SMEs, with the difference between the rate of establishment and rate of closing more favorable for the enterprises in relation to the entrepreneurs. More dynamic rate of establishment and closing of entrepreneurs in relation to enterprises points to the still unfavorable business climate, which reduces the positive effects of increased interest of people to start their own business. Somewhat better demographic situation in enterprises is the result of their greater resources and sources of funding, and, therefore, easier overcoming of the current business problems.

In 2014, the average of 3,109 new SMEs were founded per month (2,425 entrepreneurs and 684 enterprises), which is less favorable than the average in 2013, when the monthly average of founded SMEs was 3306 MSP (2,578 entrepreneurs and 728 enterprises). On average, in 2014, 46.3 SMEs operated per 1,000 inhabitants, and 5.2 were established per that number of people. When observing the active population, aged 15 to 64, 64.0 SMEs operated per 1,000 inhabitants, and 7.9 were established per that number of people (see Figure 4).

According to the density of SMEs, Serbia is slightly below the EU level (42.4 SMEs per 1,000 inhabitants), and, in respect of the neighboring countries, only Hungary and Slovenia have a greater density of SMEs than Serbia. SME in Serbia (which employs 2.4 employees on average) is almost half the average SME in the EU (4.2 workers), and the least of all the countries in the region. (See Figure 5)

The rate of survival of business entities (showing how many business entities, established in the year n , survives in the year $n+2$) in 2014 shows that 67.5% of the enterprises established in 2012 survived the first two years of operations, and higher survival rate of enterprises (89.5%), compared to the entrepreneurs (61.2%), indicates that the enterprises better adapted to market conditions

Table 5: SMEs birth and death rates*

in %		2008	2009	2010	2011	2012	2013	2014
Birth rate	Entrepreneurs	20.2	17.4	15.9	14.6	13.8	14.5	13.5
	Enterprise	12.8	11.3	8.6	8.1	8.2	7.9	7.1
	SMEs	18.0	15.7	13.5	12.5	12.0	12.3	11.3
Death rate	Entrepreneurs	16.1	16.1	16.7	16.0	15.1	17.2	12.6
	Enterprise	6.4	4.1	8.5	13.0	7.0	2.3	2.2
	SMEs	13.2	12.7	14.0	15.0	12.4	12.1	9.0

* The enterprise birth rate corresponds to the number of enterprise births in the reference period (t) divided by the number of enterprises active in t; The enterprise death rate corresponds to the number of enterprise deaths in the reference period (t) divided by the number of enterprises active in t

Source: Author's calculations based on SBRA database

Figure 4: Density of new established and total SMEs in Serbia



Source: Author’s calculations based on DG Enterprise & Industry, SORS and SBRA database

Figure 5: The density and average size of SMEs in Serbia and selected EU countries, 2014



and positioned themselves on the market more successfully than entrepreneurs. On the basis of the number of newly established SMEs in 2007 and 2014 (see Table 6), the following can be concluded:

- about 64% of new SMEs survive the first two years of operations and continue to work in the coming year;
- enterprises have a higher rate of survival (about 90%) than entrepreneurs (58%);
- SME survival rates were significantly lower in 2014 than in 2007, before the onset of the crisis.

Positive net effect, favorable rates of establishment and closing, as well as higher rates of survival of enterprises in relation to entrepreneurs suggests that the greater number of enterprises is established in response to a perceived market opportunity, as opposed to the entrepreneurs who often found their businesses out of necessity (e.g. self-employment).

Global Entrepreneurship Index

Global Entrepreneurship Index (GEI) is an indicator of the quality of entrepreneurship development and reflect the various aspects of the dynamic interaction that drives

productive entrepreneurship in a given country. Within GEI country-level entrepreneurship is defined as “the dynamic, institutionally embedded interaction between entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations by individuals, which drives the allocation of resources through the creation and operation of new ventures.” [2, p. 67] GEI consists of three sub-indices (reflecting attitudes, ability, and aspirations) and a total of fifteen individual pillars that. The entrepreneurial attitude (ATT) sub-index identifies the attitudes of a country’s population as they relate to entrepreneurship. The entrepreneurial abilities (ABT) and The entrepreneurial aspiration (ASP) sub-indices capture actual entrepreneurship abilities and aspirations as they relate to nascent and start-up business activities. ABT is principally concerned with measuring some important characteristics of the entrepreneur and the start-up with high growth potential and ASP refers to the distinctive, qualitative, strategy-related nature of entrepreneurial activity [2, p. 67].

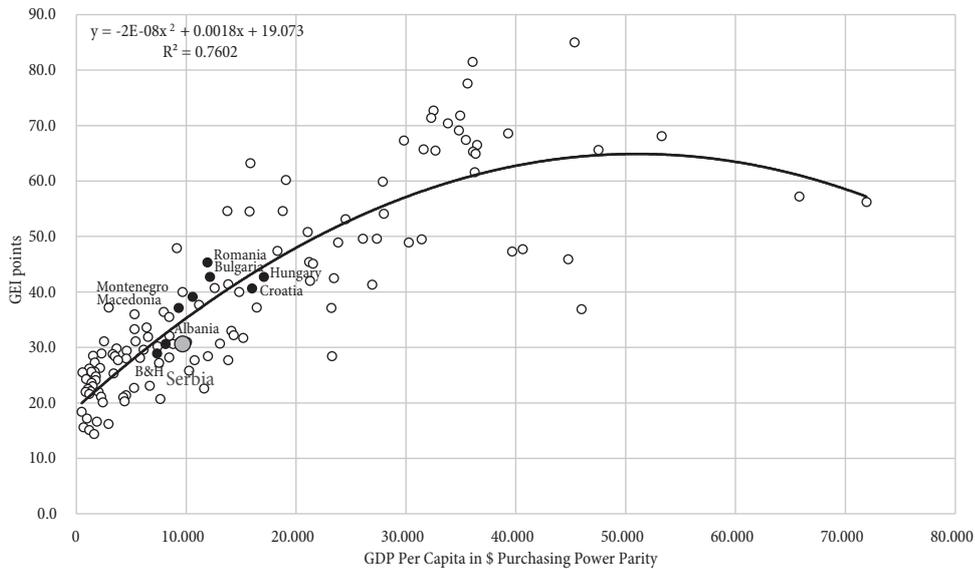
With a value of GEI of 30.6, based on the development of entrepreneurship, Serbia occupies the 78th position out of 130 countries surveyed in 2015. In respect of the

Table 6: Survival rates of business entities

Year (n)		2007	2010	2011	2012	2013	2014
Enterprises	established (in the year n-2)	13,484	11,386	10,010	9,469	8,470	8,648
	survives (in the year n)	12,405	10,315	8,772	8,189	7,897	7,742
	survival rates, %	92.0	90.6	87.6	86.5	93.2	89.5
Entrepreneurs	established (in the year n-2)	47,948	43,575	41,034	35,296	32,236	30,200
	survives (in the year n)	31,741	23,581	22,731	18,269	18,137	18,483
	survival rates, %	66.2	54.1	55.4	51.8	56.3	61.2
Total SMEs	established (in the year n-2)	61,432	54,961	51,044	44,765	40,706	38,848
	survives (in the year n)	44,146	33,896	31,503	26,458	26,034	26,225
	survival rates, %	71.9	61.7	61.7	59.1	64.0	67.5

Source: Author’s calculations based on SBRA database

Figure 6: Global Entrepreneurship Index in 2015



Source: Author's calculations based on Global Entrepreneurship Index 2015 Report, p. 19-20

observed eight countries in the region (Albania, Bosnia and Herzegovina, Croatia, Montenegro, Macedonia, Romania, Bulgaria, and Hungary), Serbia is better ranked only than Bosnia and Herzegovina (83rd position) (see Figure 6 and 7).

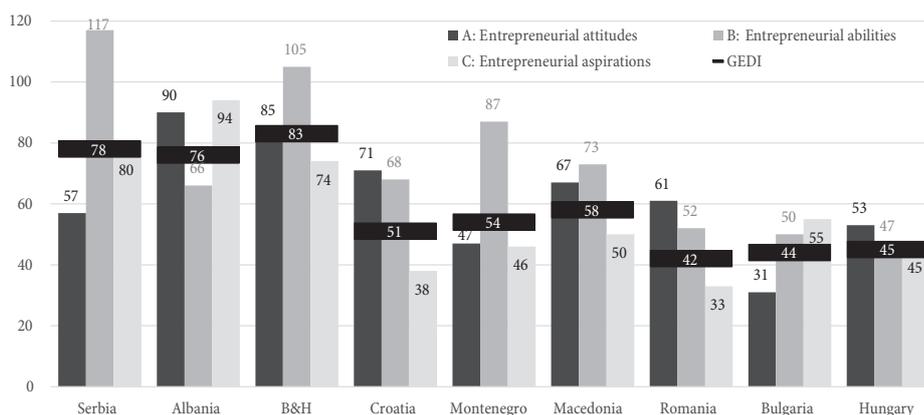
In relation to the achieved level of economic development, the level of GEI and the level of all three sub-indicators in Serbia are unfavorable, indicating an unfavorable entrepreneurial climate and limited opportunities for economic development. Compared to the neighboring countries, Serbia is relatively well ranked in respect of the sub-index measuring the attitude towards entrepreneurship (it is better ranked than Albania, Bosnia and Herzegovina, Croatia, Macedonia, Romania, and worse only than Bulgaria, Montenegro, and Hungary). Unfavorable situation exists in the pillar that measures entrepreneurial skills (Serbia is ranked higher only than

Albania), and the worst situation is in the pillar that measures entrepreneurial intentions, where Serbia is ranked 117th out of 130 countries in the world, and the worst in comparison to all other countries in the region.

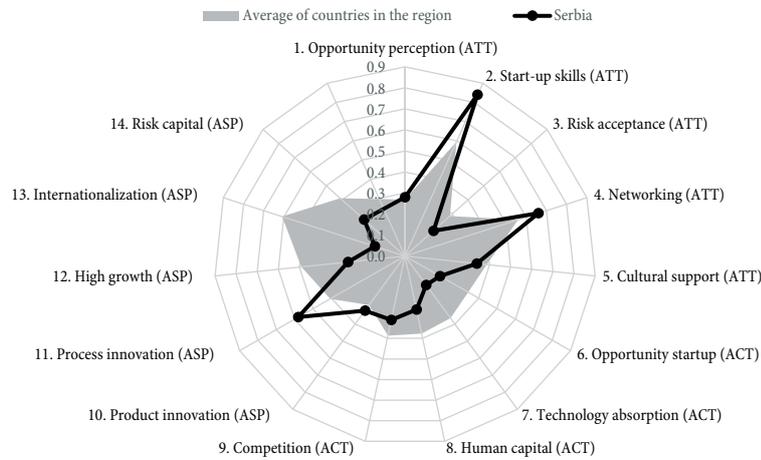
Compared to the neighboring countries, entrepreneurs in Serbia perceive business opportunities in a better way, beginners possess better skills necessary to start business, network (link) more, and are innovative in developing new products and processes. The biggest weaknesses refer to the possibility of applying new technologies, low qualification of labor, the level of competition, ability to achieve rapid growth and internationalization of business, as well as the limited possibilities for financing by venture capital (see Figure 8).

Adverse business conditions reduce the propensity for entrepreneurship, because they reduce possibilities

Figure 7: Global Entrepreneurship Index in 2015 – rank of selected countries



Source: Author's calculations based on global entrepreneurship index 2015 report, p. 19-20

Figure 8: Global Entrepreneurship Index 2015 – Serbia and average of countries in the region

Source: Author's calculations based on Global Entrepreneurship Index 2015 Report, p. 19-20

for identifying opportunities for starting a new business, increase the fear of failure (increasing the business risk), and reduce public support for the initiation and development of entrepreneurial activity. Activities directed towards promoting entrepreneurship and development of non-financial support systems have led to improvement of skills of beginners at the start of operations, as well as their networking – better connecting of entrepreneurs among themselves and with other participants in the economy (e.g. clustering).

Indicators that measure entrepreneurial skills indicate a lack of institutional development and unfavorable general business conditions in the economy. A large number of entrepreneurs start a business in order to ensure existence (self-employment), and not because of the perceived business opportunity. Low capacity to implement new technologies indicates insufficient level of education of entrepreneurs and limited opportunities for involvement of skilled labor, and low demand for the products characterized by higher technical complexity on the domestic market (lack of large systems where these products are needed for further production). The existence of unfair competition (gray economy and monopolies) is a significant factor that reduces the opportunities for the development of any form of entrepreneurial activity.

Entrepreneurs in Serbia are prone to innovation of products and processes, although they operate under conditions that: hamper rapid growth, internationalize business, and do not provide funding through modern forms of venture capital, which is primarily intended for the financing of fast-growing innovative companies with high growth potential and higher business risk.

High-growth enterprises and gazelles in Serbia

High-growth enterprises represent only a small share of the total population, but they generate a disproportionately large share of all new jobs [23], turnover, GVA, profits, and other performance indicators, i.e. they contribute most to economic growth, strengthening competition on the market, innovativeness, and competitiveness. Their contribution to job creation is especially appreciated during recessionary periods, because large enterprises make significant job cuts in such periods [18]. High-growth enterprises also have tendency to innovate and move towards innovation, which consequently increases productivity in the economy. High-growth enterprises are important even in developed countries and communities such as European Union, where the key policy priority for the EU, therefore, should be achieving high rates of enterprise growth rather than achieving high-rates of new enterprise entry [4].

Research of fast-growing companies in Serbia was carried out on the basis of quantitative analysis of the growth of companies in Serbia during the period 2009-2013 (i.e. 2006-2010), and largely relied on the methodological research of Serbian gazelles [11], [12] and dynamic entrepreneurship, as drivers of economic growth and development in Serbia [16]. The methodological framework of the research was based on relatively restrictive criteria that must be met by fast-growing companies: The enterprise worked continuously over the analyzed period of 4 years; The enterprises was a SMEs, and had a minimum of ten, and not more than 250 employees in the base year (2009 or 2006); Constant profitability; Growth in the number of employees, business

Table 7: Basic indicator of development high-growth enterprises and gazelles in Serbia

	2009		2013	
	Value	Share in economy, %	Value	Share in economy, %
High-growth enterprises				
Number of enterprises	167	0.2	167	0.2
Number of employees	4,910	0.5	10,444	1.1
GVE*	10,678	0.6	29,332.7	1.8
Profit*	2,923	0.8	10,345.8	2.3
Gazelles				
Number of enterprises	17	0.02	17	0.02
Number of employees	1,202	0.3	3,557	1.0
GVE*	2,228	0.4	7,393	1.5
Profit*	771	0.6	2,111	1.7

*in million RSD, constant price 2013

Source: Author's calculations based on SORS database

income, gross value added (GVE) in the last year (2013 or 2010), compared to base year, was at least 30%; Their business income was higher than average business income in economy; Their GVA per employee in last and base year was larger than average GVA per employee in the economy; The Enterprises was not part of a holding group and are not in majority ownership of the state (over 50%); Enterprises dealing with the following activities have been excluded: Real estate; Public administration and defence, compulsory social insurance; Household activities with employers; various goods; Extra-territorial organizations, and institutions, and Other services.

Based on the pre-defined criteria, 167 fast-growing companies operated in Serbia in 2013, including 17 gazelles (10% fastest growing high-growth enterprises according to Birch's indicator⁴). Although they have low share in the number of enterprises (0.2% of fast-growing companies and 0.02 gazelles), due to strong growth in the observed four-year period, they multiplied their share in the basic indicators of the economic performance (employment, GVA, and profit) (see Table 7).

Besides employing, on average, more workers per enterprise, fast-growing companies and gazelles achieve above-average productivity and profit per employee. Gazelles achieved the largest employment growth (3 times) and GVA (3.3 times) in 2013 compared to 2009,

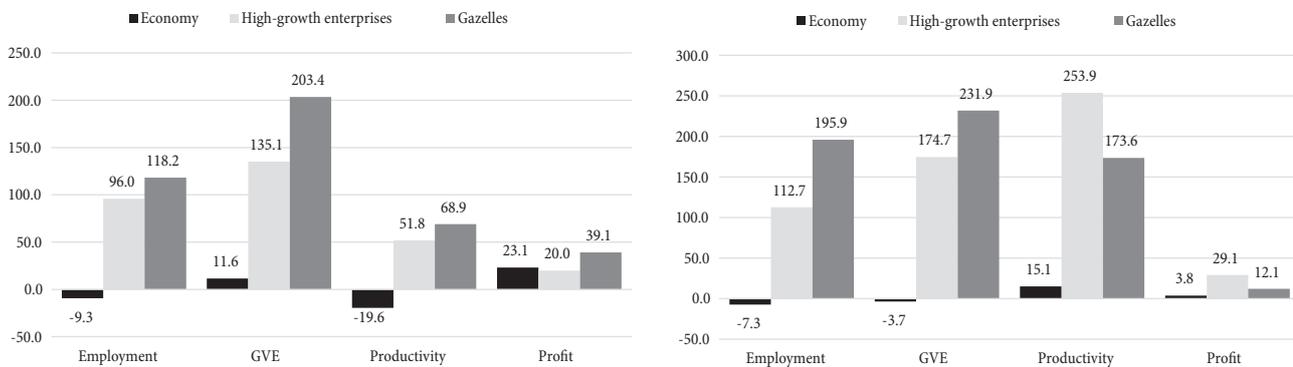
and stronger employment growth than GVA of gazelles, in relation to fast-growing companies, resulted in the fact that gazelles had slower productivity and profit growth than other fast-growing companies.

Compared to the fast-growing companies and gazelles that operated in the period 2006-2010, the number of fast-growing companies and gazelles in the period 2009-2013 decreased 3.2 times (from 529 in 2010 to 167 fast-growing companies in 2013, i.e. from 53 in 2010 to 17 gazelles in 2013). However, despite a very unfavorable business environment, fast-growing companies and gazelles that operated in the period 2009-2013 achieved, on average, faster growth (employment, GVA, productivity and profitability, except for gazelles, where profit increased to a lesser extent) than the fast-growing companies and gazelles in the period 2006-2010 (see Figure 9).

Plausibly, high-growth industry of high-technology may seem particularly suitable for emergence and development of high-growth enterprises, but they are actually equally likely to emerge in all industry sectors, and high proportion of high-growth enterprises is also found in services [4]. Except for a small number of high-growth enterprises and gazelles in Serbia, their technological structure and knowledge-based economy is unfavorable as well. Out of 17 gazelles in 2013, 8 gazelles came from the manufacturing industry (4 from the field of the low-technology, 1 from the medium-low-technology and 3 from the medium-high-technology), 6 from the service sector, and 3 gazelles from the field of construction. The absence of high-technology production companies and a small number of companies from the field of knowledge-intensive services indicate

4 The Birch's indicator (David Birch Employment Growth Index) is an economic indicator of employment that multiplies absolute enterprise job growth by relative enterprise job growth, which reveals the employment creation power of differently sized enterprises: The index used in the methodology is adapted for observation period of three years and is calculated by the following formula $X = (X_{i,t} - X_{i,t-3}) * (X_{i,t} / X_{i,t-3})$, where X stands for the absolute number of employees in a given year (t).

Figure 9: Growth indicators for non-financial business economy, high-growth enterprises and gazelles in period 2006-2010 and 2009-2013



Source: Author's calculations based on SORS database

that Serbia is not a country that bases its development on innovation and entrepreneurship, and that the development in Serbia is not based on the development of knowledge, technology, and their application through innovation.

Concluding remarks

Based on the conducted analysis of position and role that the entrepreneurial sector has in Serbia, it can generally be concluded that it significantly lags behind not only the average of the European Union, but also in relation to the new members of this integration. The very structure of the entrepreneurial sector in Serbia is unfavorable, because it is dominated by enterprises in traditional sectors of production and services that generate very little added value, which are mostly oriented towards business on the domestic market, and are trapped at the achieved level of development, with very poor prospects for advancement, raising productivity, and development based on knowledge, new technologies and business internationalization. The current financial and economic crisis has significantly impeded the functioning of the entrepreneurial sector, reduced demand for products and services, and significantly limited the sources of funding which these companies can rely on in addition to their own capital. It is not surprising, then, that the level of investment in the period 2007-2012 was negative within the entrepreneurial sector. Although there was some kind of recovery after that, it was certainly quite insufficient. Furthermore, the structure of the sector, which predominantly includes the production of non-tradable

goods and services, both in terms of share in employment, and the level of income and added value, indicates that our small and medium-sized enterprises are not ready for an international game, that they are at a low level of productivity and competitiveness, and are more oriented towards the ongoing survival than development based on innovation and new knowledge. Therefore, what follows are some of the basic measures that we believe should be taken urgently, in order to help the entrepreneurial sector not to quickly incorporate into global trends and global game, but to, in the medium term (up to 2020), allow for a gradual increase in performance of domestic SMEs, so that they could, in parallel with the expected further integration of Serbia into the EU structures, be prepared to function in the new circumstances. Unless such measures and policies are adopted and extremely effectively applied, entrepreneurial sector will, in the course of further integration of our country in the EU, be sliced and disappear under the impact of competition in all those activities that foreign companies find interesting for investment. The local SMEs would, in this case, be reduced to a collection of “crumbs which fell from the rich man’s table”, i.e. to bare endurance in the completely unattractive activities that barely allow mere survival on the trend of diminishing returns, with complete loss of developmental perspective.

Measures and activities for the promotion and development of the entrepreneurial sector in Serbia are an integral part of a broader development policy, which focuses on the development of a new growth model, based on increasing employment and investment, export growth,

cuts in public spending, the development of high-tech industrial production and services based on knowledge, i.e. on strengthening innovation and competitiveness of the economy as a whole. Accordingly, basic recommendations for the development of the entrepreneurial sector in Serbia are largely based on the creation of conditions for the development of innovative, fast-growing export-oriented enterprises, i.e. the following activities:

1. Creating a rounded support system for entrepreneurial development, with a focus on improving the business environment (removal of all kinds of obstacles faced by companies in the growth and development stages), by using the positive experience of highly developed countries of the EU and OECD.
2. Abandoning the policy of support for all SMEs (e.g. by improving the business environment, which aims to open as many new companies as possible) and the reduction of economic and social costs of bankruptcy and closing of enterprises (e.g. by giving "a second chance"), in favor of the policy of encouraging development of fast-growing and innovative companies (business infrastructure development, new forms of financing, etc.).
3. Change of the existing method of financing of the entrepreneurial sector, which is based on bank loans and state aid (subsidized loans, various forms of grants, subsidies, and soft loans), and focus on financing, which is based on a combination of private and public (domestic and foreign) sources, which are aligned with the various stages in the development of enterprises, and support the development of innovative and fast-growing companies (financing through equity and venture capital, business angels, issuing securities, vouchers for innovation, loans for research and development, validation and use of intellectual property and intangible assets as collateral for loans, etc.).
4. The advantage in providing resources and other assistance should be given to innovative and fast-growing companies, in relation to other companies.
5. The development of institutions for non-financial support to the development of entrepreneurship, and changing the structure of offered services, from basic

(standard) advice for starting a business, business planning, and daily operations of the company, to advisory assistance in the field of growth and development (strategic planning, risk financing, expansion into new markets and internationalization of business, involvement in local and global value chains, development of management skills that are necessary for entrepreneurs to successfully cope with the pressures on the human, technical, and financial resources resulting from the rapid growth of the company, etc.).

6. The development of an entrepreneurial culture through the introduction of entrepreneurship in formal education, and encouragement of potential and existing entrepreneurs to take risks and develop business.
7. Support and promotion of innovation, and internationalization of new and small enterprises, as potential sources of rapid growth, especially in combination with other sources of growth and development.

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COMPARATIVE ANALYSIS OF CLUSTERS CONTRIBUTION TO REGIONAL COMPETITIVENESS

Komparativna analiza uloge klastera u razvoju regionalne konkurentnosti

Abstract

Objective of this paper is to determine how clusters contribute to regional competitiveness in the following five South-East Europe countries (hereinafter referred to as G5): Hungary, Bulgaria, Greece, Romania and Serbia. In order to test the hypothesis that strong clusters contribute to regional competitiveness we analyzed correlation between the strength and specialization of clusters in the regions (using the methodology of the European Cluster Observatory – ECO) and GDP *per capita*, as an indicator of productivity. The paper is based on various statistical data including Global Competitiveness Report, national statistical reports, and cluster mapping methodology developed by the ECO. Our analysis shows that, in observed G5, despite low ranks with respect to the state of cluster development, there is evidence of a strong cluster portfolio in more developed regions, mainly around the major cities. Also, determined positive correlation means that higher level of specialization in the G5 regions leads to a higher level of productivity, measured by GDPpc. Knowledge-intensive services, creative industries and life sciences segments are weak in G5, compared with developed EU countries. Nevertheless, in G5, there is a positive correlation between each of these segments and regional GDPpc, which brings us to the conclusion that they can be drivers of regional innovation and productivity.

Key words: *competitiveness, cluster, regional development, knowledge-intensive services, creative industries, life sciences*

Sažetak

Cilj ovog rada je da se utvrdi kako klasteri doprinose regionalnoj konkurentnosti u sledećih pet zemalja Jugoistočne Evrope (u daljem tekstu G5): Mađarska, Bugarska, Grčka, Rumunija i Srbija. Kako bi testirali hipotezu da jaki klasteri doprinose regionalnoj konkurentnosti, analizirali smo povezanost između snage i specijalizacije klastera u regionima (koristeći metodologiju Evropske opservatorije za klasterne – ECO) sa BDP *per capita*, kao pokazateljem produktivnosti. Rad se bazira na različitim statističkim podacima, uključujući Globalni izveštaj o konkurentnosti, nacionalne statističke izveštaje i metodologiju mapiranja klastera koju je razvio ECO. Naša analiza pokazuje da, u državama G5, uprkos niskom nivou razvoja klastera, postoje jaki klasteri u razvijenijim regionima, uglavnom oko velikih gradova. Takođe, pozitivna korelacija dokazuje da viši nivo specijalizacije u G5 regionima vodi ka višem nivou produktivnosti, mereno BDP *per capita*. U poređenju sa razvijenim zemljama EU, segmenti privrede u znanjem intenzivnim uslugama, kreativnim industrijama i naukama o životu u G5 su slabi. Ipak, u G5 postoji pozitivna korelacija između svakog od ovih segmenata i regionalnog BDPpc, što nas dovodi do zaključka da ovi segmenti mogu biti pokretači regionalnih inovacija i produktivnosti.

Ključne reči: *konkurentnost, klasteri, regionalni razvoj, znanjem intenzivne usluge, kreativne industrije, nauke o životu*

Review of cluster literature

The attempts to use clusters as economic policy tools have increased since the early 20th century. Linking into clusters represents one of the key drivers of the competitiveness of regions and countries, and the basis for achieving competitive advantage under current conditions.

Clusters actually represent the balance of agglomeration and dispersion forces for specific economic activities [10, p. 8]. Starting from *Alfred Marshall's* [11, p. 187] original observation that firms can enjoy benefits from locating close to others engaged in related activities that continues to hold true, in advanced as well as in developing countries, *Ketels* argued that the benefits have three main sources: (i) potential to attract more specialized suppliers and interact with them more efficiently, (ii) labor market that is deeper and provides more specialized skills, and (iii) knowledge spillovers through different channels [9, p. 8].

Organizing in clusters is one of the most efficient and most flexible ways to improve competitive position and exploit competitive advantages, on national and regional level. The role of clusters in linking business environment and company sophistication and establishing natural links among specialized knowledge, skills, infrastructure and supporting industries is significant. Clusters are geographical agglomerations of companies, suppliers, service providers and affiliated institutions, which are linked by the complementarities of industries and positive external effects [12, p. 1]. Cluster concept has become the central idea of competitiveness and economic development over the past few decades. The presence of complementary economic activity creates externalities that enhance incentives and reduce barriers to new business creation. Clusters are a particularly important way through which location-based complementarities are realized. Strong clusters are also associated with the formation of new establishments of existing firms, thus influencing the location decision of multi-establishment firms. Finally, strong clusters contribute to start-up firms' survival [1, pp. 495-518].

Recent research studies suggest that regional economic performance depends crucially on the cluster composition across nearby regions rather than within narrow political

boundaries [2, p. 6]. Empirically, it is confirmed that strong clusters contribute to success of start-up firms and firms' survival. A few years ago, quantitative methodology was developed with the aim of determining the geographic concentration of specified cluster categories. As this is a relatively new area of research, it is necessary to define the key terms: cluster category, cluster sector, regional cluster, cluster initiative, and cluster mapping [16, p. 5].

Cluster categories are defined as a list of specific economy sectors for which it has been empirically proven that they tend to be geographically located close to each other. The Institute for Strategy and Competitiveness at Harvard University has identified 38 cluster categories using the US SIC industrial classification system, which has been translated into the European NACE system. Clusters encompass all sectors of the economy assigned to one of about 40 defined cluster categories. According to cluster mapping methodology, defined by the ECO, their geographic concentration is measured at the Nomenclature of Territorial Units for Statistics (NUTS) 2 level. NUTS classification is a hierarchical system for dividing the economic territory of the EU. The NUTS regulation defines minimum and maximum population thresholds for the size of the NUTS regions. For NUTS2 level, minimum population is 800,000, and maximum is 3 million inhabitants.

Cluster mapping methodology used by the ECO works with NUTS2 (which corresponds to our definition of regions) and the data we used are obtained using this methodology. At the level of NUTS3 (which corresponds to our definition of districts), facing difficulties in obtaining the data for the observed countries (considering particularly Serbia which is not recognized by NUTS3) authors realized that it would be of great interest for further research to proceed mapping for these countries at the NUTS3 level.

Cluster initiatives are defined as organized efforts to increase the competitiveness and growth of clusters within a region, encompassing firms, government institutions, and scientific research organizations. Clusters arise at the level of regions or economic areas, not entire nations, because of the importance of proximity to cluster benefits. This is why regional economies specialize and why regional economies are a crucial unit in understanding economic

performance. Cluster mapping contributes to better understanding of the economic performance of clusters. The use of the term “mapping” relates to two aspects of this research method: 1) determination of industrial classifications in clusters and 2) determination of clusters according to their geographic location [10, pp. 17-21].

The concept of clusters and cluster mapping methodology

We have used cluster mapping methodology developed by the ECO. It determines whether the level of employment in specified sectors of the economy, which belong to the cluster categories in a certain region, has achieved a critical mass needed for specialization in order to develop interlinking and networking effects that can generate positive economic effects. The relevant factors that indicate whether a cluster has reached ‘specialized critical mass’ are: cluster size, cluster specialization and cluster dominance.

Cluster size. If employment reached a sufficient absolute level, it is more probable that the economic effects of clusters will be significant. According to the methodology of the ECO, regional clusters with more than 15 thousand employees have a one-star rating.

Cluster specialization. It compares the share of economic activity in a particular industry on the regional level with the share of economic activity in the same industry on the national level, resulting in the degree of regional specialization in each industry. If a region is more specialized in a specific cluster category than the whole sector across all regions, it is more likely that the economic effects of the regional cluster will be strong enough to attract related economic activities from other regions to this location and that their links will be stronger. Regional clusters with the coefficient of specialization higher than 1.75 are also rated one star. This means that their level of employment is higher by 75% than the average in the whole region in a given cluster category. This figure again reflects top 10% of all clusters in the EU.

Cluster dominance. If a cluster has a higher share in total regional employment, it is more likely that networking effects will be generated, instead of being immersed into other parts of the local economy. The one-star rating is

obtained by clusters which account for 7% or more of total employment in the region. This figure also reflects top 10% of all clusters in EU member countries.

The coefficient of specialization is obtained when the constant factor μ , which represents the total European employment in a particular category of clusters divided by the total employment in Europe, is multiplied by the employment within the cluster in the region divided by the total employment in the region:

$$SQ_{r,s} = \frac{e_{r,s}/E_r}{E_s/E} = \frac{e_{r,s}}{E_r} \cdot \frac{E}{E_s} = \mu \cdot \frac{e_{r,s}}{E_r}$$

$SQ_{r,s}$ – coefficient of specialization for the cluster category s in the region r ;

$e_{r,s}$ – the number of employees within the cluster category s in the region r ;

E_s – the total employment within the cluster category s in Europe;

E_r – the total employment in region r ; and

E – the total employment in Europe.

The dominance of clusters in the region is calculated by the following formula:

$$D_{r,s} = \frac{e_{r,s}}{E_r}$$

$D_{r,s}$ – dominance of the cluster category s in region r ;

$e_{r,s}$ – the number of employees within the cluster s in region r ; and

E_r – the total employment in region r .

Each cluster can be rated up to three stars. Three-star clusters are clusters with the highest regional concentration and specialization compared to European clusters and such clusters have very good prospects [10, pp. 22-24].

Comparative analyses of clusters strength data in G5

This study focuses on available formal data on cluster mapping and aims to establish best practice benchmarks in clusters from observed G5: Hungary, Bulgaria, Greece, Romania and Serbia. If we observe the cluster-related criteria in the Table 1, we will find out that all five countries are ranked very low with respect to the state of cluster

Table 1: State of cluster development in G5 (among 144 countries)

Indexes of cluster development	Hungary	Romania	Bulgaria	Greece	Serbia
Country global competitiveness rank	60	59	54	81	94
State of cluster development	91	70	129	125	115

Source: [18, pp. 104-391], author's own selection of countries

development and hold the ranks that are far below those held on the competitiveness ranking list.

Research shows that the presence of a strong portfolio of clusters affects the level of productivity of the region in which they are located. The nature of these connections is represented in Table 2, comparing the top ten regions, measured by number of stars and level of GDPpc in 2011 in observed countries. Authors of this paper considered making this comparative analysis in a wider or more recent time framework, particularly using data for 2013, instead of 2011. Collecting inputs for the observed G5 for the year 2013 however resulted in insufficient data for all the countries. Authors therefore represent the findings for the year 2011 in this analysis.

We have chosen to use GDPpc as an indicator of productivity stating under assessment that it is broadly available indicator of productivity based on national statistics from all analyzed countries.

Table 2: Cluster strength in observed G5

Region	Number of stars	GDP per capita (in EUR)
Vest, Romania	22	7,100
Centru, Romania	22	6,200
Kozep-Magyarország, Hungary	21	17,600
Attiki, Greece	19	25,400
Sumadija and Western Serbia	19	3,100
Yuzhen tsentralen, Bulgaria	18	3,200
Sud-Muntenia, Romania	18	5,400
Nord-Vest, Romania	17	5,800
Eszak-Alföld, Hungary	16	6,600
Bucuresti-Ilfov, Romania	16	15,800

Source: Authors' calculation based on [6]

Romania is characterized by the highest degree of geographic specialization of its economy – clusters in eight statistical regions have a total of 138 stars. Clusters in the

Central and West Region have 22 stars each, while the apparel cluster is the most frequent with 20 stars. Apart from the apparel cluster, strong clusters in Romania are mostly in the construction, furniture, footwear, heavy machinery and automotive industries as well as in the processed food and transportation & logistics. Clusters in six statistical regions in Bulgaria have a total of 75 stars. Clusters in the Central-Southern region have the greatest number of stars (18). According to the number of stars, the most frequent cluster category in Bulgaria is apparel. Strong clusters in the Bulgarian regions are also in farming & animal husbandry, processed food, and textile industries. Hungary has seven statistical regions whose clusters have obtained 96 stars. The region of Kozep-Magyarország has the greatest number of stars – 21. The cluster categories with the greatest number of stars are in processed food and farming & animal husbandry, then in education & knowledge creation, telecom, construction, and heavy machinery. Greece has the largest number of regions (13), but clusters in Greece have only 127 stars. Most stars have clusters in Attiki region, which is logical, considering the fact that major economic activities are located around capital of Greece. Cluster categories with the biggest number of stars in Greece are farming & animal husbandry, agricultural products, tourism & hospitality, and construction. Clusters in Serbia in total have 55 stars. The greatest number of stars has been obtained by clusters in the region of Sumadija and Western Serbia (19), then Eastern and Southern Serbia (14), Vojvodina (13), and Belgrade (9).

Dominance of the clusters in regions is measured by location quotient. It represents the share of certain cluster category in the overall strength of the cluster sector in the region where it operates. Thus, the location quotient represents a percentage of the total employment in a particular cluster category to the total employment in the region where it operates.

Table 3: Top 10 clusters in G5 region by value of location quotient

Region	Cluster	Location quotient
Notio Aigaio, Greece	Tourism and hospitality	29.18949865
Ionia Nisia, Greece	Tourism and hospitality	24.11097833
Sud-Est, Romania	Transportation and logistics	23.57404604
Ipeiros, Greece	Construction	22.98828029
Anatoliki Makedonia, Thraki, Greece	Farming and animal husbandry	22.65564607
Peloponnisos, Greece	Farming and animal husbandry	22.28544128
Vojvodina, Serbia	Processed food	21.1978881
Thessalia, Greece	Farming and animal husbandry	20.40165165
Sud-Vest Oltenia, Romania	Construction	20.09205946
Ipeiros, Greece	Farming and animal husbandry	19.56063355

Source: Authors' calculation based on [6]

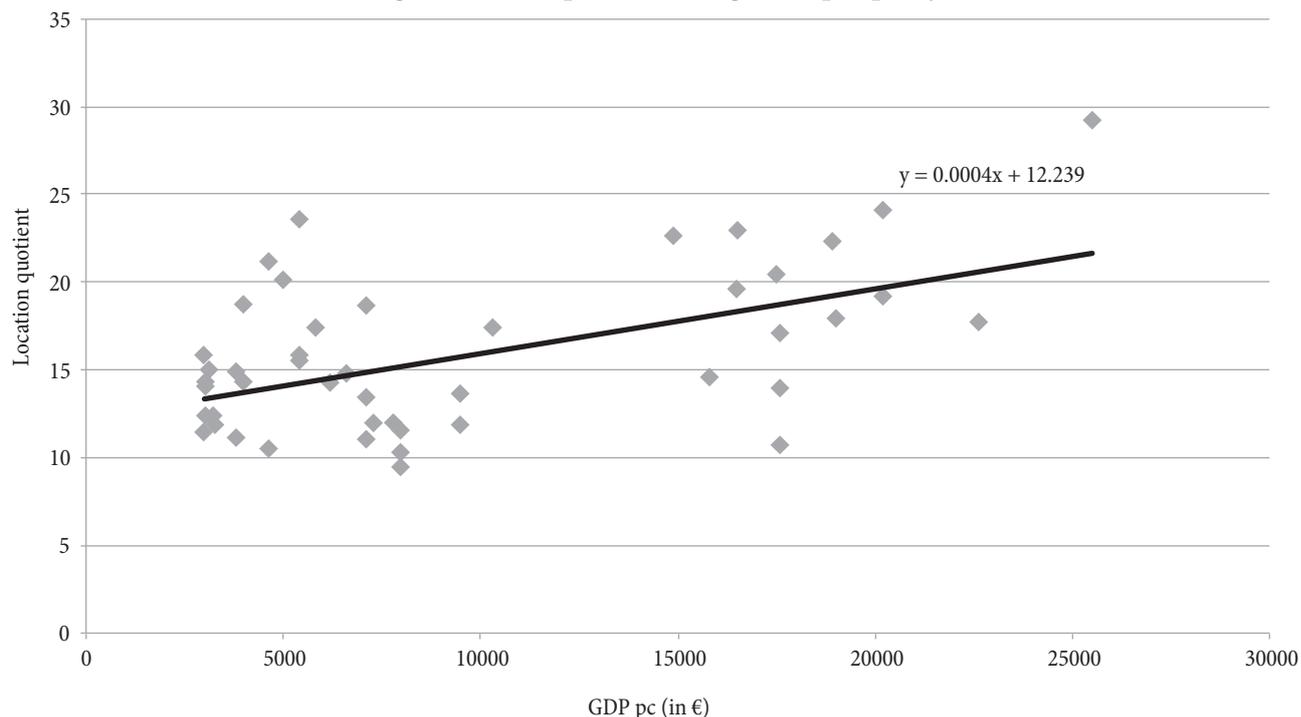
By the value of location quotient (see Table 3), the strongest clusters in G5 countries are in the area of tourism & hospitality, construction, farming & animal husbandry, and processed food. Processed food clusters in Serbia have strong dominance in the regions, measured by location quotient (all four are in top 10). They are followed by construction clusters (all four in top 12), and metals manufacturing (two in top 6).

Among top fifteen clusters in Greece, by the value of location quotient, seven are in construction, while six are in farming & animal husbandry, and two are tourism & hospitality. Construction clusters are also the strongest in Romania (seven in top 10), by the value of location quotient.

Construction clusters in Bulgaria have also high values of location quotient (three in top seven), but the strongest clusters are in apparel sector (three in top five). Processed food clusters are also strong in Bulgaria (four in top 10). The strongest clusters in Hungary, by the value of location quotient, are processed food, automotive, transportation & logistics, and business services.

Figure 1 shows correlation between the top ten clusters in the each of G5 countries, measured by the value of location quotient and regional GDPpc. We calculated strong positive correlation ($r = 0.545999$). Therefore, we could conclude that cluster portfolio strength in the observed regions significantly influenced the level of GDPpc.

Figure 1: Cluster portfolio strength and prosperity



Source: Authors' calculation based on [6]

It is noticeable that these regions can be divided into two groups according to the level of GDPpc. This division can be understandable, considering countries' path of economic development. Hungary and Romania entered the transition of their economies from centrally planned to market economy in the early nineties. Regions in these countries are at a lower level of development than regions in Greece, which began earlier with the development of market economy. Only regions around capital cities in Hungary and Romania have the same level of development as regions in Greece. Bulgaria is struggling with transition process and its regions are in the lower developed group. On the other hand, Serbia is the last country in G5 that entered the transition process and its regions are the least developed. Only region around capital Belgrade is at the same level of development as less developed regions in Romania and Hungary. Broader aspects of Serbian competitiveness were analyzed in Comparative Analysis Based on New Competitiveness Index [15, pp. 105-115].

Ability to produce innovative products and services at global technology frontier and deliver products and processes with a unique value is dominant source of competitive advantage in innovation-driven economies [17, p. 69]. Efficiency innovations help company make and sale mature, established products or services to the same customer at lower prices. Efficiency innovations play two important roles: they increase productivity, which is essential for maintaining competitiveness, and they free up capital for more productive use [3, p. 245]. On the basis of empirical research the ECO has singled out three large segments of the economy as being knowledge-intensive and having a significant impact on an increase

in innovation and development of new patents. Those three ECO segments are clusters in knowledge-intensive services (KIS), creative and cultural industries (CCI) and life sciences (LS).

KIS include business support services, education & knowledge creation, financial services, and IT (see Table 4). Hungary has the most developed KIS in G5 and its clusters in this segment obtained 13 stars. The region around Hungarian capital has the strongest KIS segment, while three regions in Hungary have two-star education & knowledge creation clusters. Regions in Bulgaria and Serbia have clusters with one star in KIS, while region around Romanian capital has strong, two-star IT cluster. Greece does not have any cluster star in IT, but in Attiki region there is strong, two-star financial services cluster. Research has shown that regions with strong KIS clusters have made the greatest progress in Europe. The presence of strong KIS clusters also has a positive impact on an increase in innovation and number of patents [5, p. 2].

Figure 2 shows the relationship between GDPpc and the location quotient for KIS clusters in the G5 regions. Location quotient represents the percentage of employees in KIS clusters to the total number of employees in the region and is the measure of the specialization of the region.

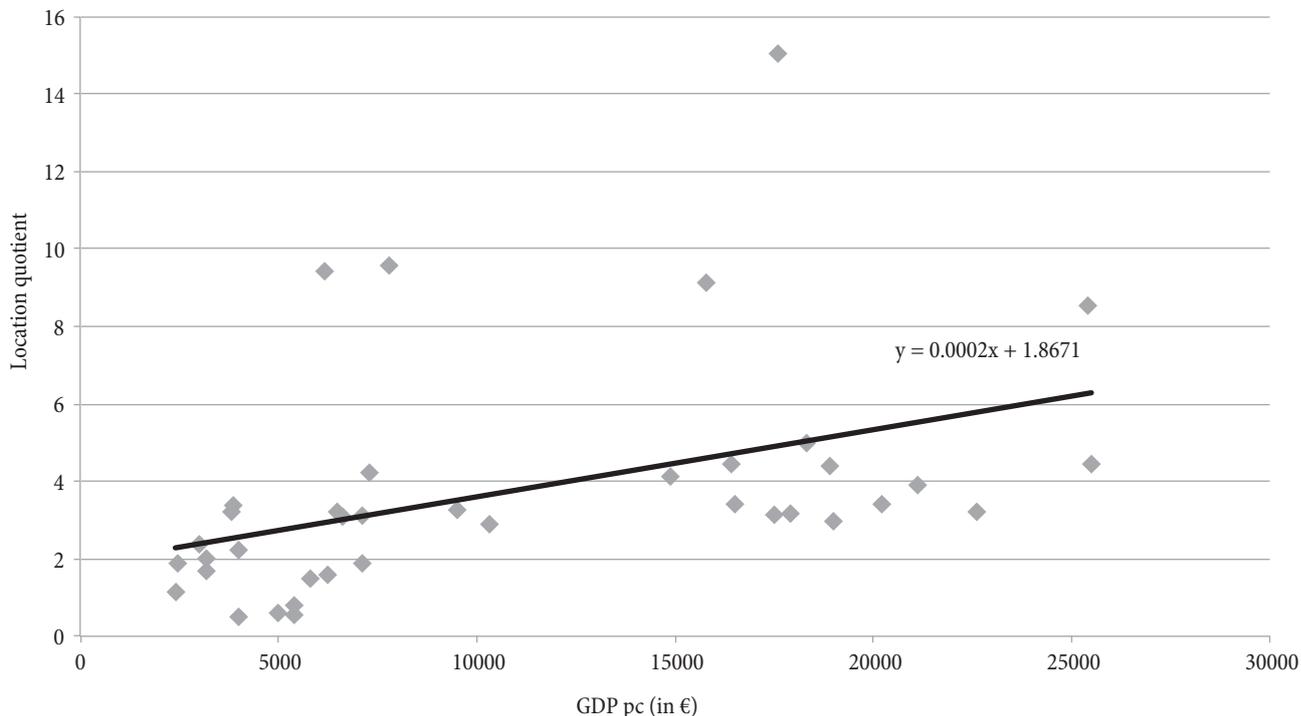
Figure 2 presents relationship between the specialization of the region in KIS and the level of GDPpc with minor fluctuations. Analyzed correlation is positive ($r = 0.422624$). The strongest concentration of KIS segment is in the region around Hungarian capital, while major exception is regions around capital of Bulgaria and Serbia, where despite a higher level of specialization in KIS, level of

Table 4: Cluster strength in KIS

	Business services	Education and knowledge creation	Financial services	IT
Kozep-Magyarország, Hungary	2	2	2	1
Del-Dunantul, Hungary	0	2	0	0
Del-Alfold, Hungary	0	2	0	0
Eszak-Magyarország, Hungary	0	0	0	1
Eszak-Alfold, Hungary	0	1	0	0
Bucuresti - Ilfov, Romania	1	0	0	2
Yugozapaden, Bulgaria	1	1	1	0
Belgrade, Serbia	0	0	1	0
Attiki, Greece	0	0	2	0

Source: Authors' calculation based on [6]

Figure 2: Location quotient for KIS and regional prosperity



Source: Authors' calculation based on [6]

GDPpc is relatively low. Other regions in Serbia have low level of specialization in KIS.

CCI are economic activities related to knowledge and information creation and exploitation. They can refer to culture or creative segments of the economy, such as advertising, architecture, arts, crafts, design, fashion, film, music, printing and publishing, R&D, software, video games, TV and radio. In Europe, creative and cultural industries represent a significant segment of the economy. In 2006, the total number of employed in creative and cultural industries in the EU was 6.5 million, thus accounting for about 2.75% of total employment. The regions with a high concentration of creative and cultural industries across Europe achieved the highest level of development. Creative industries are also the major generators of the creation of intellectual property, especially copyrights,

while the regions with the highest concentration of CCI are the largest centers of employment in the copyright-based economic sectors. The presence of strong CCI clusters contributes to the development of other segments of the economy and exerts influence on the improvement of the competitiveness of the regions in which they are located [13, p. 5]. The similar situation is with respect to KIS. Regions Kozep-Magyarország and Del-Alfold in Hungary are the only ones in G5 where cluster mapping detected two-stars CCI clusters (see Table 5). Creative industry clusters in G5 are much weaker than those around large West European cities. For example, the region of London has three stars in the categories such as advertising, museums and preservation of historical sites and buildings, publishing and printing, and artistic and literary creation, and two stars in all other categories.

Table 5: Cluster strength in CCI

	Museums and preservation of historical sites and buildings	Advertsing	Printing and publishing	Software	Artistic creation and literary creation	Retail and distribution
Kozep-Magyarország	2	1	1	1	1	1
Del-Alfold	2	0	0	0	0	0
Eszak-Magyarország	0	0	0	1	0	0
Eszak-Alfold	1	0	0	0	0	0
Attiki	0	1	1	0	1	1
Yugozapaden	1	0	0	0	0	0

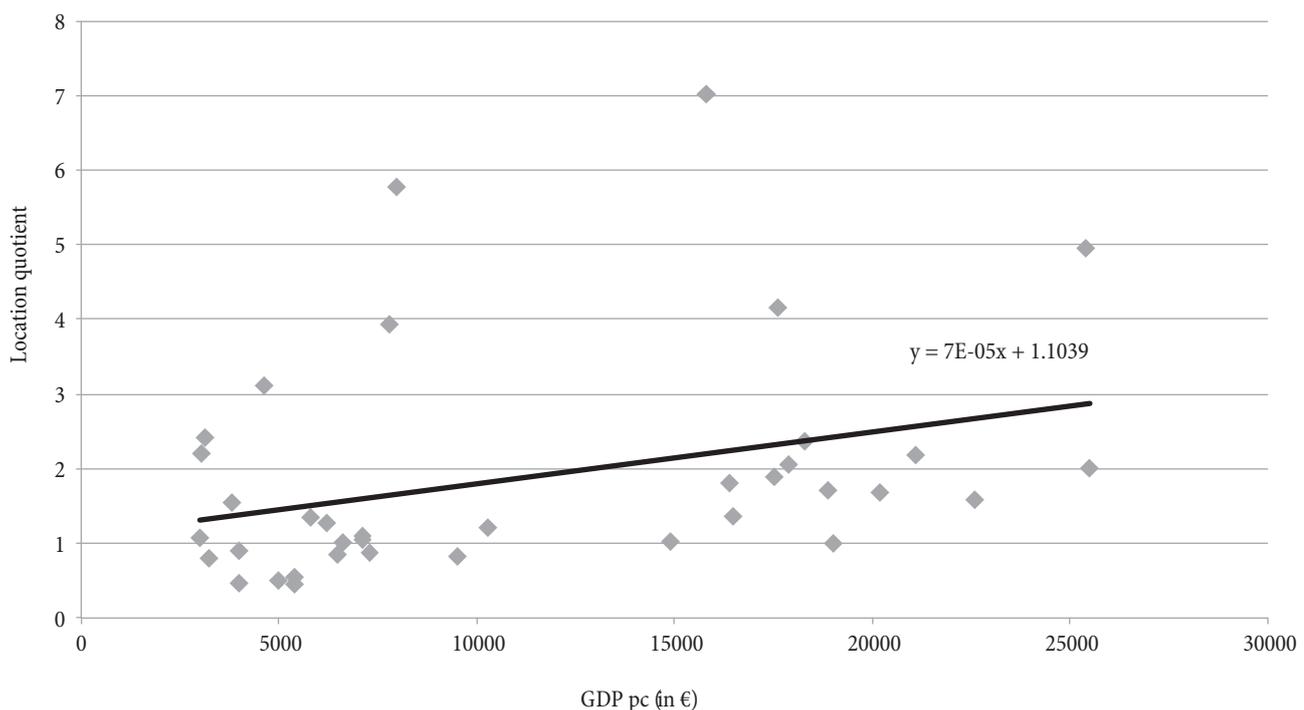
Source: Authors' calculation based on [6]

The cluster mapping results in observed countries show that the highest concentration of employment in creative industries is around the largest cities. Similar results are obtained across Europe, thus confirming that these sectors are industrialized and concentrated in large urban areas. Nevertheless, CCI employment and competitiveness are not directly related to the size of the labor market and cannot be simply regarded as the product of population concentration. CCI show that they represent drivers of the development of specialized labor force and clusters, as *Dominic Power* and *Tobias Nielsén* [13, pp. 5-6] registered for Europe.

Figure 3 indicates a solid relationship between level of GDPpc and regional specialization for CCI in the regions of G5, and positive correlation ($r = 0.332885$) is calculated. Region around capital of Romania has the strongest specialization in CCI, while regions around other capital cities in G5 also have strong clusters in this segment. Other regions in Serbia have solid specialization in CCI, above the trendline for G5. In Serbia, significant level of specialization is in the publishing & printing clusters, while clusters in museums & preservation of historical sites and buildings are less developed than in the other G5 countries.

According to the methodology of the ECO, LS clusters include three major cluster categories: biotechnology, pharmaceuticals and medical devices. Pharmaceuticals encompass three sectors: production of basic pharmaceutical products, production of pharmaceuticals, and production of perfumes and colognes. Medical devices clusters include the production of medical and surgical equipment, orthopedic devices, and production of conveyances for disabled persons. Biotechnology clusters are mainly focused on research and experimental development in this area. Cluster mapping shows that LS clusters are concentrated in the regions around capitals of Greece, Hungary, Romania, Bulgaria and Serbia (see Table 6). Hungary has long tradition in biotechnologies, and the biotechnology cluster in Kozep-Magyarország region includes both multinational and local companies. Most Hungarian biotechnology companies date back to the early 20th century. After surviving the communist regime, they have been privatized or integrated into large multinational groups. Another more interesting aspect is smaller biotechnology firms that emerged out of the academic excellence of Hungarian scientists, locally and abroad. These actors have shown interest in working as a cluster, since they are actually part of a much

Figure 3: Location quotient for CCI and regional prosperity



Source: Authors' calculation based on [6]

promising global value chain, which they need to reach from Hungary [4, pp. 29-31].

LS clusters in Serbia employ only 9,500 people. Production and employment in Serbia are mostly concentrated in large companies. There is no SME development arising from the need for the commercialization of scientific research results. The total number of enterprises in these clusters is 727. Employment in these clusters was almost three times higher in Greece and Hungary. In Germany, these clusters employ about 339,000, in Italy about 160,000, in Britain about 124,000 and in Switzerland about 66,000. As the most successful European country according to the number of enterprises, Italy has more than 22,000 enterprises in these clusters.

Table 6: Cluster strength in LS

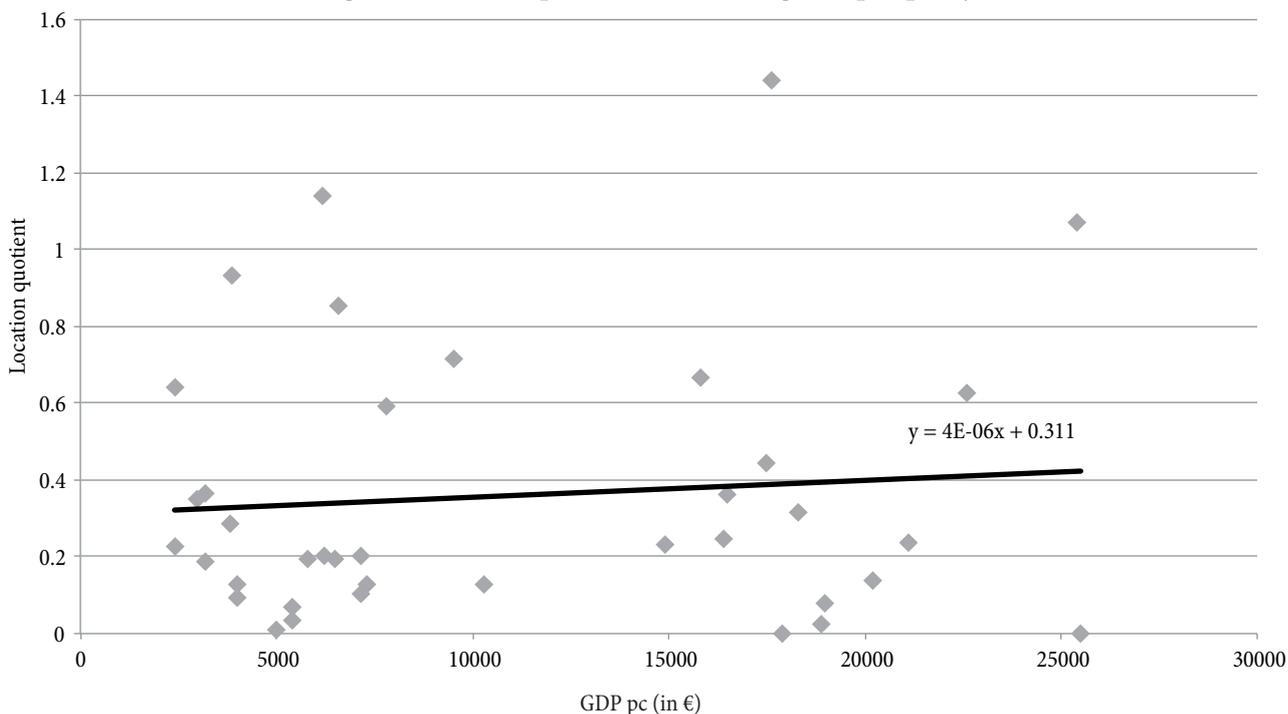
	Biotech	Medical devices	Pharmaceuticals
Kozep-Magyarország, Hungary	0	0	2
Kozep-Dunantul, Hungary	0	1	0
Eszak-Alföld, Hungary	0	0	1
Attiki, Greece	0	0	1

Source: Authors' calculation based on [6]

LS have become platforms with the great potential for a positive impact on many other industries. Apart from human and animal health, LS and biotechnology products also have a role in agriculture, aircraft industry, environmental improvement and information technologies. With such a great impact and an increase in global competition, LS have become an arena where many countries seek to realize innovations as their path to economic development [7, p. 3].

Figure 4 shows the relationship between regional specialization in LS and the level of economic development of the region, measured by GDPpc. We found a weak positive correlation ($r = 0.09033$) between location quotient of LS and the level of GDPpc. Major exceptions are regions in Serbia, Belgrade and Vojvodina, which, despite a higher level of specialization in the regions, lag behind other observed regions by the level of GDPpc. The highest concentrations in life sciences have regions around capital cities of Hungary, Serbia and Greece. Nevertheless, LS clusters in G5 are weak, compared with those in the developed EU countries.

Figure 4: Location quotient for LS and regional prosperity



Source: Authors' calculation based on [6]

Conclusion

We conducted a research to show how clusters, depending on their strength, affect the productivity of the region in which they are located. In attempt to determine the nature of these connections, we compared the strength of clusters per region in observed G5 with GDPpc level in 2011 (as previously explained, having in mind the research limitations due to insufficient data for more recent years as well as lacking optimal solution to be used as indicator of productivity). Removing current data limitations is crucial for future mapping of local and regional economies. These data represent inputs and powerful tools for developing regional development and innovation policies. Therefore, they should be expanded with the additional indicators, like regional exports, investments, innovation, patents, etc.

We calculated linear correlation coefficients to support the analysis and indicate validity of determined relationships. Based on the above-mentioned elements, we can draw the following conclusions from our research: despite the fact that observed G5 are ranked very low with respect to the state of cluster development, we determined the existence of strong cluster portfolio in the regions that are located mainly around the major cities. Moreover, there is high positive correlation between the regional specialization and productivity in the G5 regions. In addition, regions with strong KIS, CCI and LS clusters, as indicated in our analysis, are more developed than the ones that do not have dominant clusters in these segments. Our analysis indicated positive correlation between strength of clusters in these segments and regional productivity, measured by GDPpc. Considering the proven importance of strong clusters in regional economic development, our conclusion is that economic development policies should encourage development of strong clusters and stronger geographic specialization, and focus on increased productivity of those clusters that have an important regional position.

Knowledge-intensive services, creative industries and life sciences can play important role in boosting regional innovation and competitiveness. However, policy measures for strengthening these clusters should be carefully planned. These measures should be aimed

solely at strengthening emerging and embryonic clusters, not at developing new ones.

The impact of clusters on productivity growth should be permanently monitored concurrently with methodology development. In further research, the authors will put forward expanded research domains and include other parameters in the analysis (such as the level of cluster development the NUTS3 level, the level of technological development of clusters, innovation, etc.)

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APPLICATION SOFTWARE FOR MEASURING THE CAPITAL RETURN RATE BY SUCCESSIVE COMPANY VALUATION*

Softverska aplikacija za merenje stope prinosa na
kapital sukcesivnim vrednovanjem preduzeća

Abstract

The capital increase is the focal point of every company management. The standard accounting procedures often do not give up-to-date and precise answers to the questions related to tracking the level and increase/decrease of capital during the year. An alternative way, starting from the accounting records but passing also by some limitations imposed by the accounting regulations, is achieved by evaluating once a month the real, actual market value of all the positions in the company's balance sheet. Based on these estimated values, by subtracting the value of liabilities from the value of assets one can obtain the amount of money employed in the company – the capital. The article describes how to carry out this procedure using the original application software that allows us to follow up every month of the year not only the flows of the total capital but of all the relevant positions in the balance sheet.

Key words: *measuring capital return, company valuation*

Sažetak

Ostvarenje prinosa na kapital je u fokusu svakog upravljanja preduzećima. Standardni računovodstveni postupci često ne daju ažurne i precizne odgovore na pitanja vezana za praćenje nivoa i uvećanja/umanjenja kapitala tokom godine. Alternativni način, koji polazi od računovodstvenih evidencija ali i zaobilazi neka ograničenja koja nameću računovodstveni propisi, se sastoji u tome da se jednom mesečno proceni stvarna, realna, tržišna vrednost svih pozicija u bilansu stanja preduzeća. Na osnovu tih procenjenih vrednosti se oduzimanjem vrednosti obaveza od vrednosti sredstava dobija iznos novca koji je angažovan u preduzeću – kapital. U članku je opisano kako se taj postupak može sprovesti uz upotrebu originalne softverske aplikacije koja omogućava i da se svakog meseca tokom godine prati, ne samo kretanje ukupnog kapitala, nego i svih bitnih pozicija u bilansu stanja.

Ključne reči: *merenje uvećanja kapitala, procena vrednosti kompanija*

* The author was hired in 1998 by AD Sintelon to define and implement the methodology of creating business plans in all the organizational parts of the company. With this project, which lasted till 2002, the author came up with new solutions in the area of writing financial plans, coordinating the nonfinancial and financial parts of business plans and in the area of measurement of the realization of business plans, meaning the measurement of the realized return rate of capital in a defined period.

Introduction

“In order to successfully manage companies in times of an accelerated transformation to the information society, apart from the already classic theoretical and practical knowledge, it will be necessary to: build up an information system which will permit to have an instant overview of all the relevant parameters of the company, to define the strategy concerning the relevant networks which will carry all the influences from the area, including the strategy for incorporation in the chosen networks, and to organize the company in such a way to permit a simple rearrangement of the company as an answer to the area influences. An indispensable condition for reacting, especially for quick reacting, is a reporting system that permits at least once a month to compare and analyze the realization of the financial and non financial goals in the previous month, but as part of the realization of the annual (by month) business plan.” [12]

In the distant 1988, the management of the ABB company created a reporting system ABACUS permitting to create each month and for every part of this huge company a balance sheet and income statement with the intent to make the return of the capital employed become the basic measurement method of performance. The goal was to push the responsibility for the balance sheet as deep as possible into the organization and they succeeded in running a complex organizational task based on the monthly system of reporting.

It is possible today to create a financial report of the company every day but it does not mean it has to be done. In most cases, it is enough and optimal to review every month what was done in the previous month and compare it with the yearly business plan (monthly and year to date). Considering this, it seems that the ABB approach from 1988, to create once a month an income statement and a balance sheet for all the parts of the company, has stood up the test of time and showed itself valid today as well. In the same time, the return on capital employed represents the best measurement not only for the realization of the financial part of the business plan [4] but also of the total business activity of the company in a defined period of time [10, pp. 62-67]. Although it is

inarguable in theory and in practice that the net actual value is the base criterion for taking investment decisions [5, p. 30] it should be noted that this criterion is not opposed to the goal of achieving a maximum return of funds, it is just the fact that the price of money should be taken into consideration when investing.

The financial reports are prepared by the company management based on positive accounting regulations, and this most commonly twice a year. The shareholders hire certified accountants to get an independent opinion on whether the financial reports prepared by the management are objective when it comes to funds, sources of funds and return shown. The full definition of auditing is: “An audit is an independent review and opinion expressed on financial reports of a company by an appointed auditor performing the duties relevant to that appointment in accordance with the statutory regulations” [1, p. 10].

Despite their insufficient credibility, the financial reports of the company offer a large array of information that can be used during the process of making various business decisions. These data can hardly be employed in their original form so they need to be transposed first in a form suitable for drawing conclusions and various financial factors calculated.

In every textbook, one can find a different selection of basic accounting ratios and none can be said to be the best and most complete¹. The accounting ratios can be divided e.g. on ratios of return, flows or funds [6].

Although the auditing knowledge² and techniques can be efficiently used in other business areas, and it is best to consult literature from countries with long tradition in auditing [2], it should be said that auditing cannot prevent accounting values to correspond to market values. This can occur due to: inflation, variation of the official from the market rate of the local currency to the convertible ones, variation of the “official” from the real inflation rate, variation of the real value of the invoiced from the payable realization, changes in purchasing and

1 Submission made by Roger Adams, head of ACCA technical sector and director of the training course for certified accountants in March 1992, Sava Center, Belgrade.

2 ACCA (The Chartered Association of Certified Accountants) from London organized 1992 in Belgrade a training for the “certified auditors” taken by the author.

retail prices, changes of real estate prices and other fixed assets and so on.

“The managers and shareholders of companies are not required to think that the values from the official financial reports are realistic and no one can forbid them to create different financial reports for internal use. The best way to find out how much was earned in a defined period is to perform a valuation of the company capital at the beginning and at the end of the period. If money has been earned, then it will be shown at the end of the period somewhere in the balance sheet as an increase in assets, a reduction in liabilities or combined” [10, pp. 62-67].

The question of evaluating the values of different positions in the balance sheet of the company is founded in this text on the literature, personal consulting and valuation experiences and techniques of independent audit. [9]

In order to evaluate the value of the capital of the company at the beginning and at the end of the period defined, it is necessary to create balance sheets for both dates in the same way it is done when creating official financial reports. It is understood, of course, that all business changes have been promptly and accurately recorded. After that, the bookkeeping values of the assets and liabilities are replaced with other (estimated) values and this by the ones considered being realistic. The difference between such new (realistic) values of assets and liabilities of the company is representing the realistic value of the capital, meaning the amount of money employed by the company in a growth purpose. The same applies to the balance sheet at the beginning of the period and for the balance sheet at the end of the period. The difference between the estimated value at the end of the period and at the beginning of the period is the revenue on initial capital, meaning an increase of the absolute value of the capital. The relative relation between this augmentation of the capital and the initial capital represents the obtained rate of growth of the capital for the period defined.

The basic question to be considered in the process of evaluation is with how much Euros on evaluation day one can express the value of each position of the balance sheet. For each individual position of assets and liabilities one needs to choose the method that will express the best the market value in Euros.

The following will show an example of the process of measuring the obtained rate of growth. The application software that was used in the example is an original design of the author [11] and was used in several tens of cases in local companies, together with the application software for executing annual (by month) business plans³.

The process of measuring financial success as described can be considered as “counting” money. If an exchange office owner starts a day with a certain amount of dinars, Euros and dollars and during the course of day handles a lot of transactions and there are several changes in currency rates during the day, in order to see how much he has earned, the owner does not have to do anything else but to count the different currencies and compare the total (calculated) amount in Euros with the amount (calculated) in Euros from the start of the day. The currency rate fluctuations during the day are not relevant and the gain/loss on any particular transaction is also not relevant.

The financial success in the previous period and the financial balance on a specific day can quickly be defined, almost exactly, which is not possible with the future yield. It is possible to have an idea of what to do to increase the capital to the maximum, but it is uncertain what will happen.

It is to be said here that in theory and in practice, there have been different attempts to introduce objective criteria in the evaluation of the business performance of managers, e.g. EVA (economic value added). This assessment method of manager’s performance is considered even as a ground for bonuses payment [7, p. 1]. *Alfred Rappaport* said on this matter that there is no universal answer to the question what is the percentage of yield to achieve before rewarding the managers [13, p. 132].

The increase of value of company stock can be another option for introducing objective criterion in the assessment of manager’s performance. That would be in fact the application of the “value based management” which is one of the newest approaches to company management, based on the fact that the value of the company is determined by the discounted future net money flows [8, p. 83].

³ The application software used can be downloaded in Excel format from the site: www.nebojsamrdja.com

Even if the shareholders and the managers choose such approach, it would be useful for them to know the flow of the liquidation value of capital. *Brian Forst* begins his paper [3, p. 45, p. 75] on the use of quantitative methods in company management by claiming that the numbers are the fundamental language of business, among other reasons because the bottom line of the balance sheet is a number, but at the end of his paper he highlights the fact that an efficient management is much more than working with numbers. In any case, for management purposes, we need numbers as accurate and “realistic” as possible.

Materials and methods

In order to evaluate the liquidation value of the company's capital at the end of each month of the year, the application software has been created in Excel with the following elements:

- Successive monthly balance sheets – accounting and estimated values (assets, liabilities and capital)
- Successive monthly balance sheets – estimated values (assets, liabilities and capital)
- Monthly changes in estimated values of assets, liabilities and capital
- Cumulative changes in estimated values of assets, liabilities and capital
- Summary of measuring monthly and cumulative rate of return

The first part “Successive monthly balance sheets – accounting and estimated values” is composed from cells where to enter the accounting values of all the positions

from the balance sheet at the end of the month and the estimated values of certain positions. Table 1 shows the first part of the application software⁴ and the cells where to enter the figures are lightly shaded. For a better overview, Table 1 contains only the columns for three successive months, and the application software has thirteen columns.

The evaluation of different positions is performed individually, in accordance with the characteristics of each position and those values can be lower than the accounting ones by e.g. 50% for the buildings, 70% for the equipment, 30% for the inventory and 10% for the receivables.

As a result of inputting accounting and estimated values of different positions from the balance sheet in the first part of the application software, successive estimated balance sheets are obtained (automatically, using the Excel formulas) at the end of each month (part two of the application software) that are used for further calculations and analysis.

The third and fourth part of the application software “Monthly changes in estimated values of assets, liabilities and capital” and “Cumulative changes in estimated values of assets, liabilities and capital” are also automatically (by formulas) derived from the second part and they represent just the difference between different positions in two consecutive months or from the beginning of the year. Tables 2 and 3 represent an example of monthly and cumulative changes of different positions of the balance sheet. For a better overview also, the example has only the first five columns.

⁴ The application software examined in this article can be downloaded from the author's site www.nebojsamrdja.com

Table 1: Successive monthly balance sheet with accounting and estimated value

Cod	Description	Value	31.12.	Value	31.1.	Value	28.2.
		Accounting 000 RSD	Estimated EUR	Accounting 000 RSD	Estimated EUR	Accounting 000 RSD	Estimated EUR
Assets							
001	A. Permanent assets	644,127	10,182,569	636,476	10,193,576	632,609	10,242,301
002	I. Subscribed capital unpaid	0	0	0	0	0	0
003	II. Goodwill	0	0	0	0	0	0
004	III. Intangible assts	0	0	0	0	0	0
005	IV. Property, plants, equip,...	565,608	10,182,569	558,117	10,193,576	554,418	10,242,301
006	1. Property, plants and equip.	565,608	10,182,569	558,117	10,193,576	554,418	10,242,301
007	2. Investment property	0	0	0	0	0	0
008	3. Biological assets	0	0	0	0	0	0
009	V. Long-term fin. investments	78,519	0	78,359	0	78,191	0
010	1. Shares	0	0	0	0	0	0

Table 1: Successive monthly balance sheet with accounting and estimated value /continuous/

Cod	Description	Value	31.12.	Value	31.1.	Value	28.2.
		Accounting 000 RSD	Estimated EUR	Accounting 000 RSD	Estimated EUR	Accounting 000 RSD	Estimated EUR
Assets							
011	2. Other long-term fin. inv.	78,519	0	78,359	0	78,191	0
012	B. Current assets	444,581	6,059,455	477,534	6,313,950	510,428	6,755,515
013	I. Inventory	211,148	3,613,150	240,850	3,844,758	240,890	3,953,568
014	II. Permanent assets for sale	0	0	0	0	0	0
015	III. Short-term receivables, investments and cash	233,433	2,446,305	236,684	2,469,192	269,538	2,801,947
016	1. Receivables	41,705	632,510	41,861	634,307	48,018	732,717
017	2. Income tax	0	0	0	0	0	0
018	3. Short-term investments	800	7,568	800	7,535	20,800	194,294
019	4. Cash and cash equivalents	190,642	1,803,521	192,971	1,817,443	198,089	1,850,360
020	5. VAT and prepayments	286	2,706	1,052	9,908	2,631	24,576
021	IV. Postponed tax assets	0	0	0	0	0	0
022	V. Operating assets	1,088,708	16,242,024	1,114,010	16,507,526	1,143,037	16,997,816
023	G. Loss over capital	0	0	11,647	0	0	0
024	D. Total assets	1,088,708	16,242,024	1,125,657	16,507,526	1,143,037	16,997,816
025	Dj. Off-balance assets	0	0	0	0	0	0
Capital & liabilities							
101	A. Capital	947,352	15,566,978	947,352	15,487,486	960,231	15,944,089
111	B. Long-term res. and liab.	141,356	675,046	178,305	1,020,040	182,806	1,053,727
112	I. Long-term reserves	60,000	0	60,000	0	60,000	0
113	II. Long-term liabilities	10,000	0	10,000	0	10,000	0
114	1. Long-term credits	10,000	0	10,000	0	10,000	0
115	2. Other long-term liabilities	0	0	0	0	0	0
116	III. Short-term liabilities	71,356	675,046	108,305	1,020,040	112,806	1,053,727
117	1. Short-term fin. liabilities	0	0	0	0	0	0
118	2. Liab. about assets for sale	0	0	0	0	0	0
119	3. Short-term liabilities from business operation	70,777	669,568	107,253	1,010,132	110,176	1,029,160
120	4. Other liabilities	579	5,477	1,052	9,908	2,630	24,567
121	5. VAT and other taxes	0	0	0	0	0	0
122	6. Tax on profit	0	0	0	0	0	0
123	V. Postponed tax liabilities	0	0	0	0	0	0
124	G. Capital and liabilities	1,088,708	16,242,024	1,125,657	16,507,526	1,143,037	16,997,816
125	D. Off-balance liabilities	0	0	0	0	0	0

Table 2: Monthly changes in estimated values of assets, liabilities and capital (EUR)

Cod	Description	I	II	III	IV	V
Assets						
001	A. Permanent assets	11,007	48,725	10,014	3,071	6,114
002	I. Subscribed capital unpaid	0	0	0	0	0
003	II. Goodwill	0	0	0	0	0
004	III. Intangible assts	0	0	0	0	0
005	IV. Property, plants, equip. and biol. assets	11,007	48,725	10,014	3,071	6,114
009	V. Long-term financial investments	0	0	0	0	0
012	B. Current assets	254,495	441,565	591,481	373,429	-288,247
013	I. Inventory	231,608	108,810	341,541	459,667	-403,852
014	II. Permanent assets for sale	0	0	0	0	0
015	III. Short-term receivables, inv. and cash	22,887	332,755	249,940	-86,238	115,605
016	1. Receivables	1,797	98,410	6,321	160,325	120,470
017	2. Income tax	0	0	0	0	0
018	3. Short-term investments	-34	186,759	87,532	-5,449	-269,139
019	4. Cash and cash equivalents	13,922	32,917	139,890	-227,126	72,594
020	5. Value added tax and prepayments	7,202	14,668	16,197	-13,988	191,680

Table 2: Monthly changes in estimated values of assets, liabilities and capital (EUR) /continuous/

Cod	Description	I	II	III	IV	V
Assets						
021	IV. Postponed tax assets	0	0	0	0	0
022	V. Operating assets	265,502	490,290	601,495	376,500	-282,133
023	G. Loss over capital	0	0	0	0	0
024	D. Total assets	265,502	490,290	601,495	376,500	-282,133
025	Dj. Off-balance assets	0	0	0	0	0
Capital and liabilities						
101	A. Capital	-79,492	456,603	564,875	536,640	-287,465
111	B. Long-term reserves and liabilities	344,994	33,687	36,619	-160,140	5,332
112	I. Long-term reserves	0	0	0	0	0
113	II. Long-term liabilities	0	0	0	0	0
116	III. Short-term liabilities	344,994	33,687	36,619	-160,140	5,332
117	1. Short-term financial liabilities	0	0	0	0	0
118	2. Liabilities connected with assets for sale	0	0	0	0	0
119	3. Short-term liab. from business operation	340,564	19,028	13,038	-111,992	5,332
120	4. Other liabilities	4,430	14,659	23,581	-48,148	0
121	5. Value added tax and other taxes	0	0	0	0	0
122	6. Tax on profit	0	0	0	0	0
123	V. Postponed tax liabilities	0	0	0	0	0
124	G. Capital and liabilities	265,502	490,290	601,495	376,500	-282,133
125	D. Off-balance liabilities	0	0	0	0	0

Table 3: Cumulative changes in estimated values of assets, liabilities & capital (EUR)

Cod	Description	XII - I	XII - II	XII - III	XII - IV	XII - V
Assets						
001	A. Permanent assets	11,007	59,732	69,746	72,817	78,931
002	I. Subscribed capital unpaid	0	0	0	0	0
003	II. Goodwill	0	0	0	0	0
004	III. Intangible assts	0	0	0	0	0
005	IV. Property, plants, equipment,..	11,007	59,732	69,746	72,817	78,931
009	V. Long-term financial investments	0	0	0	0	0
012	B. Current assets	254,495	696,060	1,287,541	1,660,969	1,372,723
013	I. Inventory	231,608	340,418	681,959	1,141,626	737,774
014	II. Permanent assets for sale	0	0	0	0	0
015	III. Short-term receivables, inv. and cash	22,887	355,642	605,582	519,343	634,949
016	1. Receivables	1,797	100,207	106,528	266,853	387,323
017	2. Income tax	0	0	0	0	0
018	3. Short-term investments	-34	186,726	274,258	268,809	-330
019	4. Cash and cash equivalents	13,922	46,839	186,728	-40,398	32,196
020	5. Value added tax and prepayments	7,202	21,871	38,068	24,080	215,759
021	IV. Postponed tax assets	0	0	0	0	0
022	V. Operating assets	265,502	755,792	1,357,287	1,733,786	1,451,654
023	G. Loss over capital	0	0	0	0	0
024	D. Total assets	265,502	755,792	1,357,287	1,733,786	1,451,654
025	Dj. Off-balance assets	0	0	0	0	0
Capital and liabilities						
101	A. Capital	-79,492	377,111	941,986	1,478,626	1,191,161
111	B. Long-term reserves and liabilities	344,994	378,681	415,301	255,160	260,492
112	I. Long-term reserves	0	0	0	0	0
113	II. Long-term liabilities	0	0	0	0	0
116	III. Short-term liabilities	344,994	378,681	415,301	255,160	260,492
117	1. Short-term financial liabilities	0	0	0	0	0
118	2. Liabilities about assets for sale	0	0	0	0	0
119	3. Short-term liab. from business op.	340,564	359,592	372,630	260,638	265,970

Table 3: Cumulative changes in estimated values of assets, liabilities & capital (EUR) /continuous/

Cod	Description	XII - I	XII - II	XII - III	XII - IV	XII - V
Assets						
120	4. Other liabilities	4,430	19,089	42,671	-5,477	-5,477
121	5. Value added tax and other taxes	0	0	0	0	0
122	6. Tax on profit	0	0	0	0	0
123	V. Postponed tax liabilities	0	0	0	0	0
124	G. Capital and liabilities	265,502	755,792	1,357,287	1,733,786	1,451,654
125	D. Off-balance liabilities	0	0	0	0	0

The last part of the application software contains the previous calculation in short and the one that was the final goal – the measuring of the rate of return. Table 4 shows an example of that summary. It shows the basic positions of the balance sheet including the accounted net current assets (difference between current assets and short-term liabilities) and then, based on changes in the

estimated value of capital the return rate for each month and cumulatively is calculated. All the figures shown in Table 4 are also obtained automatically from the previous parts of the application software except for position 4 (return in month) where data is input on different money transfers to/from the company based on dividends withdrawal, capital increase by shareholders et al.

Table 4: Summary of measuring monthly and cumulative rate of return (EUR)

1. Balance sheets at the end of the month		31.1.	28.2.	31.3.	30.4.	31.5.
A.	Fixed assets	10,193,576	10,242,301	10,252,315	10,255,386	10,261,500
B.	Net current assets (1+2+3-4)	5,293,910	5,701,788	6,256,650	6,790,219	6,496,640
1.	Inventory	3,844,758	3,953,568	4,295,109	4,754,776	4,350,924
2.	Receivables, short term financial inv., cash	2,469,192	2,801,947	3,051,887	2,965,649	3,081,254
3.	Other current assets	0	0	0	0	0
4.	Short term liabilities	1,020,040	1,053,727	1,090,346	930,206	935,538
C.	Long term liabilities and provisions	0	0	0	0	0
D.	Capital (A+B-C)	15,487,486	15,944,089	16,508,965	17,045,605	16,758,140
2. Changes in value of assets, liab. and capital in month		I	II	III	IV	V
A.	Fixed assets	11,007	48,725	10,014	3,071	6,114
B.	Net current assets (1+2+3-4)	-90,499	407,878	554,861	533,569	-293,579
1.	Inventory	231,608	108,810	341,541	459,667	-403,852
2.	Receivables, short term financial inv., cash	22,887	332,755	249,940	-86,238	115,605
3.	Other current assets	0	0	0	0	0
4.	Short term liabilities	344,994	33,687	36,619	-160,140	5,332
C.	Long term liabilities and provisions	0	0	0	0	0
D.	Capital (A+B-C)	-79,492	456,603	564,875	536,640	-287,465
3. Changes in value of assets, liab. and capital in period		XII - I	XII - II	XII - III	XII - IV	XII - V
A.	Fixed assets	11,007	59,732	69,746	72,817	78,931
B.	Net current assets (1+2+3-4)	-90,499	317,379	872,240	1,405,809	1,112,230
1.	Inventory	231,608	340,418	681,959	1,141,626	737,774
2.	Receivables, short term financial inv., cash	22,887	355,642	605,582	519,343	634,949
3.	Other current assets	0	0	0	0	0
4.	Short term liabilities	344,994	378,681	415,301	255,160	260,492
C.	Long term liabilities and provisions	0	0	0	0	0
D.	Capital (A+B-C)	-79,492	377,111	941,986	1,478,626	1,191,161
4. Return in month		I	II	III	IV	V
1.	Changes in capital in month	-79,492	456,603	564,875	536,640	-287,465
2.	Transfer of "cash" in/out company in month	0	0	0	-201,979	-913,133
3.	Return in month (1-2)	-79,492	456,603	564,875	738,619	625,668
5. Return in period		XII - I	XII - II	XII - III	XII - IV	XII - V
1.	Changes in capital in period	-79,492	377,111	941,986	1,478,626	1,191,161
2.	Transfer of "cash" in/out company in period	0	0	0	-201,979	-1,115,112
3.	Return in period (1-2)	-79,492	377,111	941,986	1,680,605	2,306,273

Table 4: Summary of measuring monthly and cumulative rate of return (EUR) /continuous/

6. Rate of return in month		I	II	III	IV	V
1. Return in month		-79,492	456,603	564,875	738,619	625,668
2. Average capital employed		15,527,232	15,715,788	16,226,527	16,777,285	16,901,872
3. Rate of return in month (1/2x12)		-6%	35%	42%	53%	44%
7. Rate of return in period		XII - I	XII - II	XII - III	XII - IV	XII - V
1. Return in period		-79,492	377,111	941,986	1,680,605	2,306,273
2. Average capital employed		15,527,232	15,666,185	15,876,880	16,110,625	16,218,544
3. Rate of return in period (1/2/no. of months x 12)		-6%	14%	24%	31%	34%

Results and discussion

A picture is worth a thousand words is a well known saying. In this case, it is possible to represent with charts the results obtained by using the application software for measuring the capital return rate.

The following four charts are also output from the application software but they are representing data for all 12 months. The elements of such a report on return rate realized can be directly compared with the financial parts of the company’s business plan, unlike the standard approach based on the balance of success and calculation of the accounting ratios.

Figure 1: Successive monthly balance sheet – estimated values (EUR)

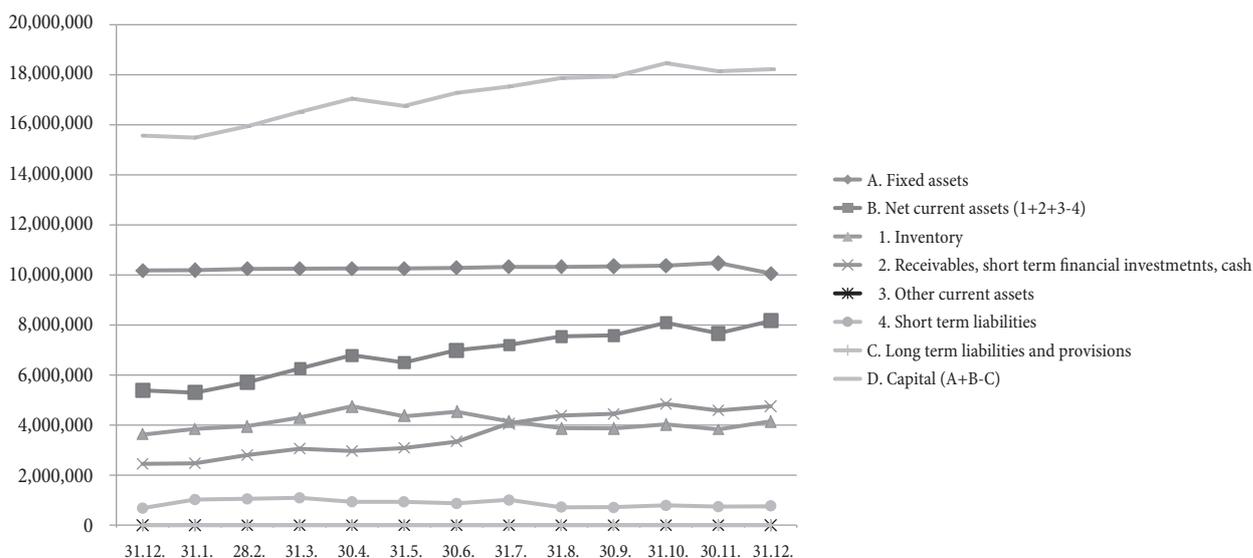


Figure 2: Cumulative changes in estimated values of assets, liabilities & capital (EUR)

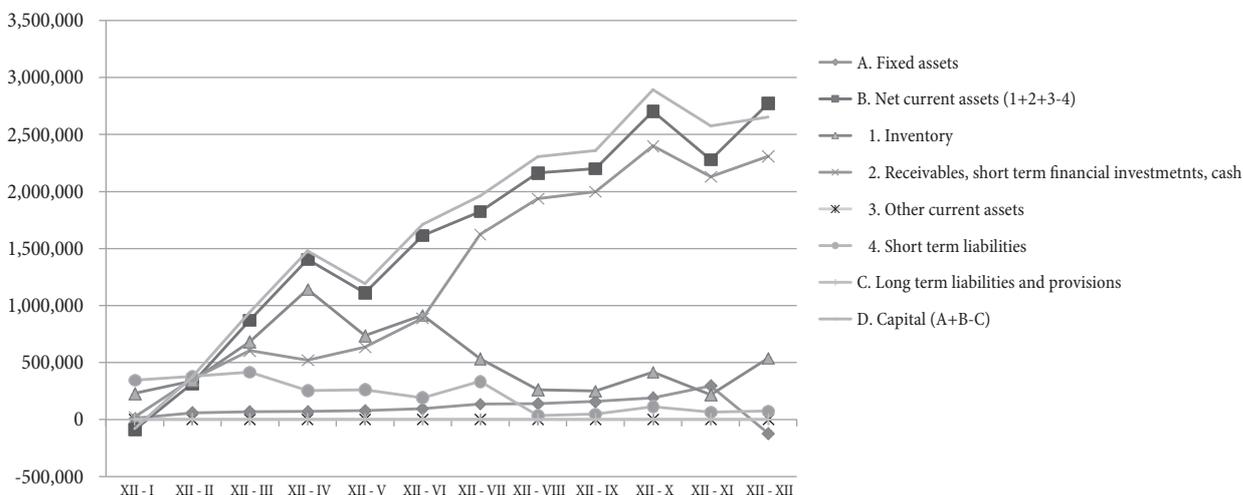


Figure 3: Monthly and cumulative increase of capital (EUR)

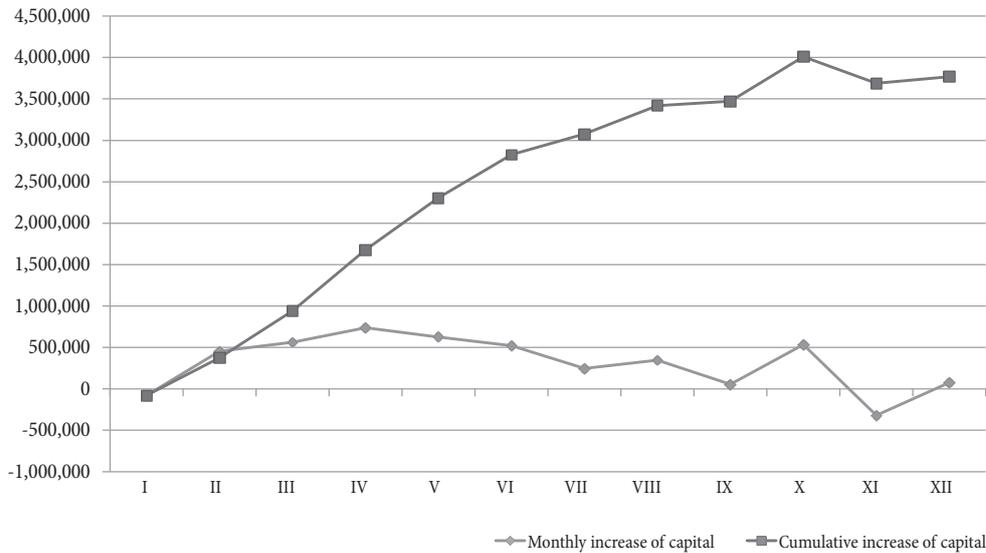
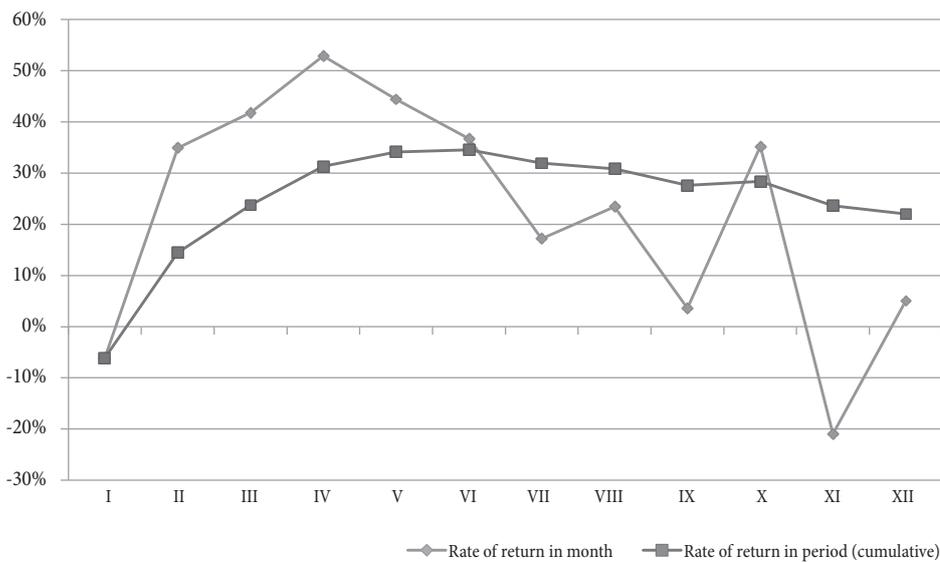


Figure 4: Monthly and cumulative rate of return



Conclusions

For tracking the realization of the business plan and decision making about correcting the business plan it is useful, among other actions, to review once a month all the positions of the balance sheet and evaluate them based on the latest information on market in and out prices in Euros. The application software for measuring the return rate described above can be used in that process. The readers of this article have to decide themselves if it is better to start the analysis of a company's business with the charts shown above or based on the standard financial reports (that include

amortization, revaluation reserves, dinars...) and the accounting ratios derived.

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¹Akcija Najbolje iz Srbije 2009, 2010, 2011, 2012, i 2013. godine u organizaciji Ministarstva trgovine i usluga, Privredne komore Srbije i dnevnog ekonomskog lista „Privredni pregled“.

²Brend decenije - 2011, manifestacija „Privrednici i stvaraoci koji su obeležili deceniju“ u organizaciji Kluba privrednih novinara Srbije.

³Najomiljeniji pivski brend u Srbiji - 2006, 2007, 2008, 2009, i 2010, prema istraživanju agencije Synovate; 2011, 2012, 2013. i 2014. prema istraživanju agencije GfK.

