FINANCIAL SYSTEMS INTEGRATION

OF BALKAN COUNTRIES IN THE EUROPEAN FINANCIAL SYSTEM

EDITORS

Claude Berthomieu, PhD
Srdjan Redžepagić, PhD

Belgrade, 2008.

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Contents

Preface

The international scientific conference "Challenges of Economic Sciences in the 21st Century" held in Belgrade on 4th and 5th of December 2008 gathered over one hundred prominent scientific researches, university professors and young economists from Italy, France, Portugal, Germany, United Kingdom, New Zealand, Hungary, Nepal, Nigeria, Slovakia, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Macedonia and Serbia. The conference was organized by Institute of Economic Sciences in Belgrade; Ministry of Sciences of the Republic of Serbia; Belgrade Banking Academy – Faculty for Banking, Insurance and Finance; University of Nice – Sophia Antipolis and University of Torino, Scuola di Amministrazione Aziendale on the 50th Anniversary of the Institute of Economic Sciences.

The Institute of Economic Sciences, in cooperation with the research center CEMAFI ("Centre d'Etudes en Macroéconomie et Finance Internationale") of the University of Nice – Sophia Antipolis, is realizing the research project titled ***Financial Systems Integration of Balkan Countries in the European Financial System*** within the program "Pavle Savić" of the "Partnership Hubert Curien". It is realized with support of French (Ministry of Foreign Affairs) and Serbian (Ministry of Science) Government.

Within thematic section *Financial Systems Integration of the Balkan Countries in the European Financial System*, the following topics were treated:

- Transformation of the Serbian Financial and Banking Sector
- Financial Liberalization and Growth
- Venture Capital, Finance, Taxation and Regulation
- Foreign Direct Investment

During the conference, 62 papers were presented and apart from presentation, over 100 papers have been submitted by the authors. It was a double blind review in order to achieve the high scientific level of the conference. As the result of the first year of the research project "Pavle Savić" it has been organized the thematic section *Financial Systems Integration of the Balkan Countries in the European Financial System*, where 28 papers, apart from presentation were presented and discussed during the Conference. All of them are presented here. For that reasons we publish this special conference proceedings book in order to allow wider population access to this very important scientific achievement.

Belgrade,
December 2008.

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Financial Sector Restructuring and Integration of Western Balkan Countries in the European Financial System[1]

Claude Berthomieu, Jean-Charles Briquet-Laugier, Irina Syssoyeva (Masson)[2]

ABSTRACT – *The impact of international financial integration on economic performance continues to be one of the most debated issues among international economists. Theoretical models have identified a number of channels through which international financial integration can promote economic growth and economic development in developing countries and countries in transition. However, in spite of its benefits, financial integration can also be dangerous, as it has been witnessed in many recent financial crises. In fact, there are some evidences that financial globalisation leads to better macroeconomic outcomes only when certain "threshold conditions" are met. Therefore, this paper discusses the potential benefits and potential costs of financial integration, which could face transition countries from Western Balkans while integrating their financial systems into the European financial system. Since the financial sector of Western Balkan countries is characterised by an increasing presence of foreign bank, this paper points out the potential advantages and a possible "danger" of the excessive presence of foreign banks in the host-country. This paper concludes with the idea that it is important to determine the optimal level of foreign banks participation in local banking sector and that financial integration should be approached cautiously, with good institutions and macroeconomic frameworks viewed as important preconditions.*

KEY WORDS: banking sector, European Union, financial integration, financial systems, stabilization and association process, Western Balkan countries

Introduction

The idea of European integration is not a new one; it was stimulated by the Marshall Plan. The preamble to the *Economic Cooperation Act* voted by the American Congress in 1948 invites Europe to follow the example of the United States and to form a common economic market spanning the continent. The first tangible element of the European integration in the aftermath of the Second World War was the formation of the *European Coal and Steel Community (ECSC), which* was created by the *Treaty of Paris (1951)*, following a proposal from French foreign minister Robert Schuman. Six countries (Belgium, France, Italy, Luxembourg, the Netherlands and West Germany) signed the *Treaty of Paris,* pooling their coal and steel resources. For half a century, the European Union (EU) has pursued ever-deeper integration while taking in new members. The number of Member States has increased since the signing of the Treaty of Rome (March 1957)[3].

Recently, the governments of the EU Member States have agreed to extend the EU perspective to countries in South East Europe – Croatia, the Former Yugoslav Republic of Macedonia, Albania, Bosnia and Herzegovina, Montenegro and Serbia. At present, among these countries, there are only two

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[1] This paper is one of results of the research project of *Hubert Curien Partnership* program « Pavle Savic » (Serbian-French technology cooperation for years 2008/2009) titled *FINANCIAL SYSTEMS INTEGRATION OF BALKAN COUNTRIES IN THE EUROPEAN FINANCIAL SYSTEM* realized in the research cooperation between University of Nice-Sophia Antipolis, CEMAFI (France) and Institute of Economic Sciences, Belgrade (Serbia).

[2] Claude Berthomieu, Jean-Charles Briquet-Laugier, Irina Syssoyeva (Masson), University of Nice-Sophia Antipolis

[3] Denmark, Ireland and the United Kingdom joined the EEC in 1973, followed by Greece eight years later. Portugal and Spain became Member States in 1986, while Austria, Finland and Sweden joined the EU in 1995. This expansion continued on May 1, 2004 with accession to the EU of Estonia, Hungary, Cyprus, Latvia, Lithuania, Malta, Poland, the Czech Republic, Slovenia, and the Slovak Republic. Since January 1, 2007, the EU counts two new Member States: Bulgaria and Romania. These two accessions have brought to an end the fifth wave of the EU's enlargement.

candidates for EU membership – Croatia and FYR of Macedonia. Other countries of the region are considered as *potential candidate countries* (Albania, Bosnia and Herzegovina, Montenegro and Serbia).

The EU integration process implies legally binding, sweeping liberalisation measures – not only capital account liberalisation, but investment by EU firms in the domestic financial services and the maintenance of a competitive domestic environment, giving this financial liberalisation process strong external incentives (and constraints).

The integration of potential candidate countries into the enlarged Europe is currently realised through *Stabilization and Association Process (SAP)* which aims to bring these countries progressively closer to the EU. The centerpiece of the process is a *Stabilisation and Association Agreement (SAA),* which represents a contractual relationship between the EU and each potential candidate country, entailing mutual rights and obligations. For each of the potential candidate countries of the Western Balkans[4] the *Commission of European Communities* negotiates SAAs which have three aims: first, to encourage regional cooperation; second to promote economic stabilisation and a swift transition to a market economy; and third to offer the prospect of EU accession. Thus, SAAs explicitly include provisions for future EU membership of the country involved. These Agreements are similar in principle to the *Europe Agreements* signed with the Central and Eastern European Countries (CEECs) in the 1990s.

In case of CEECs countries, the *prospective EU accession* served as the ultimate anchor for financial liberalisation. The EU candidate countries had to fully liberalise their financial system by the time of EU accession at the latest, as the free movement of capital is one of the leading principles of the EU. However, even if the SAAs are based mostly on the *EU's acquis communautaire* and predicated on its promulgation in the cooperation states legislation, the depth of the policy harmonisation expected by them is *less* that for EU member states.

Globally, the financial integration has progressed dramatically over the past 30 years. This current wave of financial globalisation was urged by liberalisation of capital controls in many of developing countries and transition economies, in anticipation of the benefits that cross-border flows would bring in terms of better global allocation of capital and improved international risk-sharing possibilities. With the surge in financial flows, however, came a spate of currency and financial crises[5]. These developments have provoked an intense debate among both academics and policy circles on the *costs* and *benefits* of financial integration, which has intensified and become more polarised over time. Thus, this article proposes to analyse the *potential benefits* and *potential costs of financial integration*, which could face the potential candidate countries from Western Balkans during integration of their financial systems into the European financial system, as well as into the world financial market[6].

The paper is structured as follows. Paragraph 1 presents the current situation of financial systems in the EU potential candidate countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia). Paragraph 2 discusses the potential benefits (§2.1) and the potential costs (§2.2) of financial integration. The paper concludes with some recommendations concerning the integration process of financial systems for these countries.

Financial sector restructuring in the Western Balkans

Analytically, any financial system can be divided in three sub-sectors: the banking sector (regrouping the commercial or deposits banks), the non-banking financial institutions (like savings-institutions, insurance companies, private pension funds, mutual funds societies, investment funds,...) and capital (or financial) markets. Banks act as credit-suppliers from the deposits they collect and funds they bor-

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[4] SAA signature: Albania – 12/06/2006; Montenegro – 15/10/2007; Serbia – 29/04/2008; and, Bosnia and Herzegovina – 16/06/2008.

[5] There is a widely held perception that developing countries or countries in transition that opened up to capital flows have been more vulnerable to these crises than industrial economies, and have been much more adversely affected.

[6] It seems important to study this question since the countries of Western Balkans are highly dependent on foreign capital.

row from the Central Bank; such specific financing facility is not available to the non-banking institutions.

In the majority of transition economies, the role of non-banking institutions in mobilisation and allocation of financial resources was and remained quite negligible during the 1990s, and the same appears in Western Balkans countries, where the *banking sector continues to dominate the financial system*, managing for over 90% of total financial assets, while capital markets and non-banking financial institutions play only marginal roles (D. Müller-Jentsch, 2007).

However, the financial sector in the Western Balkans has improved significantly in recent years and a deep restructuring process has been (and proceeds to be) implemented. This owes to comprehensive reforms by governments and the support of international financial institutions like the IMF, the World Bank, and the EBRD. However, fifteen years ago, financial markets in former Yugoslavia and in Albania were poorly developed. The break-up of Yugoslavia led to the fragmentation of financial services companies, the establishment of new regulatory institutions and a freezing of foreign currency deposits. During the 1990s, pyramid saving schemes in Albania, hyperinflation in Serbia and Montenegro, the wars in Bosnia and Kosovo as well as banking crises in several countries of the region weakened the financial sector. Macroeconomic disturbances, a weak rule of law, a large stock of bad debt and low capitalisation rates further undermined the stability of financial markets.

The inefficiency in the financial sector was also influenced by its underdeveloped structure. It was characterised by domination of the banking sector, while the role of non-banking sector in mobilisation, concentration and allocation of financial resources was almost non-existent. In addition, the majority of banks were insolvent and unable to fulfil the requirements established by prudential norms while the banking balances were burdened by a high level of risky and non-performing loans (S. Golubović and N. Golubović, 2005).

As the consequence, the policy agenda during the late 1990s and early 2000s was dominated by efforts to clean up and stabilise the banking industry. Regulatory frameworks have been modernised and financial supervision has been strengthened. The share of bad loans has been reduced dramatically. Privatisation has helped to reduce state ownership in banking down to less than 20 percent in most countries and has attracted foreign banks into the market.

Despite these positive developments cited above, financial markets in the Western Balkans remain small, fragmented, and at an early stage of their development. The general characteristics of this market are: activity on the equity market is considerably lower than activity of the banking sector; majority of the countries are characterised by low liquidity on the capital market, with exchange concentrated on small number of shares of listed companies; and, an increased sensitivity of the financial markets to the movements of speculative capital (S. Golubović and N. Golubović, 2005).

Western Balkan banking sector has recently attracted considerable attention from foreign investors through a removal of national restrictions, the liberalisation of market access, and the sale of state-owned banks. The transition process from plan to market economy has proved to be an opportunity for many foreign banks to expand their activities to countries of the region. In the early years of transition, many EU banks set up small representative offices in the Western Balkans in order to serve their home clients who were entering the region. As cross-border linkages became more familiar with local conditions, they gradually expanded their presence in the region. Now some of them have established branch networks throughout the region and act as "*universal banks*" that offer a *broad range of financial services*.

It is notable that the majority foreign-owned banks still retain the highest share of the total assets of the banking system in the region. In 2007, banks with majority of foreign capital, controlled approximately 75% of banking market of Albania, Bosnia and Herzegovina, Montenegro and Serbia. In 2005-2007, the market share of foreign banks stood at around 90% in Albania. Banks with majority of foreign capital controlled 86.1% of Bosnia and Herzegovina banking market in 2005, 90.3% in 2006 and 91% in 2007. In Serbia, it increased from 37% in 2005 to 75.5% in 2007, due to privatisation and organic growth of the subsidiaries of EU banks. Share of foreign capital, in Montenegrin banking sector, was around 78.8% by the end of 2006.

Owners include international banking groups coming primarily from EU countries (such as Austria, Italy, Greece, France, etc.). Austrian and Italian banks in particular operate across the Western Balkans. For instance, the Austrian investors are dominant in Bosnia and Herzegovina (59% of banking assets in 2007) and in Albania (55% of banking sector in 2005). Greek banks have also entered the region; by mid 2005, they had invested around EUR 750 million in the Western Balkans, half of which in Serbia alone. Since the start of financial system reform, these groups introduced numerous positive changes in the region, improving the performances of the domestic banking sector and providing stable foreign sources of financing domestic credit expansion.

Thus, the process of *financial integration* of the Western Balkans has primarily been driven by foreign direct investments (FDI) of EU banks into domestic banking sector. These strategic investors have been a way to strengthen the banking system in the region and to improve the low level of financial intermediation. They brought with them *technical know-how*, such as modern risk-management and marketing techniques. They tend to raise governance standards, introduce new financial products. They come with the resources to re-capitalise domestic banks and modernise branch networks. Moreover, FDI from the EU also helps the Western Balkan countries to "import" modern prudential regulation from EU.

However, there are also some concerns about the growing influence of foreign banks in these regional banking markets. These, mainly, relate to the possibility that foreign banks turn out to be instable sources of bank credit, especially during financial crises or during economic downturns (either in Western Balkan countries or in their home markets).

Financial integration, its potential benefits and costs

Financial globalisation and *financial integration* are, in principle, two different concepts. *Financial globalisation* is an aggregate concept that refers to rising global linkages through cross-border financial flows. *Financial integration* refers to an individual country's linkages to international capital markets. Nevertheless, these two concepts are closely related. For instance, increasing financial globalisation is necessarily associated with rising financial integration on average[7].

Some academic economists consider increasing financial liberalisation and unrestrained capital flows as a serious hazard to global financial stability (e.g., D. Rodrik, 1998; J. Bhagwati, 1998; J. Stiglitz, 2002) and dispute its utility for reasons of provoking the generation and propagation of serious financial crises. Thus, these economists call for maintenance of capital controls and the imposition of frictions, such as "Tobin taxes", on international asset trade.

Others[8] argue that free movements of international capital can encourage a relatively more efficient allocation of economic resources, offer good risk diversification opportunities and help to promote financial development[9]. According to these authors, the abolishment of capital controls should allow a more efficient global capital allocation, which would transfer capital from capital-rich countries (industrial countries) to capital-poor countries (developing countries or transition economies). The capital inflows, resulting from financial liberalisation, should facilitate the transfer of foreign technology and management experience, encourage the competition and promote higher levels financial development, spurring economic growth. Moreover, increased openness to capital flows has, by and large, proven essential for countries aiming to upgrade from lower- to middle-income status, while significantly enhancing stability among industrialized countries (e.g., S. Fischer, 1998; L. Summers, 2000).

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[7] In this paper, we use these two terms interchangeably.

[8] Among partisans of financial liberalisation, we can find the World Bank, the International Monetary Fund, B. Eichengreen (2001), M. Obstfeld and K. Rogoff (1998), M. Klein and G. Olivei (1999), and others.

[9] The beneficial effects of financial liberalization were underlined by L. Summers in his American Economic Association speech in 2000: "… insofar as international financial integration represents an improvement in financial intermediation (whether because of the transfer of saving from low- to high-return jurisdictions, because of better risk-sharing, or because institutions involved in the transfer of capital across jurisdictions improve the efficiency with which capital is allocated), it offers a potentially significant increase in economic efficiency…", p. 3.

Some argue that the increasing presence of foreign firms in financial sectors can bring the important benefits to the markets they enter: added investment, cutting edge technologies and managerial practices (especially risk management), and because they tend to be more diversified than local institutions, more financial stability.

From this point of view, the financial integration potentially benefits both capital-importer and capital-exporter countries. Thus, the process of financial integration can be considered as a sign of country's attachment to a good economic policy. Consequently, it seems quite natural, from this point of view, to expand the process of international financial integration to other less economically developed countries. However, even if the deregulation of international capital movements is certainly desirable, some authors argue that *such reforms should be implemented slowly*[10].

Potential benefits of financial globalisation in theory

In theory, there are a number of *direct* and *indirect channels* through which financial globalisation could enhance growth.

Among the *direct channels* we can distinguish the *augmentation of domestic savings* (cross-border capital flows, in principle, allow to increase investment in capital-poor countries while they provide a higher return on capital from capital-rich countries); the *reduction in the cost of capital through better global allocation of risk* (it was predicted that stock market liberalisation can improve the allocation of risk (P. Henry, 2000)); the *transfer of technological and managerial know-how* (financially integrated economies seem to attract a large share of FDI inflows, which have the potential to generate technology spillovers and to serve as a conduit for passing on better management practices); the *stimulation of domestic financial sector development* (international portfolio flows can increase the liquidity of domestic stock markets and increased foreign ownership of domestic banks can also generate a variety of other benefits (R. Levine, 1996).

There are also a number of *indirect channels* through which financial globalisation could enhance economic growth. It could help *promote specialisation* by allowing for sharing of income risk, which could in turn increase productivity and growth as well. Financial flows could *foster development of the domestic financial sector* and, by *imposing discipline on macroeconomic policies*, lead to more stable policies.

Since the *financial sector in the Western Balkans is bank-dominated*, it seems important, for us, to pay more attention to <u>the benefits that can bring foreign participation in the local bank sector</u>.

Theoretically, *foreign bank participation* can generate a variety of benefits (R. Levine, 1997, 2005). First, foreign bank participation can facilitate access to international financial markets. Second, it can help improve the regulatory and supervisory frameworks of the domestic banking sector. Third, it can improve the quality of loans, as the influence of the government on the financial sector should decline in more open economies. Fourth, in practice, foreign banks may introduce a variety of new financial instruments and techniques and also foster technological improvements in domestic markets. Fifth, the entry of foreign banks tends to increase competition, which, in turn, can improve the quality of domestic financial services as well as allocative efficiency. Sixth, the presence of foreign banks can also provide a safety valve when depositors become worried about the solvency of domestic banks. Finally, foreign banks entry enhances legislative framework, financial monitoring, reduces corruption and stimulates the development of transparent intermediary operations (R. De Haas and I. Van Lelyveld, 2003).

Even if theoretical models have identified a number of *channels* through which international financial integration can help to promote economic growth, and on the surface, there seems to be a positive association between embracing financial globalisation and the level of economic development[11], it is

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[10] For more details see "Communiqué of the International Monetary and Financial Committee of the Board of Governors of the International Monetary Fund", IMF 2000.

[11] Industrial countries in general are more financially integrated with the global economy than developing countries. So embracing globalization is apparently part of being economically advanced.

quite difficult to empirically identify a strong and robust causal relationship between financial integration and growth, especially for developing countries (B. Eichengreen, 2000; E. Prasad and al., 2003). Besides, many of empirical papers have often found *mixed results*, suggesting that the benefits are not straightforward.

One of the reasons for the lack of consensus can be ascribed to the difficulty in properly *measuring the extent of financial integration* (M. Chinn and H. Ito, 2007). Although many measures exist to describe the extent and intensity of capital account controls, it is generally agreed that such measures fail to capture fully the complexity of real-world capital controls for a number of reasons[12].

In fact, we can distinguish three main measures of the extent of financial integration: *de jure* measures (that capture the legal restrictions on cross-border capital flows based on data from IMF's AREAER[13]); *de facto* measures which includes the *price-based measures* (CIP, UIP and RIP[14]) and the *quantity-based measures* (based on actual flows); another *de facto* measure of financial integration is *saving-investment correlation* (M. Feldstein and C. Horioka, 1980). Apparently, the distinction between *de jure* and *de facto* integration appears to matter a great deal in understanding the macroeconomic implications of financial globalisation. The basic problem with *de jure* measures is that implementation and enforcement differ so greatly across countries that international comparisons are doubtful. Consequently, even if most empirical papers analysing the effects of financial integration rely on *de jure* measures, *de facto* integration measures may be more appropriate for analysing the direct and indirect benefits of financial integration.

An alternative line of inquiry into the effects of financial globalisation is based on the notion that *not all capital flows are equal*. Flows like Foreign Direct Investment (FDI) and, perhaps, international portfolio flows are not only presumed to be more stable and less prone to reversals (S-J. Wei, 2006), but are also believed to bring with them many of the indirect benefits of financial globalisation such as *transfers of managerial* and *technological expertise*. Thus, the composition of capital inflows can have an important influence on the benefits of financial integration for developing countries as well as for transition countries.

Finally, it seems that is not just the capital inflows themselves, but what comes along with the capital inflows that drive the benefits of financial integration for developing and transition countries (M. Kose and al., 2006). There is considerable evidence that financial integration serves as an important catalyser for a number of indirect benefits, which M. Kose and al. (2006) name potential "*collateral benefits*" since they may not generally be the primary motivations for countries to undertake financial integration. They could include *development of the domestic financial sector*, *improvements in institutions* (defined broadly to include governance, the rule of law, etc.), *better macroeconomic policies*, etc.

These collateral benefits then result in higher growth, usually through gains in allocative efficiency. The empirical implications of this perspective are powerful. Actually, these collateral benefits affect growth and stability dynamics through indirect channels rather than just directly through financing of domestic investment, implying that the associated macroeconomic gains may not be fully evident in the short run. Moreover, in cross-country regression, it may be difficult to uncover the effects of financial integration if one includes measures of institutional quality, financial sector development, quality of macroeconomic policies etc (M. Kose and al., 2006).

While it is difficult to find a strong and robust effect of financial integration on economic growth, there is some evidence in the literature of various kinds of "threshold effects". For example, there is some evidence that the effect of foreign direct investment on growth depends on the level of human capital in a developing country. The list of "threshold effects" includes: *financial sector development*, *overall institutional quality*, *corporate governance*, *macroeconomic policies framework*, and *trade*

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[12] The majority of empirical studies are unable to find robust evidence in support of the growth benefits of financial integration. However, studies that use measures of *de facto* integration or finer measures of *de jure* integration tend to find more positive results. Moreover, studies using micro data are better able to detect the growth and productivity gains coming from financial integration.

[13] The *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER) measures over 60 different types of controls.

[14] CIP: Covered Interest Parity; UIP: Uncovered Interest Parity and RIP: Real Interest Parity.

integration. In fact, these threshold effects play important roles in shaping the macroeconomic outcomes of financial globalisation. In other words, countries meeting these threshold conditions are better able to reap the growth and stability benefits of financial globalisation. This generates a deep tension as many of the threshold conditions are also on the list of collateral benefits (M. Kose and al., 2006).

Potential csts of financial integration

In spite of its beneficial effects, financial integration can also be dangerous, as it has been witnessed in many past and recent financial, currency and banking crises. It can make countries more vulnerable to exogenous shocks. In particular, if serious macroeconomics imbalances exist in a recipient country, and if the financial sector is weak, be it in terms of risk management, prudential regulation and supervision, large capital flows can easily lead to serious financial, banking or currency consequences.

In fact, the experience of the past three decades has led economists and policy makers to recognize that, in addition to the potential benefits discussed above, open financial markets may also generate significant costs. Such *potential costs* include *a high degree of concentration of capital flows* and *a lack of access to financing for small countries* (either permanently or when they need it most); *an inadequate domestic allocation of these flows* (which may hamper their growth effects and exacerbate pre-existing domestic distortions); *a loss of macroeconomic stability*; *a pro-cyclical nature of short-term capital flows and the risk of abrupt reversals*; *a high degree of volatility of capital flows* (which relates in part to herding and contagion effects); and *risks associated with foreign bank penetration* (P-R. Agénor, 2001).

Again, since financial sector of Western Balkan countries is bank-dominated, we would like to point out the potential "danger" of presence of foreign bank on the domestic financial sector. Although foreign bank penetration can yield several types of benefits (as discussed earlier), it also has some potential disadvantages as well.

First, foreign banks may ration credit to small firms to a larger extent than domestic banks, and concentrate instead on larger and stronger ones. If foreign banks concentrate their lending operations only to the most creditworthy corporate borrowers, their presence will be less likely to contribute to an overall increase in efficiency in the financial sector. More importantly, by leading to a higher degree of credit rationing to small firms, they may have an adverse effect on output, employment, and income distribution (P-R. Agénor, 2001).

Second, entry of foreign banks, which tend to have lower operational costs, can create pressures on local banks to merge in order to remain competitive. Furthermore, the process of concentration (which could also occur as foreign banks acquire domestic banks) could create "too big to fail" banks. A too-big-to-fail problem may, in turn, increase moral hazard problems: knowing the existence of an (implicit) safety net, domestic banks may be less careful in allocating credit and screening potential borrowers (P-R. Agénor, 2001). Concentration could also create monopoly power that would reduce the overall efficiency of the banking system and the availability of credit. In particular, a high degree of banking system concentration may adversely affect output and growth by yielding both higher interest rate spreads (with higher loan rates and lower deposit rates relative to competitive credit and deposit markets) and a lower amount of loans than in a less concentrated more competitive system.

Third, entry of foreign banks may not lead to enhanced stability of the domestic banking system, because their presence *per se* does not make systemic banking crises less likely to occur – as it may happen if the economy undergoes a deep and prolonged recession, leading to a massive increase in default rates and an across-the-board increase in no performing loans, and because they may have a tendency to "cut and run" during a crisis (P-R. Agénor, 2001).

Conclusion

The common characteristic of the Western Balkan countries is that, in the early transition, these countries avoided any radical reform of their financial sector. Instead, they undertook partial changes like transformation of the monobank system into two-tired banking system. The transition countries experience points out that the financial sector restructuring is necessary if macroeconomic crises are to be avoided. Therefore, the financial sector development is an important segment of economic transformation.

On the other hand, the financial sector reform is one of the first steps of the process of financial integration, both on a regional basis and on an European perspective. The main goal of the financial sector reform in the Western Balkan countries is the change of the financial sector role. It means that the financial sector must have an active role in mobilisation, concentration and allocation of financial resources.

Until now, the most important changes in financial system in these countries were realised only in banking sector, while the changes were almost insignificant in the other segments of the financial sector.

In the banking sector, the very strong entry and presence of foreign banks in Western Balkans seem to bring great advantages in terms of efficiency and banking performance. Among these foreign banks, the Austrian ones hold the first place that settles more firmly Vienna's position as regional financial hub in the Central Europe.

However, it would be necessary to determine the *optimal level* of foreign banks participation in order to leave enough space for the domestic banks which would risk to become entirely dependent from these foreign banks. In fact, the local banks play a very important role in these countries by financing the numerous small and medium size enterprises which are not financial attractive for banks from abroad.

Moreover, in order to "successfully" integrate the EU financial market, the potential candidate countries should envisage to develop the two other financial sectors of their financial system in following a gradual and orderly sequencing of external and internal financial liberalisation. The current worldwide crisis shows that a too large financial liberalisation can easily lead to serious financial and banking risks. Therefore, local authorities should adopt a cautious attitude towards financial liberalisation and take in consideration the current macroeconomic situation which, in fact, is specific to each country.

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Testing Convergence in Europe: The Case of Integration of Balkan Countries in the European Financial System [1]

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ABSTRACT – *This paper aims to show the impact of financial variables on the process of convergence between selected European Union and Balkan countries. Indeed, after a delay in the realization of structural changes – result of historical legacy and circumstances in which the transition process took place –, Balkan countries started at the end of 1990s essential reforms in their financial systems with the adoption of concrete measures directed towards the growth and increase of the financial sector efficiency. So, using panel data over the period 1999-2007 for a sample of 21 countries, we test the convergence's hypothesis by the Bayesian iterative estimation method; two financial variables are introduced to control the differences in steady-state. Our empirical results sustain the importance of the domestic credit and the market capitalization in the catching-up process by a significant increase in the speed of convergence.*

KEY WORDS: *Balkan countries, European Union financial systems, convergence, empirical analysis, finance-growth model estimations*

Introduction

The aim of this paper is to check if Balkan countries are converging with the European Union (EU) countries. According to Kocenda (2001), a certain degree of convergence in macroeconomic fundamentals was achieved among advanced Central and Eastern European countries. Contrary to studies which are exclusively focused on the convergence of real measures of economic activity of the transition economies with those of the EU countries (Korhonen, Fidrmuc [2001]), our empirical analysis introduces variables relating to the financial system (the domestic credit provided by banking sector in percentage of GDP and the market capitalization of listed companies in percentage of GDP). Indeed, several studies test convergence of financial variables in the EU or among transition economies (Brada, Kutan [2001]; Kocenda [2001]; Murinde et al. [2004]). Moreover, the relationship between financial system and economic growth is subject to academic discussion (Beck et al. [2001]; Wachtel [2001]). There would exist a positive link between financial development and long-run growth rate (Pagano [1993]) so that the financial system would be a growth-factor : "countries with larger banks and more active stock markets grow faster over subsequent decades even after controlling for many other factors underlying economic growth" (Levine [1997], p.?). Indeed, the financial system affects economic growth by reducing some of informational asymmetries (Schiantarelli [1995]), by influencing the capital accumulation of endogenous growth factors (Romer [1986]; Lucas [1988]; Rebelo [1991]) and by altering the rate of technological innovation (Romer [1990]; Grossman, Helpman [1991]; Aghion, Howitt [1992]). Many empirical analyzes support the

assumption that the financial system is an important determinant for growth and economic development (King, Levine [1993a, 1993b, 1993c]; Galetovic [1994]; Rajan, Zingales [1996, 1998]; Beck et al. [2000]; Cetorelli, Gambera [2001]; Carlin, Mayer [2003]). In addition, the insufficiency of financial development can even be a real barrier to growth and blocks the economy in a poverty trap (Berthelemy, Varoudakis [1996]). Empirical evidence also suggests that the positive relationship between financial development and economic growth is associated with large differences across the structure of financial systems of countries (World Bank [1989]; Boyd, Smith [1996]). According to Rajan and Zingales (2000) or Holmström and Kaplan (2001), the market-based system is better for economic growth. However, it's difficult to draw conclusions about the dominance of one financial structure over another (Levine [1997]). Indeed, stock market liquidity (measured by stock trading relative to GDP and market capitalization) and the level of banking development (measured by bank credits to private firms divided by GDP) both predict economic growth (Levine, Zervos [1996, 1998]). In the same way, Rousseau and Wachtel (2000) find a positive influence of both stock market activity (per capita value traded) and banking sector development (per capita liquid liabilities [M3]) on growth. Thus, "the debate should not focus on bank-based versus market-based systems because these two components of the financial system enter the growth regression significantly and predict future economic growth" (Levine [1997], p.?). In practice, the two types of financial system coexist in the same country (Hölzl [2003]) so that the financial systems are a configuration of complementary elements. Consequently, this paper is organized as follows. Section 2 describes the financial system of Balkan countries and gives us some ideas about the progress steps of European Union financial market integration. Section 3 introduces the empirical methodology of test of (absolute and conditional) convergence (the Bayesian iterative estimation method) and presents results for a panel of 21 countries (selected European Union and Balkan countries) over the period 1999-2007. Finally, section 4 concludes.

Financial system of Balkan countries

The financial institutions of the South-East of Europe hold out, in spite of the world-wide crisis which abuses the stock exchange places. In 2007, the banking credits increased by 30% in the area, and the rise continued the first months of 2008. Until now, the relative insulation of the banks of Balkans protected from the world-wide crisis. However, whereas their activity of credit increased much to stimulate the economic growth, will they be able to remain with the variation of the total tendencies?

The Balkan banking environment recorded strong growth during the last year, in spite of the financial crisis which currently shakes Wall Street, the UE and the stock markets of Asia[4]. Extension of the crisis to the other sectors of the money market and the economy world its long duration, marked the development of the banking environment during first half of the year 2008, the dynamics of growth in the area of Balkans remained vigorous. The rather low level of exposure to the international financial institutions, weak integration at the international markets and the strong capitalization of the international banks operating in the Balkan area are some of the factors quoted to explain connect it immunity of the area vis-à-vis the current financial disappointments. Nevertheless, the financial experts of Balkans and the large bankers warn against any kindness. They estimate that there are serious risks which could materialize very well and inflict serious damage with their financial system.

The area remains moreover heterogeneous from the economic point of view, like in terms of European integration. Slovenia joined the UE in 2004, Romania and Bulgaria in 2007. As for Croatia, it will be undoubtedly the next one to join the club, having started into 2006 the negotiations for its adhesion. Macedonia for its part signed the *Agreement of stabilization and association* (the first step towards adhesion) in 2001 and obtained the statute of applicant country to the EU in 2005. But, contrary to Croatia, the talks for its adhesion supplements did not start yet. Albania, Serbia, Montenegro and Bosnia-Herzegovina are even less advanced. These States signed only the *Agreement of stabilization and association*, without to have obtained the statute of applicant country. The reorganization of the finan-

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[4] Indicates one report of the *Raiffeisen Ban*k, entitled the "EEC Banking 2008".

cial sector, the banking environment and privatizations took steps of giant in Balkan countries these last years and are almost finished (probably not yet!). We find that the privatization of the public credits had a decisive impact on "the improvement of the banking services and the stimulation of competition".

New legal and institutional, obligatory reforms under the terms of the process of European integration, should also have durable positive effects on the regional economies and the banking structure. The volume of loans thus knew a growth record of 42 % in 2007, pulled by a boom of the national economies which reached almost 4 % of the GDP in 2007. The economists, of which those of the IMF[5], expect that the growth of the GDP turns around 5 % this year in this part of South-East Europe. Over all, the economies of the area now need co-operation as regards credit whereas these last years, the stress was laid on the maintenance of the profitability of the companies and the diversification of the sources of income, it acts from now on to finance the growth of the credit. Indeed, because of the contraction of the credit available on the international markets, the companies of the area turn more and more to the local banks to secure a loan. In a number growing of countries of Balkans, the mortgage loans became besides one of the most dynamic products in the sector of the detail. The financial institutions became able to support the strong growth of the deposits of the last years, as confidence increased in the banking environment. To that are added the completion of the privatization of the banks, various institutional reforms in financial systems and the rise of the levels of incomes. Slovenia enjoys the strongest base of saving of all Balkan countries, with approximately 108% of the GDP in 2007. This significant increase followed the inclusion of the country in the euro zone (also, these figures are compared favorably with the 144% recorded in the euro zone). As, increasingly solid confidence in the banking environment of Balkan countries (and their financial system), stimulated by privatizations and the arrival of foreign banks during last years, was confirmed by a continuous increase in the saving expressed as a percentage of the GDP. The opinion of the most of Balkan countries citizens is: "One always thought as the banks of the West were sure and that the banks of the East were risky", but it is confirmed in their economies that the banks (presented there) showed a very responsible attitude in businesses in this part of the world – region of the Balkan!

Test of convergence: empirical methodology and results

In this article, data used are from the source "World Development Indicators" (World Bank Group, 2007). The variables analyzed by authors are based on the following data:

- GDP per capita, PPP (constant 2005 international $): GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates;
- Domestic credit provided by banking sector (% of GDP) includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The banking sector includes monetary authorities and deposit money banks, as well;
- Market capitalization of listed companies (% of GDP): also known as market value, the market capitalization is the share price times the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year.

In the following "panel", we've especially focused for the period from 1999 till 2007 for 21 countries: Austria (AUT), Belgium (BEL), Bulgaria (BLG), Croatia (HRV), Denmark (DNK), Finland (FIN), France (FRA), Germany (DEU), Greece (GRC), Ireland (IRL), Italy (ITA), Luxembourg (LUX), Macedonia (MKD), Netherlands (NLD), Portugal (PRT), Romania (ROM), Serbia (SRB), Slovenia (SVN), Spain (ESP), Sweden (SWE), United Kingdom (GBR).

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[5] See reports of the IMF on these economies of Balkan countries!

Absolute Convergence Testing

The test of absolute or unconditional convergence consists in identifying the correlation between the growth rate ($\log(y_{i,t}/y_{i,t-1})$) and the initial income per capita. Barro R. and Sala-I-Martin X. [1996] specified the model of absolute convergence (rewritten in dynamics for panel data) :

$$\log(y_{it}/y_{it-1})=a-(1-e^{-\beta})\log y_{it-1}+\varepsilon_{it} \tag{1}$$

with a indicating the constant term, and $-(1-e^{-\beta})$ the slope coefficient. Note that, if β is a positive value, the annual growth rate, $\log(y_{i,t}/y_{i,t-1})$, is negatively correlated with $\log(y_{i,t-1})$. In this case, the poor economies tend to grow faster than the rich ones, which implies the absolute convergence.

Table 1. Empirical Iterative Bayes' Estimators of the Rates of Convergence ($\hat{\beta}_i$).
Hypothesis : Absolute Convergence.

	"Beta-shrinkage" country by country :			
	Number of iterations 8			
Country	Half-life	Beta	StdErrors	T-Stat
AUT	12,6	**0,023826**	0,007016	3,3960518
BEL	12,4	**0,024317**	0,007069	3,4397074
BLG	11,4	**0,026336**	0,007606	3,4625103
HRV	11,6	**0,025885**	0,007458	3,4706773
DNK	12,5	**0,024089**	0,007035	3,4240816
FIN	13,4	**0,022441**	0,007102	3,1597696
FRA	12,3	**0,024509**	0,007096	3,4537230
DEU	12,3	**0,024460**	0,007102	3,4440032
GRC	12,0	**0,024986**	0,006535	3,8233106
IRL	13,0	**0,023188**	0,006955	3,3342152
ITA	12,2	**0,024767**	0,007176	3,4535731
LUX	14,0	**0,021547**	0,006549	3,2901620
MKD	11,2	**0,026982**	0,008359	3,2277620
NLD	12,6	**0,023981**	0,007015	3,4184342
PRT	12,3	**0,024453**	0,007430	3,2911305
ROM	11,3	**0,026678**	0,008063	3,3088342
SRB	11,2	**0,026919**	0,008117	3,3166104
SVN	12,0	**0,025135**	0,007242	3,4709115
ESP	12,5	**0,024037**	0,007169	3,3529871
SWE	12,9	**0,023370**	0,007066	3,3072523
GBR	12,3	**0,024390**	0,007010	3,4793084

Table 1 contains the results of estimates: empirical iterative Bayes' estimators for rates of convergence and the computed "half-life", or the number of time periods necessary for the per capita income gap to be halved. The criterion to end the procedure being fixed at 0,005, there are eight iterations. The coefficients are significantly different from zero and have theoretically correct signs (positive for the constant and negative for $\log y_{it-1}$). Note that the less economically advanced countries like Bulgaria, Croatia, Macedonia, Romania and Serbia have higher rates of convergence than the richest countries of the Union. This result is in conformity with the theoretical lesson: the rate of convergence decrease with increasing in the per capita income level. According to predictions of the convergence theory, the "half-life" is longer for the countries of the EU's "core" than for the Balkans countries. Thus, according to these results, Luxembourg and Finland would need more than 13 years to catch-up a half of the

distance which separates their economies from the path of steady state growth. On the other hand, the "latecomers" of the sample, Bulgaria, Croatia, Macedonia, Romania and Serbia, need about 11 years.

The countries' distribution according to their rates of convergence (Figure 1) seems to be consistent with the indicators of economic growth performance: "poor" countries having rates of convergence systematically higher than their "rich" neighbors of the sample. However, the dynamic convergence model is limited to only one explanatory variable, $\log y_{it-1}$. The augmenting of the model by the market capitalization and the ratio domestic credit on GDP lets to test the conditional convergence hypothesis.

Figure 1. Distribution of Convergence Rates for 21 European and Balkan countries over the period 1999-2007.
Hypothesis : Absolute Convergence

$\hat{\beta}$ (Bayesian Shrinkage Iterative Estimator for the Rates of Convergence)
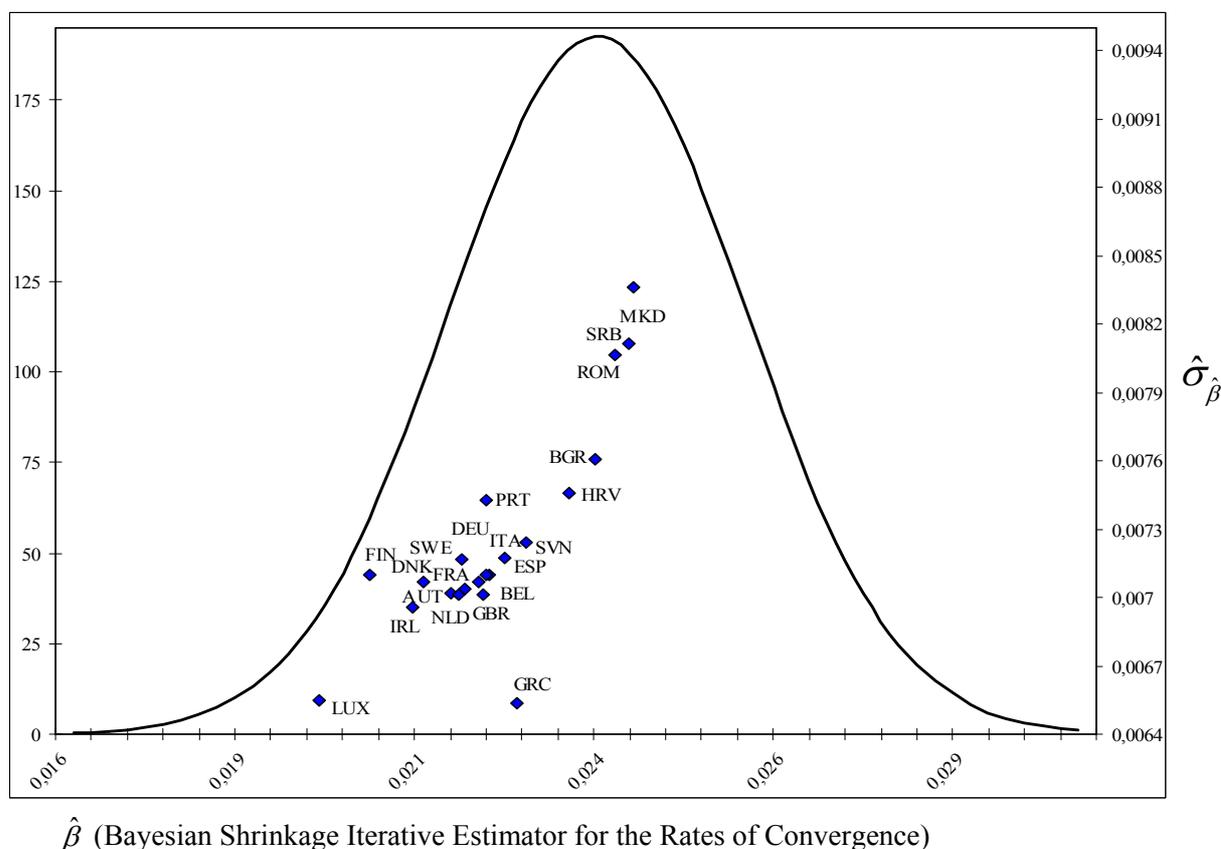
Conditional Convergence Testing

Islam N. [2000][6] proposes to test the following specification for the model of conditional convergence in panel data:

$$\log(y_{it}/y_{it-1})=a-(1-e^{-\beta})\log(y_{it-1})+\gamma x_{it-1}+\varepsilon_{it} \qquad (2)$$

with $x_{it-1}=\log(Capitalization_{it-1}/y_{it-1})-\log(Credit_{it-1}/y_{it-1})$

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[6] Islam N. [1995, 2000] (for the last reference, see p. 323 in Baltagi B.H. [2000]).

The specification introduces in the catching-up relation some "control" variables of the process of growth over the considered period. The model of conditional convergence contains thus three explanatory variables: initial GDP per capita $\log(y_{it-1})$, market capitalization of listed companies (% of GDP) and domestic credit provided by banking sector (% of GDP). The theoretically expected signs are positive for the market capitalization and the domestic credit.

$$\text{with } x_{it-1} = \log(\text{Capitalization}_{it-1}/Y_{it-1}) + \log(\text{Credit}_{it-1}/Y_{it-1})$$

"Beta-shrinkage" country by country :				
Number of iterations 11				
Country	Half-life	Beta	StdErrors	T-Stat
AUT	2,0	**0,148042**	0,015285	9,685025
BEL	2,1	**0,146572**	0,016155	9,072594
BGR	1,9	**0,159206**	0,014725	10,81143
HRV	2,0	**0,154251**	0,016510	9,342487
DNK	2,0	**0,147049**	0,016250	9,048686
FIN	2,1	**0,140719**	0,015700	8,962594
FRA	2,0	**0,150197**	0,015947	9,418207
DEU	2,0	**0,147697**	0,016032	9,212349
GRC	1,9	**0,154951**	0,016480	9,402333
IRL	2,0	**0,149956**	0,015364	9,760194
ITA	2,0	**0,154177**	0,016070	9,593588
LUX	2,2	**0,139275**	0,015474	9,000329
MKD	1,8	**0,165778**	0,015478	10,710539
NLD	2,0	**0,148543**	0,016146	9,199613
PRT	2,0	**0,150742**	0,016710	9,020963
ROM	2,0	**0,153703**	0,016958	9,063638
SRB	1,9	**0,160944**	0,016474	9,769097
SVN	2,1	**0,146568**	0,015512	9,448136
ESP	2,0	**0,150808**	0,016560	9,106549
SWE	2,0	**0,146932**	0,016039	9,160919
GBR	2,1	**0,145746**	0,015342	9,499582

Table 2 contains the empirical iterative Bayes' estimators of the rates of convergence obtained for 21 countries on the period 1999-2007. The column on the left of the table contains the rates of convergence estimated for the model of conditional convergence whose three explanatory variables are the initial GDP per capita, the market capitalization and the share of the domestic credit in the GDP. The sign of this "control" variable is theoretically expected and the estimated parameters are statistically significants. The rates of conditional convergence estimated over the considered period vary from 13,92 % (for Luxembourg) to 16,57 % per year (for Macedonia). As for the Balkan's countries, their rates of conditional convergence are higher on average, which implies a "half-life" of two years only.

Table 2. Empirical Iterative Bayes' Estimators for the Rates of Convergence ($\hat{\beta}_i$).
Hypothesis : Conditional Convergence

Estimated Model : $\log(y_{it}/y_{it-1}) = a_i - (1 - e^{-\beta_i})\log(y_{it-1}) + \gamma x_{it-1} + \varepsilon_{it}$

The results of conditional convergence model's estimation are significantly different from the preceding results. Indeed, the augmenting the initial growth model by market capitalization and the share of domestic credit in the relation of conditional convergence lets to obtain higher rates of convergence. The rates of conditional convergence for countries like Serbia, Bulgaria and Macedonia begun higher (about 16 % per year), which implies a "half-life" of 1,9 years only. Figure 2 represents the distribution of the rates of conditional convergence estimated for the finance-growth dynamic model with. The Balkan countries' distribution in term of convergence dynamics leads us to stress the diversity of the growth trajectories borrowed over the "post-Socialist" period.

Figure 2. Distribution of Convergence Rates for 21 European and Balkan countries over the period 1999-2007.
Hypothesis : Conditional Convergence

«Control» variables : $x_{it-1} = \log(\dfrac{Capitalization_{it-1}}{Y_{it-1}} + \log\dfrac{Credit_{it-1}}{Y_{it-1}})$
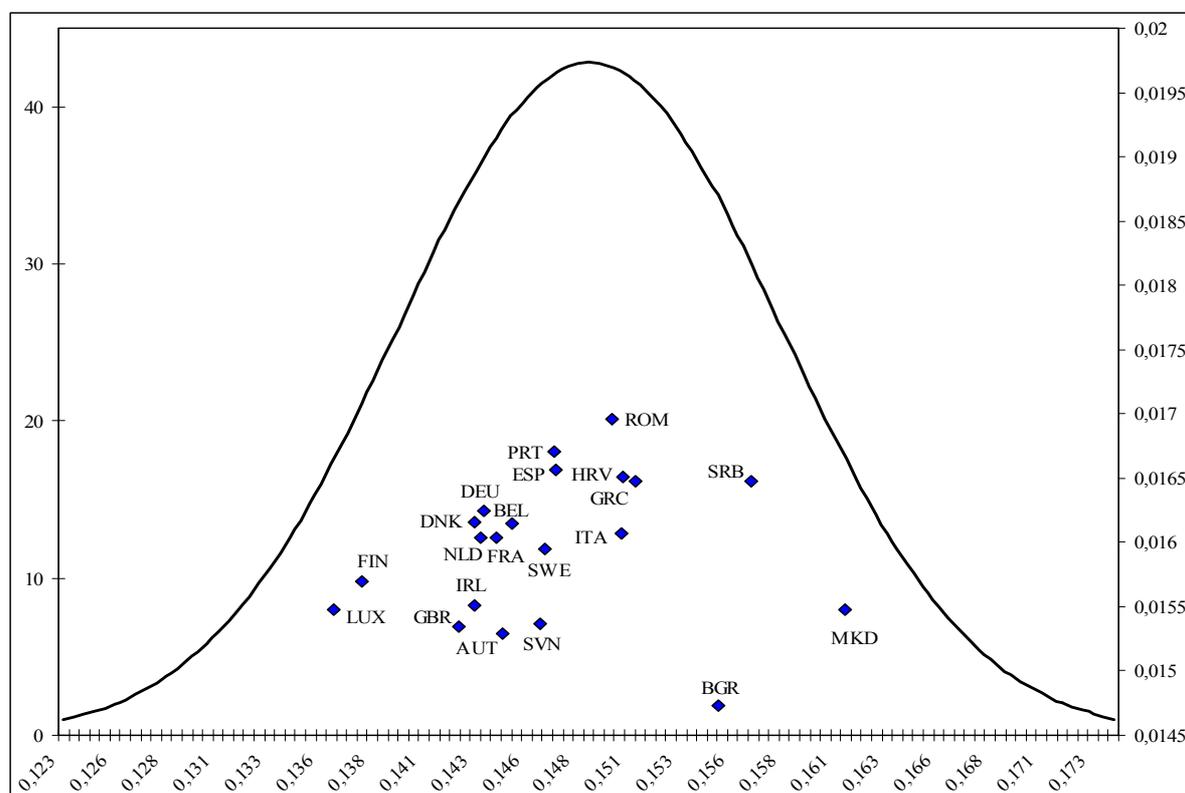
Conclusion

In order to reveal the national specificities of catching-up process within 21 European and Balkan countries, we introduce more heterogeneity into the specification of the equations of absolute and conditional β-convergence. The Bayesian iterative estimation method lets to calculate the rates of convergence for each country. Thus, contrary to the traditionally accepted idea of a common rate of convergence, considered countries don't converge at the same rate. The distributions of convergence rates (absolute and conditional) revealed the similarity of growth dynamics for certain EU's countries and their diversity for the others. Their economies could be classified according to theirs catching-up dynamics. Thus, Luxembourg, Finland and Ireland are the "leaders" of the sample in terms of income per

capita growth. These countries having known an economic "takeoff" in the 80's years for Luxembourg and more recently for Ireland are distinguished from the other EU's members by a slower rate of convergence. The relative distribution of the "core" in terms of rate of convergence seems relatively concentrated and proclaims a significant homogeneity. As for the Balkan countries, their distribution is characterized by the diversity of the growth trajectories borrowed over the period of economic transition. Slovenia and Croatia are "at the head" of the catching-up process compared to other transition countries. Macedonia and Serbia are the "latecomers" of the sample. The empirical results show that it's necessary to relativize the idea according to which the European construction process leads to the standardization of the economic development's trajectories.

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Appendix

The empirical iterative Bayes' estimators belong to the family of the shrinkage estimators. In the framework of the random-coefficients model, a single equation model in its matrix notation for the ith individual can be written as:

$$y_i = X_i \gamma_i + u_i \quad \text{with} \quad i=1,\ldots,N$$

where y_i is a vector $(T,1)$, X_i is a matrix with (T,k) observations and γ_i is a vector of $(k,1)$ parameters.

The model is assumed to be dynamic: X_i contains lagged values of y_i. If all the parameters are treated as fixed and different for cross-sectional units and time periods, there are NTk parameters to estimate with only NT observations. Obviously, we cannot obtain any meaningful estimates of vector γ_i. Alternatively, each regression coefficient can be viewed as a random variable with a probability distribution. The random-coefficients specification substantially reduces the number of parameters to be estimated, while still allowing the coefficients to differ from unit to unit and/or from time to time.

In the Bayesian framework, the *prior* distribution of γ_i is given by : $\gamma_i \sim N(\mu,\Sigma)$. Since the parameters μ (average of γ_i), Σ (variance of γ_i allowed as a measurement of heterogeneity) and σ_i^2 (residual variance) are unknown, we must make some assumptions on the *prior* specification of these parameters. Then, we can obtain the *posterior* distribution of γ_i. If μ, Σ and σ_i^2 were known, then the *posterior* distribution of γ_i will be given by :

$$\gamma_i^* = \left[\frac{1}{\sigma_i^{*2}}X_i{}'X_i + \Sigma^{*-1}\right]^{-1}\left[\frac{1}{\sigma_i^{*2}}X_i{}'X_i\hat{\gamma}_i + \Sigma^{*-1}\mu^*\right] \tag{1}$$

where $\hat{\gamma}_i$ is the OLS estimator of γ_i^*. The *posterior* distribution means of γ_i and its variance are defined by:

$$\mu^* = \frac{1}{N}\sum_{i=1}^{N}\gamma_i^* \tag{2}$$

$$V[\gamma_i^*] = \left[\frac{1}{\sigma_i^{*2}}X_i{}'X_i + \Sigma^{*-1}\right]^{-1} \tag{3}$$

But, in general, Σ and σ_i^2 are unknown parameters, so we have to make some *prior* assumptions about them. Smith [1973] proposed for Σ^{*-1} the conjugate Wishart distribution and independent inverse χ^2 distributions for σ_i^2 (Lindley and Smith, 1972). The author used the mode of the joint *posterior* distribution:

$$\sigma_i^{*2} = \frac{1}{T+\varsigma_i+2}\left[\varsigma_i\lambda_i + (y_i - X_i\gamma_i^*){}'(y_i - X_i\gamma_i^*)\right] \tag{4}$$

$$\text{and } \Sigma^* = \frac{1}{T-k-2+\delta}\left[R + \sum_{i=1}^{N}(\gamma_i^* - \mu^*)(\gamma_i^* - \mu^*){}'\right] \tag{5}$$

where ς_i, λ_i, δ and R are parameters arising in the *prior* distributions. Smith [1973] proposed to approximate these parameters by using $\varsigma_i = 0$, $\delta=1$ and R is a diagonal matrix with small positive entries (for example, equal to 0,001).

The estimators are:

$$\sigma^{*2}_i = \frac{1}{T+2}\left[(y_i - X_i\gamma_i^*)^{'}(y_i - X_i\gamma^*)\right] \tag{6}$$

$$\Sigma^* = \frac{1}{T-k-1}\left[R + \sum_{i=1}^{N}(\gamma_i^* - \mu^*)(\gamma_i^* - \mu^*)^{'}\right] \tag{7}$$

$$\gamma_i^* = \left[\frac{1}{\sigma^{*2}_i}X_i^{'}X_i + \Sigma^{*-1}\right]^{-1}\left[\frac{1}{\sigma^{*2}_i}X_i^{'}X_i\hat{\gamma}_i + \Sigma^{*-1}\mu^*\right] \tag{8}$$

and $\quad \mu^* = \frac{1}{N}\sum_{i=1}^{N}\gamma_i^* \tag{9}$

The equations (6) to (9) have to be estimated by iterative procedure. The initial iteration uses the OLS estimates of $\hat{\gamma}_i$ to calculate μ^*, Σ^* and σ^2_i. The second iteration is based on the empirical iterative Bayes' estimator γ_i^*. The third iteration and the following ones are identical to the second.

The empirical Bayes' estimator has been proposed by Maddala G.S. and *alii* (1996). The only difference with Smith's estimator is the computation of the parameters σ^2_i and Σ^*:

$$\sigma^{*2}_i = \frac{1}{T-k}(y_i - X_i\gamma_i^*)^{'}(y_i - X_i\gamma_i^*) \tag{10}$$

$$\Sigma^* = \frac{1}{N-1}\left[R + \sum_{i=1}^{N}(\gamma_i^* - \mu^*)(\gamma_i^* - \mu^*)^{'}\right] \tag{11}$$

Maddala G.S. and Hu W. [1994] have shown, by Monte Carlo study, those iterative processes for estimating Σ^* and μ^* tend to more efficient estimates for dynamic models than the two-step procedures. Hsiao C., Pesaran M.H. and Tahmiscioglu A.K. [1999] have also confirmed that, in the case of dynamic panel data model with coefficient heterogeneity, the Bayesian approach performs fairly well even if the time dimension is small.

The Relationship Between Bank and SME: Evolution After Basel Capital Accord 2

Valter Cantino[1]

ABSTRACT – *Economic literature today focuses on creation of value and on its diffusion to shareholders. Financial transparency, therefore, becomes a decisive aspect in verifying whether the firm creates or destroys value and, ultimately, how this value is distributed amongst the stakeholders.*

The attainment of this result depends on the culture and tradition prevailing in the various national environments and on the rate of adaptability of the enterprises to the new market demands. In particular in the Anglo-Saxon environment the culture of "financial transparency" has already been accepted by having put in place a number of "social" control instruments (auditing, rating, internal control rules, codes of ethics, etc.).

In other countries the achievement of transparency is slow in spreading as a guiding principle. This is particularly true for the Small and Medium Enterprises (SME) which are very dynamic on the entrepreneurial side, but often lacking in the area of "formal" information procedures

The new Basel Accord on capital requirements (known as Basel 2) whose effect on firms is a stricter evaluation by banks of the firm's business model is to be taken as an external influence on the world of enterprises imposing a different culture to the banking-enterprise relationship that aims at the achievement of greater transparency in financial communication

The requirement of conforming with the new rules that will govern bank rating must therefore be approached by the SMEs as a system that will allow better credit terms and improved financial consultancy service aimed at improving the firm's financial management.

KEY WORDS: *value of the firm, financial transparency, Basel Accord on capital requirements (Basel 2), communication models, qualitative information, small medium enterprises (SME), rating*

Foreword

Rating is an overall evaluation of the firm to assess its financial risk. A wide variety of parties are interested in the firm's rating. In addition to the owners of the firm, the <u>shareholders</u>, we find a variety of <u>stakeholders</u>, such as managers, banks, creditors, employees and unions, customers, suppliers, public entities.

Rating is important since, among other things, it provides to the firm financial "credibility" among the market and its players.

Credibility is essential for enterprises and is intrinsic to the principle of "*economicity*", understood as the ability of the company to operate as a long-lasting economic entity. For a company, this ability is identified as the capacity to reach a given final result (basic objective), starting from different initial conditions (differentiated sub-objectives or sub-assemblies) and operating in different ways (co-existence of various policies).

If the market possesses the instruments necessary to recognize those who perform well, setting aside those that do not rapidly conform to the rules, it will be the "global relationships" that will create the selection that will promote those institutions that are more attentive to the needs of the stakeholders and that will inevitably reject those that are unresponsive to the relational change. In order to distinguish correct performers from the incorrect ones, it is essential to start from *public and reliable* eco-

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nomic-financial "reports" that are drawn up according to a shared "basic value": that of *financial transparency*.

As mentioned above, the complexity of the company system and of the management requires the creation of a well-constructed series of relationships between different subjects directly involved in the operations of the firm (shareholders and stakeholders) and systems such as the market, technological, social, legislative and banking systems, the local communities, the consumers, environmental and political groups, the trade unions, the public administration

All the subjects and systems quoted above, as well as others, interact with the organizational and production structure of the enterprise in an attempt to influence its behavior and choices based on their own particular interests. Those with subjective interests that can be stronger or weaker based on the direct or indirect connection that they may have with the company, as mentioned above, constitute the stakeholders. The active influence of the various groups of stakeholders reflects on the entrepreneurial decisions taken and, ultimately, on the "operating result" and, through this, on the "value of the firm".

Financial transparency, therefore, becomes a decisive aspect in verifying whether or not the enterprise creates or destroys value and, ultimately, how this value is distributed amongst the stakeholders.

Economic literature today focuses on creation of value and on its diffusion to the shareholders who are the subjects that receive "residual" remuneration once all the other production factors have been remunerated (labor, means of production, financial capital, etc.).

In any case, the other entities that confer resources (employees, suppliers, financial institutions, etc.) are remunerated according to the principle of "adequate remuneration of productive factors, so as to maintain the features of long-lasting competitiveness of the firm according to a basic principle of "equity considered from the social viewpoint".

The attainment of this scenario depends on the culture and tradition prevailing in the various national contexts and on the rate of adaptability of the enterprises to the new demands stemming from the market. In particular, some environmental contexts, such as the Anglo-Saxon one, have already accepted the culture of "financial transparency" by having put in place a number of "social" control instruments (for example; auditing, rating, internal control rules, codes of ethics, etc.).

In other countries such as Italy, for example, with certain exceptions, this "value" is slow in spreading as a guiding principle for public and private economic operators (for example: the Draghi Law, the Stock Exchange Committee, Consob, etc.).

The new Basel Accord on capital requirements (known as Basel 2) is to be taken as an external influence on the world of enterprises that, first and foremost, imposes a different culture to the banking-enterprise relationship that is based on a relationship that aims at achieving greater transparency in financial communication, for those who are willing to make positive use of the novelty.

Financial transparency is firmly rooted on a system of formal communication of "assessments" and "evaluations" of the management of the firm.

The allocation of assessment and evaluations of the management of the enterprise makes it possible for the stakeholders to appreciate the quality of the management and the short and long-term repercussions on the economic financial results and on the capital value of the firm itself.

New models of communication between bank and enterprise

Currently, banks have not as yet clearly defined how to operate effectively in order to evaluate the SMEs under various factors:

- Basel has proposed settings that are still under discussion;
- it is rare to find ratings issued for small-sized enterprises;
- banks that use the method based on internal rating are experimenting the method of large-sized enterprises and the sensitivity needed to face the evaluation of the SMEs is still lacking.

Moreover, it is necessary to consider that these entities are not always compelled to draw-up financial statements and the tax and social security regulations allow for simplifications of administrative nature.

With regard to the above, it is necessary to learn to appreciate the qualitative elements of the management of the enterprise are seldom reported by "formal" financial statements

The qualitative elements may be "acquired" directly from the rating model, but they often remain foreign to the model in its stricter sense and can only be appreciated in the commercial relationship that is established between the bank executive and the entrepreneur.

In any case, from the viewpoint of the SME, it is necessary to acquire awareness of the value of financial transparency since in the relationship with banks the way in which information is disclosed (more than the quantity disclosed), influences the firm's possibilities of being granted a loan or the determination of a rate of interest that is advantageous to the enterprise itself

The information needed can generally be found within an enterprise but, in the same way as an untidy drawer, it cannot always be found within the time frame and in the form required.

An overview of the various features impacting the qualitative information impacting the assessment of the firm's business model capable of improving the relationship with the bank is submitted below.

"Qualitative" information to evaluate enterprise business model

In order to enter the information in the rating model, banks continue to gather information on the company by means of interviews with the management and the firm's personnel and complete a form that outlines the enterprise, its functional areas and type of process, and that summarizes the competitive advantage of the enterprise with respect to its competition.

More in general, for industrial firms, the evaluation process may take the following factors into consideration:

Diversification factors:

The purpose of diversification is that of limiting the effect of economic cycles and smoothing their effects on the performance of the enterprise. The assessment of creditworthiness suffers if the various businesses react in the same way during the general cyclical trend.

Each business area contributes to the overall risk scheme of an enterprise, not as an aggregate but as a sub-system that is "co-targeted" in the wider company framework; it is necessary, therefore, to proceed with the separate analysis of each segment in order to comprehend the specific limits and opportunities it involves.

Size factors.

Size in itself does not represent an absolute element of performance on which to base assessment, but does represent a starting point. In fact, there are a number of small-sized companies that successfully compete achieving dominant positions on the local market by offering differentiated products and services and that are targeted towards a well-defined population that a large-sized enterprise is not capable of reaching.

The greatest limits to the size factor can be observed in the financial area; in fact a small-sized company does not possess the financial flexibility needed to devote adequate resources to support its business. Moreover, larger enterprises have a capital base that enables them withstand moments of crisis and financial turbulence Most of the times this is something unavailable to smaller size firms with more promising specific features and operating in sectors of strong development, but with a limited capitalization that is typical of those who are at the beginning of their economic adventure.

Quality of management.

Management is decisive in defining the success of operations of the firm. The subjective assessments of the analyst are influenced by the information gathered through interviews with the firm's top man-

agers. These opinions are needed in order to understand how much of the success of the enterprise depends on the quality of the management with respect to other factors such as the ownership structure, the development of the market or yet other factors.

Organisational factors.

Organisational factors are significant to understand a number of critical aspects of the enterprise that may result in serious problems from the economic-financial standpoint. For example, these situations may be the following:

- Attribution of excessive weights of responsibility that may considerably weaken a company area in the event of resignation of the employee;
- lack of an adequate delegation mechanism that does not allow for an efficient system of internal control aimed at safeguarding company capital;
- lack of adequate involvement of middle management in strategy decisions that could hinder the process of generational turn-over;
- excessive personnel turnover and re-definition of organisational roles that indicates unclear views in the management of human resources;
- incoherence between strategy and organisational structure.

Structure and composition of the company's control.

The ownership structure is decisive in understanding the governance rules. It is important to assess, for example if the ownership is stable, if the enterprise belongs to a group, if there are disputes running between the partners. For small and medium-sized companies, it is necessary to assess the involvement of the family members in managing the company so as to express an assessment on company continuity.

Trustworthiness of accounting data.

The rating process requires the analysis of trustworthy data. In order to ensure that the ratios, statistics and series of data obtained from the financial statement accurately define the performance and competitive position of the enterprise, analysts assess the quality of the data and the accounting criteria used. The control of data by auditors is a good indicator of data trustworthiness. For companies of smaller size, it is important to co-relate the accounting data to measures of productivity of physical factors such as, for example, the consumption of energy or water used for the production process, so as to obtain an indication of the quality of production and the real potential of the enterprise.

Degree of financial risk.

The financial policies used by the enterprise are assessed from an historical perspective and by projecting the future, identifying the respective quantitative and qualitative levels.

Regarding the quantitative aspect, the bank attempts to understand whether or not there are forecasted profitability or expectations of distribution of dividends. Results are usually compared with those of companies operating in the same or within different markets that have already been assessed by the bank itself. The approach of the company's management to the level of indebtedness can be extremely varied and may be influenced by the strength of the local financial market, by the relationships established with local banks.

Financial policies, however, must not be bent to reach a predefined rating. assessment. Above all they must be coherent with the needs of the business and with the objectives of the firm.

From the qualitative aspect, consistency is, perhaps, the most important element. It implies a shared of interest, among the top management of the company, and a general desire to reach challenging goals. This potential risk is not demonstrated by any financial indicator, but emerges within the framework of the discussions and meetings with the management.

A fundamental task for the analysis of financial risk is defining the mix of sources expressed in terms of maturity dates, structure of interest rates and currency of denomination. Obviously, the capacity of remunerating loan capital diminishes with the increase of the degree of indebtedness and with the reduction of the coverage rate of shareholders' equity; in many cases, however, enterprises maintain

consistent indebtedness even while in possession of a vast portfolio of securities that can easily be converted.

This decision will need to be considered in building these factors into the ratios used. This is one of the frameworks in which the distorting effects connected to the diversity of accounting principles in use in various countries is hardest felt: for example, the lack of asset revaluation laws or the specificity of accounting regulations in force may cause balance sheet values to diverge considerably from the real ones and it is for this reason that it is advisable, if necessary by means of specific appraisals, to keep under control the formation of hidden reserves that originate from the application of accounting principles themselves, such as the application of the LIFO criteria used to evaluate inventory and the principle of property valuation at cost price.

Degree of operating risk.

The analysis of the earning power of an enterprise is important for our purposes since it brings to light the capacity to service debt, or in other words, the capacity to generate a sufficient level of resources for payment of interest expenses. The analysis includes both the absolute measure of the company to produce income, and the ratios that relate income various variables. Obviously, the greater the profitability of the enterprise, the easier the access to financial market the greater the attraction of third-party capital at a reasonable cost.

The most frequent measures used in analysing the profitability of an firm are the ROI (Return on Investment), the ROS (Return on Sales), the Return on operations broken down by lines of business, the Analysis of operating leverage (composition of fixed costs and of variable costs), the Interest coverage ratio (EBIT related to interest expense)

As mentioned previously, the analysis of earning power makes it possible to determine the company's ability to meet its interest charges: a firm deserves high creditworthiness when its management is able to produce sufficient resources to satisfy all the production factors used, including the remuneration of risk capital.

In order to determine the significant rates of return, it will be important to grasp all the aspects of the management by integrating into the accounting data hidden reserves (unsold inventory evaluated at historical cost, foreign currency denominated accounts). Other items that will need to be considered are court disputes underway, availability of intangible elements, such as trademarks and know how not as yet recorded, commitments to pay dividends to the parent company.

Analysis of financial data will need to be made in conjunction with, comparisons with the main competitors and considering long-term trends (both past and forecasted) since each sector follows different cyclic trends and has specific characteristics of profitability. Moreover, the average levels of profit vary from country to country based on competitive pressure and different accounting criteria, incidence of taxation on business income, etc.

Off balance sheet guarantees and risks.

The analysis must also encompass operations underway but not entered yet into the accounts. Some examples are leasing operations; debts of controlled companies in the event that the consolidated balance sheet is not drawn up, guarantees lent to other companies of the group options, risk of regression on transferred credits, contingent risks regarding legal or fiscal disputes.

The determination of the value of these operations must be considered in various ways, for example, in order to obtain an overall assessment of the degree of risk on indebtedness, in the case of credit discounting, the debt value in the balance sheet is corrected by adding the transferred credits not due at date on which the risk of regression remains.

Composition of the sources of financing.

In assigning an assessment on creditworthiness, it is essential to understand the financial policy of the firm by identifying the different nature of the sources of funds. In particular, the funds collected may depend on the contribution of capital from shareholders, from loans, from the transfer of assets owned by the enterprise, from self-financing. It is clear that a high degree of self-financing and of cash flow

generated by operations guarantee the other suppliers of capital about the capacity of the firm to serve its commitments (payment of dividends, interest, repayment of principal, etc.).

The importance and criticality of cash flow resides in the fact that, whereas profits are an indicator of future liquidity and a partial guarantee of the reliability of the company servicing, when we consider the time factor, the degree of their reliability may differ from the that evidenced by the profitability ratios The requirements for past and future liquid resources for fixed and working capital, for the distribution of dividends, payments of duties and tax, service to other indebtedness already in existence, are compared to the capabilities of the enterprise to generate the same resources within itself. Cash flow is a measure that is exempt from balance sheet strategies and accounting distortion and for this reason it can be used to make comparisons between various international operators.

There are several balance sheet ratios normally used in the cash flow analysis. Their interpretation is not always easy and immediate: analysts put emphasis on the fact of how high values of the indicators often signify critical situations for a company operating in a slow-growing or declining market possesses cash flow that exceeds its investment requirements, whereas a dynamic and developing company may face low if not negative levels of cash flow.

Ultimately the analyst must consider that each business is distinguished by cycles and that each firm goes through periods that, especially if one limits oneself to the analysis of one financial period, may outline positive results that in fact are the result of past choices and other periods of economic crisis that are actually further penalised by the efforts that the company makes to guarantee a better future, backed by substantial investments in research and development.

Rating must express an assessment of tendency that reduces the effect enhanced by economic cycles, informing the market as to the deep rooted potential of the company.

The final result, i.e. the issue of an assessment of the company's creditworthiness, is reached by entering the information gathered systematically into the "formula". The procedure for gathering the information may be facilitated by a questionnaire that the analyst could use during the evaluation procedure.

The prospectus identifies, by area of analysis (e.g. country risk, features of the sector, competitive position, etc.), the individual elements of assessment that the analyst takes into consideration: for example, for the area of management evaluation, the economic-financial results achieved are assessed, as well as the forecasting and planning capabilities, the characteristics of the control system. The header also contains the type of information source that, depending on different cases, may be within the bank, or external to it or otherwise obtained from interviews with the representatives of the enterprise. The assessment column is to be completed based on the data necessary for the determination of the rating. The assessment may be expressed in alphabetic letters or in numbers based on an agreed-upon scale.

Basel Accord 2 and SMEs

The main effect of Basel Accord 2 on firms is a stricter evaluation by banks of the firm's business model. The new evaluation methodology is the main cause of the firms mistrust towards the evaluation criteria. Firms have reported to be worried by restrictions on bank credit because, in their opinion, Basel 2 methodology is likely to make it harder for firms to get credits or it is increasing the cost of financing. But the last version of the Basel Accord 2, at the instance of Italy and Germany, rules for SME have been simplified. According to Italian banks, Basel methodology is not expected to reduce credits to SMEs, but just increasing their opportunity of increasing their financial disclosure.

Basel Accord 2 requires rating to be primarily based on a statistical and mathematical model instead of the personal evaluation of the bank credit supervisor. Firms, and SMEs first of all, are afraid of losing their personal relationships with the bank credit supervisor and to have to negotiate credit terms with a "system". But banks are urged to increase the quality of the rating process and to make it as objective as possible, in order to reduce the amount of capital to be tied up.

As rating process needs both public and confidential information (see figure 1), all these information have to be reported in formal way to the bank, SME have to make an effort in producing these reports. That should not be a problem, because most of that information is well known to the entrepreneur, but often there is a lack of formal communication. In the past, all this information was collected by the bank credit supervisor through an interview, while now the rating process requires to provide the documentation supporting that information. In other words, firms are required to supplement the annul report with the business plan, production plans, employment plans, company's organization chart, etc…

Figure 1. The rating process
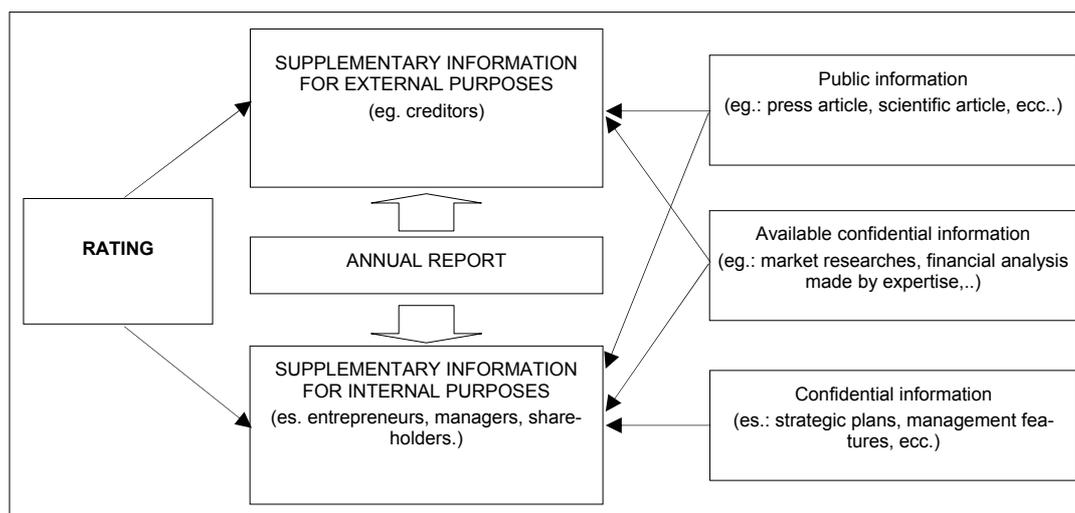
That improvement in the firm's disclosure first of all concerns the financial statement. Most of SME draw up the financial statement only for tax purposes, but they refrain from providing managerial information. As the financial statement is the first tool to run a management control system, and as bank require more detailed information, Basel 2 is an opportunity to make an effort to improve the quality of the financial statement. By improving the quality of their financial disclosure, firms can get better credit terms and so they can reduce the cost of loan capital. On the other hand, improving the quality of disclosure, firms can take advantage of the reported information for managerial purposes, increasing their efficiency.

Information required for the bank internal rating

Traditionally the evaluation for bank financing have as a starting point the financial statement analysis. The results of such information are supplemented by additional qualitative analysis that the analyst, on the basis of his/her experience includes in the folder containing the proposal for the issuance of the financing.

The supplementary information can be drawn from public reports such as the material published by research centers, data released by the specialized press, or classified information entrusted to experts (market research, for instance)

The supplementary information has become increasingly relevant in order to catch the true reasons of a company's success and to interpret the soundness of the underlying business model. In a rapidly evolving economic scenario, the financial statement is still an instrument that one cannot neglect, but its relative weight is insufficient to define the strategic positioning of the company and to assess the anticipated degree of risk.

The integration of qualitative information to the data supplied by the balance sheet will enable a more accurate judgement on the creditworthiness of the firm.

The banks will have to modify their procedures in order to "formally" capture a series of information for which there is no room in the financial statement and that in the recent past were informally intercepted by the credit supervisor that held the relationship with the company.

Companies, in order to allow banks to use their internal models of rating will need to provide information that for the sake of simplicity we can structure in the following fashion (see also figure 1):

- Public information
- Available classified information
- Unavailable classified information

SME are often very dynamic on the entrepreneurial side, but often lacking in the managerial area. In particular there is a lack of a series of "formal" information procedures which are typical in a company of larger size such as the industrial plan, the auditor's report, the certification of quality, etc.

It is likely that SMEs today possess all the features required for an evaluation with excellent results according to the Basel 2 rules. But they are still lacking the formal elements required to issue the assessment required for the rating and that in the past was provided by the bank credit supervisor interpreting and filling those information gaps that the entrepreneur unconsciously failed to make explicit.

In order to exploit the opportunities that Basel 2 indirectly makes available to the companies, it is necessary to structure a communication system by organizing the "formal" and "informal" information base of the company thus providing a comprehensive model of business to providers of funds

The communication system for the SME internal rating models

The main source of information is by all means the annual financial statement, even if it has be borne in mind that in the Italy the majority of SME is made up of sole proprietorships or of partnerships, and that only one minority consists of corporations that are required to make the financial statement public through its deposit at the companies registry. So it is important to promote the awareness of "annual reports" and to improve the quality of the data reported. This is justified by the fact that Banks require an annual financial statement in order to carry out the financial analysis supporting the decision over a loan to companies.

Secondly tax authorities require data related to production activity (e.g. consumption of energy), and economic/financial data (e.g. value of inventories), drawn from financial statements and income tax return for the development of their sectoral studies

Finally the rating model must be able to support the information on documents produced by the firm and not on the subjective perceptions of the analyst. For this reason the communication of qualitative information forces the company to structure a report for the bank capable of overcoming the present minimal structure of the financial statement.

Some qualitative information that could be useful for the rating models and to capture the quality of the management can be:

- the <u>company's organization chart</u> containing the definition of the various functions attributed to the company's bodies, the training plan for workers and employees, the access to various forms of incentives related to the achievement of the company's objectives.
- the investment plan on research and development, the availability of the Web site, the degree of utilization of information technology to perceive the firm's <u>attitude towards innovation</u>
- the quality certification, the availability of a control entity such as an auditor, or the board of auditors, the availability of an ethical code to recognize the <u>administrative accuracy</u> and the management control
- the issuance of catalogues and list prices, the availability of an Internet site, the establishment of a toll free number as proof of the <u>attention paid to customers</u>

Having defined the key issues leading to the value of the company, they will have to be systematically.

Nowadays, the firms' disclosure is far from the model drawn by Basel Accord 2, but firms should be able to seize it as an opportunity. The improvement of disclosure quality resulting from Basel 2 will lead to:

- better credit terms as a result of improved banks rating
- improved financial consultancy service aimed at improving the firm's financial management and its rating provided by banks.

Underground Banking:
Legitimate Network or Money Laundering System?

Bojan Đorđević[1]

ABSTRACT – *Underground banking, where money is transferred through informal rather than formal banking sectors, is a recognised method by which legitimate remittances from overseas workers are routinely transferred. However, underground banking has also long been regarded as a conduit for money laundering by criminal organisations and arguably by terrorist networks. It is important to achieve a balance between regulating the underground banking sector in an attempt to reduce the flow of illicit funds, and permitting its continued use as a legitimate, alternative remittance system. This paper provides policy makers and others with an interest in underground banking matters with a concise overview of how underground banking systems work, along with the potential associated with such systems for criminal activity and the various regulatory responses that governments have employed to date.*

KEY WORDS: banking system, Hawala, money laundering, criminal

Introduction

Underground banking is a generic term used to describe any informal banking arrangements which run parallel to, but generally independent of, the formal banking system. Underground banking systems are also referred to as alternative remittance systems (FATF 1999), informal funds transfer systems (World Bank & IMF 2003) and informal value transfer systems (FinCEN 2003). Particular types of underground banking systems are also used to describe the underground banking process. These include *hawala* (India), *hundi* (Pakistan) and *fei ch'ien* (China)(Passas, 1999). Underground banking takes place in many parts of the world ranging from Hong Kong and Paraguay to Canada and Nepal (Passas, 1999). The combination of the geographic diversity and varied typology of underground banking systems makes them attractive for illegal activities and difficult for regulators to control.

Underground banking predates the formal banking system. Chinese funds transfer systems, for example, were in evidence during the Tang Dynasty (618–907 AD) (Wucker, 2004) and that historical longevity alone makes the continued use of underground banking unsurprising. Underground banking is a rational choice for the transfer of money because it has the same structure and operational characteristics as the formal banking sector without any of its attendant bureaucracy or external regulatory scrutiny (Wilson, 2002).

Hawala banking

Whatever term is used, the basic principle of underground banking remains the same – it involves the transfer of the value of currency without necessarily physically relocating it. A typical *hawala* procedure serves to illustrate the basic process (Figure 1). Value may be transferred to and from both jurisdictions. In either case, the *hawaladars* need to be paid for their services. *Hawaladars* may utilise a range of settlement methods (Secretary of US Department of Treasury, 2002) but those commonly used include under- and over-invoicing (Figures 2 and 3.).

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Figure 1. Hawala process

1. Adam in US wants to send $10.000 to Eve in India

2.Adam pays the $ 10.000 to a hawaladar (bro-ker) in US and is givena code to relay to Eve

3. Hawaladar in US instructs hawaladar in India to pay $10.000 in rupees upon receipt of the

4. $10.000 has been paid in India but money has not physically left US
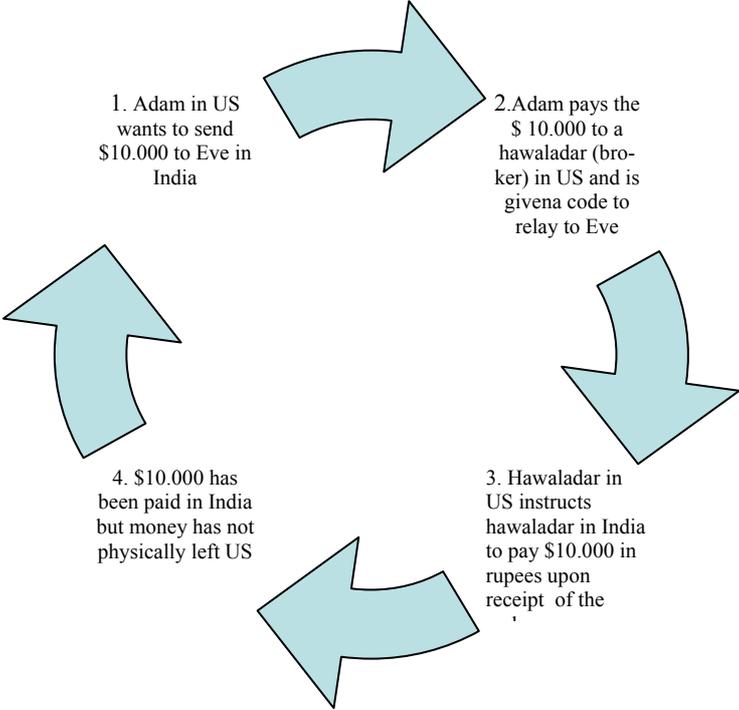
Figure 2. Under – invoicing

1. Hawaladar in US sends $20.000 worth of goods to hawaladar in India

2.Hawaladar in US invoices hawaladar in India for $10.000

3. Hawaladar in India pays $10.000 invoices and sells the goods to recoup the $10.000 he is owed

Figure 3. Over-invoicing

1. Hawaladar in India orders $10.000 worth of goods from hawaladar in US

2.Hawaladar in US invoices hawaladar in India for $20.000

3. Hawaladar in India pays $20.000. Hawaladar in US recoups $10.000 he is owed

Advantages of underground banking

Globalisation has created demand for a cheap and mobile labour force and there is often a cultural expectation that members of that labour force will dispatch a proportion of their earnings to their families in their home countries (Passas, 1999). In 2002, US $80 billion was remitted through the formal banking sector by workers from developing countries (Sander, 2003), constituting the second largest capital inflow to developing countries behind foreign direct investment (Ratha, 2003). Allowing for unreported and informal remittance flows, the total remittance figure might be in the order of US $200 billion per annum (Sander, 2003). Although the total level of funds is significant, it usually comprises a large number of small transactions which the formal financial sector does not generally facilitate (Buencamino, Gorbunov, 2002). The economic situation of the workers and their families makes it necessary for earnings to be dispatched rapidly, efficiently and as cheaply as possible

Underground banking transactions in the *hawala* system require no identification from either the remitter or receiver of the funds save for the exchange (via telephone, fax or similar) of a simple password between the remitter and recipient of the funds. This anonymity serves illegal immigrants, who might fear that using a formal financial institution could lead to their discovery by immigration authorities and legal immigrants who, because of language, limited education or illiteracy, may experience difficulties with formal institutions because of language issues, limited education or illiteracy (World Bank & IMF, 2003). Other advantages of underground banking include that its systems are highly accessible, resilient and versatile. They are able to withstand sudden and dramatic economic, political and social upheaval as evidenced by their presence in war ravaged nations such as Afghanistan, Iraq, Kosovo and Somalia (World Bank & IMF, 2003). In addition, transactions are rapid, with authorisation and completion of transfers occurring within minutes or hours by telephone, fax, email or similar. Finally, although the formal banking sector is usually bound by an official or market exchange rate, underground bankers are under no such constraint and, as they often speculate in currency exchange rates, are able to charge far lower fees.

Initial and growing concern

Underground banking systems have been used to facilitate a range of disparate crimes, involving intellectual property, arms and drugs trafficking, tax evasion and the smuggling of illegal immigrants (Passas , 1999). It is, however, the potential for money laundering activity which has heightened the importance of underground banking. Money laundering involves disguising the source of illicit profits and is achieved through a basic process (although money laundering typologies differ in complexity):

- placement – illicit proceeds are placed within the formal banking sector;
- layering – illicit proceeds are redistributed through a series of accounts in small amounts so as to disguise the origin of the funds; and
- integration – the once-illicit proceeds are now licit and are used to purchase property, stocks and bonds so that they can be deposited legally into client bank accounts.

T*he Financial Action Task Force on Money Laundering* (FATF) has long maintained that underground banking systems are important conduits for laundering proceeds of crime (FATF, 1999). It is arguable that the formal banking sector, professional service providers, correspondent banks and off-shore banks continue to serve transnational criminal organisations well enough for underground banking to be largely unnecessary (FATF, 1999; Permanent Subcommittee on Investigations 2001.). Indeed, recognition of the capacity of the formal financial sector to facilitate money laundering has led to an increased focus on what might be termed 'non-traditional' business sectors such as real estate, dealers in precious metals/stones, and the gambling industry (Attorney-General's Department 2004a, 2004b, 2004c). Ironically, heightened scrutiny and increased oversight of the formal sector may increase the propensity for transnational criminals to try laundering their profits via the less regulated underground banking sector. However, it has been argued that if a member of an underground banking network engaged in money laundering, this might impact so negatively upon the network as a whole that it would provoke social and commercial ostracism of the member, which might deter such activity (Ballard, 2003). There has of course been a longstanding underground banking practice in respect of Colombian drugs traffickers through the black market peso exchange (Figure 4).

Figure 4. Black market peso exchange

The terrorist attacks on 11 September 2001 drew formal attention to the possibilities of funds transfer by terrorists through informal banking systems. The bulk of funding for the 9/11 attacks was transferred through the formal banking system via wire transfers and credit cards (Passas, 2003) but the

9/11 Commission's report (2004) maintained that Osama Bin Laden relied generally on established *hawala* networks operating in Pakistan, Dubai and throughout the Middle East. Equally, the US Treasury (Aufhauser, 2003) recently blocked the assets of theal-Baraka at network, a global money remitting company being used by Bin Laden to support al Qaeda's activities. The fact that terrorist groups may be using underground banking systems is arguablya sign that the attention being paid to the formal financial system (for example, in terms of customer identification and suspicious transaction reporting) is becoming more effective (Lehmkuhler, 2003). Nevertheless, the US General Accounting Office (2003) has urged US agencies to systematically assess terrorists' use of underground banking systems. Reducing the level of underground banking has become increasingly important. The overriding purpose of anti money laundering activities in general, and anti-terrorist financing strategies in particular, is to increase the level of transparency of the underground banking sector and to bring underground banking within the scope of the current anti-money laundering legislation that applies to the formal sector (Buencamino, Gorbunov, 2002). This might in turn remove the camouflage surrounding illegitimate remittances.

Regulatory problems and solutions

The nature and complexity of underground banking systems varies between and within jurisdictions, and any policy vehicle would need to be aware of this fact (El-Quorchi, 2002; IMF 2005). Underground bankers are still difficult to identify or locate. Even if it were possible to identify them, their transactions are so varied and secretive it would be difficult to regulatet hem. Although records are kept in order that the *hawaladar* is able to maintain control of his numerous transactions (Ballard, 2003) such records are unlikely to be systematic, will illustrate perhaps only one transmission stage among the several that might occur within an underground banking network, and will be written in idiosyncratic and indecipherable codes. Even if it were possible to regulate them, it would be difficult in many countries to stablish the necessary infrastructure to implement such regulation (Maimbo, 2003). In addition, formalising an informal system simply removes its advantages. The net result might be that the whole system is driven yet further underground so as to avoid infiltration (Maimbo, 2003).It has been suggested (Committee on Banking, Housing and Urban Affairs, 2001) that the bulk of underground bankers would be willing to cooperate with regulatory measures. The FATF (2003a), in special recommendation VI, requires that measures be taken to ensure those who transmit money or value are licensed or registered and subject to all of the FATF guidelines that apply to banks and other financial institutions as well as to administrative, civil or criminal sanctions. The FATF (2003 b) also requires jurisdictions to ensure underground banking services are subject to FATF recommendations 4–16 and 21–25, and also to seven other special recommendations on terrorist financing. Essentially, these recommendations require law enforcement agencies to obtain certain information about customers, their transactions, suspicious transactions, the underground banking service's location and the accounts used. The FATF recognises that the increased focus on money laundering within the formal banking and financial sectors may lead to an increased displacement of such activity into the informal underground sector. In order that recommendation VI is instituted, the FATF suggests:

- licensing or registration with a designated competent authority such as a financial intelligence unit or financial sector regulatory body, of persons that provide underground banking;
- carrying out background checks on the operators, owners, directors and shareholders of underground banking systems; identifying underground banking services by examining the full range of utilised media (including newspapers, radio and the internet) to detect advertising and informing operators of their registration and/or licensing obligations;
- liaising with the formal banking and financial sector to identify suggestive underground banking activities (given that many underground bankers may use formal banking accounts as part of their primary businesses);
- making law enforcement agencies aware of the compliance requirements for underground banking services and of the methods by which illegal use of those services is achieved;

- advising businesses which may be operating underground banking services of their licensing or registration and reporting obligations; and

- requiring entities to display their registration / license to customers in the hope that legitimate clients will seek out licensed/registered operators.

General and specific economic solutions

In order to remove underground banking, the economic incentives of systems such as *hawala* need to be removed (Wilson2002). This might be achieved by providing cheap, fast and efficient outlets for money transfers so there is less economic dependence on *hawala* remittances (Hayaud-Din 2003).Perhaps increased focus needs to be applied to issues such as financial policies, taxation, currency and trade restrictions. The mistrust of banking systems within developing countries and the arguably anti-competitive global presence of formal money service providers (such as Western Union) should perhaps also be addressed (Buencamino & Gorbunov 2002). One of the key determinants of increased underground banking activity is the difference between the official and the black market exchange rates (Buencamino & Gorbunov 2002).Foreign exchange restrictions not only provide incentives for underground banking but also increase capital flight(Schneider 2003) from the developing country. In light of this, China, for example, while maintaining currency controls, also has regard for the black market rate when setting the official rate of exchange. In this way, the disparity between official and non-official rates is reduced and in turn the propensity for using underground banking may decline.

Policies could be drawn up which recognise the financial importance of migrant remittances to the development of the economies of the receiving countries. First, mandatory remittance limits could be introduced in which a proportion of the migrants' earnings would have to be transferred through formal channels. This was attempted in Bangladesh, the Republic of Korea, Pakistan and the Philippines. It was only truly effective in the Republic of Korea because nearly all of their migrant workers overseas were employed by Korean businesses operating in the Middle East. It was therefore relatively easy to persuade the companies to deposit migrant earnings in designated accounts. Secondly, governments might attempt to disrupt the underground banking system. In Pakistan, the government has focused attention upon *hundi* systems with a resulting increase in formal remittances of 64 per cent between January 2001 and January 2002. However, achieving a long term and meaningful shift from informal to formal banking systems requires improving the alternatives to informal banking (Buencamino & Gorbunov 2002).Thirdly, governments might provide incentives rather than creating and enforcing regulations. In Bangladesh, India, Pakistan, Sri Lanka and Vietnam, foreign currency accounts pay above market interest rates. In these countries, as well as Egypt, Poland and Turkey, premium exchange rates are offered for those wishing to convert foreign currency into local currency. The disadvantage of this incentive approach is that foreign currency accounts are really only attractive to professional and higher skilled workers whose earning capacity provides sufficient funds to render the transfer meaningful. The bulk of workers will not fit into this narrow category (Buencamino & Gorbunov 2002). Fourthly, developing nations might liberalise their economies. Arguably, if a government restricts imports and places limits on foreign exchange, underground banking systems will seek to fill the void. For example, if goods are smuggled into a country because of high import tariffs, the money to pay for those goods still has to leave the country, and is likely to do so via informal networks (Buencamino &Gorbunov 2002). In 1995, when the Philippines abolished foreign exchange controls and unified the exchange rate, remittances through formal banking channels quadrupled in that year.

Conversely, in Pakistan in 1998 the government created strict currency controls which included a restriction on withdrawals from foreign currency accounts such that money could only be withdrawn at a government rate of 46rupees compared to a *hawala* rate of 58rupees. In consequence, foreign remittances via the formal banking sector fell from US$150 million to US$50 million per month (Buencamino & Gorbunov2002).Fifthly, improving the financial infrastructure of developing countries so as to render underground banking less attractive is likely to reap rewards. A number of companies in Egypt, Jordan, Lebanon and countries in the Persian Gulf have undertaken to deliver money door to

door, thus compensating for their lack of physical presence, which historically has provided succour to the underground bankers. In the US, many banks are working with Latin American countries to allow migrant workers' families the ability to access money from ATMs in their home countries (Buencamino & Gorbunov 2002).Finally, currency transfers might be acilitated by micro-finance institutions (MFIs). These organisations, evolving largely from NGOs, provide credit and other financial services to those of low income. Funds which are currently remitted via informal means deprive the developing economies of much needed capital. MFIs '…are more and more identified as potentially critical for the mobilization and transformation of remittances' (International Labour Office, 2000).

Conclusion

The use of underground banking for transferring legitimate remittances has been overshadowed by its potential use by criminal and terrorist groups. The decision to regulate or licence brokers who operate within the underground banking system must carefully evaluate the practicalities and consequences of doing so. An unregulated system in which illicit funds might be transferred with licit ones is doubtless dangerous. A regulated system driven further underground is more dangerous still. Australia has recognised the existence of remittance dealers as a constituent of cash dealers generally and AUSTRAC has in consequence proactively targeted such people via multilingual advertisement campaigns. Persuading remittance dealers to register and to submit financial transaction reports to AUSTRAC is arguably a sound means by which the impact of those who might elect to launder money or finance terrorist groups could be mitigated. The most pragmatic solution, however, might entail altering the economic conditions which currently render underground banking aviable alternative to the formal banking sector.

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The World Financial Crisis and Effects on Serbian Financial Sector

Đorđe Đukić[1]**, Mališa Đukić**[2]

ABSTRACT – *The wave of bankruptcy of large mortgage and investment banks in the U.S. and Europe during 2008 is followed by strong state intervention. Some banks that are "too big to fail" have been bailed out by central banks which have pumped in the financial sector hundreds of billions of U.S. dollars. It is all about the deepest world's financial crisis since 1929-1933, the one caused by the collapse of sub-prime mortgage market in the U.S. The loss of confidence of banks which are not ready to lend on the interbank money market caused new market falls. That is confirmed by drastic jump of interest rates on overnight lending among banks, which implies that the 3-Month and 6-Month LIBOR and EURIBOR, as well as central banks reference interest rates, are of less relevance for banks' decision making process. Negative repercussions of the crisis on Serbian financial sector are manifested through: significant increase of lending rates, difficulty or impossibility of corporate sector to use cheap cross-border loans, reduction of supply of foreign exchange on that base, drastic drop of securities prices, etc. The first part of the paper points out the effects of financial crisis on behavior of short-term interest rates in the U.S. and Europe. The second part gives an estimation of effects of world financial crisis on interest rates in banking industry in Serbia. Concluding remarks are presented at the end of the paper.*

KEY WORDS: world, financial crisis, effects, financial sector, Serbia

Effects of financial crisis on behaviour on short-term interest rates in the U.S. and Europe

The world financial crises that was initiated by the collapse of the U.S. sub-prime mortgage market in August 2007 escalated during the period from September to October 2008 in the form of shocks of similar to shocks intensity of Great Depression from 1929-1933. In the following part, the key events of U.S. financial sector are listed.

First, September 16th 2008, American central bank, the Federal Reserve System (Fed) helps the larges U.S. insurance company, American International Group (AIG) by injecting 85 billion US dollars in exchange for 79,9% of shareholders capital. Such an intervention has never been done before by Fed.

Secondly, beginning of October 2008, U.S. Congress approved a historic $700 billion financial-rescue package allowing Treasury department to use authority on five fronts:

- purchasing troubled mortgage-backed securities;
- buying mortgages, particularly from regional banks;
- insuring mortgage-backed securities and mortgages, ensuring banks and investors don't lose money if borrowers default;
- purchasing equity in a broad array of financial institutions; and
- helping delinquent borrowers stay in their homes.

This is according to officials with one simple goal - to restore capital flows to the consumers and businesses that form the core of U.S. economy.[3]

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[3] Source: Speech of N. Kashkari in Washington, D.C., before the Institute of International Bankers, Factiva Reuters.

Thirdly, October 10th, 2008 Lehman Brothers, the fifth largest U.S. investment bank that was founded 158 years ago officially went bankrupt, while Merrill Lynch that was founded 94 years ago accepted the offer of Bank of America to be bought for 50 billion USD which is almost a half of Merrill Lynch's 2007 market value.

The effects of the U.S. financial crises quickly spread throughout Europe. However, until beginning of October 2008 it was not estimated that the growth of losses in certain European banks which were exposed to the risk of U.S. mortgage loans market would require state interventions to save the banking sector.

After the black Friday (October 10th 2008), during which the largest fall of one weeks Dow Jones Stoxx Bank Index, EU member states governments adopted urgent measures to support the troubled banking sector in order to avoid panic on the market. However, following such news and after a short recovery, the collapse of banks shares continued – the value of the above mentioned index was cut by one half beginning of November 2008 relative to the beginning of 2008.

As presented in Table 1, the financial support provided by states was huge and varied from providing loan guarantees to capitalisation of banks. After Island announced that it went bankrupt, Ireland changed its banking regulations to guarantee all citizens deposits disregarding the deposited amount. Following Irish reaction, other EU countries adopted similar regulations to avoid panic of depositors.

Table 1. The Support of EU governments to Banking Sector (in billion EUR)

	Debt guarantee (maximum amount covered	Capital support	Other measures	Currency
Austria	85	15	-	EUR
Belgium	nd	7.7	-	EUR
France	320	41	-	EUR
Germany	400	70	10	EUR
Ireland	300	-	-	EUR
Italy	nd	nd	40	EUR
Luxembourg	nd	2.5	-	EUR
Netherlands	200	4	-	EUR
Portugal	20	-	-	EUR
Spain	100	-	30	EUR
UK	250	37	-	GBP
Total (ex.UK)	>1425	>140		EUR
Total	>1745	>187		EUR

Note: Data for Ireland do not include retail deposits insurance for consistence. Support fro Dexia and Fortis included in estimates for France, Belgium, Luxemburg and Netherlands. Other measures include purchase or swap of bank assets.

Source: Intesa Sanpaolo, Thomson Reuters, Financial Times, and national sources.

One of the indicators of the depth of the current world financial crises is the unwillingness of banks to lend on inter-bank money market which implies lending with high risk premium due to the credit risk. The "TED Spread", as a measure of credit risk for inter-bank lending, reached record levels in late September 2008 (Graph 1). A higher spread indicates banks perceive each other as riskier counterparties.

Nevertheless, the Treasury yield movement was a more significant driver of the "TED Spread" than the changes in LIBOR. A three month t-bill yield so close to zero means that people are willing to forego interest just to keep their money (principal) safe for three months--a very high level of risk aversion and indicative of tight lending conditions. Prior to the emergence of subprime mortgage losses last year, the TED spread had generally stayed within a range of 10 and 50 basis points. A rising TED spread often indicated a drop in stock prices as liquidity is withdrawn from the market. U.S. T-Bill yields have tumbled to a low 0.29% as investors seek safe haven investments, while Libor has

pushed higher at 4.82% - creating a record high TED spread of 4.53 percentage points. [4] That was a clear sign the markets are truly in the midst of the worst financial crisis in history.

Graph 1. TED Spread
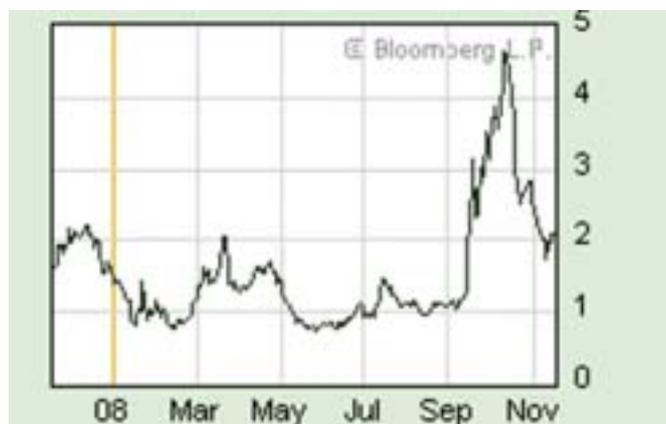
Source: Bloomberg.com

Note: "TED Spread" is the difference between: 1) the three-month U.S. treasury bill rate; and 2) the three-month London Interbank Borrowing Rate (LIBOR), which represents the rate at which banks typically lend to each other. The t-bill is considered "risk-free" because the full faith and credit of the U.S. government is behind it.

On the other hand, the drastic jump of 1month, 3month and 6 month EURIBOR that took place end of September and beginning of October 2008, despite the reduction of ECB interest rate on main refinancing operations presents an indicator of absence of trust on interbank market in Eurozone. The 6 month EURIBOR usually used for the calculation of interest rates on mortgage loans reached its maximum level of more than 5,4% on October 10th despite the 50 basis points reduction of ECB main refinancing rate to 3,75% two days earlier. Only after several EU countries announced that they will provide guarantee on inter-bank loans, 6 month EURIBOR significantly dropped (Graph 2).

Graph 2. 6 month EURIBOR (Previous year, up to November 3, 2008)
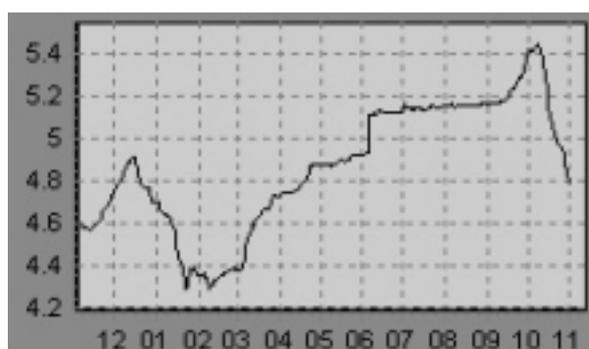
Source: www.euribor.org

Effects of world financial crisis on interest rates in banking industry in Serbia

The economic indicators for some emerging European states, including Serbia (Table 2) show the level of external exposure to the financial crisis.

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[4] "Looking at the last 20 years, there was the 87 crash, there was the first Gulf War, the Russian crisis, Enron and a technology bubble, and right now, the TED spread is the highest it's ever been," Paul Vaillancourt, director of portfolio strategy for Franklin Templeton Managed Investment Solutions said. "This is unprecedented." – (source:www.financialpost.com)

Table 2. Macro and Financial Indicators in Selected Emerging Market Countries

Country	Current account balance (% of GDP)	Gross reserves to short-term external debt (ratio)	Net external position vis-a-vis BIS reporting banks (% of GDP)	Growth in credit to the private sector (in percent, year-on-year)	Inflation (in percent)
Bulgaria	-21,9	1,1	-29,0	54,5	14,5
Croatia	-9,0	0,9	-59,7	11,6	8,4
Hungary	-5,5	0,9	-54,1	18,0	6,7
Romania	-14,5	0,9	-36,4	62,0	9,0
Serbia	-16,1	2,8	-15,1	37,0	14,3
Ukraine	-7,6	1,0	-9,5	63,9	26,8

Notes: Projections of the current account balance and GDP for 2008 in dollar terms from the WEO. Short-term debt is measured at remaining maturity. End–2007 estimated by IMF staff. Data on external positions of reporting banks vis-à-vis individual countries and all sectors from the Bistre latest observations ranging from February 2007/08 to June 2007/08 from the IFS. Year-on-year inflation in July 2008 or latest observations.

Source: IMF, "Global Financial Stability Report", Washington, October 2008, pp. 46.

Before the September collapse of Lehman Brothers which sent global markets into a tailspin, central and eastern European currencies were among the strongest foreign-exchange performers in year 2008. Hungary narrowly averted a financial crisis in October 2008 after securing some $25 billion in financing from the IMF and the EU to shore up its wobbling bank sector. Hungarian Forint fell from its all-time high of 227,70 in mid-July to a record low of 286,15 against the euro at end-October down for more then 25%.

Romania, the only EU member to have a "junk" sovereign credit rating over its ability to service its debt, saw its Leu slide to a record low of 3,986 in early October, down 15 % from a one-year high set two months earlier.

During October 2008, dinar lost more than 10% of its value against the euro. Taking into account the current account ratio as a percentage of GDP, Bulgaria and then Serbia are the countries with the highest exposure to negative effects of world financial crises. However, given the other two indicators, the gross reserves to short-term external debt (ratio) and growth in credit to the private sector, Serbia is among countries which are less exposed to the crises.

Negative repercussions of this crisis on Serbian financial sector are manifested through:

First, jump of lending interest rates. This is a result of a sudden increase of the key policy rate – 2 week repo of National Bank of Serbia (NBS) increased from 15,75% to 17,75% end of October 2008 with an aim to reduce core inflation which was 10,7% in October 2008 as opposed to the targeted inflation rate of 3-6% and to reduce the pressure of further dinar depreciation against euro.

Secondly, impossibility of corporate sector to use cheap cross-border loans.[5] Following a continuous increase of approved cross-border loans which in total reached the sum 10.770 millions of Euros in September 2008, the effects of the financial crises are manifested through unwillingness of foreign banks to guaranty such loans in October 2008. End of 2008, one may expect the reduction of stock of cross-border loans used by domestic companies due to the fact that some of the companies will have to pay back the due loans by the end of the year.

Thirdly, reduction of supply of foreign currencies due to the abolishment of cross-border loans to domestic companies. Nevertheless, in the period to come, domestic companies which need to pay off the loans will create additional pressure on foreign exchange market, as they will have to purchase foreign currency for loan pay off.

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[5] For more information see: Đukić, Đ. "Dramatičan rast prekograničnih kredita u Srbiji – lice i naličje", *Biznis & Finansije*, Finansije top 2007, jun 2008, pp. 20-21.

Forth, drastic drop of securities prices. From the beginning of 2008 to the end of October 2008, BELEX 15 Index on Belgrade Stock Exchange went down by 2.289,35 to 659,88 value which is 71,2% fall in value.[6]

Fifth, future increase of lending rates, as a result of increased competition of banks on the deposits market, followed by the pressure on foreign banks in Serbia from parent bank to expend their credit activities based on domestic deposits. Majority of banks are offering interest rate between 8-9% per annum for one year euro-denominated saving accounts to citizens.

In year 2009, citizens and companies in Serbia will be able to receive loans but with higher interest rates. As presented in Table 3, interest rates on short-term citizens loans in Serbia were extremely high relative to relevant group of countries – Bulgaria, Croatia and Romania. With regard to housing loans, interest rates were a bit higher compared to Croatia, and a lot lower compared to Bulgaria, which implies that the competition among banks were most intensive in this segment of the loan market.[7]

Table 3. Interest rates on citizens' loans in percent

Country	Short-term loans		Housing loans	
	December 2007	September 2008	December 2007	September 2008
Bulgaria	8,62	9,74	11,20	10,66
Croatia	6,84	8,81	5,12	5,96
Romania	6,30	8,37	7,65	7,69
Serbia	30,25	32,66	6.05	6,26

Note: The last available data for Croatia and Romania refer to August 2008. In case of Bulgaria and Romania, interest rates are applied to new EUR – denominated loans. In Croatia, rates are applied to Croatian kuna loans indexed on foreign currency, while in Serbia, mostly, the interest rate is applied to dinar loans indexed on foreign currency.

Sources: Statistics of central banks.

Concluding remarks

Current financial crisis, the deepest after 1929-1933. one are caused by collapse of sub-prime mortgage market in the U.S. The crises is followed by the loss of confidence in banks which are not ready to lend money on the interbank market fired by new crashes on other markets. That is confirmed by drastic jump of interest rates on overnight lending among banks, which implies that the LIBOR and EURIBOR for longer periods, as well as central banks reference interest rates, are not relevant for bank's decision making process.

Negative repercussions of this crisis on Serbian financial sector are manifested through: jump of lending rates, impossibility of corporate sector to use cheap cross-border loans, reduction of supply of foreign exchange on that base and drastic drop of securities prices. Future increase of lending rates would be a result of the increased competition of banks on the deposits market, followed by the pressure on foreign banks in Serbia from parent bank to expend their credit activities based on domestic deposits. Majority of banks are offering interest rate between 8-9% per annum for one year euro-denominated saving accounts to citizens, which implies that in year 2009, citizens and companies in Serbia will be able to receive loans but with higher interest rates.

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[6] Source: www.belex.co.yu

[7] For more information see: Đukić, Đ. "Analysis of Effects of Foreign Bank Entry on Credit Interest Rate Behaviour in Serbia", *Panoeconomicus*, No. 4 2007, pp. 429-443.

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Comparative Analysis of Bank Concentration in Selected South East European Countries

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ABSTRACT – This paper analyzes the bank concentration of banking industry in Bosnia and Herzegovina, Croatia, Serbia and Montenegro according to the latest available data on total bank assets. The analysis of concentration of banks' net assets is done using following concentration indices: concentration ratios, Herfindahl-Hirchman index, Theil entropy indeks, Hall-Tideman and Rosenbluht index, Gini coefficient and normalized Gini coeffcient, as well as Lorenz curve. According to calculated concentration measures, concentration of banking industry is highest in Croatia, followed by Bosnia and Hercegovina, while in Serbia and Montenegro concentration is moderate.

KEY WORDS: banking industry in B&H, Croatia, Serbia and Montenegro, measures of concentration

Introduction

The term concentration is often used in economy and yet for every researcher it has a different meaning. Generally, it is connected with a market control of certain economic resource or activity. Concentration exists when smaller part of total units controls the bigger part of the total resource. For economists, concentration is a usual measure of market power within industries. Market power denotes the level of control that only one or few companies have over important decisions in certain industry. In other words, market power is the ability of a company to raise the price (above marginal costs) without reducing its own selling.

Competitive structure, measured by the level of concentration[2], can range from highly fragmented to tightly consolidated industry. In that sense, industries with higher level of concentration consist of a few companies that control bigger amount of total industrial realization (consolidated industries), as opposed to that, industries with no concentration have many relatively small companies with approximately same, smaller share of industrial sales (patchy industries).

Measuring industrial concentration[3] could be especially important if a strategic analysis is based on Bain-Masons hypotheses, which is known as a structure-conduct-performance paradigm (SCP). SCP helped in funding structural approach to theory of strategy. It assumes that efficiency of an industry and of a company is in direct relationship with the form of industrial structure. Concentration of an industry stimulates companies to take advantage of trading power, the availability of which depends on structural characteristics of an industry. According to that paradigm, high concentration is connected with high profits, especially if concentration is above certain critical level and when there are significant barriers of entering an industry.

Some studies showed that concentration can have some negative connotations, for example Weiss (1989) showed that commercial banks in terms of high concentration set higher prices for their ser-

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[2] Tipurić, D., Kolaković, M., and Dumičić K. (2003), Croatian banking industry concentration changes in 1993-2002, pp. 5, *Proceedings of the Faculty of Economics and Business,* Zagreb; and: Tipurić, D., Kolaković, M., and Dumičić, K. (2002), Istraživanje promjena u koncentraciji hrvatske bankarske industrije 1993-2000. *Ekonomski pregled*, Br. 5-6.

[3] Ibid, pp. 6

vices.[4] However, McConnel and Brue (1996) showed that some factors are in favour of high industrial concentrations.[5]

The aim of this paper is to analyze and compare concentration of banking industry in selected South East European countries[6], based on the latest available banks' net assets data[7]. Statistical data used in the analysis are provided by national central banks of all the mentioned countries. Industrial concentration can be measured in different ways. In this paper, the following concentration measures are used: concentration ratios, Herfindahl-Hirchman index, Theil entropy index, Hall-Tideman and Rosenbluth index, Gini coefficient and Lorenz curve.

Data description

Based on implications of existing banking industry concentration literature and the availability of data, the empirical analysis in this paper employs banks` net assets data on 30 June 2008. In the case of Croatia, 33 banks were included in calculation of selected measures of concentration according to their net assets data. The analysis for The Federation of Bosnia and Herzegovina included 21 banks and for The Republic of Srpska 10 banks were analyzed. In the case of Montenegro 11 banks entered the calculation, and finally for The Republic of Serbia, 34 banks according to their net assets were analyzed. Data used in analysis were obtained from central banks` official sites for each country. Market concentration measures discussed in this paper are: concentration ratios, Herfindahl-Hirchman index, Theil entropy index, Hall-Tideman and Rosenbluth index, Gini coefficient and Lorenz curve. The presentation and analysis of mentioned measures of concentration were supplemented by numerical examples illustrating their properties when applied empirically.

Literature review

Concentration and competition [8]are linked to product markets and geographical areas, both in theory and empirical analyses. Banks provide multitude products that do not serve a unique market and defining a relevant market involves making a preliminary decision about potentially relevant structural characteristics, such as concentration and competition (Kottmann, 1974).

The literature on measurement of competition can be divided into two major streams: (1) structural and, (2) non-structural approaches.

(1) The structural approach to the measurement of competition embraces the Structure-Conduct-Performance (SCP) paradigm and the efficiency hypotheses, as well as a number of formal approaches with roots in industrial organization theory. The two former models investigate, respectively, whether a highly concentrated market causes collusive behaviour among the larger banks resulting in superior market performance, and whether it is the efficiency of larger banks that enhances their performance.

(2) Non-structural models for the measurement of competition, namely, the Iwata model (Iwata, 1974), the Bresnahan model and the Panzar-Rosse model (Panzar and Rosse, 1987) were developed in reaction to the theoretical and empirical deficiencies of the structural models. These New Empirical Industrial Organization approaches test competition and the use of market power, and stress the analysis of banks` competitive conduct in the absence of structural measures.

Structural measures of competition may be divided into two major schools of thought: the formal and non-formal approaches. The study of the relationship between market performance and market structure has its roots in the non-formal framework of SCP paradigm. Since its origins, this framework has

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[4] Ibid., pp .8

[5] McConell, C.R. and Brue, S.L. (1996), *Microeconomics-Principles, Problems and Policies*, McGraw-Hill, Inc., London

[6] The Federation of Bosnia and Herzegovina, The Republic of Croatia, The Republic of Montenegro, The Republic of Serbia and The Republic of Srpska

[7] In the moment of conducting the analysis, latest available data was for June 2008.

[8] Bikker , J.A., Haaf K. (2000), Measures of competition and concentration in the banking industry: a review of the literature, *Research Series Supervision no. 27*, De Nederlandsche Bank, pp. 3.

evolved largely independently of ongoing refinements in formal models of imperfectly competitive markets (Martin, 1993). Yet, large discrepancies between formal and non-formal approaches remain.

The application of SCP to the banking literature has been criticized by various authors, for instance by Gilbert (1984), Reid (1987), Vesala (1995) and Boss(2002). Their criticism is directed at the form of the model rather than at the specification of the variables used. The extensive literature applying the structure-performance paradigm to the banking industry has been summarized by Gilbert (1984) and Molyneux et al. (1996). In this sense it should be noted that most of the studies applying the SCP framework to the banking industry do not take explicit account of the conduct of banks.

The growing body of literature subjecting the choice of profitability measures to formal analysis has been summarized by Martin (1993). Most of these formal studies generalize the Lerner index of monopoly power. They do not stress any single measure of profitability as correct or best, but provide guidance in selecting tests of market power and profitability.

In individual researches thesis of positive correlation between concentration and banks profit showed to be weak and insignificant (Berger, 1995) and the extensive and recent research Demirgüc-Kunt and Levine (2000) did not show that bank concentration is closely connected to the efficiency of banking sector and development of financial system. That is one of the reasons why it is difficult to intercede for concentration or against it.

Another aspect of concentration in banking industry is its impact on stability of banking system, namely occurrence of banking crises. One approach shows that enhanced concentration in banking industry reduces instability, and other approach is exactly the opposite.[9] In extensive research that involved data on banking system of seventy countries in selected period from 1980 to 1997, Beck, Demirgüc-Kunt and Levine (2004) showed that higher concentration in banking industry is connected to light probability that banking crises would arise. The mentioned authors studied potential implications that might be underneath the relationship between concentration and stability of banking system. The research showed that more concentrated banking systems were connected to the lower possibility of banks breakdown and at the same time, regulatory politics that stimulated higher competition between banks also led to higher stability. So, according to authors, concentration should not be connected with competition on the market. Moreover, the results showed that more concentrated banking systems are characterised by more developed banks that also support positive relationship between concentration and stability.

Finally, it should be mentioned that concentration in banking industry may affect the economic growth which is mainly connected with the economic development of individual country. According to Šonje (1999), development of financial system is positively correlated with the economic growth, and in that sense the characteristics of financial sector are extremely important. Empirical research of Deidda and Fattouh (2002) showed that concentration in banking industry is negatively correlated with economic growth in poor countries that have lower income, but there is no such effect on concentration in developed countries.

Concentration measures of banking industry in the chosen countries in the SEE region[10]

Theoretical background

Concentration measures are used to measure distribution of total or some other aggregate measure among the units in the set. [11] The importance of concentration ratios arises from their ability to capture structural features of a market. Concentration ratios are therefore often used in structural models ex-

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[9] Beck, T., Demirgüc-Kunt, A. and Levine, R. (2004), *Bank concentration and fragility: Impact and Mechanic*, NBER Working Paper Series, Vol. w11500

[10] The Federation of Bosnia and Herzegovina, The Republic of Croatia, The Republic of Montenegro, The Republic of Srpska.

[11] Šošić, I. (2006), *Primijenjena statistika*, Školska knjiga, Zagreb, pp. 124.

plaining competitive performance in the banking industry as the result of market structure. It should be noted, however, that a measure of concentration does not warrant conclusions about the competitive performance in a particular market. Even in a highly concentrated market, competitive behavior between the leading banks is still possible.[12] This chapter presents six concentration indices and the Lorenz curve as a graphical representation of concentration.

Concentration ratio

One of the most commonly used concentration measures is *r* units (in this case banks) concentration ratio due to its simplicity. It is calculated by summing *r* of *N* banks' assets values in the set of all banks, and then dividing that sum by the sum of N banks' assets values. Values are ranked by size from the largest to the smallest. Concentration ratio of the *r*[th] order is given by the expression[13]:

$$(1) \qquad C_r = \frac{\sum_{i=1}^{r} x_i}{\sum_{i=1}^{N} x_i}, \quad C_r = \frac{1}{N} \sum_{i=1}^{r} \frac{x_i}{\bar{x}}, \quad \frac{1}{N} \leq C_r \leq 1 \qquad ,$$

where N represents number of banks, and x_i single values of the property for which concentration is measured (in this case banks' assets). There is no rule for the determination of the order value of *r*, so that the number of units included in the concentration index is a rather arbitrary decision. The index would be 1/N for an infinite number of equally sized units, it equals unity if the all the units included in the calculation of the concentration ratio make up the entire industry.

The Herfindahl-Hirschman Index

The Herfindahl-Hirschman Index *(HHI)* is the most often used summary measure of concentration and it serves as a starting point for the evaluation of other concentration indices. In the United States, the *HHI* plays a significant role in the enforcement process of antitrust laws in banking. The merger of two banks will be approved without further examination if post-merger market *HHI* does not exceed 0.18, and the increase of the index from the pre-merger situation is less than 0.02.[14] *HHI* is the sum of the squares of proportions which represent market shares and is given by the equation (2), as follows:

$$(2) \qquad H = \sum_{i=1}^{N} p_i^2 = \frac{\sum_{i=1}^{N} x_i^2}{\left(\sum_{i=1}^{N} x_i \right)^2}, \quad \frac{1}{N} \leq H \leq 1 \qquad .$$

Herfindahl-Hirschman index ranges between 1/N (which is the reciprocal value of number of banks and means that all the banks in the market have equal assets) and 1 (in the case of monopoly). Herfindahl-Hirschman index emphasizes the importance of larger banks by assigning a greater weight to them than to smaller banks.

The Hall-Tideman Index and the Rosenbluth Index

Hall-Tideman (*HTI*) and Rosenbluth index (*RI*) both stress the importance of absolute number of units (in this case banks). The importance of including absolute number of banks arises from the fact that number of banks in banking industry can explain barriers to entry. It is assumed that market entry is easy if there is a large number of banks and vice versa. *HTI* is given by the equation (3).

$$HTI = 1 / \left(2 \sum_{i=1}^{n} i p_i - 1 \right); i = 1, \dots, n$$

$$(3) \qquad .$$

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[12] Bikker, J. A., and Haaf, K., op.cit,, pp. 3.

[13] Šošić, I., op.cit., pp. 124.

[14] Rhoades, S. A. (1993), The Herfindhal-Hirschman index, *Federal Reserve Bulletin 79*, pp. 188.

The largest banks has the weight $i = 1$, while to the smallest bank is assigned the weight $i = n$. *RI* is given by the equation (4), as follows:

$$RI = 1 / \left(2 \sum_{i=1}^{n} j p_i - 1 \right); j = n, \ldots, 1$$

(4)

The main difference between RI and HTI results from ranking, so the weight $j = 1$ is assigned to the smallest bank, while weight $j = n$ is assigned to the largest bank[15]. The value of RI and HTI ranges from 0 to 1, where value 0 represents infinite number of banks of the same assets' size, and value 1 represents monopoly.

The Entropy index

The Entropy index has its theoretical foundations in information theory and is given by the equation (5)[16].

(5)
$$E = \sum_{i=1}^{N} p_i \log_2 \frac{1}{p_i}.$$

The entropy index ranges between 0 for monopoly and $\log_2 N$, which represents the lowest concentration. Hence, the value of the E is inversely related to the degree of concentration. While HHI gives almost no weight to banks with very small proportion of total assets, the Entropy index gives relatively higher weight to those banks[17].

The Lorenz curve and the Gini coefficient

Lorenz curve is used for graphical representation of equality of distribution. Lorenz curve is drawn from the origin to the point (1, 1) and the coordinates of points in between are given by ($F_x (x_i)$, FT (T_i)). The values of variable X for which concentration is measured are ranked by size, from the lowest to the highest value. Coordinates of the points between (0, 0) and (1, 1) are calculated using the expression (6) for *x*-coordinates and expression (7) for *y*-coordinates, where *N* represents the number of banks. The abscissa would be given by (7):

$$F_x(x_i) = \frac{i}{N}, \quad i = 1, 2, \ldots, N$$

(7)

and the ordinate would be given by (8):

$$F_T(T_i) = \frac{\sum_{j=1}^{i} x_j}{\sum_{i=1}^{N} x_i}, \quad i = 1, 2, \ldots, N$$

(8)

Lorenz curve is constructed below the perfect equality line which is given by expression (9).

(9)
$$F_x (x_i) = F_T (T_i)$$

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[15] Ljubaj, I., op. cit., pp. 6.
[16] Martić, Lj. (1986), *Mjere nejednakosti i siromaštva*, Birotehnika, Zagreb, pp. 58.
[17] Ljubaj, I., op. cit., pp. 9.

Lorenz curve is concave from above: as we move to the right, banks have successively higher assets value, so the cumulative assets grow faster[18].

The Gini coefficient is a numerical representation of the degree of inequality and is related to Lorenz curve.[19] The higher extent to which Lorenz curve deviates from perfect equality line indicates higher inequality of distribution, i.e. concentration of economic good (in this case assets) to smaller number of units (in this case banks).[20] Gini coefficient represents the ratio of the area between perfect equality line and Lorenz curve and the area of the triangle (0, 0), (1, 0), (1, 1). Gini coefficient ranges from 0, for perfectly equal distribution, to 1, for the situation in which all the quantity of economic good (in this case assets) would be concentrated to one unit (in this case bank). Equation (10) is used for the calculation of Gini coefficient in the case of ungrouped data, where N represents number of units (banks) and x_i represents single values of the property for which concentration is measured (bank assets).

$$(10) \qquad G = \frac{2\sum_{i=1}^{N} i * x_i - (N+1)\sum_{i=1}^{N} x_i}{N\sum_{i=1}^{N} x_i},$$

Standardized Gini coefficient is given by equation (11).

$$(11) \qquad G^* = G\frac{N}{N-1}.$$

Calculation and analysis of concentration of banks' assets in the chosen countries of the SEE region

Comparison of concentration ratios in the chosen countries of the SEE region

Countries presented in Table 1. are sorted by number of banks. It can be noted that, with the increase of number of banks in the country, calculated concentration ratios decrease. For example, in The Republic of Srpska, where number of banks is lowest, five biggest banks hold 87,53% of the banking sector assets, while in The Republic of Serbia, where number of banks is highest, five biggest banks hold 46,17% of the banking sector assets.

Table 1. Concentration ratios C_2, C_3, C_4, C_5, C_{10}[21] and number of banks for five countries of the SEE region, 30 June 2008

Country	C_2	C_3	C_4	C_5	C_{10}	Number of banks
The Republic of Srpska	0,55213	0,70634	0,80660	0,87528	*	10
The Republic of Montenegro	0,50200	0,64518	0,78182	0,84251	**	11
The Federation of Bosnia and Herzegovina	0,50311	0,66869	0,73590	0,78792	0,92271	21
The Republic of Croatia	0,41240	0,53331	0,64613	0,71927	0,91842	33
The Republic of Serbia	0,23058	0,32523	0,40036	0,46174	0,68765	34

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[18] Barrow, M. (1996), *Statistics for Economics, Accounting and Business Studies*, Longman, pp. 74.

[19] Gogala, Z. (2001), *Osnove statistike*, Sinergija, Zagreb

[20] Bradley, T. (2007), *Essential Statistics for Economics, Business and Management*, John Wiley & Sons, pp.53.

[21] C_{10} was not calculated for The Republic of Montenegro and The Republic of Srpska due to the fact that number of banks in Montenegro was 11, and in The Republic of Srpska 10.

Figure 1. Concentration ratios C_2, C_3, C_4 and C_5 in five countries of the SEE region, 30 June 2008
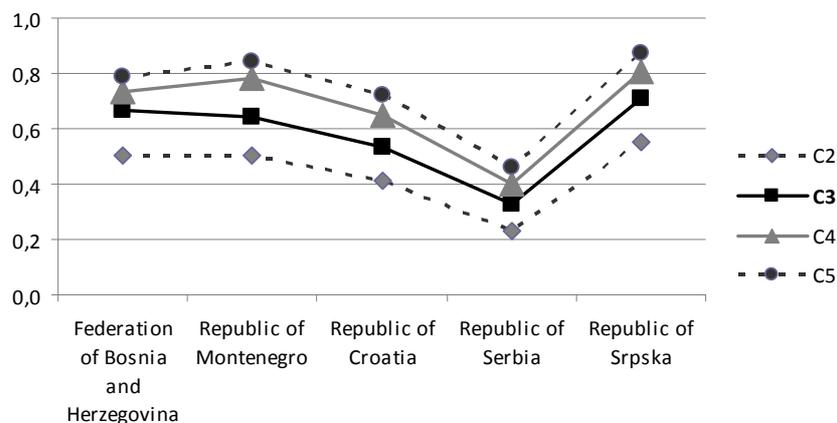
According to Figure 1., C_2, C_3, C_4 and C_5 show the same results, i.e. lead to the same conclusions. Concentration is highest in The Republic of Srpska, followed by The Republic of Montenegro, The Federation of Bosnia and Herzegovina and The Republic of Croatia, while the lowest concentration was shown for The Republic of Serbia.

Comparison of Herfidahl-Hirchman indices in the chosen countries of the SEE region

Figure 2. Herfindahl-Hirchman indices in five countries of the SEE region, 30 June 2008
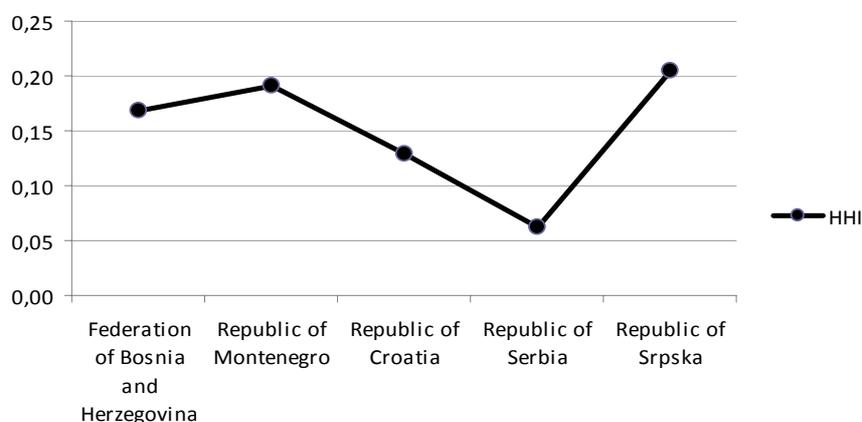
Figure 2., which presents results for Herfinfdahl-Hirchman indices, supports results obtained in the previous section, where concentration ratios were calculated. Although concentration ratios and HHI generally can not directly be compared since they are based on different starting point[22], both results lead to the same conclusions. With the increase in number of banks HHI decreases, what is expected, because market power of biggest banks decreases.

Comparison of Hall-Tideman and Rosenbluth indices in the chosen countries of the SEE region

Hall-Tideman and Rosenbluth indices in the chosen countries of the SEE region are shown in Figure 3.

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[22] Šošić, I., op.cit. pp. 126

Figure 3. Hall-Tideman and Rosenbluth indices in five countries of the SEE region, 30 June 2008
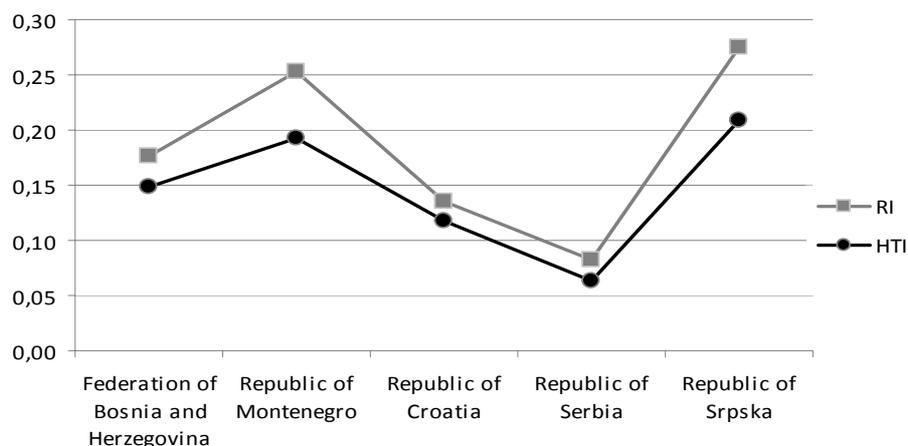
Figure 3. also supports previously obtained results, i.e. concentration is highest in The Republic of Srpska, followed by The Republic of Montenegro, The Federation of Bosnia and Herzegovina and The Republic of Croatia, while the lowest concentration was shown for The Republic of Serbia.

Comparison of Theil entropy indices in the chosen countries of the SEE region, 30 June 2008

Figure 4. Theil entropy indices in five countries of the SEE region, 30 June 2008
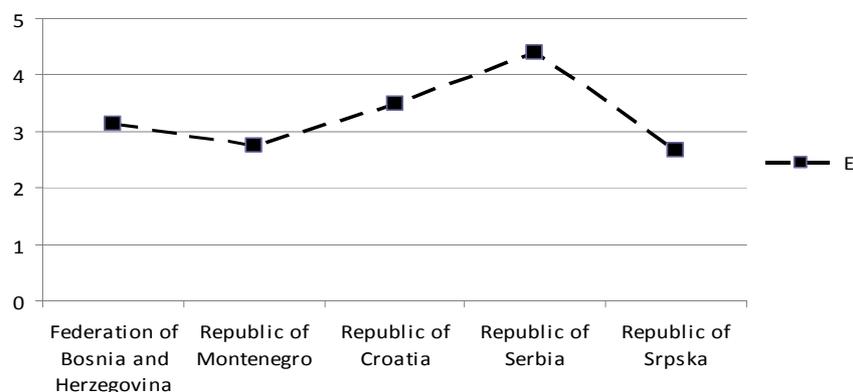
Since the value of Theil Entropy index is inversely related to the degree of concentration, it can be concluded that Figure 4. supports results obtained from previous sections, i.e. concentration is highest The Republic of Srpska, followed by The Republic of Montenegro, The Federation of Bosnia and Herzegovina and The Republic of Croatia, while the lowest concentration was shown for The Republic of Serbia.

Comparison of Lorenz curves and Gini coefficients in the chosen countries of the SEE region

Analysis is done using standardized Gini coefficients due to differences in number of banks among countries and concentration is graphically represented by Lorenz curves. Normalized Gini coefficients and Lorenz curves provide different results than the one obtained using concentration ratios, HHI, HTI, RI and Theil Entropy index. The highest concentration of banks' assets is shown for Croatia (G*=0,76); followed by The Federation of Bosnia and Herzegovina (G*=0,71); The Republic of Srpska and The Republic of Montenegro (G*=0,58 in both cases); and The Republic of Serbia(G*=0,55).

Lorenz curve (see Figure 5.) in Croatia shows that 83% of total bank assets are held by approximately 20% biggest banks. Furthermore, approximately 30% biggest banks hold 91% of total bank assets, while approximately 50% biggest banks hold 95% of total bank assets. Lorenz curve for The Federation of Bosnia and Herzegovina shows slightly lower concentration. Approximately 20% biggest banks hold 73% of total bank assets; approximately 30% biggest banks hold 83% of total bank assets; while approximately 50% biggest banks hold 93% of total bank assets. Lorenz curves for The Republic of Montenegro, The Republic of Serbia and The Republic of Srpska coincide and show lower concentration of banking sector. In those countries approximately 20% biggest banks hold 50% of total bank assets; approximately 30% biggest banks hold 70% of total bank assets; while approximately 50% biggest banks hold 90% of total bank assets.

It is important to note that Gini coefficient is calculated using different starting point and procedure than previously calculated measures of concentration. Moreover, different ranking of countries might arise due to differences in number of banks among countries.

Concerning The Republic of Croatia and The Federation of Bosnia and Herzegovina, concentration ratios C_2, C_3, C_4, C_5 and C_{10}, Herfindahl-Hirchman index, Theil Entropy index, Hall-Tideman and Rosenbluth concentration index show relatively lower concentration than Gini coefficient and Lorenz curve. However, the equality of distribution is not that intense as it seems if we take into account that number of banks in Croatia is 33, and in The Federation of Bosnia and Herzegovina 21. The number of banks causes concentration to appear lower than it really is. This statement is approved by Gini coefficient and Lorenz curve.

If we refer to The Republic of Montenegro and The Republic of Srpska, concentration ratios C_2, C_3, C_4, C_5 and C_{10}, Herfindahl-Hirchman index, Theil Entropy index, Hall-Tideman and Rosenbluth concentration index show relatively higher concentration than Gini coefficient and Lorenz curve. The concentration itself would not be that high if we might take into consideration the fact that the number of banks in Montenegro is 11, and in The Republic of Srpska 10. Relatively small number of banks has bigger impact on high values of the mentioned concentration indices than the concentration of assets itself, since it makes concentration appear higher than in reality. This statement is also approved by Gini coefficient and Lorenz curve.

Regarding The Republic of Serbia, concentration ratios C_2, C_3, C_4, C_5 and C_{10}, Herfindahl-Hirchman index, Theil Entropy index, Hall-Tideman and Rosenbluth concentration index, as well as Gini coefficient and Lorenz curve show that concentration of banking sector is among the lowest in the region. Regardless of the fact that number of banks in Serbia is 34 and that it causes concentration to seem lower than it is, Gini coefficient and Lorenz curve also support the statement that concentration of Serbian banking sector is among the lowest in the region.

Figure 5. Lorenz curves in five countries of the SEE region, 30 June 2008
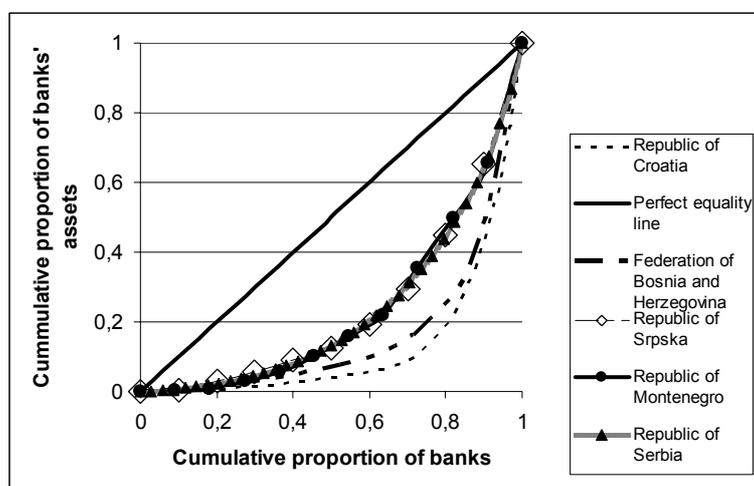
Lorenz curve of bank assets' concentration (see Figure 5.) in Croatia shows that 83% of total bank assets are held by approximately 20% biggest banks. Furthermore, approximately 30% biggest banks hold 91% of total bank assets, while approximately 50% biggest banks hold 95% of total bank assets. Lorenz curve for The Federation of Bosnia and Herzegovina shows slightly lower concentration. Approximately 20% biggest banks hold 73% of total bank assets; approximately 30% biggest banks hold 83% of total bank assets; while approximately 50% biggest banks hold 93% of total bank assets. Lorenz curves for The Republic of Montenegro, The Republic of Serbia and The Republic of Srpska coincide and show lower concentration of banking sector. In those countries approximately 20% biggest banks hold 50% of total bank assets; approximately 30% biggest banks hold 70% of total bank assets; while approximately 50% biggest banks hold 90% of total bank assets.

Conclusion

This paper analyzes banks' assets concentration in selected South East European countries, based on the data for 30 July 2008. The restrictions of this research are due calculation and interpretation of selected statistical measures of concentration in region, whereas the level of market competition is not covered because of complexity of a research and the imposed volume to paper.

The basic objective of this paper is to compare concentration in banking industry of selected countries in the region by computing the statistical measures of concentration without relating concentration to stability, economic growth or competition.

By observing concentration ratios C_2, C_3, C_4, C_5 and C_{10}, Herfindahl-Hirchman index, Theil Entropy index, Hall-Tideman and Rosenbluth concentration index in chosen group of SEE countries, the first conclusion that can be driven is that bank concentration is highest in The Republic of Srpska, followed by The Republic of Montenegro, The Federation of Bosnia and Herzegovina and The Republic of Croatia, while the lowest concentration was shown for The Republic of Serbia. On the other hand, analysis conducted using Gini coefficient and Lorenz curve has shown different ranking of observed countries according to concentration. Highest concentration of banks' assets is shown for The Republic of Croatia; it is slightly lower for The Federation of Bosnia and Herzegovina, followed by The Republic of Srpska and The Republic of Montenegro (G*=0,58 in both cases); and finally The Republic of Serbia(G*=0,55).

More profound analysis of the mentioned difference between these two groups of concentration measures shows that the main cause for different rankings is in different number of banks among countries. In countries where number of banks is high, namely The Republic of Serbia, The Republic of Croatia and The Federation of Bosnia and Herzegovina, concentration ratios C_2, C_3, C_4, C_5 and C_{10}, Herfindahl-Hirchman index, Theil Entropy index, Hall-Tideman and Rosenbluth concentration index underestimate real concentration. However, Gini coefficient and Lorenz curve for Republic of Serbia show that this underestimation is not as intense as for The Republic of Croatia and The Federation of Bosnia and Herzegovina. On the other hand, mentioned measures are overestimated for countries where number of banks is relatively lower, namely The Republic of Srpska and The Republic of Montenegro. Therefore, the conclusion can be drawn that Gini coefficient and Lorenz curve provide more easily comparable results, taking into consideration the number of banks in the observed countries.

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Interdependence of Development of Financial Markets and Efficiency of Monetary-Credit Instrumentarium

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ABSTRACT – In the modern conditions of economic operation there is a high degree of interdependence of monetary system, the central bank and the development of financial market. Namely, the decision about how many, and which instruments of monetary regulations ought to be used greatly depends on the development and the specificity of the financial market. In the conditions of one developed financial structure, the interbank market can successfully bring into accordance the needs for liquidity of some financial institutions. This is why in such a financial encirclement it is possible to put into effect the efficient monetary policy with some instruments of monetary regulation (or with only one), since the monetary authorities can rely on the developed financial market, which will trustworthy transfer the effect of their actions through the economic system. Contrary to this, in cases where the economic systems are undeveloped, for the successful conduct of economic policy it is necessary that this policy uses much richer instruments. In such encirclement the central bank has to take over a certain number of functions, which in the developed financial systems, the financial institutions themselves will carry out.

KEY WORDS: central bank, financial markets, monetary-credit policy, financial system

Monetary flow management

It is typical that from the 70's i.e. from abandonment of Breton-Woods monetary system the interest for the treating of problems related to provision of adequate instrumentarium for the purpose of establishment of monetary stability and sovereignty is increased. In the modern vision monetary sovereignty implies "sovereign right of the country to regulate all questions related to issuance of money and management of monetary policy by the central bank in the function of achieving of projected goals of economic policy".[2] Abandonment of automatism of validity of gold standard in the aspect of mechanisms of monetary regulations, not only within economy but also external finances, has lead to assuming of responsibility of the government for maintaining of monetary stability and system of international payment relationships, i.e. of external liquidity of the economy. The government, through central bank, takes the responsibility for regulation of monetary mass and basic goods-cash flows within economy.

Central banks of developed countries are oriented to broader concept of monetary policy and to market mechanisms of the realization of programmed or requested quantity of money and loans in circulation. At the same time, in developing countries central banks use the concept of monetary policy and in realization they are mainly oriented to lending and withdrawal of loans of commercial banks.

By development of monetary systems central banks distinguish themselves from other banks and have the monopoly for the issuance function, i.e. for issuance of money. Position and place of central bank in every economy is specific and in direct correlation with the development of financial, political and economic circumstances. However, typical for all central banks in all banking systems and in all economies is their central position (monetary authority) in the monetary-credit system and dominant

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[2] Đorđe Đukić, "Monetary Sovereignty", Modern Administration, Belgrade, 1994, p. 854-855.

effect and responsibility for economic activity and financial movements in the country. From such role performed by central banks basic functions of the central bank are derived, as follows:[3]

- Regulation of circulation of money and emission of loans, in accordance with the request of liquidity and monetary stability in the country,
- Maintaining the liquidity in international payment operations and concern for the balance of payments,
- Preservation of internal and international value of money,
- Preservation of liquidity of credit system in the country and, related to that, supervision of banks for the purpose of maintaining of monetary stability,
- Performance of various financial transactions for the country.

However, in the monetary theory and policy two basic functions of the central bank are mentioned. First, *central bank is competent for management of monetary policy,* i.e. control of money supply, with an aim to ensure a low inflation rate without creating a high unemployment rate. It is typical that today in the developed market economies in the hierarchy of goals of monetary policy stability of prices, economic growth, full employment, balanced payment balance – primacy is given to the stability of prices. By this the importance of stability of national currency for balanced economic movements is valued. Thesis of the monetarists (M. Friedman, A. Maltzer, K. Brunner and others) that the low and stable rate of monetary growth in a long term is a presumption for achieving stability of prices is valued in practice in a large number of developed countries.

However, it would be wrong to conclude that the monetary stability implies only the stability of prices. Complex understanding of monetary stability implies the stability of prices with achievement of considerable stability of foreign currency exchange rates and undisturbed trading in the financial markets in such a manner that the market participants with high level of certainty can plan what will happen in the near future.

Second basic function of the central bank is the *function of "lender of last resort or "last resort of banks".* This is about ensuring the liquidity of macroeconomic system. In a financial system with a lot of financial mediators a potential danger for occurrence of financial panics and jeopardizing of financial stability of a country is constantly present. In these situations central bank appears as the savior which is able and willing to approve loans to commercial banks and in that manner prevents bankruptcy. Explanation for ability of the central bank to approve loans in the time of deep crisis is in its ability to create reserves.

In certain developed market economies there is a two-level insurance from chain bankruptcy of large number of banks. In the first instance it represents a certain type of public corporation for deposit insurance which guarantees savings deposits of citizens up to a certain amount. For example, in the USA – Federal Deposit Insurance Corporation - FDIC insures deposits of citizens up to 100,000 dollars in the USA and 20,000 Euros in the European Union. If for any reason there is a disturbance of normal functioning of corporation, in the second instance the central bank, in this case System of Federal Reserves – FED, is always ready to save such corporation acting as an "lender in the final instance".[4)]

In the modern conditions of business operations the central bank has six basic instruments of realization of monetary policy and control of credit potential of the economy at its disposal:

- Rediscount loans to banks
- Open market operations
- Required reserve rate
- Special deposits of banks at the central bank
- Minimal interest rate
- Directive measures

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[3] Aleksandar Živković, Žarko Ristić, Slobodan Komazec and Dušan Zdravković, "Financial and Stock Markets", Faculty of economics , Niš, 1998, p. 523.
[4] Đorđe Đukić, "Central bank and financial system", Litopapir, Čačak, 2001, p. 12.

Due to mentioned instruments the Central bank as the supreme monetary and banking authority has a high level of operative qualification and business autonomy. Operative qualification implies efficient mechanisms of regulation, control and correcting of balances and flows, not only on the monetary but also on broader economic-financial plan. And business autonomy implies the ability of independent decision making by the central bank in relation to corresponding government bodies. Only clear balance between rights and obligations presents a good precondition for functioning of flexible and complex monetary system which could affect the key economic, financial and monetary flows in a mobilizing and regulative manner.[5]

Financial markets and establishment of monetary stability

Theory of investments, savings and monetary theory are based on standpoint that there is no automatic balance in forming of monetary accumulation (savings) and real investments, in the time of forming, as well as per bearers and place of forming. There is no *ex ante* balance in the money market either. Balance between total sources of funds and total use of funds is illustrated by the following equation:[6]

$$D+DFF = C + I + DFPL \qquad (1)$$

Equation is the result of basic relations between savings, investments, consumption and financial transfers, through which initial imbalances between real aggregates are closed. Herewith that the sum of aggregate income (D) and inflow of financial resources (FF) makes up total sources of financing of current consumption (C), investments (I) and increase of financial assets (FPL). From the aspect of balance sheet there is always a balance between the source and use of resources, while in fact financial market contributes to the balancing of funds.

From the stated we can conclude that the basic function of existence and functioning of financial markets is allocation of financial assets, i.e. connection of participants in the market which have surpluses of financial assets with participants which lack financial assets. Otherwise, if the economic subjects with financial surpluses would be the same ones acquiring the capital, economic flows would function efficiently even without existence of financial markets.

So, financial market enables undisturbed circulation of financial assets between different economy branches and sectors. It practically means that the financial market needs to enable undisturbed performance and increase of efficiency of economic activities, as well as increase of standard of living.

Level and quality of financial market are determined by total economic and financial situation of the national economy. Functions performed by financial market give it importance of segment of economy system, equal with the product market and production factor market.[7]

Basically, financial markets perform at least three economic functions:[8]
- First function refers to mutual effect of participants in the market by which the trading price of the financial instrument is determined, i.e. it defines the required yield. Amount of the required yield determines the motivation of corporations to acquire financial assets through financial markets because it affects the allocation of funds between financial assets,
- Second function of financial markets is provision of mechanism which enables the investors to sell the financial assets. In other words, financial market offers liquidity as attractive characteristic when the circumstances make or motivate the investor to sell securities. Without liquidity, the owner would be forced to hold the debt i.e. equity instrument until maturity, or to sell it under unfavorable circumstances and

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[5] Aleksandar Živković, "Goals and strategies of monetary politics", Economics annals, Faculty of Economics, Belgrade, December 2003, p. 222

[6] Aleksandar Živković, Žarko Ristić, Slobodan Komazec and Dušan Zdravković, "Financial and stock markets", Faculty of Economics, Niš, 1998, p. 237

[7] Peter S. Rose, "Money and Capital Markets", Homewood, 1989, p. 9

[8] Frank J Fabozzi, Franco Modigliani and Michael G. Ferri "Foundations of Financial Market and Institutuions", Prentice Hall, Englewood Cliffs, 1994, p. 11

- Third function is about the affect of the financial markets on the decrease of research and information costs. Research costs represent certain cost which the participant in trading of securities may have during the sale or purchase of certain financial instrument. This type of costs refers to the time spent for finding a buyer, i.e. seller.

Besides the mentioned, particularly interesting transfer function of financial market is performed as primary market, i.e. market in which creation of financial instruments is performed. Organization of primary market involves activities of classic financial mediators (banks), institutional investors, but also a direct relation between issuers – sellers of securities (debtors) and buyers (creditors) may be established. In this case it is about disintermediation, which by market development and improvement of its efficiency gains importance and stimulates the development of new market elements, procedures and instruments.[9]

From the mentioned functions of the financial market we can see that its role and importance is in establishment of balance between source of financial resources and their utilization, and by that maintaining of stable monetary system is very important. That way in economy literature we can find various approaches related to number of instruments of monetary regulation which are necessary for conduct of efficient monetary policy. Decision on how many and which instruments of monetary regulation need to be used, in great extent depends on the development and specificity of financial (market) system of the national economy. Well developed financial system, with developed financial market enables balanced and relatively fast transfer of actions of bearers of monetary policy through the channels of that system. Because of that in such financial environment it is possible to conduct efficient monetary policy with several (or only one) instruments of monetary regulation, because monetary authorities may rely on developed financial market which shall reliably transfer the effect of their actions through the economic system. Contrary to that, in conditions where the financial systems are underdeveloped, for successful management of monetary policy it is necessary that such policy has a lot richer instrumentarium.[10]

Therefore, in the conduct of monetary policy, monetary authorities deal with a question of choice between two strategic approaches of monetary control: the first one is direct control and the other is indirect control. In general, as the financial market is less developed in a given country, tendency of the central bank to take direct monetary control – direct limitation of lending activity of banks, limitation of active and passive interest rates is higher, and vice versa. In developed market economies, in which the money market is characterized by high level of liquidity and trading of wide spectrum of short-term securities, monetary control becomes highlighted . Indirect control puts a central bank in a position to choose between two alternatives as follows: management of short-term interest rates or management of monetary base, i.e. high-powered money. From the moment of establishment of EEC, central banks of member countries in the operative sense have used both approaches. However, in the second half of 90's in all countries of the EU main emphasis was on management of short-term interest rates.

We can see, that in modern conditions of business operations choice between two strategic approaches to monetary control, direct and indirect control actually depends from development of financial market. In general, as the financial market is less developed in a given country, tendency of the central bank to take direct monetary control – direct limitation of lending activity of banks, limitation of active and passive interest rates is higher, and vice versa.

In developed market economies, in which the money market is characterized by high level of liquidity and trading of wide spectrum of short-term securities, monetary control (in combination with some direct measures) becomes highlighted. However, it has been shown that direct instruments of monetary regulation in market economies weaken the efficiency of functioning of financial system, obstruct the process of optimal allocation of financial and real resources and have an inhibitory effect to the development of regular financial market.

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[9] Branko Vasiljević, "The Basics of Financial Markets", Zavet, Belgrade, 2002, p. 12
[10] Aleksandar Živković, Gradimir Kožetinac, "Monetary Economy", Faculty of Economics, Belgrade, 2003, p. 481.

It is typical that today in developed market economies in the hierarchy of goals of monetary policy – stability of prices, economic growth, full employment, balanced payment balance – primacy is given to the stability of prices. By this importance of stability of national currency for balanced economic movements is valued. Thesis of the monetarists (M. Friedman, A. Maltzer, K. Brunner and others) that the low and stable rate of monetary growth in a long term is a presumption for achieving stability of prices is valued in practice in a large number of developed countries.

However, it would be wrong to conclude that the monetary stability implies only the stability of prices. Complex understanding of monetary stability implies the stability of prices with achievement of considerable stability of foreign currency exchange rates and undisturbed trading in the financial markets in such a manner that the market participants with high level of certainty can plan what will happen in the near future.

Money market, as a segment of financial market, enables the whole banking system (central bank and commercial banks) to affect the supply and demand – total and per sectors. By that monetary policy and central bank may ensure dynamic and stable economic growth with maintaining of stability of money and liquidity of economy. By regulating the supply and demand for money, as well as the price of money (interest), central bank basically regulates the economic conjecture. Money market enables the banks to perform permanent transformation of short-term monetary funds to investment funds (long-term facilities), and that means that additional banking capital is created (besides savings), by which direct connection of money market and capital market is established.[11]

In fact, in developed market economies money market, with a rich assortment of market material, represents a basic and most efficient mechanism of conduct of monetary policy by the central bank. Thanks to money market immediate changes of basic monetary aggregates are possible, so that the central bank is able, by following the events in the real sector to undertake adequate measures for the purpose of balancing of aggregate supply and demand i.e. maintenance of stability of national economy.

Basically, Central bank in the money market has a double role. From the macroeconomic aspect, in the function of effect on the quantity of money and monetary flows, it regulates activity and potential of money market and by measures of its monetary regulation it determines its behavior. From the micro aspect, Central bank in contacts with banks and specialized professional mediators and treasury, affects the security of the market and liquidity of financial instruments traded in the money market. Everywhere in the world money market is developed with full supervision, influence and support of the central bank, through discount and lombard policy, as well as through complex mechanism of operations of the opened market. By its supervision and general monitoring in relation to the market subjects, central bank with the competence of legal country basic factor which sustains the security and trust of the participants in the market in institutions and mechanisms of money market.

In the basis of changeable approach in the area of monetary regulation of developing countries there is an effort to, firstly increase the efficiency of monetary policy in the aspect of realization of macroeconomic stabilization goals and, secondly, to ease and set more elastically the management of interest rate policy in one financial environment in which a process of deregulation is started, with an aim to increase the mobilization of domestic accumulation (savings) and to improve the efficiency of investments.

The more the financial market is developed the more instruments at disposal the central bank has, and by that it easier ensures the stability of monetary system and efficient functioning of monetary flows which synergistically contribute to the stability of complete macroeconomic environment. How much it is easier to control the financial flows in developed countries, thanks to developed financial market, is best shown in the case of crash of stock markets from 1987. Namely on 19 October 1987, on "black Monday", there was a great stock market crash on the New York stock exchange when in only 6.5 hours value of stocks dropped for over 500 billion dollars. Thanks to sophisticated technological means, with which the stock markets are equipped, unfavorable information have spread by the speed of impulse and created global mistrust. As the markets opened, due to different time zones, they were

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[11] Aleksandar Živković, Gradimir Kožetinac, *op cit*, p. 518

blown away. In only 24 hours the crisis seriously shook all industrially developed countries. Proportions of the crisis reminded many financial experts to the Great economic crisis in 1929. However, thanks to coordinated measures of monetary authorities of developed countries the consequences were not even closely devastating as the ones from the thirties. Monetary authorities of the affected countries immediately reacted by expansion monetary policy with an aim of avoiding the recession which thanks to developed financial structure and wide spectrum of financial instruments in great extent was successful. So that Dow Jones Industrial index (*Dow Jones Industrial Average)* which follows the changes in prices of shares of 30 leading industrial companies in the USA already in 1988 recorded first signs of recovery in order to fully recover in 1989 and 1990 and recorded the largest growth in history of stock markets and financial markets in the following decade.

Establishment of European Monetary Union and introduction of Euro which represents the biggest change of monetary infrastructure in the history of mankind is an evident example that the higher level of development and integration of financial markets increases economic and monetary efficiency. Thanks to introduction of single currency transaction costs are decreased. This decrease is especially important for TNC which performs largest portion of its business operation outside of EMU. Although these costs may be marginal in comparison to the GDP, their decrease shall have multiplicative effects, since they are not insignificant for many export oriented small enterprises. Especially small and medium enterprises shall have significant benefits. Increased economic basis for Euro and elimination of transactional costs in relation to multiple European foreign currency exchange rates shall probably contribute to gradual growth of utilization of new European currency as the unit of calculation in the denomination of trading trends, with special growth of transactions between Euro zone and developing countries.

By decrease of currency risk between EMU members the need for hedging is lost. Funds required for hedging may be used more effectively. With elimination of currency risk between countries which joined EMU in the third phase, the existing freedom of movement of capital gained a new dimension. Estimates of economists are that elimination of currency risk and costs of conversion shall result in savings of 0.5 percent of the total profit.

At the same time, single European currency in comparison to the national currencies has a lot wider maneuvering space for evasion of devaluation. This in significant extent has contributed to increase of security in the aspect of movement of interest rates. In the money markets there was a full convergence of interest rates in the whole EMU area. In case of short-term interest rates unique indicators such as EONIA (Euro Overnight Index Average) and EURIBOR (Euro Interbank Offer Rate) have been fully accepted. Interbank market in EMU has divided in two segments: large banks have taken over cross-border transactions, and small banks transactions in their own countries.[12]

Functioning of EMU has significantly affected the activity of financial mediators as well. The concentration is increased between them because comparison of prices has been eased and the cost of currency conversion has been decreased. Creation of broader and liquid securities has caused an increase of their issuance by the company (securitization). Financial mediators have reacted to these changes by changing the structure of their business from credit to investment banking, i.e. from charging of incomes by interest to charging of services and commissions. EMU has also actualized improvement of infrastructure of financial markets. Clearing and settlement system in EMU are still consisted from around 30 different systems, and the connection of financial stock markets requires more and more a unique, pan-European system of clearing and settlement.[13]

It is interesting that the increased integration of financial markets in EU does not mean decreased influence of external factors at the same time. Namely, EU is still sensitive to changes in real financial sector of USA. According to the estimate of the IMF shock of aggregate demand in the USA in the amount of – 1% GDP growth causes decrease of growth rate of domestic product in EMU for – 0.1%. If the shock of aggregate demand in the USA is joined by stock value at the stock markets then the decrease of growth rate of GDP for –1% in the USA causes the same in EMU for –0.4%. If shock in

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[12] Oskar Kovač: "International Finance", Faculty of Economics – Belgrade, CID, 2003, p. 412.
[13] Ibidem, p. 413 – 414.

foreign currency markets is added to these shocks in the USA, then the decrease of growth rate of GDP in the USA for –1% causes its decrease in EMU for –0.7%.[14]

From the aspect of global financial markets, establishment of monetary union has lead to changes in the sense of strengthening of financial markets of its member countries. However, with regard that the EU by regulating "its market" has used unique international standards and that it is deeply involved in the processes of institutionalization of world economy, these changes shall only additionally give dynamics to the trends which characterize the start of new millennium.

Conclusion

Based on mentioned we conclude that in market economies mutual conditionality of monetary policy and level of development of financial sector is exceptionally emphasized. Instruments of monetary regulation by which central bank ensures stability of monetary system largely are determined by the level of development of financial market. Higher level of development of financial markets enables the monetary measures to act a lot faster and simpler to the total economic activity i.e. to make monetary policy significantly more efficient. Establishment of European Monetary Union is an evident example that the higher level of development and integration of financial markets increases economic and monetary efficiency. The more the financial market is developed the more alternatives are at disposal to the monetary authorities, and by that they easier ensure the stability of monetary system and efficient functioning of monetary flows which synergistically contribute to the stability of complete macroeconomic environment.

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[14] IMF, "Monetary and Exchange Rate Policies of the Euro Area", IMF Country Report No.01/60, 2001, p. 9

Private Equity Funds as Possible Source of Capital for SMEs in Transitional Economies – Case of Serbia[1]

Dejan Erić, Saša Stefanović[2], Aleksandra Bradić-Martinović[3]

ABSTRACT *– Analyzing current problems which a lot of entrepreneurs and small and medium enterprise managers encounter in Serbia, as well as in some neighboring countries in the region of Central and South-Eastern Europe, it has become obvious that limited approach to quality long-term sources of financing is the most worrying one. As small and medium enterprises, according to many parameters, represent the most dominant sector in terms of its share in GDP, total production, employment and creation of values, in this paper we have tried to look into the role that private equity funds (PEF) may have in their financing. Analyzing alternative sources of financing SMEs on the one hand and basic principles of the function of private equity funds on the other, we have tried to identify the most important advantages and disadvantages of this source of financing in order to draw conclusion in terms of possible impact that PEF may have on the development of a certain number of SMEs.*

KEY WORDS: *small and medium enterprises (SMEs), private equity funds, venture capital, financial sources*

Introduction

In many countries in transition sector of small and medium enterprises represent, according to many parameters, the dominant sector of economy. Data that is going to be presented in this paper should be considered utterly conditionally, since it has been changing very fast as well as the very SMEs sector. However, we believe that it shows their significance. For example, if we consider a few countries from the region of Central and Eastern Europe, which are our neighbours, the following characteristics can be identified:[4]

- In Romania – number of private SMEs amount 99.7% of total SMEs, their share of economy vary from 2.8% in agriculture, 13.6% in industry up to 77.4% in the services, 56.6% of all employees working in SME sector, etc.
- In Bulgaria – SMEs represent 99.3% of all enterprises, 78.2 of total employees working in SMEs, private SMEs generate 72.7% of the total private sector turnover, etc.
- In Albania – SME sector contribution to GDP is 64%, to employment 60%, etc.

The similar situation can be found in Hungary and Croatia as well as other neighbouring countries. The importance of small and medium enterprises in Serbia has increased as well. There is an increasing number of SMEs, their share in GDP has grown (over 40%), in employment (over 55%), gross

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[4] Group of Authors (2008), *Strategies for the Development of Enterpreneurship and the SME Sector in the Black Sea Economic Cooperation Region,* Konrad Adenauer Stiftung, Ankara, pp. 38, 61, 89.

value added (over 54%), total profit (over 50%), etc. Evidently it is a very vital sector, which contributes greatly to the most important macroeconomic parameters and the total growth and development of the country.

Due to comparatively undeveloped financial systems which are mainly bank-orientated the majority of entrepreneurs and owners and managers of SMEs has a few conventional methods of crediting on their disposal. Most often these are bank loans which represent relatively unavailable and expensive source of financing. This source is relatively unavailable having in mind credit worthiness and rating of many SMEs especially in the early stages of development. On the other hand, this is a relatively expensive source of financing, especially under the conditions of the global financial crisis which has impact in many countries in transition, with the trend of increasing interest rates. For example, in Serbia, in the second part of the year 2008 interest rates for bank loans in the sector of SMEs were over 12% per annum for loans made in EUR, while for loans made in RSD the interest rate is much higher and totals over 25% per annum.

This paper consists of three major parts. Further we would point out the most important results of a small qualitative analysis based on the example of some ten companies from Serbia where we identified the urgent need for additional finances on the one hand, as well as serious interest for accepting private equity capital as a potential source of financing, on the other. After that, in Part 2 we have tried to emphasize the basic principles of functioning of venture capital firms (VCF) and private equity funds (PEF) so as to identify under which conditions and to which type of SMEs these types of institution could present important sources of financing. Finally, in a conclusion, we would analyze advantages and disadvantages of this source of financing in the sector of SMEs, expressing our opinion that VCF and PEF may present an important source of financing for some types of SMEs, in certain sectors under certain conditions. These attitudes become more important under conditions of global financial crisis that spread over the world during the course of 2007 and 2008. Finally, there is an appendix with a review of PEF which have worked in Serbia in mid-2008.

Research and findings

Institute of Economic Sciences expert team carried out a number of different projects for a certain number of small and medium enterprises in Serbia in the course of 2007 and the first 6 months of 2008. Projects varied by their nature, starting from market research, organizational transformations, strategic analysis and strategy formulation, restructuring, up to value assessment and due diligence. Some of these companies are quite well-known in Serbia, as well as in the region. We will mention some names: Galeb Group from the town of Šabac, Progetti from Vladimirci, Zimpa from Ub, Telefonija from Belgrade, Anavi from Belgrade, as well as several enterprises that were undergoing privatization process.[5]

The reviewed enterprises are quite homogenous by their composition. They belong to different economic branches, ranging from telecommunications, production of steel products, shoes, coffee, up to trade and services. In addition, they vary in size, from those relatively small employing only some 15 people, up to those that candidate to join a group of the big ones or even be listed in A List of the Belgrade Stock Exchange.[6] Frequent contacts with owners and managers brought us to a conclusion that doubtlessly one of the biggest and most serious issues is – a limited approach to good quality long-term sources of financial resources.

Similar situation is to be found in other countries of the CEE region. Even though some countries are now part of the European Union (EU), structure of the problem has not significantly changed.[7]

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[5] For more information on the listed companies see the following websites: www.galeb.com, www.eastwest.it, www.zimpa.co.yu , www.telefonija.rs and www.anavi.co.rs.

[6] Such as e.g. Telefonija, stock company, Belgrade.

[7] Look for more details in: Erić, D. (2006), "Access to Financing SMEs", *Erenet profile*, No. 2, Vol. 1, Budapest, http://www.erenet.org/publications/profile2.pdf

Analyzing alternative sources of financing in Serbia, as a possible solution to this topical issue refer-
ring SMEs sector, we have noticed the following sources:[8]

- Bank loans – Having completed the analysis, we have concluded that, under current circum-
  stances, bank loans are not favourable source of financing SMEs, due to the fact that, depend-
  ing on the agreement with a bank, effective interest rate is 12% on average per annum for loans
  granted in Euro currency, with no exchange rate risk. Interest rate for RSD currency loans, in-
  cluding the risk of this kind, is much higher, over 25% on average per annum.
- Securities as debt instruments – Having analyzed financing payability via corporate bonds or
  e.g. commercial papers in the light of current capital expenses, we have concluded that, no mat-
  ter how one defines denomination (nominal value – either in RSD or in Euro), investor's re-
  quired rate of return would have to be quite high, i.e. this is also an expensive source of financ-
  ing for SMEs. We have learned this by studying what has been going on in the Serbian finan-
  cial market, in which at this moment, and indexed in EUR, minimal required rate of return is
  over 6.6% (which was an average annual require rate of return for the Republic of Serbia bonds
  denominated in EUR currency), i.e. in RSD – 15.75% (which was NBS's reference rate in mid-
  2008). Every second stock would have to include danger money, which makes debt instrument
  issue less attractive to the issuer. Besides, costs of issuing should also be added and calculated,
  which makes this source even dearer.
- Issue of shares – Having examined possibility of financing by the means of issuance of shares,
  we have concluded that equity capital would be a very expensive source of financing for the
  time being. It is true that a stock company does not have to pay dividend since this is not a legal
  liability. Nonetheless, stockholders in this case expect stocks market price will go up, since
  they would be able to effect capital gain by selling stocks, as an element of their return. The
  problem is, however, related to expectations of potential investors, who want to see attractive
  required rates of return in order to invest in a stock. Issue of stocks is also connected with sig-
  nificantly high issuance costs, as well as with uncertain success of the issuance, due to political
  and economic situation in the country and ongoing worldwide financial crisis, which has also
  been affecting Serbia for a while now.[9]

Considering relatively limited, unavailable or expensive sources of financing, we have refocused our
analysis on venture capital and private equity funds as potential sources of capital for SMEs sector.

Conceptual foundation of private equity funds

It often comes to confusion in terminology between the terms such as venture capital (VC) and private
equity capital. According to certain beliefs VC has five main characteristics:[10]

- A VC is financial intermediary, meaning that it takes the investors capital and invests it directly
  in portfolio companies.
- A VC invests only in private companies.
- A VC takes on active role in monitoring and helping the companies in its portfolio.
- A VCs primary goal is to maximize its financial return
- A VC invests to fund the internal growth of companies.

Simply, venture capital firms (VCF) and private equity funds (PEF) provide private equity capital by
private investors (or the venture capitalists) to the SMEs, especially in early stages of development
(seed phase). It is very important to emphasize that they do not invest their own capital, but rather

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[8] Look for more details, e.g.: Institute of Economic Sciences (2008), *Company "Progetti" - Vladimirci Financial and Operat-
ing Improvement Strategy*, Belgrade; Institute of Economic Sciences (2007), *Proposal for New Organization of "Telefo-
nija" Business System & Strategy Adjustment to New Business Environment*, Belgrade; Institute of Economic Sciences
(2007), *Development Strategy of Enterprise "ZIMPA" Ub within "Galeb Group"*, Belgrade.

[9] This viewpoint has been grounded on fluctuation of prices data at the Belgrade Stock Exchange. See: www.belex.co.rs

[10] Metrick, A. (2007), *Venture Capital and Finance of Innovation*, John Wiley & Sons, New York, pp. 3.

raise bulk of funds from other institutions and individuals. As for the difference, there is another type of organization which also provides funding for SMEs in their early stages of development, known as business angel, or simply angel investor. These are not intermediary organizations such as VCF or PEF, but companies which invest their own money as angels.

When financing through VC or PEF is concerned, it is a method of financing which is not based on credit sources, i.e. there is no debtor-creditor relation between the investor and the company that is being invested into. That is a proprietary relation, i.e. equity financing which has its implications on the character of general and financial management of companies.[11] It is believed that, apart from the role of investing, VC and PEF have two additional roles of monitoring and exiting[12].

Most often private equity investors remain minority owners. The company may stay as a limited liability company or joint stock company. It does not go public. It s shares are not publicly traded on an organized market but it is possible to make necessary preparations for going public later. Thus, however, some authors think that private equity markets have helped reinvent the market for corporate control, particularly in the US.[13]

Private equity investor does not have to be involved in everyday operations management of the company which has been invested into. It is a passive type of investor. However, it is more often that a private equity investor actively participates not only in strategic but in operations management as well in order to help business performances and gain the most important mutually defined targets in terms of return rates that have been defined in advance. Regardless of their involvement in management, VC or PEF have monitoring function which is first of all directed towards control of realization of financial performances of the target.

Peculiarity of PEF businesses lies in their required rates of return, which are said to be considerably high. In many cases in developed courtiers they vary from over 20 per cent and more of internal rate of return (IRR). In less developed countries and countries in transition they are even higher and vary from 30-35% IRR. One of the reasons for so high internal rates of return is a high level of risk that VCF and PEF encounter in conditions of relatively non-developed economic, and particularly, financial systems of these countries.

Within financial analysis, and particularly during the process of due diligence VCF and PEF identify as targets those companies which operate in dynamic economic areas with increasing demand and high potential for internal growth. This reduces possibilities for investing in many SMEs. Since investing through VC and PEF is very complex, the issue of valuation is crucial for the whole process of investment decision making. Apart from the analysis of the return rates, the important issues are connected with the analysis of value drivers, among which the question of the cost of capitals is the most sensitive one. Unfortunately, the scope of this paper does not allow us to go deeply into many aspects of financial analysis.

It is very important to point out that PEFs deal almost exclusively with sophisticated, 'professional' investors. These investors are able to understand and accept the risks and returns of investing in the asset class. According to the European Private Equity and Venture Capital Association (EVCA) that fact is largely reflected in the type and level of regulation across Europe. In addition, although there is no harmonized framework for private equity at the European Union level, a number of EU legislative measures in place indirectly affect the industry, such as MiFID, UCITS, the Pension Funds Directive, and the Capital Requirements Directive.

Time horizon for investment can be different. These are usually mid-term investors. In some, very exceptional cases, time horizon may vary from a couple of months (rarely, only in case of very specu-

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[11] Willis, J. R. and D. A. Clark (2005), "An Introduction to Mezzanine Finance and Private Equity", *Journal of Applied Corporate Finance*, Vol. 2, Issue 2, pp. 77.
[12] Metrick, A. (2007), pp. 9
[13] Wruck, K. H. (2008), "Private Equity, Corporate Governance, and the Reinvention of the Market for Corporate Control", *Journal of Applied Corporate Finance*, Vol. 20, Issue 3, pp. 9

lative investors or major changes on the market) to 2-3 years. However, it more often happens that they stay within a company for 3 or even up to 10 years. Most often they stay 3-5 years.

Exit strategies can be very different. They involve several alternatives:

1. Selling back holdings to original owner or company founders – which are a rare case and are not simple at all, as they usually, have not enough means. It has to be taken into consideration that during the years the company value increases greatly.
2. Selling to some of the strategic investors – who have strategic interest in company's business.
3. Selling to some of the financial investors – who estimate that a company may grow more and that it is possible to make preparations for initial public offer (IPO) and going public.
4. Selling through IPO – at the stock exchange, to a great number of individual investors.

Although they first appeared in the US after the World War II (the first formal PEF was established in 1946. – American Research and Development – ARD)[14] VC and PEF have spread through out the world soon. The number of investors, as well as the number of funds, has grown year in year out. Particularly dynamic growth was in the late 70s and early 80s as well as during the year 2000. In 2000 there was the record growth of PE investments in the US of about 120 billion USD. During the following years that growth has somewhat decreased, but it still remained considerably high varying from 40 to 50 billion dollars per year.

In Europe, investments by European PEF and VCF amounted to € 73.8 bn in 2007, and approximately 5,200 European companies received private equity investments. About 85% of these companies have fewer than 500 employees. Studies show that between 2000 and 2004 European private equity and venture capital financed companies created 1 million new jobs, which translates to a compound annual growth rate of 5.4% per year (eight times the EU 25 total employment rate of 0.7%). Between 1997 and 2004, the average employment growth in buyout-financed companies was 2.4%, compared to 30.5% for venture-backed companies.[15] Using the same sources of information - EVCA we can find additional facts: "Between 2000 and 2004, European private equity and venture capital-financed companies created over 1 million new jobs. About 630,000 jobs originated from venture investments, whereas buyouts gave rise to 420,000 jobs. The employment grew by an average rate of 5.4% annually over this same period, compared to a 0.7% growth rate of the total employment in the EU25".[16]

For example, only in the second quarter of 2008 from the total of 17,6 billion euros new European investment, VC makes 5,6 billion which represents growth of 2,4 billion euros if compared to the first quarter of 2008 or even 2,9 bn in comparison to the fourth quarter of the year 2008.[17]

The most important feature of VCF and PEF business is that they can be found in countries in transition. In the appendix to this paper we present a review of some private equity funds that are active on the Serbian market.

Conclusions

Studying the nature of PEF's business as an alternative source of financing available to SMEs sector in countries in transition, we would try to draw appropriate conclusions. We may divide all findings into two large groups – advantages and disadvantages.

Advantages are the following:

*   Relatively simple and available source of capital, without any limitations
*   There is no fear of bankruptcy

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[14] Lerner, J., F. Hardymon and A. Leamon, (2005), *Venture Capital and Private Equity – A Casebook,* 3ʳᵈ edition, John Wiley & Sons, New York, pp. 2
[15] www.evca.eu/publicandregulatoryaffairs/default.aspx?id=86
[16] www.evca.eu/knowledgecenter/default.aspx?id=618
[17] www.evca.eu/knowledgecenter/latestdata.aspx?id=500

- Improvement of solvency and financial parameters, bringing about more efficient usage of loan-related sources
- Continuity in business, no inevitable loss of control as with a classic equity financing
- Focus of management on business activities, growth and development, and not on resolving the issue of "how to reach capital"
- Possible expert assistance and consulting by the private equity investor
- Acceptance of innovations, entrepreneur way of thinking and new organizational culture
- Raising level of responsibly for business performances.

Some disadvantages may refer to the following:

- High required rate of return – may discourage SMEs' management
- Harder to find good quality investment opportunities – a high IRR causes a high discount rate used with capital budgeting method, which narrows number of acceptable investment projects
- Fear from control-loss and conflicts among founders (former owners) and managers or new owners, which my result in an agency issue.

This short analysis explains that private equity funds in countries in transition may bring more good than bad things. Majority of surveyed managers from Serbian enterprises has a very positive opinion about them as potential investors. However, one needs to be cautious. This primarily refers to exaggerated expectations of the SMEs themselves. Financial analysis process and the overall due diligence is often time-consuming, selection of potential candidates in PEF by investment analysts requires application of rigorous criteria, as well as signing a deal, which implies a great number of administrative and legal issues. All the abovementioned notes may have an impact on objective obstacles to conclusion of agreement.

PEF's role in financing SMEs has to bee reviewed in the light of their interests in maximal values. Consequently, not all SMEs hold the same position, which is directly caused by economic area they deal with, as well as by the demand and the market circumstances. This form of financing may be quire favourable for areas with significant internal growth potential, as well as a serious risk for using others, let's call them classic financing models.

In the countries in transition, including Serbia as well, VCF and PEF may be interested in the SMEs which favourably unite at least three groups of factors, such as:

- Economic – big potential market, big opportunities for the increase of sale and profit, high rates of investors returns, developed financial system and financial markets, developed infrastructure, primary as well as in the sector of services. Availability of the factors of input of the appropriate quality, stable economy with stable monetary system and tax incentives, quality management teams, hidden internal sources of growth, etc.
- Social – quality and well-trained human resources, stable political situation with democratic political system, attractive climate for research, interesting research results and scientific discoveries, intensive cooperation between universities and economy, social acceptance of failures, etc. This group can also include developed entrepreneurial spirit which greatly depends on the consciousness of people, their creativity, initiative and mindedness.
- Legal – corporate and tax laws that encourage entrepreneurial activities, simple procedures for opening business, easy access to stock exchanges, liberalized investment guidelines for institutional investors, etc.

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www.evca.eu

www.belex.co.rs

Appendix - Private equity funds operating in Serbia – mid of 2008.

In the mid 2008 the following private equity funds were active in the Republic of Serbia:

Name	Characteristics and investments in Serbia
SEAF South Balkan Fund B.V.	Basic principles: Minority stakes, range of investment - €0.3-2 million per investment, targets industries in food, media, services, IT, Internet technology sectors, etc. Investments in Serbia: IT distribution, Supermarket chains
Copernicus Adriatic	Basic principles: Minority stakes, range - €1-3 million per investment, currently fundraising for a new fund, targets industries in food, media, services, IT, Internet technology sectors. Investments in Serbia: parcel delivery firm (start-up) and private security services company (already exited)
Poteza Adriatic Fund	€66.5m AUM (Assets Under Management), covers South-Eastern Europe (SEE) region, majority or sign. minority stakes, industries: agriculture, construction, consumer (retail), financial services, manufacturing, other services. Investment in Serbia: cattle food producer (May 2005) In August 2007, Poteza Group has founded mutual investment fund "Fokus Premium" that invests in the shares listed on the regional stock markets, with the primary focus on Serbia
Salford	Mainly privatization-oriented. Acquired several state-owned dairy firms and three food companies through privatization; currently in the process of consolidation; probable exit in the next two years
Midland	Mainly privatization-oriented. Acquired major state-owned meat producer in 2003 and sold it to Ashmore Investment fund in November 2006; holds stakes in a restaurant chain and in port of city of Pančevo
KD Group	Private equity fund, established recently, €31m AUM, made no investments so far, targets € 3-5 million deals, covers SEE region

The others – with not clear strategy and short-term horizon - MidEuropa Partners, FPP Balkan Limited, Finartis Private Equity, etc.

The Main Feature of B&H Financial Structure and Integration in EU Financial System

Mila Gadžić, Igor Živko[1]

ABSTRACT – Preconditions of the economic growth of the small, open economy are stable and strong currency, favorable business environment and financial stability. Level of financial market development is one of the key presumption of economic growth, in this article the authors will analyze the financial market in Bosnia and Herzegovina and suggest the possible path of its improvement. The sovereign rating of the country is B2 with stabile outlook. During past years, Bosnia and Herzegovina has achieved and maintained the stability of the local currency with the consistent implementation of the monetary policy through the Currency Board. In this paper the authors discuss about financial system transformation in Bosnia and Herzegovina, they presents the current level of financial market development, define determinants and limitations for its faster development. On the base of scientific analyze, they give recommendations for further improvement of financial market that should be in function of economic development, better competitiveness position of B&H economy and its integration into EU financial system.

KEY WORDS: financial system, financial structures, transition, integration

Introduction

Financial system of Bosnia and Herzegovina is "bank dominated", which means that banks (credit institution) is dominated financial institutions in the financial system. Banks have major role in financial intermediation process. However, in last few years there is increasing role of financial markets and other non-banking financial institutions in the intermediation process between savers and investors. Bosnia and Herzegovina financial sector include: banks, investment funds, leasing companies and micro-credit organisations. Table 1 presents share of assets financial institutions in total assets of financial sector in period 2005-2007. Share of banking assets in total assets of financial system reached 80% at the end of 2007 (table 1). Rising share of banking sector reflects the increasing size and development of this sector within financial system. Financial intermediation increased in 2007 for 33.4% in relation to situation on the end 2006.

Table 1. Share financial institution assets in total assets of Bosnia and Herzegovina financial system (in %)

	2005	2006	2007
Banks	77,30	79,6	79,9
Non-banking financial sector	22,70	20,4	20,1
Leasing	4,5	5,6	5,8
Insurance companies	4,0	3,7	3,3
Investments funds	12,1	8,5	7,2
Micro-credit organizations	2,1	2,6	3,9
Total assets financial sector	100,00	100,00	100,00

Source: Central Bank of Bosnia and Herzegovina, Financial Stability Report 2007, Sarajevo, 2008. pp. 21

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[1] Mila Gadžić, Igor Živko, Faculty of Economics University of Mostar

In few last years in banks dominate financial system of Bosnia and Herzegovina sector of micro-credit organisations proceeding intensive development. This non-banking financial institution offer products and services to small enterprises and clients with low income. According to research which has been providing in world and Bosnia and Herzegovina this sector has positive impact on economic development.

Banking sector in Bosnia and Herzegovina

Banking sector in Bosnia and Herzegovina shows positive trends in financial intermediation. Share of banking assets in GDP reached 90.3% at the end of 2007. Rising share of banking sector reflects the increasing size and development of this sector within the economy. Banking sector of Bosnia and Herzegovina, as many other banking sector in transition countries, pass through phase of rehabilitation, recapitalisation, privatisation, consolidation, increasing concentration on banking markets and competition. European Union (EU) accession and entry in the euro area will be additional actuator of these changes. Already most of the transition countries have high share of EU ownership in the banking sector. There were 32 active banks in Bosnia and Herzegovina at the end of 2007. Changes in number of banks and ownership during the period 2003-2007 are shown in table 2.

Table 2. Number of banks in banking sector of Bosnia and Herzegovina in period 2003-2007

	2003	2004	2005	2006	2007
Number of banks	37	33	33	32	32
Private-owned banks	30	27	27	29	29
State-owned banks	7	6	6	3	3

Source: CBBH, Annual report CBBH, different years

For Bosnia and Herzegovina banking sector was also characteristic period of privatisation of state-owned banks and consequently rapid consolidation. The entrance of foreign banks on the market improved the soundness of financial system. In 2007, 83 percent of total capital in banking sector was foreign-owned. All ten banks in Republika Srpska in B&H (RS) are privately-owned. In entity Federation Bosnia and Herzegovina (FBiH) 78% of banks was in private ownership (table 3.). Banks in foreign capital ownership had share in total assets of banking sectors 93%. More than 50% foreign capital in B&H comes from Austrian banks.

Table 3: Basic indicators of banking sector Bosnia and Herzegovina (in %)

Indicators		2003	2004	2005	2006	2007
	Banking intermediation	48.2	58.7	69.3	76.8	93.8
	Foreign capital in total capital	66.4	69.6	67.0	73.0	83.0
	ROAA	0.7	0.7	0.7	0.9	0.9
	ROAE	6.4	5.8	6.4	8.5	8.9
CR3		40.1	56.6	46.3	43.5	40.8
CR5		51.2	61.7	59.3	59.3	56.7
HHI		655	808	919	926	890

Source: Banking Agency Federation of Bosnia and Herzegovina, 2007: 11; Banking Agency Republika Srpska, 2007: 3

If we know that intermediation of complete financial sector in 2007 was 117% of GDP than is obviously how banking sector dominate in financial system of Bosnia and Herzegovina. According to data from table 3 we can conclude how banking sector in B&H record:

- increasing foreign capital in ownership structure of banks
- high profitability measured with ROAA and ROAE
- reasonable concentration of assets (concentration ratio – share three and five the biggest banks in banking sector assets), while in loans sector increasing to boarder of high concentrate market.

Total banking sector asset in Bosnia and Herzegovina amounted 9.9 billion euros at the end 2007 what present increasing for 32.8% in comparison with previous year (CBBH, 2007: 67). In the structure of banks assets dominate credits and in structure of liabilities deposits. Such a structure shows that banks in Bosnia and Herzegovina are still "credit-deposit" financial institutions, without developed investment function (table 4).

Total loans amounted 6.2 billions euro at the end of 2007, while total deposits reached 6.2 billions euro. In the structure of deposits dominate short-term deposit (61% of total deposits). However, they developed some new activities (e.g. leasing, custody, bankassurance).

Table 4. Structure of consolidated balance sheet of banks in Bosnia and Herzegovina in 2006

Assets		Liabilities	
Cash and cash equivalent	36%	Deposits	75%
Loans	58%	Loans and other borrowings	11%
Fixed assets	3%	Other liabilities	3%
Other assets	2%	Total liabilities	89%
		Capital	11%
Total assets	100%	Total liabilities and capital	100%

Source: Central bank Bosnia and Herzegovina, Banking sector operation in
Bosnia and Herzegovina in first six months of 2007. http://www.cbbh.ba

Capital adequacy in 2007 reached 17.1% and is decreasing for 0.54 percent points. Minimum capital adequacy ratio is 12%. Total capital in banks at the end 2007 amounted 1.19 billions euros and present increasing for 26.5% in comprising with 2006.

Analysing structure of banking market (consolidation, concentration, domination of foreign capital, competition) and macroeconomic situation, role of central bank, surplus, liquidity we identified internal and external factor in bank risk environment. Having in mind this changes, it is important to analyse and monitor banking sector characteristic and identify which elements can have impact on stability and safety of financial sector. Globalization and EU integration process is connected with number of structural changes. Consolidation of banks, increased competition, and internalization of financial activities and establishment of financial group or conglomerates had impact on financial sector development in transition countries.

Non-banking sector in Bosnia and Herzegovina

In Bosnia and Herzegovina few resent years we record development other sub-sector of financial system. In first place we talk about financial markets, investment funds, and leasing, insurance and microcredit organizations.

Financial markets in Bosnia and Herzegovina according to trading volume and market capitalization, number of participants is weak and undevelopment capital markets. Problems in it's development is insufficient offer of financial instruments, existing entities boarders, illiquidity and weak economic situation in B&H. Total market capitalization in Bosnia and Herzegovina in 2007 increasing looking on previous years. Market capitalization on Sarajevo Stock Exchange (SASE) increased for 36.07%, while on Banja Luka Stock Exchange (BLSE) increased for 3.87% (table 4).

Table 4. Market capitalization in Bosnia and Herzegovina (in euros)

Sarajevo Stock Exchange Inc.				
market capitalization (in millions euro)				
2003	**2004**	**2005**	**2006**	**2007**
389,8	1.919,2	3.309,3	5.831,2	7.934.2
number of trade instruments (in thousands)				
25.740	38.647	64.554	50.084	70.773
number of transactions (in thousands)				
37	61	116	58	159
Banja Luka Stock Exchange Inc.				
market capitalization (in millions euro)				
2003	**2004**	**2005**	**2006**	**2007**
445,8	818,9	1.470	4.056	4.279
number of trade instruments (in thousands)				
-	348.093	360.153	734.785	702.488
number of transactions (in thousands)				
-	86	191	183	191

Sources: Central Bank Bosnia and Herzegovina, Annual Report 2007, Sarajevo, 2008, pp. 78.

In 2007 come to transformation privatization investment funds in investment funds and opening possibilities for creating common equity funds. Future of investment fund is determinate with process of pension fund reform. In 2007 in B&H operate 34 brokers' houses. Begin 2008 two entities capital markets subscribe agreement about regional cooperation with capital markets in other countries of ex-Yugoslavia.

In 2007 in B&H operate 26 insurance companies. In same year they collected 201 million euro premium, what present increasing about 11.5% in previous year. Total assets of insurance sector in 2007 were 400 millions euro with increasing 17%, total revenue 204 millions with increasing 7.7% in comparison with previous year. Life insurance offered 10 insurance companies. In 2007 life insurance record higher rate of growth about 35.4% but share of it in structure of insurance premium in B&H is still low 13.6%. In insurance premium structure the biggest share had premium about motor vehicle insurance. Profitability in sector of insurance were higher that in banking sector.[2]

Leasing is still in phase of development in B&H but is obviously how leasing in few last years presents significant instrument of financing. In B&H don't existed legal framework for leasing operation for complete territory of B&H.[3] B&H have 10 leasing companies. In 2007 they negotiate 7.031 leasing contracts, and realized total value of leasing about 388 millions euro, it's 62% more comprised with previous year.

On credit market significant role has microcredit organizations. Microcredit organizations supply with microcredit legal entities which can't satisfy criteria for getting bank's credit. On the end 2007 in B&H were 24 licensed microcredit organizations. Assets in these institutions were 485 millions euro. The major part of outstanding loans was retail credits.

Integration Bosnia and Herzegovina financial system in EU financial system

Impact European integration process on financial system potential candidate and candidate countries can be looking through:

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[2] In 2007 insurance sector realized ROA 2.47% and ROE 10,06

[3] In Republic of Srpska in 2007 first time is prescribe Low of Leasing while in Federation of Bosnia and Herzegovina that form of low don't exist (Low of Leasing is in process of preparing)

- current situation in European financial integration (bank vs. market financing, efficiency of EU banks, insolvency regime, financial innovation, corporate governance and control/ownership structure of financial intermediaries)[4]
- financial system structure in Europe[5]
- financial linkages between the euro area/ European Union, United State, and Japan (financial and banking crises).

It is important to analyses factors that drive the process of financial integration and design financial system structure. These driving factors include competitive market forces, co-operative initiatives between market participants and policy action by policy authorities. Market forces and degree of financial integration and policies have impacts on managing market imperfections. Process of financial integration request removing obstacles in political and economy framework to financial integration:

- legal differences between candidate countries and EU
- regulation approaches
- countries-specific industry standards
- corporate governance system.

In process of integration financial systems candidate countries must special have on mind: the geographical scope of banking and lending relationship, degree and implications of bank competition, determinants of bank mergers, implication of bank consolidation, international portfolio choices of institutional investors/determinants of international portfolio flows, assets process and volatility linkages across countries and their changes/contagion and crisis linkages, liquidity in secondary markets and consolidation of stock exchanges, restructuring of settlement infrastructures,

Bosnia and Herzegovina bank dominated financial systems with next characteristics: first, there are deep comparative disadvantage in provision of financial services caused by the heritage of central planning and the specific role of banks in previous socialist systems; second banking systems are mostly foreign-owned. In addition, liberalisation, deregulation, development of the new technology, establishment of European Economic and Monetary Union and other changes have caused increased pressures within the global financial service industry. Under the pressure of these changes, banks, insurance companies, investment companies and pension funds are trying to find a way to survive on the market by moving into each other business area. All analysed countries are under process of "inward Europeanisation".

Harmonisation of monetary policy and operational framework with the same in Eurosystem, harmonisation of financial sector regulation with the EU "acquis communautaire" will additionally stimulate changes in the financial system. Internalization of financial activities and establishment of financial group or conglomerates had impact on financial sector development.

Bosnia and Herzegovina is faced with serious challenges of improving financial supervision system in the way that it will be most efficient for supervision of financial institution on the domestic market, but also to divide responsibilities for internationally active banks.

Domination of foreign capital and process of creating financial conglomerates influenced the process of supervision. It raises the need to develop consolidated supervision, improve cooperation and communication between banking supervisors in different countries. Right for supervision and all obligations has country in which bank have address "home country" and not the country in which bank have their branches - "host country". Therefore, it is necessary to improve skills of staff, way of communication and cooperation with European banks' supervisors and reform institutional and legal framework to improvement home-host supervision system. In bank dominate financial system failure to provide these services or breakdown in their efficient provision can be costly to both ultimate source (house-

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[4] Financial integration and financial linkages between different geografical entities, cross-country or cross-regional linkages with in EU and linkages EU and other countries. Financial linkage are defined by relationships between prices and by relationship between quantities across the relevant geographical entities, mainly countries.

[5] Structure of financial system EU analyses in terms of the importants of different ways of financial intermediation and different sources of funding

hold) and users (firms) of saving. Already most of the transition countries have high share of EU ownership in the banking sector.

Central bank of Bosnia and Herzegovina must with entities banking agency work on involving in prudential regulation standards – procedures and methodologies for identification, measurement and protection from market risk (interest rate risk, foreign exchange risk, commodity risk, risk of delivered etc.) according to standards involved in EU Directives.

National authorities in these countries must further improve financial supervision process, which includes development of three functions:

- microprudential supervision oriented on protection of solvency of individual institution rather than all financial system
- macroprudential supervision with purpose to limit financial system distress that can damage the real economy, and
- business supervision which involves monitoring potential conflicts between financial institution and their clients.

Improving risk environment in which operate financial system in Bosnia and Herzegovina request activities on followed fields:

- developing money market in Bosnia and Herzegovina in order to better manage liquidity risk
- integration of supervision in financial system
- developing consolidated supervision – international banking group "home-host" supervision
- managing banks' credit activities and credit risk
- creating solution for inflation risk.

Conclusion

Financial system of Bosnia and Herzegovina has experienced changes in recent years. Financial system offer new services to their clients and expand across the country. Still today, financial system sectors in transition countries are fast developing and transforming from instable to stable, strong and highly competitive system. EU accession and entry in the euro area will be additional actuator of these changes. Process of transition opens new possibilities for the financial system development, but also presents additional challenge for the financial sector regulators and supervisors.

Process of financial integration request removing obstacles in political and economy framework to financial integration:

- legal differences between countries and EU
- regulation approaches
- countries-specific industry standards
- corporate governance system.

Process of integration financial system Bosnia and Herzegovina national authorities must have on mind: element of banking market structure, geographical scope of banking and sources of foreign capital, assets process and volatility linkages across countries and their changes/contagion and crisis linkages, liquidity in secondary markets and consolidation of stock exchanges, restructuring of settlement infrastructures and etc.

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La crise, l'Europe et les Balkans

Jean-Paul Guichard[1]

ABSTRACT – La crise actuelle, qui est mondiale et qui est extrêmement profonde et grave, de- vrait être l'occasion d'un renouvellement de la réflexion sur les instances de la gouvernance écono- mique mondiale en même temps que sur la définition des zones de solidarité économiques et politi- ques.On rappellera dans un premier temps que l'Europe n'est pas très unie dans un monde qui, on le verra, fonctionne sur le mode du mercantilisme, ce qui le rend particulièrement dangereux et instable. La crise actuelle, dont les origines ont près de 10 ans d'âge, se manifeste de façon multiforme : crise boursière de la « nouvelle économie » et des valeurs technologiques en 2001/2003, crise immobilière, bancaire, financière actuellement déterminant une récession dans la plupart des pays. A l'origine de tout cela, un déséquilibre persistant des échanges commerciaux internationaux qu'il faudra corriger. Cela suppose un rapprochement rapide et fort entre toutes les nations européennes, notamment la Russie ; cela suppose aussi que les Etats-Unis acceptent de s'intégrer dans une stratégie commune euro-atlantique de défense commerciale face au dumping de change des nations asiatiques. Dans une telle perspective, les pays des Balkans, qui sont des pays européens, seront nécessairement solidaires de l'Union européenne.

KEY WORDS: L'Europe, Les Balkans, La Guerre, La Crise

Une Europe inachevée et divisée

Face à la crise mondiale, l'Europe apparaît en cette fin d'année 2008 comme un ensemble à la fois inachevé et divisé.

Un ensemble inachevé tout d'abord.

Il y a déjà un siècle et demi, Victor Hugo déclarait au Congrès de la Paix de Paris, en 1849 : « Un jour viendra où vous France, vous Russie, vous Italie, vous Angleterre, vous Allemagne, vous toutes na- tions du continent, sans perdre vos qualités distinctes et votre glorieuse individualité, vous vous fon- drez étroitement dans une unité supérieure, et vous constituerez la fraternité européenne (…). Un jour viendra où l'on verra ces deux groupes immenses ; les Etats-Unis d'Amérique, les Etats-Unis d'Europe, placés en face l'un de l'autre, se tendant la main par-dessus les mers, échangeant leurs pro- duits, leur commerce, leur industrie, leurs arts, leurs génies (…)»[2]

Vision prophétique ; par l'énumération qu'il faisait, il inscrivait bien la Russie au nombre des nations « européenne »[3] en même temps qu'il appelait déjà à une solidarité entre l'Europe et l'Amérique, entre l'Europe et son prolongement outre Atlantique.

Cette conception de Victor Hugo est fondée sur l'idée que les différents peuples qui composent l'Europe ont un sentiment commun d'appartenance à un même ensemble, se représentent eux-mêmes comme des peuples « européens ». Et cette représentation-là n'a rien à voir avec la géographie[4] ; elle renvoie à l'histoire, aux héritages culturels et religieux qui sont communs à ces différents peuples.

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[1] Jean-Paul Guichard, Université de Nice - Sophia Antipolis
[2] Victor Hugo, discours inaugural du congrès de la paix, Paris 21 août 1849.
[3] Cette question est importante face à ceux, particulièrement en Angleterre ou aux Etats-Unis, qui considèrent que la Russie « ce n'est pas l'Europe » mais qui considèrent aussi, paradoxalement, que la Turquie doit rentrer dans l'Union Européenne.
[4] L'Europe comme continent, n'existe pas ; l'Oural n'est qu'une frontière symbolique dans le continent euro-asiatique ; une frontière « inventée » en 1815, au Congrès de Vienne !

Cette unité culturelle ne suffit pas toutefois à fonder une unité politique. Il y a lieu de distinguer l'ensemble des peuples d'Europe, d'une part, et l'Union Européenne qui n'en est qu'une partie d'autre part.

L'Union Européenne est divisée en ce qui concerne son « mode de gouvernance » mais aussi en ce qui concerne d'autres questions qui touchent, d'une manière ou d'une autre, à son identité : l'éventuelle entrée de la Turquie, la question du Kosovo, les relations avec la Russie, les questions militaires.

L'existence de ces divisions signale qu'il n'est peut-être pas opportun, dans la perspective de l'unification de l'ensemble des nations européennes, de continuer sur le mode des élargissements successifs tel qu'il a été pratiqué, de façon hâtive, ces dernières années. Peut-être vaudrait-il mieux entamer un dialogue constructif avec l'ensemble constitué par les « trois Russies ».[5]

Encore faudrait-il avoir l'espoir de pouvoir mettre à jour, puis de mettre en œuvre, un grand projet commun ainsi qu'une stratégie pour le servir. La crise actuelle, dont la gravité est extrême, pourrait peut-être faciliter les choses tant il est vrai que la menace commune puisse constituer un ciment. Il y a bien une menace.

Un monde mercantiliste et dangereux

Depuis quatre à cinq siècles, la dynamique économique mondiale, au moins pour ce qui concerne les nations qui effectuent des échanges commerciaux, répond à un schéma « mercantiliste » dans lequel la recherche de la richesse est indissociable de la recherche (par l'Etat) de la puissance. Dans ce schéma, la nation qui réussit à dominer le commerce mondial tire de cette situation des avantages : profits plus élevés pour ses entrepreneurs, impôts plus élevés pour l'Etat.

Pour exercer une telle domination, il faut une marine de guerre importante pour protéger les convois commerciaux et, par conséquent, il est nécessaire de pouvoir disposer de bases militaires un peu partout dans le monde, en des endroits stratégiques ; le concours de l'Etat est donc indispensable. Mais il n'y a pas que cela ; cette domination commerciale doit prendre aussi appui sur un développement manufacturier/industriel : pour échanger, il faut pouvoir disposer de marchandises à échanger ; enfin, c'est là le grand dogme mercantiliste, il faut avoir une balance commerciale excédentaire. A l'époque des auteurs qualifiés de « mercantilistes », les excédents commerciaux permettaient de faire rentrer de l'or, ce qui était nécessaire à la croissance de la masse de monnaie en circulation, donc à la croissance des affaires.

Il y eut un mercantilisme espagnol fondé sur le pillage et les apports d'or et d'argent, sans base industrielle : après avoir été une Puissance dominante, l'Espagne perdit les Pays-Bas et tomba en décadence.

Le cas de Venise illustre bien la liaison entre l'Etat, avec sa marine de guerre et ses relais militaires (Raguse, Kotor, etc…), et le commerce ; celui-ci, en l'occurrence, est basé sur un développement manufacturier ayant pour cadre le Nord de l'Italie et l'Europe du Nord.

Au 17ème siècle, la Hollande, puissance commerciale de premier plan, luttera sur mer contre l'Angleterre ; la victoire finale de cette dernière signifiera, entre autres conséquences, un changement de nom : « Neuw-Amsterdam » deviendra « New-York »[6]! Durant près de deux siècles, il y aura entre l'Angleterre et la France une lutte pour la domination mondiale. Le traité de Paris, en 1763, marquera un avantage décisif pour l'Angleterre qui aura désormais le champ libre au Canada et aux Indes ; il y aura toutefois encore une contestation de cette puissance anglaise : au temps de l'aide victorieuse à la Révolution américaine, et durant la période des guerres de la Révolution (de 1789) puis de Napoléon. Ces dernières ont pour cadre une période où l'Angleterre domine les mers (cf Trafalgar, 1805) et le commerce mondial au profit de son industrie qui est bien plus développée que celles du continent eu-

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[5] La « Grande Russie », c'est-à-dire l'actuelle fédération de Russie, la « Petite Russie », c'est-à-dire l'Ukraine, et la « Russie blanche », la Biélorussie.

[6] A cette époque, un livre remarquable théorisera la pratique mercantiliste ; il s'agit de « l'arithmétique politique » (1671) de William Petty.

ropéen. Dans de telles conditions, la liberté du commerce est équivalente à la liberté d'un renard dans un poulailler….Le « système continental » de Napoléon et son complément, le « blocus continental », constitue une sorte de « marché commun » concernant la France, l'Italie du Nord, les Pays-Bas, l'Allemagne du sud organisée en Confédération du Rhin. Sur le plan économique, c'était la libéralisation des échanges à l'intérieur (élément favorable à la croissance économique) et la protection vis-à-vis de l'extérieur ; ce système eut un certain succès comme le remarque Friedrich List[7]. La « Paix de Tilssit », entre Napoléon et Alexandre, en 1807, va constituer un véritable cauchemar pour l'Angleterre : une Europe continentale unifiée eut été alors en mesure de rivaliser avec le commerce et les industries britanniques….

1815 marque le début d'une période d'un siècle de domination britannique sur les échanges mondiaux, sans pour autant effacer cette angoisse de l'éventualité d'une unification du continent européen ou euro-asiatique.

Ainsi, en 1905, un universitaire anglais, John Mackinder, publie un article au retentissement considérable : « Le pivot géographique de l'histoire » ; dans la représentation qui est la sienne, l'Eurasie constitue le continent le plus important ; il divise cela en deux parties : le « hartland », la partie Nord et Centrale qui est hors de toute atteinte, et «l'anneau intérieur » constitué par les périphéries ouest, sud et Est de ce continent (Europe de l'Ouest et méditerranéenne, Turquie et Moyen Orient, Inde, Sud-Est et Est de l'Asie) ; enfin le reste du monde est appelé le « système insulaire » (îles britanniques, Japon, Australie, Afrique, Amériques). Si le « grand continent », l'Eurasie, est unifié, par exemple par l'Alliance de la Russie et de l'ensemble de l'Europe continentale de l'ouest (configuration du type « Tilssit »), alors les « peuples de la mer » (entendons par là, essentiellement la Grande Bretagne et les Etats-Unis) sont en grand danger…..Ce genre de représentation a guidé, peu ou prou, la pratique politique Britannique[8], puis celle des américains, que ce soit au temps de la guerre froide ou depuis !

L'idée de la nécessaire protection des industries naissantes face à une puissance dominante sera théorisée vers 1840 par un auteur allemand, Friedrich List ; en quelque sorte la « leçon de Napoléon » ne sera pas perdue pour tous ! La Prusse, à cette époque-là va réaliser avec patience et esprit de suite, une sorte de « marché commun » des états allemands, le Zollverein ; cette construction trouvera à l'issue d'une guerre victorieuse contre la France une traduction politique : la proclamation de l'Empire Allemand, au château de Versailles en 1871 ! Plus tard, c'est seulement lorsque l'Empereur Guillaume, qui s'est séparé de Bismark, affirme sa volonté de construire un empire colonial et, surtout, de doter son pays d'une flotte de guerre « à nulle autre seconde » alors même que l'industrie allemande, au début du 20ème siècle, dépasse nettement sa rivale anglaise dans de nombreux secteurs, que la Monarchie Anglaise éprouvera le besoin de se rapprocher de la France (entente cordiale en 1905) puis ensuite de l'alliée de celle-ci, la Russie.

La première guerre mondiale met bien aux prises des puissances « impérialistes » ; toutefois, contrairement à l'idée de Lénine, l'impérialisme ne constitue nullement un « stade », fut-il « suprême », du capitalisme : c'est une tendance inhérente à celui-ci, dès le «début » en quelque sorte ! Une telle tendance ne peut conduire, en l'absence d'instances mondiales de régulation, qu'à des affrontements dangereux, parfois à des guerres.

La domination commerciale, qui suppose aussi une certaine domination politique et militaire, nécessite pour se reproduire, des excédents commerciaux ; ceux-ci, et la domination qu'ils autorisent, constituent alors une menace pour les nations dominées, un facteur de déstabilisation des relations internationales.

A la veille de la première guerre mondiale, le commerce extérieur anglais a cessé d'être excédentaire ; il ne s'équilibre plus que grâce aux relations avec l'Empire, étant déficitaire dans son commerce avec les pays européens, Allemagne en tête. Il s'agissait là d'un premier indice très net annonçant la fin de

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[7] Friedrich List, « Système national d'économie politique », 1841.

[8] A cet égard, comment ne pas souligner que la Grande-Bretagne des années 1950, avec sa nostalgie impériale, a vécu péniblement les débuts de la construction « européenne » ; lors de la conférence de Messine (1956), prélude au traité de Rome de 1957 qui va fortement associer les six pays fondateurs (France, Allemagne, Italie, Belgique, Pays-Bas et Luxembourg), le délégué anglais « claque la porte » en déclarant l'hostilité de son pays à ce qui est en train d'être préparé !

la domination économique anglaise. La période comprise entre les deux guerres mondiales reste indécise sur le plan de la domination : les Etats-Unis sont désormais une puissance de premier plan mais la Grande Bretagne joue encore un rôle important, grâce à son immense empire ; cela est illustré par le fait que la livre et le dollar sont les deux monnaies de référence.

Toutefois, dans le monde mercantiliste qui est celui des relations économiques internationales, dans le contexte de la dépression des années 1930, l'Allemagne nazie va inventer une stratégie, très agressive ; cette stratégie va consister en la mise en place d'une économie de guerre grâce à des emprunts extérieurs massifs, notamment français, de plus en plus importants ; cela lui permit de rétablir le plein emploi sans pour autant pouvoir créer les conditions économiques qui eussent permis à l'Allemagne d'honorer ses dettes par la suite et en restant fortement déficitaire sur le plan des échanges extérieurs. La guerre était donc préparée et sa réalisation (victorieuse dans un premier temps) était indispensable de telle sorte qu'il n'y ait pas à rembourser les dettes qui avaient été contractées : c'est ce qui fut fait, un cataclysme mondial![9]

On le voit, la répétition chronique de déficits commerciaux de plus en plus importants pour un pays donné ne peut conduire celui-ci, en l'absence d'une restauration de relations équilibrées qu'à deux types de conséquences: soit l'acceptation de transferts massifs de propriété (une sorte de « colonisation » par le capital étranger), soit la fuite en avant dans une politique extérieure de plus en plus agressive et militariste.

Tel semble être le dilemme pour les Etats-Unis d'aujourd'hui. La puissance dominante depuis la fin des années 40, à l'économie florissante, au commerce extérieur excédentaire, a vu sa situation se détériorer rapidement. Le tournant se situe au début des années 70 : en même temps que le dollar cesse d'avoir une convertibilité fixe en or, le commerce extérieur des Etats-Unis devient déficitaire. Le Japon et l'Europe sont, à nouveau, des acteurs économiques de poids. A partir de la fin du siècle, il apparaît de plus en plus clairement que la Chine peut avoir vocation à assumer la domination mondiale que les Etats-Unis sont en train de perdre.[10]

Ce qui peut faire douter d'un tel changement de leadership est la technologie : dans de nombreux domaines, les grandes entreprises américaines sont encore des leaders mondiaux ; mais pour combien de temps encore ? Comment ne pas souligner la montée en puissance du Japon et de l'Europe dans ce domaine, et très bientôt de la Chine ? Comment ne pas voir aussi que les « contrats du siècle », très avantageux à court terme, comportent des transferts de technologie très importants : qu'il suffise de rappeler ici les cas de Westinghouse dans le nucléaire et d'Airbus dans l'aéronautique.

Mais pourquoi donc la plus grande puissance économique du monde connaît-elle des déficits commerciaux de plus en plus gigantesques ? Comment interpréter la crise mondiale dont cette puissance est le point de départ ?

Une crise mondiale à base de déséquilibre de change

Le monde est en crise, et cela commence à l'automne 2000. En effet, de cette date à la fin de l'été 2003, on observe un premier craquement dans la machine économique mondiale : une crise boursière dont l'origine est la bulle des valeurs « technologiques » ; nombreux étaient les économistes qui, à cette époque, faisaient de beaux discours sur « la nouvelle économie »….et ses miracles !

Le ralentissement économiques ne fut pas trop grave, la croissance reprit, la bourse aussi ! De 2003 à 2007, les bourses repartirent à la hausse, et le monde occidental crut que tout irait bien….les craquements allaient reprendre en 2007 (en Angleterre, aux Etats-Unis) et concerner cette fois-ci le secteur des crédits immobiliers et celui de l'immobilier. En 2008, c'est un séisme de grande ampleur qui se-

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[9] Voir sur ce point le livre remarquable du grand historien allemand Götz Aly, « Hitlers Volksstaat », S. Fisher Verlag, 2005.

[10] Certains analystes pensent que, désormais, nous sommes dans un monde « multi-polaire » et que ceci empêcherait l'un des pôles de devenir dominant. Nous ne partageons pas cette façon de voir : nous croyons au contraire que, comme par le passé, il y aura toujours une tendance à ce qu'un pôle devienne dominant. Une bonne raison pour la mise en place d'instances de régulation adéquates.

coue l'ensemble des économies du monde ; il frappe au cœur même du système économique : les banques, les assurances, la finance. Une crise systémique dont les effets n'ont pas fini de se faire sentir et qui met désormais le monde occidental en récession alors même que certains pays apparaissent déjà comme très durement touchés.[11]

Les phases d'euphorie boursière qu'on a pu observer récemment, qu'il s'agisse de l'épisode des valeurs « technologiques » ou qu'il s'agisse de celui de l'immobilier, résultent l'une et l'autre d'une conjoncture mondiale marquée par un déséquilibre profond et durable du change, notamment entre les Etats-Unis et l'Asie. Si les pays occidentaux ont, depuis près de 10 ans, des performances économiques assez médiocres, c'est qu'ils sont dans une large mesure déstabilisés par le taux de change que leur dicte la Chine et, à la suite de celle-ci, les autres pays asiatiques. Il y a là un véritable « dumping de change » dont les effets furent et sont encore dévastateurs pour les économies occidentales qui, dans leur ensemble, connaissent un déficit extérieur colossal. Comment cela est-il possible ?

Pour maintenir le yuan à un niveau très bas, et pouvoir ainsi continuer à réaliser des excédents commerciaux considérables, la Chine achète des dollars et des euros qui sont alors placés en treasuries, en bunds, etc. De la sorte les rendements obligataires peuvent être très bas dans les pays occidentaux. Le problème, c'est que des taux d'intérêt très bas alors que les investissements productifs ne sont plus rentables (du fait de la perte de compétitivité liée au taux de change) conduit à des comportements spéculatifs de plus en plus irresponsables : bulle « internet », bulle immobilière, bulle des « innovations financières », etc.

De bons esprits ne manquent pas pour conseiller de réformer les systèmes bancaires, de rendre plus fiables les agences de rating, etc…De telles réformes sont sans doute nécessaires et leur réalisation pourra être utile. Elles seront pourtant décevantes si on ne s'attaque pas à la racine du mal : le dumping de change des pays asiatiques dont le leader est désormais la Chine. Mais comment des pays fragilisés pourraient-ils imposer une forte appréciation de la monnaie chinoise ?

Quelle réponse à la crise et quelle place pour les Balkans?

Il ne s'agit pas de stigmatiser ici quelque pays que ce soit. Il a été souligné le danger que représentent des échanges commerciaux fortement et durablement déséquilibrés. Une stratégie économique mercantiliste est mise en œuvre depuis une dizaine d'années par le Chine ; cette stratégie représente un danger pour les vieux pays industrialisés qui sont, du fait même de cette stratégie, en cours de désindustrialisation. Pour échapper au piège de la pratique mercantiliste, il faut évidemment une régulation à l'échelle mondiale. Celle-ci peut-elle être le fait de l'organisation mondiale du commerce ? Certainement pas ! Il ne faut pas oublier que l'entrée de la Chine dans l'OMC, arrangée par le Président Clinton, s'est faite sans que soit évoquée, d'une manière ou d'une autre, la question du taux de change de la Chine dont la monnaie était déjà très fortement sous-évaluée. L'OMC qui ignore délibérément l'existence du dumping de change est une organisation complètement disqualifiée : le mieux qu'auraient à faire les pays qui en font partie serait de quitter ce club inutile et néfaste.

L'Europe, dans les circonstances actuelles, apparaît comme bien faible, parce que divisée. D'une part, l'ensemble des pays de l'Union Européenne ne parlent pas tous d'une même voix, d'autre part l'Union Européenne n'est pas toute l'Europe et elle a trop souvent des divergences avec la Russie. Plus que jamais, il est pourtant nécessaire que l'Europe, toute l'Europe, s'unisse autour d'une stratégie économique et politique commune.

Mais comment donc arriver à cette unité ?

La première condition est la restauration du « couple » franco-allemand ; il fut pendant longtemps le « moteur » de l'Europe : il est indispensable de le reconstituer de telle sorte que Allemagne et France disent désormais la même chose. Comme le remarque Emmanuel TODD[12], « il suffirait de convaincre les dirigeants allemands pour faire virer le continent, sans le Royaume-Uni, vers le protectionnisme » ;

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[11] L'Islande bien sur, mais aussi la Corée, l'Argentine ; peut-être aussi la Russie, d'autres encore.
[12] Emmanuel TODD, « Après la démocratie », Gallimard, 2008, page 254.

le virage dont il est question ici concernerait, certes, la zone « euro » mais pourrait aller bien au-delà. Si on le leur proposait, les Russes seraient très probablement preneur d'une stratégie dans laquelle ils pourraient avoir un rôle important : une stratégie protectionniste, la seule qui, dans les circonstances présentes, puisse être mobilisatrice, face au dumping de change asiatique et à ses conséquences.

Si l'Europe continentale, y compris la Russie, est unie autour d'une stratégie économique et politique commune, il sera alors probablement possible de convaincre la Grande Bretagne et les Etats-Unis de participer, sur une base égalitaire, à un grand partenariat Euro-Atlantique.

Un tel partenariat s'exprimerait par la mise en place d'un grand « marché commun » comportant la libre circulation des marchandises au niveau de l'ensemble des nations participantes et une défense commerciale commune vis-à-vis de l'extérieur. Les droits de douane qui seraient mis en place pourraient évidemment, par la suite, être diminués ou supprimés dès lors que les pays asiatiques adopteraient des taux de change permettant d'équilibrer les échanges commerciaux.

Dans la perspective de ce grand partenariat, quelle pourrait être la place des pays Balkaniques qui ne font pas encore partie de l'Union Européenne ?

Plusieurs remarques peuvent être faites.

D'une part ils ont des liens extrêmement forts avec l'Europe, qu'il s'agisse d'échanges commerciaux ou de populations qui ont émigré mais qui conservent de multiples liens avec leurs pays d'origine respectifs ; d'autre part le « dumping de change » qui a été signalé précédemment concerne tout aussi bien les pays de la rive sud que ceux de la rive nord de la méditerranée : en quelque sorte, les uns et les autres sont « dans le même bateau » !

Ce n'est pas tout ; ils risquent de subir la crise actuelle plus durement que les pays de l'Union Européenne. Ils sont en effet actuellement dans un processus de rattrapage dans lequel les investissements étrangers, principalement européens, sont extrêmement importants ; l'apport de capitaux étrangers rend compte d'une très grande partie de la croissance d'un pays comme la Serbie. Or, les difficultés rencontrées par les entreprises, en Europe de l'Ouest, vont conduire celles-ci à différer une bonne partie de leurs investissements à l'étranger, notamment dans les pays Balkaniques. Si les pays de l'Union Européenne ont, en 2009, des taux de croissance de l'ordre de -0,5% ou -1%, il est probable que, pour les pays des Balkans, cela sera plutôt des taux de -2% à -3%. Plus que jamais ces pays ont un intérêt vital à ce que l'économie de l'Union Européenne aille bien ; ils seront donc solidaires de l'Europe si celle-ci décide de se ressaisir et de se protéger.

La stratégie esquissée ici de défense commerciale pour un ensemble très vaste, en dehors de l'OMC, sera-t-elle ressentie comme nécessaire par les différents pays concernés ? pour qu'il en soit ainsi, il faudrait que finisse par s'imposer l'idée que la cause profonde de la crise réside dans les déséquilibres de change avec le monde asiatique ; les modalités par lesquelles ont été titrisées des créances immobilières, les modalités de fonctionnement des systèmes bancaires de par le monde, ne constituent que des causes « déclenchantes ». Cette idée là, malheureusement, est bien loin d'être partagée par les responsables économiques des différents pays du monde. Ceux-ci semblent, plus que jamais, attachés aux dogmes libéraux et aux vertus, en tout temps et en tous lieux, du libre-échange ! perseverare diabolicum….

Mais pourquoi donc persistent-ils dans l'erreur ?

Effects of Capital Account Liberalization on Interest Rates in Croatia

Tomislav Herceg, Fran Galetić[1]

***ABSTRACT** – In this paper authors investigated Croatian financial market analyzing different types of interest rates in Croatia and how they were affected by the changes in the level of capital account liberalization. Using a level of foreign direct investment as a proxy measure of degree of liberalization, the authors using time series analysis tried to prove whether there is a significant relation between the two. The results show that a certain relation exists, but before making any significant conclusions, it is necessary to be cautious about a probable omitted variable bias. Hence the aim of this paper was more to show the direction and existence of this relation than to produce a concrete and exact amount of that effect, which might be misleading in this case.*

***KEY WORDS:** capital account liberalization, measuring, econometric analysis, Croatia*

Introduction

Capital mobility depends on the constraints brought by the Central bank or the Government. These controls have several aims, but mostly their intention is to protect domestic capital market from foreign competition and economic disturbances. The impact of loosing or tying up the capital controls were investigated by many authors. Most authors were investigating the level of capital account liberalization and its impact on macroeconomic variables. Here we want to show how a degree of capital mobility affects the interest rate for bank loans to companies and how controls on capital flow change an interest rate on households' deposits. It is especially interesting because the loans for companies directly affect microeconomic surrounding, which is poorly investigated in the literature.

Our hypothesis is that the liberalization of Croatian capital account caused the interest rate margins to fall, as well as the interest rates on deposits. We base this hypothesis on the fact that open capital market introduced cheaper foreign capital. The lack of controls makes it cheaper to transform bank loans abroad to domestic lending and it causes a decrease in the margin. On the other hand, cheaper capital abroad forces the interest rates on deposits down since banks do not want to pay more for domestic money.

Capital account and balance of payments

Current account is a part of a national balance of payment. IMF defines each of the three parts of the balance of payments:

- The current account consists of the goods and services account, the primary income account and the secondary income account.
- The financial account records transactions that involve financial assets and liabilities and that take place between residents and non-residents.
- The capital account shows capital transfers receivable and payable between the country and the rest of the world as well as the acquisition and disposal of non-produced non-financial assets.

Economists usually use the term "capital account" to refer to what is now called the financial account and remaining capital account in the IMF manual and in the System of National Accounts. The use of

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the term capital account in the IMF manual is designed to be consistent with the System of National Accounts, which distinguishes between capital transactions and financial transactions.[2]

The usual way of analyzing balance of payments is by dividing it into capital account and current account. The negative balance in the capital account is equal to the positive balance in the current account and vice versa. The capital account shows both the capital transfers receivable and payable between residents and non-residents and the acquisition and disposal of non-produced non-financial assets between residents and non-residents.[3] Adding portfolio investment (long-run and short-run) and transactions of official reserves to the direct investment we get the capital account. Capital account consists of capital part and financial part. Capital part shows the Diaspora transfers and the regional funds obtained from supranational organizations. Financial part consists of investment and other depositing.

Capital account liberalization

Capital account liberalization is a phenomenon investigated by many contemporary economists. It is a name of the process of moving capital controls and enabling the capital to flow free over the borders. The level of the capital account liberalization varies across the countries. Observing this variance economists try to find out how different degrees of capital mobility freedom affect economy. However, this process appeared to be quite challenging, since during the last 20 years, in which this phenomenon started to be intriguing, brought the experts to the completely opposite conclusions. Eichengreen (2003) summarizes it up and says that the capital account liberalization is one of the least understood subjects of contemporary economics. There are many reasons for it, but here we name few.

Economists who investigated the problem of capital account liberalization mostly tried to find its impact on growth. These analyses were mostly made on large cross-section analysis including many countries during several decades. Alesina, Milesi & Feretti (1994) find no relation between levels of capital account liberalization. Refining their research in Milesi & Feretti (1995) it was concluded that greater levels of liberalization lead to slower growth.

Quinn (1997) made a revolutionary step in investigating a degree of capital account liberalization. The author was convinced the problem of conflicting results lies in a false capital mobility indicator. Instead of using proxy variables, used as regresor for the previous analysis, he introduced new, pure measure. Proxy variables such as the level of FDI (foreign direct investment) do not depend on the level of liberalization only. That contains other effects too. Quinn took IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) and quantified the qualitative data on the regulation of different capital markets. The indicator ranged from 0-4 (with a 0.5 increment). However, it suffers from certain level of subjectivity, but still most future analysis use this or some close variant of the indicator for their regressions.

In the 1998, when Asian crisis struck, incautious capital account liberalization have brought crisis among the countries which did not hedge against the risk of crisis. The infamous crisis, however, opened the eyes of experts and Bordo & Eichengreen (1998) concluded the country should liberalize its capital flows if it brings positive effects on the economy. Bailliu (2000) made a crucial discovery finding that developed financial sector protects the country against the crises, while underdeveloped ones "import" it with the overly liberalized capital flow. Hence the future authors started to investigate and give useful suggestions for the countries with underdeveloped financial markets.

Lipschitz, Lane & Mourmouras (2002) were investigating underdeveloped financial markets, but with a stress on transitional countries, which makes this study especially interesting for Croatia. It is considered as the theoretical base for further research of capital account liberalization effects in transitional countries. Authors give five conclusions which should be taken into account if liberalizing an underdeveloped financial market:

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[2] International monetary fund "Balance of Payments Manual", Chapter 13
[3] International monetary fund "Balance of Payments Manual", Chapter 13, Part 13.1.

- in addition to sound economic management, policy transparency and data dissemination are crucial;
- the open capital account reduces the independence of action for monetary policy, and fiscal policy becomes the main tool for stabilization policy;
- right sequencing of capital account liberalization is important, and long-term capital movements should be liberalized before short-term transactions;
- a strong regulatory and supervisory framework has to be set up before the capital account is fully liberalized, and special attention has to be paid to avoid excessive corporate foreign exchange exposure;
- although the choice of exchange rate regime cannot eliminate the problem of persistent capital flows, in most circumstances, a floating regime will make the country less vulnerable than a pegged regime, as more exchange rate variance is a disincentive to large foreign exchange exposure.

Capital account liberalization indicator

In this analysis we did not follow the Quinn's accomplishments and remained with the proxy variable choice. Although Quinn's indicator is recommended, for the sake of this analysis, which intends to give a short view on this matter, we chose the FDI level as a regresor. The reason for it is a short time series. For the same reason we did not put any other variables in regression, risking the omitted variable bias, but saving the scarce degrees of freedom. The reason for picking up the level of FDI in Croatia is that it largely depends on the capital flow constraints. The following diagram illustrates the channel of influence.

Figure 1. Choosing FDI as a proxy measure of capital account liberalization
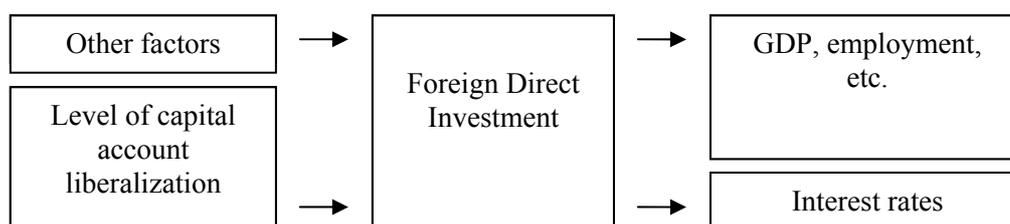
The interpretation is as follows: FDI is affected mostly by the level of capital account liberalization. Other factors, which we hope are insignificant, deteriorate the quality of the level of FDI as a regresor. Hence it would be suggested to pull IV Instrumental variable) regression since it is obvious that regresor (FDI) is abound in disturbance term. On other hand, FDI affects not only the interest rates, but many other areas of economy as well. What we presume is that these other effects are complementary. This assumption indirectly states the omitted variable bias is to be ignored.

Effect of capital account liberalization on interest rates for loans

The bank offers loans at certain interest rate r. It takes loans on the international loans market at e.g. LIBOR (London Interbank Offer Rate). The difference between the two is the bank's margin. It has to cover up the additional operating costs and the profits of the bank. When a central bank increases the level of reserve requirements, it increases the cost of the capital and the spread has to increase (this action is frequently used by Croatian national bank (HNB) as a mean of capital control). Since capital controls do not affect LIBOR, we subtracted it from the bank's offer rate (here we observe long term kuna loans to companies). We now estimate the model:

$$NETT_t = aSU_t + c + u_t$$

where NETT = long term corporate kuna offer rate – LIBOR, and where SU is to sum of all FDI in a year (in 000 of €). The series we observed is from 1994-2007 (annual data). Pulling OLS (Ordinary Least Squares) regression we get the results in Table 1. The residuals' test warns us of a slight autocorrelation, but it is small enough to be ignored for the time being (Figure 2). This is the estimated model:

$$NETT_t = -1.98 \times 10^{-6} SU_t + 10.33406$$

Testing for the significance of the whole model is made using F test:

F test:

$$H_0 : b_1 = b_2 = 0$$
$$H_1 : \exists b_i \neq 0, i = 1,2$$

P value indicates that at least one of the parameters is significant with probability greater than 95% (98.88%). R^2 is low because bank margin is explained not only with the capital account liberalization, but with some other factors as well. F test gives us the confidence that we made a well specified model. After F test one has to make t test in order to check significance of each regression coefficient separately:

t test:

$$H_0 : b_1 = 0$$
$$H_1 : b_1 \neq 0$$

Instead of finding table values one can use p values and conclude that H_0 can be rejected with probability greater than 95% (98.99%)

t test:

$$H_0 : b_2 = 0$$
$$H_1 : b_2 \neq 0$$

In the same way we conclude that H_0 can be rejected with probability greater than 99.5% (99.99%).

Now can make the following conclusion: An increase in the FDI level by € 1000 is related with a 0.0000198 percentage point decrease in a bank margin, since the liberalized market leads to a cheaper lending process.

Table 1. Bank margin estimation output

Dependent Variable: NETT
Method: Least Squares
Sample: 1 14
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SU	-1.98E-06	6.49E-07	-3.047782	0.0101
C	10.33406	1.017541	10.15591	0.0000

R-squared	0.436328	Mean dependent var		7.854488
Adjusted R-squared	0.389355	S.D. dependent var		2.926282
S.E. of regression	2.286707	Akaike info criterion		4.623666
Sum squared resid	62.74835	Schwarz criterion		4.714960
Log likelihood	-30.36566	F-statistic		9.288977
Durbin-Watson stat	1.849770	Prob(F-statistic)		0.010126

Figure 2. Correlogram of residuals for bank margin estimation
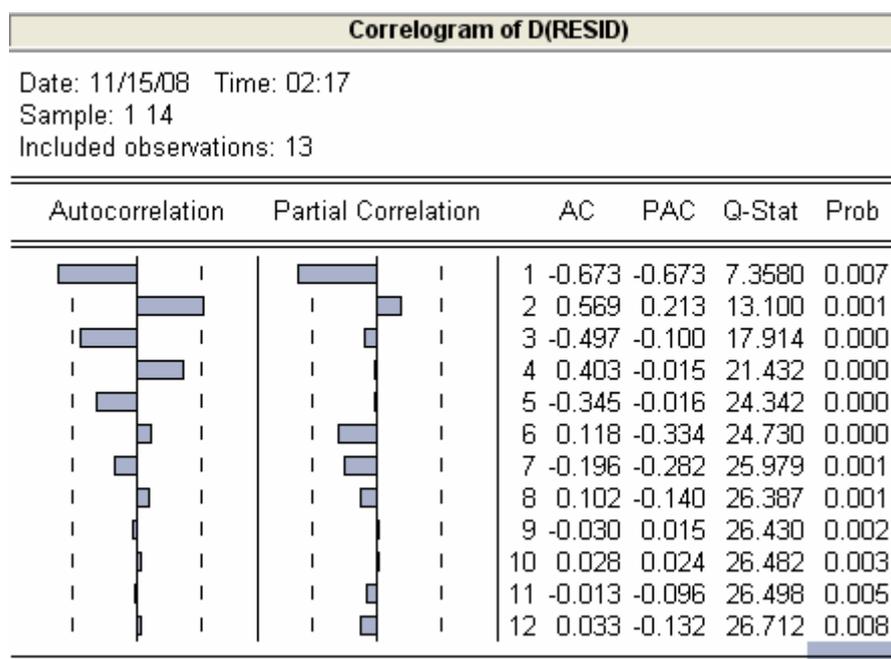
Figure 3. Scatter diagram with a regression line

$$NETT_t = -1.98 \times 10^{-6} SU_t + 10.33406$$
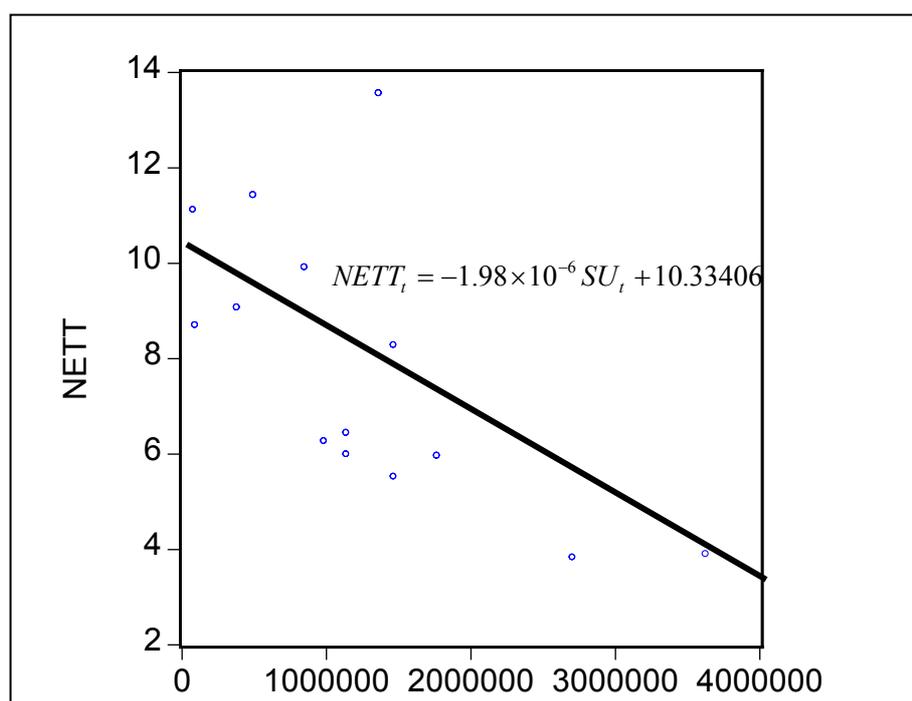
Effect of capital account liberalization on a FX denominated kuna interest rates on deposits

A bank makes its profit by selling the money at a greater price than they buy it. Bank can buy money in two ways: by borrowing it from abroad, or by accumulating deposits. At the same time Central bank may impose constraints which increase the costs of borrowing abroad. Hence the international offer

rate has to be smaller than the domestic interest rate on deposits by the amount of these costs. This is illustrated on Figure 4.

Figure 4. Composition of the bank's offer rate

Profits&operating costs of the bank		
Costs of capital controls	Interest rate on deposits	Bank's offered rate
LIBOR (or some other international offered rates)		
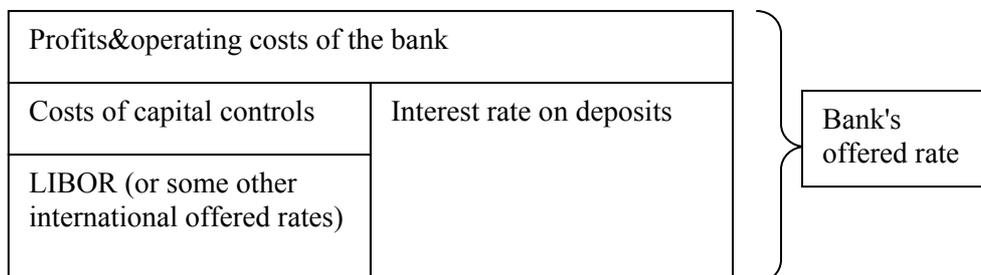
Now we want to show how the interest rate on deposits is affected by the capital controls and by LIBOR. The model is as follows:

$$OD_t = b_1 LIB_t + b_2 SU_t + b_3 + u_t$$

where LIB is LIBOR (London Interbank Offered Rate), and where SU is to sum of all FDI in a year (in 000 of €). The series we observed is from 1994-2007 (annual data). Pulling OLS (Ordinary Least Squares) regression we get the results in Table 2. The residuals' test shows us there is no autocorrelation (Figure, but it is small enough to be ignored for the time being (Figure 2). This is the estimated model:

$$OD_t = 1.290513 LIB_t + -1.93 \times 10^{-6} SU_t + 6.904014 + u_t$$

Testing whether a model is well specified as a whole (F test):

$$H_0 : b_1 = b_2 = b_3 = 0$$
$$H_1 : \exists b_i \neq 0, i = 1,2,3$$

Table 2. Deposit interest rate estimation output

Dependent Variable: OD
Method: Least Squares
Sample: 1 14
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LIB	1.290513	0.559844	2.305131	0.0417
SU	-1.93E-06	6.08E-07	-3.171613	0.0089
C	6.904014	1.444001	4.781170	0.0006

R-squared	0.606274	Mean dependent var	6.827143
Adjusted R-squared	0.534687	S.D. dependent var	3.125556
S.E. of regression	2.132062	Akaike info criterion	4.539465
Sum squared resid	50.00255	Schwarz criterion	4.676406
Log likelihood	-28.77626	F-statistic	8.469098
Durbin-Watson stat	1.933204	Prob(F-statistic)	0.005937

P value indicates that at least one of the parameters is significant with probability greater than 95% (99.40%). R^2 is low, but greater than in the previous regression because bank's offered rate depends on bank's profits and operating costs which were not included in the first one. Again we will go for the F test only and say the model is wel specified. Parameter tests have to be made as well:

t test:

$$H_0 : b_1 = 0$$
$$H_1 : b_1 \neq 0$$

We fail to reject the H0 with probability of 95.83%

t test:

$$H_0 : b_2 = 0$$
$$H_1 : b_2 \neq 0$$

We fail to reject the H0 with probability of 99.11%

t test:

$$H_0 : b_2 = 0$$
$$H_1 : b_2 \neq 0$$

We fail to reject the H0 with probability of 99.94%

The results of the tests as well as the obtained parameters suggest the following: An increase in the FDI level by € 1000 increases interest rates on deposits by 0,00000193 percentage points keeping other variables constant. An increase in the LIBOR by 1 percentage point will cause the increase in interest rates on deposits by 1.29 percentage points. It is now very interesting to see how LIBor parameter is relatively close to 1 (theoretically it should be 1). It is also interesting how FDI parameter remains almost the same in both regressions. It suggests that the capital controls affect both bank's offer rate and the interest rate on deposits in the same way, as it theoretically should be (see Figure 4).

Figure 5. Correlogram of residuals for interest rates on deposits
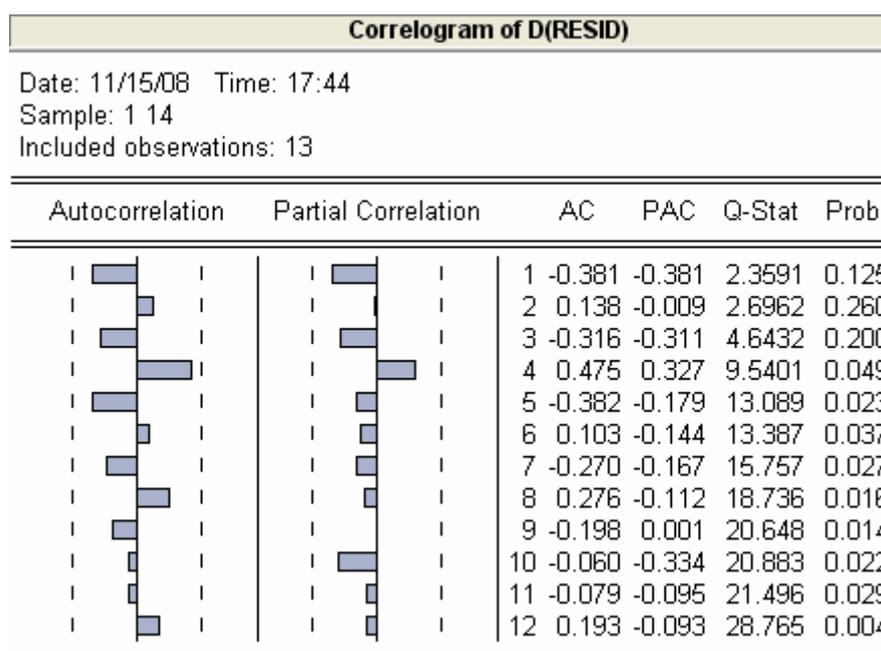
Conclusion

This paper wanted to show how a degree of the capital account liberalization affects the bank's offered rate (FX denominated kuna loans to companies). The reason for making this model was to show how capital controls affect entrepreneurial environment. This microeconomic aspect is something new in this field since majority of the liberalization analysis base on macroeconomic variables. Taking FDI as a proxy variable we conclude that greater levels of controls are related to higher interest rates. Government should take it into account when putting capital controls since it dissuades companies from investing.

On the other side, we show how the level of capital account liberalization and LIBOR affect the interest rates on domestic savings. We conclude that the increase in LIBOR increases deposit interest rate at almost 1 by 1 relation, which complies with the theory. It is also interesting that the impact of capital controls is almost the same for both the lending interest rates and deposit interest rates, which is also a desired result. One can now simply conclude that by moving capital controls it lowers the interest rates on savings, which is not preferred by the savings holders.

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Deficiencies of Regional Securities Supervisors' Operational Independence with Particular Focus on the Serbian Securities Commission

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ABSTRACT – Modern financial regulation is becoming more and more of a technical nature and as such requires more powerful regulatory powers. Centralisation of the function of regulation and supervision has influenced strengthening of the regulatory agencies' institutional capacities and urged for a more explicit determination of their main goals, independence and accountability. The main focus of the Paper is the operational independence of regional securities supervisors in the following countries: Serbia, Montenegro, Macedonia, Bosnia and Herzegovina, Albania and Croatia. The operational independence is reviewed in light of its main components: regulatory, institutional, budgetary and supervisory independence. Operational independence of regional securities supervisors is endangered not only by their weak procedural powers in the supervisory process, but also by their limited regulatory functions, and usually the lack of legislative initiative. Regional comparison with particular focus on the status, existing competences and procedural powers of the Serbian Securities Commission reveal that that most of the main IOSCO principles are not adequately supported in legal system and supervisory practice. This calls for the necessary redefinition of powers of the Securities Commission, but as well as the establishment of its accountability for the attainment of the main goals attributable to financial regulators. The new legal framework should enable the Commission to develop an effective regulatory strategy, while on the other side, making it accountable for the attainment of the set goals and principles.

KEY WORDS: financial regulation, capital market supervision, operational independence, accountability

Introduction

Modern financial regulation is becoming more and more of a technical nature and as such requires more powerful regulatory and supervisory powers, which are main components of the operational independence of financial regulators. Paper is focused on these powers, goals of financial regulation and institutional guarantees of good governance underlying the operational independence. Regional comparison encompassed Serbia, Montenegro, Bosnia and Herzegovina, Macedonia and Croatia, with a particular reference to the Serbian Securities Commission.

Operational independence of the majority of regional securities supervisors is thwarted not only by their weak procedural powers in the supervisory process, but also by their limited regulatory functions, and usually the lack of legislative initiative. In some countries, especially Serbia, there is a misbalance in the powers of banking regulators on one side, and securities regulators on the other side.

Regional comparison has shown that that some of the main IOSCO principles are not adequately supported in compared legislation and supervisory practices. This calls for the necessary redefinition of powers of the Serbian Securities Commission, but as well as the establishment of its accountability for the attainment of the main goals attributable to financial regulators.

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Institutional architecture of financial supervision

Regulatory structure implies the manner and criteria for the distribution of powers and responsibilities for the conduct of supervision between different regulatory bodies. The first step is the choice between institutional and functional criterion (*Carmichael i dr, 2004*). The first criterion assumes the establishment of regulatory bodies for each separate type of financial institutions (banks, insurance companies, capital market intermediaries). The structure based on the institutional criteria, with different regulatory agencies for various groups of financial institutions, dominated until the beginning of the XXI Century. This is the actual state of art in all respective regional structures, regardless of the fact that some institutions, such as the Serbian National Bank or the Croatian Financial Services Supervisory Agency supervise various financial institutions and markets.

Functional criterion implies the main objectives of the regulation, and is focused on the exact market failure to which the regulation is directed. To illustrate non-exhaustively, it could be related to risks in the business of financial institutions, protection of investors from market manipulation), information asymmetry etc.

In comparative financial systems the central bank is evidently loosing its competences as a regulatory agency in the sphere of banking, and particularly in relation to the prudential supervision of the other financial institutions. However, in many countries it is the central bank who has the key role in monitoring of financial stability and closely cooperates with regulators in charge of the control of financial institutions. In relation to this, arguments pro and contra separation of functions of the conduct of monetary policy and regulation of financial sector should be considered. However, it has been suggested that unstable transition economies should not deprive the central bank of its regulatory powers, particularly in the domain of prudential control of banks (*Goodhart i Schoenmaker 1998, s. 133-212*).

Centralisation of regulatory and supervisory function became global trend, which particularly benefited from liberalisation of financial sector, actually the disappearance of the frontiers between typically banking and non-banking activities, as well as the emergence of multifunctional financial groups. The tendency to integrate supervision of the financial sector and the introduction of regulatory agencies performing integrated supervision of the financial sector marked end of the previous and the beginning of the current decade. Although first examples of integrated supervision date back to Scandinavian countries in the mid 1980s, integrated supervision has became a global trend after the establishment of the UK Financial Services Authority, which served as a model to many countries.

Therefore, arguments pro and contra the establishment of a unified regulatory agency for financial services should be considered (*Mwenda 2006, Briault 1999, Abrams i Taylor 2000*). The main arguments in favour of the establishment of an unified regulatory body are the following: the establishment of integrated supervision within the single regulatory agency decreases information costs of regulation, simplifies the communication between financial institutions (particularly complex groups) and the regulator, creates the effects of the economy of scope, makes regulatory process more flexible and makes one independent agency responsible for the control and functioning of the financial sector (centralisation of responsibility). The basic argument against creation of a single regulatory agency, in shortest, may be deduced to the following remark: as a single regulatory body for financial sector, integrated regulatory agency is an institutional monopolist.

Among countries emerged in the territory of ex Yugoslavia, up to now only Croatia has introduced peculiar type of integrated supervision, by creating the Croatian Financial Services Supervisory Agency, excluding control over banks which remained the competence of the central bank. Among neighbouring countries Hungary and Bulgaria have introduced integrated supervision, creating single regulators. The other countries retained securities commission as institutional regulator: Macedonia, Bosnia and Herzegovina (both Republic of Srpska and the Federation of Bosnia and Herzegovina), Montenegro and Serbia.

Integration and centralisation of supervision is a global trend and the necessity in the long term. Regardless of the institutional model which would be chosen for Serbia if/when the issue of the integration of supervision emerges, in the short term it is necessary to improve the institutional status of the

Securities Commission and enhance its competences in the field of regulation and supervision of financial market participants.

The National Bank of Serbia (NBS) supervises banks' compliance conduct-of-business and exercises prudential control over banks, financial leasing companies, insurance sector and pension funds management companies. That made the NBS one among the very few central banks in the World which supervise the overall financial sector (except brokers and dealers, stock exchanges and investment funds) almost as central banks in Ireland and Slovakia do. Law on the Market of Securities and Other Financial Instruments, Law on Takeover of Joint Stock Companies and the Law on Investment Funds entrust the Securities Commission with the tasks to control the establishment and the conduct-of-business of the authorised financial intermediaries on the money and capital markets, as well as the control of issuance and trade of financial instruments.

Objectives of financial market regulation and supervision and goals of the regulator

International Organization of Securities Commissions (IOSCO) defined the securities regulation main goals and principles in its *"Objectives and Principles of Securities Regulation"*. Principles and standards which regional legislators, especially Serbian, should take into account are specifically the following: clear and objective responsibilities of the regulator; its operational independency in exercise of its functions and powers; adequate powers, capacity and resources; development of clear and consistent regulatory process; comprehensive inspection, investigation, surveillance and enforcement powers; regulation should be designed to detect and deter manipulation and other unfair trading practices.

As the financial market develops, the competences of regional securities regulators were broadened and thus include the supervision of institutional investors, particularly investment funds. Redefinition of their competences and authorities was necessary in order to meet the augmented supply and demand on national financial markets, which resulted from the growing number of the issuers of securities, and particularly from the privatisation of some of domestic public enterprises.

Modern financial regulation, now increasingly technical in nature, requires more robust regulatory powers. Centralisation of the regulation and supervision functions and the emerging integrating regulatory agencies for financial services around the World, contributed to the strengthening of regulatory agencies' institutional capacity and operational independence.

The basis of the regulatory regime of a modern financial regulator are the main goals of financial regulation. Therefrom derive intermediary goals which justify the powers necessary to attain these goals. However, the formulation of main goals makes regulatory bodies responsible for their attainment. Therefore, the legislator should not only formulate the main aims of the law along the lines of the philosophy of modern financial legislation, but also establish the goals of the regulatory body and enhance its regulatory powers and supervisory authority. The legal framework should at the same time enable the regulator to develop an effective regulatory strategy and make it responsible for the attainment of the set goals and principles.

As opposed to banking regulators which, although protecting the depositors' interests, traditionally gave primacy to the stability of banking system and protection against systemic risk, primary goal of financial market regulators is to prevent manipulations and fraudulent behaviour and protect the investors. The main activities of securities regulators aimed at investor protection are directed towards securing the quality of securities and provision of information to clients, enforcement of financial discipline, observance of compliance with the rules on the conduct of trade in securities, prevention of speculation and market manipulation.

Among countries in our neighbourhood the objectives of regulation, which in the same time became the goals of the regulatory agency, and the guiding principles are the most explicit in Croatian law. The main goals of HANFA (Croatian Financial Supervisory Agency) are set out in Article 13 of the Law on Croatian Financial Services Supervisory Agency: to attain and to maintain the stability of the financial

system and supervision of conduct-of-business of authorised firms. In performing its goals, the HANFA must be guided with principles of transparency, building of market confidence among financial market participants and provision of information to consumers. The Agency is obliged to inform the public with the role and functioning of the financial system, including rising the knowledge of benefits and risks related to different types of investment and financial transactions. HANFA is obliged to ensure fast and efficient access to all information which might be of interest to the users of financial services, investors and public.

Within its legal powers and authorizations under the Law on Securities of 2005, Macedonian Securities Commission provides the legal and efficient functioning of the securities market, as well as for the protection of investors' rights, with the aim of continual building up public trust in the institutions of the securities market.

The main goal of the National Bank of Serbia is to attain and to maintain price stability. Besides this main goal, the National Bank of Serbia has an additional goal to maintain financial stability. Wide competences of the NBS in the process of supervision of financial institutions derive from the necessity to preserve financial stability (Article 3 of the Law on the National Bank of Serbia). Laws for which enforcement the Serbian Securities Commission is responsible, particularly the Law on the Market of Securities and other Financial Instruments as the basic law, failed to state its goals explicitly. However, Article 220, par.1(8) of the LMS stipulates that one of the conferred powers of the Commission is to secure efficient operation of the organised market and investor protection. This opens one of the key questions of modern financial regulation: What are the objectives of regulation and goals of the regulator? However, the idea that this provision has introduced the main goals should be backed by a stronger proof of record. Serbian legislator should define several main goals of regulation, and oblige the Commission to undertake the measures necessary for fulfilment of set goals, making in the same time its managing body responsible for the attainment of these goals.

Guarantees of institutional independence and accountability mechanisms as preconditions for the effective operational independence

Institutional independence of regulators and supervisors is a precondition of an effective financial market regulation (*Quintin i Taylor, 2004; Hupkes i dr. 2005*). *Personal independence* is one of the components of the institutional independence. It is primarily the independence of the regulatory agency's managing bodies. The guarantees of personal independence, basically transparent criteria for appointment and dismissal of the members of the managing body, clear authority and criteria of their impartiality, may be observed in the region.

One of the characteristics of regulatory agencies, as professional quasi-administrative organisations that discharge public authorities, is *independence in relation to the political dimension of power*.

Management bodies of regional securities supervisors are appointed by parliaments, as a rule upon the suggestion of their governments or presidents. Serbian Securities Commission is established by law regulating financial markets and instruments as independent and autonomous *organisation*. The President and members of the Serbian Securities Commission are appointed and dismissed by the National Assembly of the Republic of Serbia, following a proposal of the internal working body of the National Assembly responsible for the financial system.

 The status of the National Bank of Serbia, as a central bank, is upgraded on a higher level, as the Constitution of the Republic of Serbia in its Article 95 provides that the NBS is independent and is subject to the control of the National Assembly, to whom it is accountable. Being the "organisation", Serbian Securities Commission, as well as the other "Commission" in the Serbian administrative order (the Commission for Protection of Competition), are not public agencies in the sense of Serbian Law on Public Agencies. They are neither administrative organisations that belong to the classic administrative apparatus nor state establishments. This is one of the reasons why their operational independence, their regulatory and control powers are confusing and underdeveloped.

Another side of political control is the accountability of regulator, which should not be limited only to regulator's periodical reports on its activities. As well as the other financial regulators in the region, Serbian financial regulators, both the Securities Commission and the National Bank of Serbia are accountable to the National Assembly. Besides, the Commission is obliged quarterly to inform the Government on its operation and trends in the financial market and to provide certain information.

In comparative financial systems there aren't any uniform solutions in terms of competences for the election of the managing body's members. A solution pursuant to which the parliament elects these persons is adopted in most countries, but a group of authorised proposers varies. The differences are obvious from the fact that the Board of Directors of the UK Financial Services Authority is appointed by the Ministry of Finance. This confirms that competences for the appointment of members is not a decisive guarantee of personal independence. In some countries, the members of sectoral regulator's or integrated financial services agency's management bodies are proposed and/or elected directly by the Government or by other bodies, such as the governors of central banks, ministers in charge of finance or the other officers (and, if this is a case, the same body is usually entitled to revoke their function), or these must be consulted in the process of nomination and election of members of regulator's management bodies (e.g. in Austria, Ireland, Japan, Latvia, Belgium, France, Poland, Slovenia). This clearly suggests that personal independence cannot be limited to the competence to elect the regulator's management but is primarily linked to the guarantees for continuity of the performance of their activities. This is why, as a component of personal independence, the election by the parliament should not be overestimated as the experience of these countries shows that operational independence of the agency is the key element. Accordingly, the fact that Serbian Securities Commission is independent due to the provision that Assembly appoints and revokes members of the Securities Commission should not be overestimated.

Regulatory agencies, particularly financial regulators, have acknowledged *budgetary independence* so that they can resist political interference and in general achieve more effective regulatory strategy. Several empirical studies have proven that higher budgetary independence results in higher level of institutional independence and better attainment of the main goals of financial regulation (*Quintin i Taylor, 2004*).

Capital market regulators are financed from budget resources, fees collected from authorised subjects, as well as fees for rendered services. On the other hand, some securities regulators, or financial supervisory agencies, have independent budget which represents a component of the state budget, which the Government or some ministries cannot alter (i.e. Bulgarian Commission for Financial Supervision). Regional securities regulators are primarily financed by fees for rendered services.

In a comparative law, tariff and financial plan of financial market regulators is usually reviewed by the parliament, but in some countries, such as Croatia, by the Ministry of Finance, or the Government as in the Republic of Srpska.

From its inception, the Serbian Securities Commission has been self-financed, although the law entitled it to use budgetary resources, while it paid into it the excess of revenues. This problem, the payment of the excess of revenues over expenditures in the budget, should be remedied as soon as possible in order to enable the Commission to attract high-level experts and acquire resources which would strengthen its operational independence.

Regulatory and supervisory powers

Operational independence implies effective regulatory and supervisory powers. Supervisory autonomy or procedural independence, implies clear competences and mechanisms for the effective enforcement of supervision and sanctioning of violators of law. Operational independence of some of regional securities supervisors, especially Serbian Commission, is endangered not only by their weak procedural powers in the supervisory process, but also by their limited regulatory function and legal instruments, and lack of legislative authority.

Amongst compared regulators, Law on Croatian Financial Services Supervisory Agency and Law on the Securities Commission of the Federation of Bosnia and Herzegovina are the best examples of clear competences and regulatory powers in the region.

Competences of the Serbian Securities Commission are governed by the Law on the Market of Securities and Other Financial Instruments (further LMS), Law on Takeover of Joint Stock Companies and Investment Funds Law. Article 220 of the Law on the Market of Securities and Other Financial Instruments categorised the Commission's powers and opened the possibility that the Commission may perform competences set out in other laws which application it monitors. However, in the third paragraph of this Article it is explicitly provided that the Commission exercises the majority of its competences *"as delegated competences"*. This provision reveals that, although the Law itself declared it an independent institution which performs a certain scope of activities, the Securities Commission actually obtained the character of a state administrative body, or a public agency to whom the competent ministry, or the Government, delegates selected competences.

Modern financial regulation is directed towards enlargement of competences of regulatory bodies in terms that they may also decide on issues which are not explicitly put into their field of competence, if it may be justified by the necessity of implementation of regulatory goals. Rising number of capital market regulators, particularly if it is an integrated body, in addition to the authority to issue regulations on enforcement of the law whose implementation they control, in cases when explicitly authorised by law to do so, is authorised to initiate the enactment of laws and other legal acts, as well as to interpret and give opinion on the enforcement of laws which they are in charge of in the process before persons who may show their legal interest. Besides, significant number of regulators enact secondary legal acts in order to prescribe the conditions, manner and procedures for unified supervision within its sphere of action and competences even if they are not expressly authorised by the systemic law to do so.

Regional securities regulators have acknowledged regulatory functions, as the founding laws explicitly determined that in performance of their competences they may enact regulations, instructions, adopt professional guidelines and orders, give opinions and recommendations if required for the interpretation of specified provisions of those laws which enforcement the agency is authorised to control.

In the domain of the regulatory function of the Serbian Securities Commission in the sphere of its legislative competences, it may be observed that there is a misbalance in comparison with the legislative powers of the National Bank of Serbia and the correspondent competences of securities regulators not only in developed EU countries, but also many neighbouring countries, especially Croatian HANFA.

Agencies' regulatory competences are derived from the objectives of regulation, while the Commission derives its competence directly from the provisions of the Law on the Market of Securities and Other Financial Instruments. Because of this, in some cases, such as investigation and sanctioning of the market manipulations, the Commission may not interpret the provisions of the LMS by its secondary legislative acts. On the basis of an explicit authorisation provision of the laws for which enforcement the Commission is in charge, the Commission has enacted several secondary legal acts which interpret selected issues regulated in the Law on the Market of Securities and Other Financial Instruments, Law on Investment funds and the Takeover Law, which may be categorised within the following topics: reporting, issuing of securities, subjects of supervision, investment funds establishment and operation and takeovers.[2]

In addition to the Law on Banks, regulatory function of the National Bank of Serbia is also established by Insurance Law, Law on Voluntary Pension Funds and Pension Schemes, Law on Financial Leasing etc. The Law on the National Bank of Serbia has additionally strengthened regulatory powers of the NBS in comparison with the Securities Commission. Pursuant to this Law, the Ministry competent for finance delivers to the NBS, for the purpose of giving its opinion, drafts of laws and other acts related to the goals and functions of the National Bank of Serbia (Article 72 par. 2); the National Bank of Serbia proposes to the Government to propose to the National Assembly to pass laws which are in

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[2] Available at: http://www.sec.sr.gov.yu

relation with the attainment of the goals and performance of functions of the National Bank of Serbia (Article 72 par. 4).

In the conduct of supervision, securities regulators are authorised to pronounce supervisory measures with the aim to eliminate illegalities and irregularities in the conduct of business of regulated subjects. Failure to comply with the administrative ruling entitles the supervisor to pronounce a new measure accompanied by a pecuniary sentence. The objectives based approach to capital market regulation calls for empowering the regulator to undertake as well the other measures necessary for the elimination of consequences which are result of actions or omissions of licensed subjects and public companies. There is no uniform manner of determination of supervisory measures among laws empowering regional supervisors. Clear-cut provisions may especially be found in Croatian legislation. Legislation in Macedonia, Federation of Bosnia and Herzegovina and Republic of Serpska is also consistent (e.g. Republic of Serpska Securities Commission has broader powers if the damage has occurred or has been clear that it would occur).

Provisions of the Serbian Law on the Market of Securities and Other Financial Instruments which refer to general supervisory measures demonstrate logical inconsistencies of this law with regard to procedural powers of the Commission. Although this and the other laws which enforcement is being monitored by the Commission entitle the Commission to prescribe more detailed conditions and the manner of exercising supervision, the procedure of issuing the order and undertaking of measures, time limits for execution of orders and the duration of measures in its Regulation on the Conditions and Manner of Supervision of Financial Market Participants, the right to introduce new measures and to determine the choice of measures is reserved only for the legislator. Applicable laws which enforcement the Commission monitors also failed to determine precise criteria on the valuation of the seriousness of the infraction.

The existing supervisory measures foreseen by relevant laws in relation to authorised participants are to broad and cumulative, which means that in a specified case the Commission cannot choose the measure which corresponds to the committed infringement or to apply an alternative measure. By this reason in the following revision of the provisions on the general supervisory measures, as well as those directed towards selected regulated participants, these measures should be laid down alternatively and gradually starting from the weakest (written reprimand) to more weighty measures. Therefore the provision on general supervisory measures should be amended, and the legislator should particularly beware of using method of referencing to the other provisions of this Law or other laws which implementation the Commission oversees. It seems not to be sufficient only to amend each article of the law which relates to supervisory measures, but with the aim to achieve its consistency, the powers of the Commission in conducting supervision and pronouncing the measures should be regulated within the special section.

 Laws which give the National Bank of Serbia, as a banking regulator, precise and clear supervisory powers may serve as a good basis. In line with the Basel accord, the Law on Banks has introduced the differentiation based on the capitalisation of banks and has established further restrictions towards these banks, and in the same time clearly determined the character and conditions for imposing supervisory measures. One of the most important powers of the NBS in performance of its control function is its discretionary right, actually the possibility to render the decision on a measure it takes regarding a bank in which operation it established irregularities, according to a discretionary evaluation. However, this discretionary right is limited by the duty to consider several parameters stipulated in Article 120 of the Law on Banks.

In addition to reviewing the existing regime of supervisory measures regarding conduct of business of regulated subjects, Serbian legislator should draw his attention to the shortcomings in procedural powers of the regulator in relation to the specified types of illegalities and irregularities, notably in the domain of prudential control, compliance with the rules on safe and sound conduct of business of financial intermediaries and observance of the professional duties, as well as concerning market abuse. Failing to announce the main goals which the regulator must follow, the LMS renders the Commissions possibility to undertake the appropriate measures in relation to financial market abuses more difficult, owing to the fact that this Law did not allow the Commission closer to determine the abuses,

on the first place the forms of manipulation and accepted market practices. One provision on the prohibition of market manipulation (Article 117 of the LMS), which is limited in comparison with the determination of manipulative practices in the EU law and in the region, is not a sufficient basis for an active conduct of supervision over the business activities of authorised participants.

Sanctioning powers of the Commissions should be more comprehensive not only in relation to broker-dealer companies, stock exchange and the Central Registry, but especially in relation to brokers, investment advisers and portfolio managers which are quite narrowed in the existing Law. This absurd situation that the Commission is obliged to supervise their activities, in the situation when the law failed to prescribe the concrete supervisory measures to be passed upon these subjects, should be remedied as soon as possible. Moreover, the new law which would regulate the market for financial instruments should clearly prescribe criteria of professional duties and the responsibility of financial/investment advisers. Further, the legislator should consider extension of the scope of law to all investment services and activities, and therefore all the subjects which provide investment services and related activities, not only broker-dealer companies and currently regulated financial intermediaries.

Conclusion

Strengthening the operational independence calls for the urgent identification of the main weaknesses of the current status of the Serbian Securities Commission, its regulatory powers and supervisory measures. Not less important problems relate to issues of human resources policy and financial independence.

Scope of the Commission's competences should be enlarged not only using the method of enumeration, but in a functional sense, in line with the recommendations of international organisations, on the first place IOSCO and the relevant legislation on the EU level. In particular, the existing failure in terms of the narrow possibility of sentencing should be corrected, in order to enable the Commission faster to react in case of the violation of the rules of the conduct of business on the capital market.

In order for the competences of the Commission in the domain of monitoring the conduct of business of financial intermediaries to be effective, especially market abuses and protection of small investors, and in general its powers in the sphere of prudential control and the control of legal compliance, it is necessary to introduce to the existing Law on the Market of Securities and Other Financial Instruments numerous modifications or to enrich its provisions with numerous amendments. The best option would be to pass the new law which would particularly determine business standards and the standards of responsibility of financial intermediaries, regulate the provision of investment services and investment activities, more precisely define the forms of abuses on the financial market and in general harmonise national legislation with the relevant EU acquis. With regards to Commission's institutional features, author is of the opinion that a special law specifying goals, authorities, regulatory and supervisory powers as well as its accountability measures should be passed, as in Croatia and Federation of Bosnia and Herzegovina.

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Foreign Direct Investment and Economic Growth: the Role of Domestic Financial Sector

Gradimir Kožetinac[1]

ABSTRACT – The role of foreign direct investment (FDI) has been widely recognised as a growth-enhancing factor in developing countries and transition economies. Most of these countries rely primarily on FDI as a source of external finance because FDI stimulates economic growth more than other sources of capital inflows. There are a variety of channels through which FDI can promote economic growth in the host country. The most important being is technology transfer and spillovers. Recent theoretical and empirical literature suggests that the development of the domestic financial system of the host country is an important pre-condition for foreign direct investment to have a positive impact on economic growth. A well-developed financial system can help to mobilise savings and monitors investment projects, which in turn, contribute to higher economic growth. Particularly, a more developed financial system positively contributes to the process of technological diffusion associated with foreign direct investment. In this paper, we examine the link between foreign direct investment, domestic financial sector, and economic growth, thereby relying on the theoretical and empirical literature. We focused, in particular, on the role of local financial markets and the link between foreign direct investment and growth. The empirical evidence suggest that FDI inflows exerted positive impact on economic growth in the short-run and the long-run if the domestic financial system has achieved a certain minimum-level development. However, the level of development of local financial markets is crucial for these positive effects to be realized.

KEY WORDS: foreign direct investment, financial sector development, economic growth, financial markets, technology spillovers

Introduction

There is a general theoretical consensus among development economists that foreign direct investment (FDI) inflows are likely to play a critical role in explaining growth of recipient countries. FDI inflows in fact represent additional resources a country needs to improve its economic performance and provides both physical capital and employment possibilities that may not be available in the host market. In recent times, the importance of FDI has been taken for granted. As a consequence, the debate among academics and policymakers has shifted from whether or not countries should attract FDI to how countries can attract and reap the full benefits that come with FDI.

Any discernible positive growth effects for FDI occur not so much *via* investment as *via* efficiency or total factor productivity. The impact of FDI depends on a multitude of factors, such as the level of technology used in domestic production in the host country, the level of education of the host country workforce, institutional development, and the level of financial sector (or financial development). All these factors contribute to whether the host country in question can „absorb" and hence benefit from FDI. The last factor- financial development- is very important. If foreign firms introduce new products or processes to the domestic market, domestic firms may benefit from accelerated diffusion of new technology. In other situations, technology diffusion might occur from labor turnover as domestic employees move from foreign to domestic firms. Namely, FDI exerts demonstration, competition, and linkages effects on domestic producers which coax them to invest in upgrading their technologies and practices. This requires, especially for new and potential entrepreneurs who lack internal funds, the

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presence of financial institutions that can provide access to external finance and can better allocate and monitor these funds. The development of domestic financial institutions is also crucial in determining to what extent foreign firms can borrow so as to extend their innovative activities to the domestic economy.

The development of the financial system of the recipient country is an important precondition for FDI to have a positive impact on economic growth. The financial system enhances the efficient allocation of resources and in this sense it improves the absorptive capacity of a country with respect to FDI inflows. The contribution of this paper is to emphasises the role of well-developed financial system plays in enhancing the positive relationship between FDI and economic growth.

The paper is structured as follows. Theoretical framework of FDI inflows and growth is discussed in section 2. The third section emphasises the importance of technological diffusion and the role of FDI, as well as the contribution the financial system can make in this respect. Finally, the fourth section provides a summary and concluding remarks.

Theoretical framework of FDI flows and growth

The economic impact of FDI remains more contentious in empirical than in theoretical studies. The empirical literature on FDI-growth relationship focusing on both developed and developing countries (included transitional economies) . While many studies observe positive impacts of FDI on economic growth, others also reported a negative relationship. Among the main reasons for this controversy remain data insufficiency and methodological flaws. Research that focuses on data from only less developed countries (and transitional economies) has tended to find a clear positive relationship, while studies that have ignored this distinction, or have focused on data from only developed countries have found no growth benefit for the recipient country. The following table shows the chosen results of empirical studies published in the 2001-2006 period.

Table 1. FDI - growth relationship: the results of empirical studies published in the 2001-2006 period

Studies	Sample	Period	Effects of FDI on growth
Nair-Reichert and Weinhold (2001)	24 developing countries	1971-1995	Significant and positive
Campos and Kinoshita (2002)	25 transitional economies	1990-1998	Positive
Choe (2003)	80 countries	1971-1995	Positive but weak
Hermes and Lensink (2003)	67 developing countries	1970-1995	Positive for 37 countries (Latin america and Asia region), for all others no effect
Mencinger (2003)	8 transition countries	1994-2001	Robust negative causal relationship between FDI and growth
Alfaro, et.al. (2004)	Different samples 71 countries	1975-1995	Positive effect. Regression analysis has suggested that FDI is associated with faster growth only in host economies with comparatively well developed financial markets
Hansen and Rand (2004)	31 develping countries	1970-2000	Positive
Li and Liu (2005)	84 countries	1970-1999	Positive
Busse and Groizard (2006)	82 countries	1975-2003	Effect depends on regulations and institutional framework
Lensink and Morrissey (2006)	87 countries	1975-1997	Positive

While there is yet no absolute consensus on the relationship between FDI and growth, there is a growing view in recent years that FDI is positively correlated with growth. Theoretically, this view has

been bolstered by growth theory, which highlight the importance of improvements in technology, efficiency, and productivity in stimulating growth. In this regard, FDI's contribution to growth comes through its role as a conduit for transferring advanced technology from the industrialized to the developing economies. FDI increases the rate of technical progress in the host country through a „contagion" effect from the more advanced technology and management practices used by foreign firms[2].

Theory of foreign direct investment

Theory of foreign direct investment asserts that the basis for such investment lies in the transaction costs of transferring technical and other knowledge. In general, the theory of FDI answers the question as to why a firm would to produce in a foreign location (where indigenous firms have superior knowledge of the local market, consumer preference, and business practices) instead of exporting or entering into a licensing arrangement with a local firm. There are two main reasons why a firm would want to become a multinational one. One reason is to better serve the local market, and the other is to get lower-cost inputs. FDI to serve local markets is often called „horizontal" or „market-seeking" FDI since it normally involves building duplicate plants in a foreign location to supply the market there. The motive is to reduce the cost involved in supplying the market (such as tariffs or transport costs) or to become more competitive in other ways – such as through proximity to the market and being able to respond to changing local circumstances and preferences. FDI in search of low-cost inputs is often called „vertical" or „production cost-minimizing" FDI since it involves slicing the vertical chain of production and relocating part of the chain in a low cost location[3]. Both horizontal and vertical FDI may tend to cluster in a certain location (sometimes reffered to as „agglomeration") perhaps because of linkages among projects, creating incentives to locate close to other firms. An example may be regional groupings of service suppliers. While the distinction between horizontal and vertical FDI is useful, they are not mutually exclusive. At times, we may find one plant serving both functions (Shatz and Venables, 2000).

A firm must be satisfied three conditions to engage in FDI. First, the firm must posses ownership of some firm-specific tangible or intangible asset or skill that gives it an advantage over other firms (ownership advantage). Second, it must be more beneficial for the firm to use or exploit the firm-specific asset itself than to sell them or lease and license them to other firms[4]. Third, it must be more profitable to use these advantages in combination with at least some factor inputs located abroad (locational advantage). Otherwise, the foreign market could be served exclusively through exports.

Three important theories of FDI are: neoclassical economic theory, dependency theory and industrial organization theory. *Neoclassical economic theory* propounds that FDI contributes positively to the economic development of the host country and increases the level of social wellbeing. The foreign investors are usually bringing capital in to the host country, thereby influencing the quality and quantity of capital formation in the host country. The inflow of capital and reinvestment of profits increases the total savings of the country.

Dependency theory argues than at foreign investment from developed countries is harmful to the long-term economic growth of developing nations. It asserts that First World nations became wealthy by extracting labour and other resources from the Third World nations. It further argued that developing countries are inadequately compensated for their natural resources and are thereby sentenced to conditions of continuing poverty.

According to the *industrial organisation theory*, FDI represents not simply a transfer of capital, but the transfer of a „package" in which capital, management, and new technology are combined (Hymer,

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[2] This contagion or knowledge diffusion (often referred to as externalities or efficiency „spillovers") can lead to improvements in productivity and efficiency in local firms.

[3] Vertical FDI also encompasses what is commonly called „raw material-seeking" FDI since the inexpensive input could be primary commodities or raw materials in a specific location.

[4] For instance, the firm-specific asset might be a brand name or a nonpatentable technical/managerial skill or process, which the firm might find in its interest to keep internally instead of licensing (internalization)-in order to prevent the asset from being replicated by competitors.

1976). FDI is more than a process by which financial assets are exchanged internationally and involves international production. Caves (1971) and Kindleberger (1984) extended the industrial organisation theory of FDI by emphasising the behaviour of the firms that deviate from perfect competition as the determinants of FDI. They are of the view that in comparison to the domestic firms, multinational corporations (MNCs) face a number of problems such as geographical distances in managing enterprises, linguistic, and cultural barriers. When a firm undertakes FDI in a foreign country, it must posses some special ownership advantages over domestic competitors (marketing and management skills, patent-protected superior technology, cheaper source of financing). FDI entails a cross-border transfer of a variety of resources, including process and product technology, managerial skills, marketing and distribution know-how, and human capital[5].

Therefore, the new growth theories (unlike the neoclassical growth theory) focused on the creation of technological knowledge and its transmission: innovation and imitation efforts that respond to economic incentives are considered to be a major engine of growth. It emphasises the role of research and development (R&D), human capital accumulation, and externalities.

Models of growth

Neoclassical models of growth as well as endogenous growth models provide the basis for most of the empirical work on the FDI-growth relationship. The relationship has been studied by explaining four main channels: (a) determinants of growth, (b) determinants of FDI, (c) role of multinational firms in host countries, and (d) direction of causality between the two variables. As opposed to the limited contribution that the neoclassical growth theory accredits to FDI, the endogenous growth literature points out that FDI can not only contribute to economic growth through capital formation and technology transfers, but also do so through the augmentation of the level of knowledge through labor training and skill acquisition (De Mello, 1997, 1999). In the framework of endogenous growth models, three main channels can be detected through which FDI affects growth. First, FDI increases capital accumulation in the receiving country by introducing new inputs and technologies. Second, it raises the level of knowledge and skills in the host country through labor and manager training. Third, FDI increases competition in the host country industry by overcoming entry barriers and reducing the market power of existing firms (Dunning, 1993).

De Mello (1999) has pointed out that the impact of FDI on economic growth is expected to be two-fold. First, growth is achieved through capital accumulation in the host country. The inflow of FDI may increase the stock of domestically available physical capital and thus the economic growth of the recipient country. In this case, the increase of physical capital thorough FDI might have only transitory impacts on the economic growth of the recipient country. This theoretical argument is based on the premise that FDI complements domestic investment.

Next to the direct increase of capital formation of the recipient economy, FDI may also help increasing growth by introducing new technologies, such as new production processes and techniques, managerial skills, ideas, and new varieties of capital goods (spillover effects). The one principal characteristic of FDI that distinguishes it from other sorts of capital flows is its ability to transmit technology and know-how, broadly defined to include managerial and marketing know-how.The growth rate of developing countries is perceived to be highly dependent on the extent to which these countries can adopt and implement new technologies available in developed countries. One important channel through which adoption and implementation of new technologies and ideas by LDCs may take place is FDI. FDI promotes technology spillovers that constitute the major contribution of FDI to development.

There are several channels through which such spillovers occur. The spillover may take place through **demonstration** or **imitation** channel. Spillovers through the demonstration channel emphasises that technologies used by foreign firms are more advanced than those used by domestic firms, and that these domestic firms may imitate the newer technologies, which will make them more productive.

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[5] Erlier theorists neither calculated the benefits and costs of technology transfers, nor analysed their impacts on a host country via spillover effects.

Therefore, the imitation channel is based on the view that domestic firms may become more productive by imitating the more advanced technologies or managerial practices of foreign firms (the more so the greater the technology gap). In the absence of FDI, acquiring the necessary information for adopting new technologies is too costly for local firms. FDI lowers the cost of technology adoption and may expand the set of technologies available to local firms.

Another type of channel (referred to as *competition* channel) occurs when local firms are forced to use existing technology and resources more efficiently, or to search for more efficient technologies, because the entrance of foreign firms has increased competitive pressure in the local market. The spillover may take place through effect of *training* channel. The training channel arises if the introduction of new technologies requires an upgrading of domestically available human capital. New technologies can only be adopted when the labour force is able to work with them. The entrance of when an affiliate demonstrates new techniques to and trains local workers, who later accept employment in local firms or star foreign firms may give an incentive to domestic firms to train their own employees. If labour moves from a multinational to a local firm (through labour turnover), the physical movement of workers causes knowledge to move between firms. Finally, spillovers can occur through **linkages** channel. The linkages channel stresses that foreign firms may transfer new technology to domestic firms through transactions with these firms. By purchasing raw materials or intermediate goods a strong buyer-seller relationship may develop that gives rise to technical assistance or training from the foreign firm to the domestic firm.

The adoption of new technologies and management skills requires inputs from the labour force. High-level capital goods need to be combined with labour that is able to understand and work with the new technology. Therefore, technological spillover is possible only when there is a certain minimum, or *threshold* level of human capital available in the host country[6]. This suggests that FDI and human capital are complementary in the process of technological diffusion.

The message of all this is clear. Externalities or spillovers of technology are significant sources of growth and technical change, and FDI is a major *engine* of such spillovers. Increased volumes of FDI alone, however, are unlikely to generate widespread spillovers. In the absence of the necessary ingredients and cooperant factors such as local R&D and human skills, spillovers from FDI may be limited. Foreign direct investment is a catalyst of technical change and growth. It cannot be expected to be the prime mover. The absorptive capacity of the host country affects the volume and type of FDI inflows[7].

Foreign direct investment and domestic financial sector

While many studies observe positive impacts of FDI on economic growth, others also reported weak support for an exogenous positive effect of FDI on economic growth. Findings in latter studies indicate that a country's capacity to take advantage of FDI externalities might be limited by local conditions, such as the development of the local financial markets or the educational level of the country, i.e., absorptive capacities. In an effort to further examine the effects of FDI on economic growth, economic research of many economists emphasize the role of financial institutions in this process.

Almost a century ago, Schumpeter (1912)[8] recognized the importance of well-developed financial intermediaries in enhancing technological innovation, capital accumulation, and economic growth. It can be argued that well-functioning financial markets by lowering the costs of transactions, ensures that capital is allocated to the projects that yield the highest returns, and therefore enhances growth rates. Well-known early protagonists of this view include Goldsmith (1969), McKinnon (1973), and

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[6] Borensztien, De Gregorio, and Lee (1998) show that FDI brings technology, which translates into higher growth only when the host country has a minimum threshold of stock of human capital.

[7] The type of FDI depends on institutional factors, such as, the recipient country's trade regime, legislation, political stability and scale factors, such as balance of payment constraints and the size of the domestic market for goods produced through FDI.

[8] Schumpeter, Joseph A. (1912), „Theorie der wirtschaftlichen Entwicklung (The Theory of Economic Development), Leipzig: Dunker and Humbolt (translated by Redvers Opie, Cambridge, Massachusetts: Harvard University Press, 1934).

Shaw (1973). The development of financial markets is necessary and sufficient to foster the adoption of best-practice technologies and learning by doing process. Limited access to credit markets restricts entrepreneurial development.

King and Levine (1993a, 1993b, 1993c) and Levine (1997) re-established the importance of efficient financial markets. Apart from having a first order impact on growth, financial development also affect other aspects of economic development. Financial development can make foreign aid work better for aid recipient countries[9]. An agreed view of the functions of financial development identify the following functions: (1) channelizing resources efficiently, (2) mobilizing savings, (3) reducing information asymmetry problem, (4) facilitating trading, (5) hedging, (6) pooling and diversification of risk, (7) aiding the exchange of goods and services, and (8) monitoring managers by exerting corporate control.

The work on endogenous growth model has focused the role of domestic financial sector as a mechanism in transferring the technology level between international capital inflows and economic growth. A well-developed financial system may contribute to economic growth through two main channels. On the one hand, it mobilises savings, which may increase the volume of resources available to finance investment. One the other hand, it monitors investment projects, lowering information acquisition costs and increases the efficiency of on going projects[10].

Alfaro, Chanda, Kalemli-Ozcan and Sayek (2004), Durham (2004), and Hermes and Lensink (2003) provide evidence that countries with better financial systems and financial market regulations can exploit FDI more efficiently and achieve a higher growth rate. These studies argue that countries need not only a sound banking system, but also a functioning financial market to allow entrepreneurs to obtain credit to start a new business or expand an existing one.The deeper financial systems absorb capital inflows such as, equity foreign portfolio investment, and even FDI more effectively especially in the case of fungible flows. Thus, we may concluded that a well-functioning financial system promotes higher economic growth by absorbing the benefits embodied in the foreign capital flows, especially in the form of FDI.

Alfaro, et.al. (2004) examine whether economies with better-developed financial markets are able to benefit from FDI to promote their economic growth. These authors found that although FDI alone plays an ambiguous role in contributing to economic growth, having well-developed financial markets alters the results significantly. They found, too, that this result holds true even after controlling for a large number of other variables that have significant influences on economic growth and also after addressing concerns regarding endogeneity. If entrepreneur adopts new technologies made available by FDI, then the absence of well-developed financial markets limits the potential positive FDI externalities. The economies with well-developed financial markets are able to benefit more from FDI in promoting their economic growth. An improvement in the efficiency of the domestic financial sector tends to reduce the threshold level of entrepreneurship. This implies that an improvement in the efficiency of the financial sector increases the social marginal product of FDI.

The better financial markets can enhance the effects of FDI on output. In practice, financial markets affect both the financing of investment and day-to-day business activities. Hence, well-efficient domestic financial markets encourage entrepreneurial activities and output. Consequently, it attracts more FDI.

The financial system in general and specific financial institutions in particular, may help to reduce risks associated to upgrade existing technology or adoption of new technologies introduced by the firms. Thus, the financial institutions positively affect the speed of technological innovation, thereby enhancing economic growth. The technological spillover can take place when domestic firms are willing to invest in order to upgrade their own technology or adopting new technologies based on demonstration effect, competition effect, linkage effect or training effect. Hermes and Lensink (2003) investigate the association of FDI and growth and argue that the development of the domestic financial system of the recipient country is an important precondition for FDI to have positive impact on economic growth. They have come up with several justifications as to why a developed financial system

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[9] See, Nkusu and Sayek (2004).

[10] For detailed discussion, see Levine (1997).

should have a positive impact of FDI. A developed financial system mobilizes savings efficiently which, in turn, expand the amount of resources available to finance investment. Also, it filters and monitors investment projects by reducing information acquisition costs. Financial development also speeds up adoption of new technologies by minimizing the risk associated with it. With developed financial infrastructure, the foreign firms are able to judge how much they can borrow for innovative activities and are able to make ex-ante planning about their investments[11]. Financial development also increases liquidity and, thus, facilitates trading of financial instruments and timing and settlement of such trades (Levine, 1997). This will also lead to greater FDI inflows as the projects can be undertaken with lesser time being spent in settling the trades.

The association between financial development and FDI inflows is positive after a threshold level of financial development is reached[12]. Better financial institutions attract greater foreign capital. But, for significantly higher levels of financial development, the impact is negative. Once the country reaches substantially higher levels of financial development, lesser and lesser foreign investment is needed to boost the economy. Domestic investment is adequate to sustain and pace up the growth rate of such economies.

Although most FDI relies on capital from abroad, it is important to recognize that the spillovers for the host economy might crucially depend on the extent of the development of domestic financial markets. There are different ways in which financial markets matter. The spillovers are restricted to only cost-less improvements in the organization of the workforce. In particular, to take advantage of the new knowledge, local firms need to alter everyday activities and reorganize their structure, buy new machines, and hire new managers and skilled labor. Although some local firms might be able to finance new requirements with internal financing, the need for external finance is obviously: the greater the technological-knowledge gap between their current practices and new technologies, the greater the need for external finance. However, in most cases, external finance is restricted to domestic sources. Furthermore, the lack of financial markets also can constrain potential entrepreneurs. This is especially true when the arrival of an entirely new technology brings with it the potential to tap not just domestic markets, but export markets.

Well-functioning stock markets, by increasing the spectrum of sources of finance for entrepreneurs, play an important role in creating linkages between domestic and foreign investors. The interaction between financial markets and growth has been studied extensively and has reached positive conclusions – namely, that well-developed financial markets promote economic growth. The theoretical framework has been well established in the literature with supporting evidence at the country level reported in the empirical studies such as those of King and Levine (1993a, 1993b) and Beck, Levine and Loayza (2000). King and Levine and Beck, et al., suggest that financial systems are important for both productivity and development. In an analysis of the roles of different types of financial institutions, Levine and Zevros (1998) show that stock markets and banks provide different services, but both stock market liquidity and banking development positively predict growth, capital accumulation, and productivity improvements. At the level of economic subjects (firms), Rajan and Zingales (1998) found that the state of financial development reduces the cost of external finance to firms, thereby promoting growth. Wurgler (2000) shows that even if financial development does not lead to higher levels of investment, it seems to allocate existing investment better and hence promotes economic growth.

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[11] It is argued that multinational corporations transfer modern technology and know-how to their foreign affiliates may depend on capacity to absorb FDI, openness to trade and institutional development of the host country. The other factors such as rule of law, the degree of corruption, the quality of public management, the protection against property rights infringements and discretionary government interference is also very important in attracting FDI [Nunnenkamp and Spatz (2004)].

[12] Overall financial development and FDI have a concave relationship. At very low levels of financial development, the relationship becomes ambiguos. For such levels of financial development, firms suffer from constrained cash flows and, thus, cannot attract greater FDI inflows. The relationship is ambiguous in the sense that FDI inflow occur due to factors other than financial development (see, Rioja and Valev, 2004).

Conclusions

FDI can affect growth in two ways, directly, by increasing the amount of physical capital by bringing new inputs and technologies to the recipient economy, and indirectly by human capital augmentation, *via* technology or knowledge transfers. Therefore, through both channels, FDI is a crucial factor of technology diffusion in the host country. The volume and type of FDI and its impact on the host economy may depend on country-specific characteristics, such as the host economy's trade regime, legislation, political stability, and its scale factors such as balance of payments constraints, the size of domestic market for goods produced *via* FDI, etc.

There exists a wide body of empirical literature which tries to explain the FDI and GDP relationship. The human capital seems to be an important factor that allows the host country to benefit from positive knowledge spillovers that result from the presence of FDI. Another strand in the empirical literature investigates the relationship between FDI and growth underlining the importance of well developed financial markets in the recipient country. In the previous century Schumpeter recognized the importance of well-developed financial intermediaries in enhancing technological improvement, capital accumulation, and economic growth. The Shumpeterian tradition has been reviewed in the recent empirical studies that devote a lot of attention to the interaction of financial markets in searching for the influence of FDI on economic growth. The findings of these studies provides supporting evidence that a well-developed financial sector can represent a source of comparative advantage for the country, having better ability to absorb the positive impact of FDI and promoting economic performance. In other words, FDI promotes economic growth in economies with sufficiently developed financial systems. Secondly, developing countries (and economies in transition) are unable to reap the benefits of FDI inflows in the absence of development of domestic facilities such as infrastructure, financial system evolution, human capital development and macroeconomic stability cannot take place. Finally, a host country can influence the technological change through extending its absorptive capacity by further promoting financial sector reforms to gain sustainable economic growth and make productive use of FDI inflows. This implies that to take the advantage of positive interaction between FDI and growth, one should liberalise the economy particularly, stimulate financial sector development in the economy.

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Competitiveness in Banking Sector of Serbia[1]

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ABSTRACT – As a positive effect of implemented macroeconomic reforms of financial system of Serbia, Serbian banking sector, according to solvency criteria, is visible in comparison to neighboring countries. Regulative reforms of this sector were primarily directed at acquisition of foreign investors and competitive climate. This paper examines and evaluates current level of internal competitiveness of banking sector in Serbia. Based on many earlier researches, carried out by official competent institutions, the paper presents a number of tables aimed at presentation of current market structure state and mentioned sector services. The greatest part of this paper is dedicated to the analysis of the data in the context of determination of banking market internal competitiveness factor and evaluation of conditions in Serbian banking according to given criteria. In accordance with conclusions of already mentioned analysis, as well as short comparison with structure of banking sectors of neighboring countries, the general conclusion is that banking market competitiveness in Serbia is still at very low level. From the aspect of banking services expansion, the banking sector of Serbia still has a chance for development and improvement, thus, it has great investment potentials. The last part of the paper comprises the short view of possible directions of further development of banking sector in Serbia.

KEY WORDS: banking sector, competitiveness, development, reform

Introduction: the history of banking sector of Serbia

Key words to describe the state of financial system in socialist countries would be: oligopoly, inexistence of profit driven business and bad and unqualified management; so, two facts and one assessment (which could be argued easily). Financial system in centrally planned economies, the Central bank and few commercial *state owned* banks, had a very simple role to allocate the financial resources as it was established by the *plan* and no member of this system functioned independently. Loans have been approved to (state/socially - owned) enterprises with negative interest rates without any verification and/or valuation of their credit ability. Besides this, in case of foreign loans, banks took all the risk to themselves. On the other hand, (centrally planned) prices, artificially kept at very low level, have not stimulated the production, so the huge business losses appeared; they were, again, absorbed by the banks relying on the monetary emissions. Liberalization of the market in the 80's and 90's has faced most of the state/socially – owned enterprises to bankruptcy but despite to this, they would continued their business since their closing would present a huge social loss. Survival of these enterprises was provided by loans or money emissions. In this way, banking system, once again, absorbed all the economic loss and the notion of «bankruptcy» was left aside to wait a period of transition.

However, the thing that certainly separates the history of Serbian banking system, in comparison to the other ex socialist economies, is the ill-fated period of the 90's when this system had been «reformed» to even worse state. In the years of 1992/93, the Low on banks and other financial institutions and the Low on Central Bank were established. New institutional framework had not abolished soft budget constraints nor sanctioned adequately illiquidity, and the notions of financial and banking systems were practically synonyms. In 1992 the foreign-currency savings was frozen, the record hyperinflation

was recorded (both in this and in the year that follows), banks with so-called pyramidal savings first emerged so they would be very fast shipwrecked altogether with the savings. The five large state-owned banks dominated the market, doing business mostly in the service of politics, and besides them, the unbelievable number (in comparison to the economies of similar size) of small state and privately owned banks, of which majority was insolvent, functioned (by the end of 2000 there were 82 of them). So in this way, new Government in 2000, aside with unreformed and dysfunctional banking system with huge losses, faced as well the reflectivity and distrust of the citizens and industry in the banking system.

Despite of specific past and time delay lag of about ten years, the reform of banking sector in Serbia had followed the similar path as in the other economies in transition. The common factor of the re-forms, in all Balkan countries in transition, is gradualism. Every single one country avoided radical changes of theirs financial systems so they liberalized financial markets and stimulated autonomy of the commercial banks leaving the mono-banking system little by little. Many researches have shown that the key element of the reforms in banking systems of these countries was ownership.

The year of 2001, when the Government approved the strategy for recovery of the banking system, is considered as the start up year of (true) reforms in Serbia. This was the foundation for categorization the banks in four groups based on their solvency, liquidity and profitability. In the following year the Low on bankruptcy was established according to which four largest state-owned banks (Jugobanka, Beogradska Banka, Beobanka and Investbanka) were put down, while the others were merged or re-mained under supervision until their final privatization. In 2001 the entrance of foreign banks to the banking market of Serbia was enabled, in order to encourage the competition, and the first foreign banks that penetrated the market (in the same year) were Raiffeisen and HVB. The low of Central Bank was improved with the amendments which enabled functioning of these institutions in the proper range. In the years that come, an intense privatization of the banking sector has been continued as well as the stimulation of the internal competitiveness and working to gain trust back from the citizens in this sector.

Evaluation of banking sector position in Serbia

Banking sector transformation in Serbia stated in 2001. Since that period, when on Serbian market was existing more than 90 banks; Serbian banking system has been passing through deep changes. Privati-zation, foreign investors entering, sophisticated technology and methods implementation caused ca-pacity, profitability and productivity growth of national banking. Upon the finished restructuring and rehabilitation process, the banking sector has become the most dynamic and the most important seg-ment of Serbian financial market.

Chart 1. Financial Sector Structure in Serbia (u %)
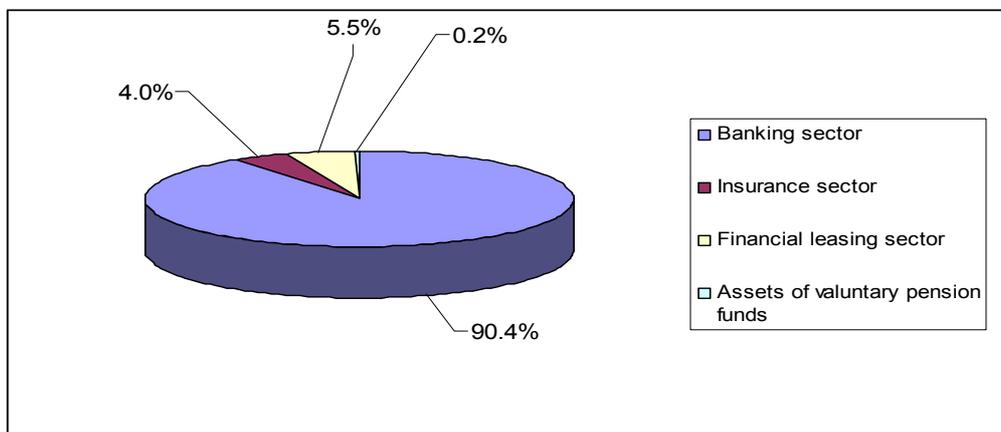
The national banking system, upon the years of reforming changes, in the recent years is transformed obtaining the properties and attributes of developed economies banking sector. In relation to year 2000, the number of banks is seriously decreased. According to National Bank of Serbia report concerning the second quarter of 2008, the banking sector of Serbia comprises 34[4] banks with 2.564 business units, subsidiaries, branches, desks, agencies and exchange offices, which represent 129 more in respect to the end of 2007, and 406 in comparison to the end of 2006.

Constant decreasing of banks number on our market was accompanied by bank services distribution network enlargement and a number of employees growth in banking sector. In the period 2003-2008 the number of bank's units is increasing by average annual rate of 11.84%.Banking sector in Serbia in 2008 counts on 31.331 employed persons that is 1.4 times more in respect to 2003, namely, in year when banking sector comprised 47 banks.

Table 1. Banking Sector in Serbia (2003-2008)

	2003	2004	2005	2006	2007	2008
Number of banks	47	43	40	37	35	34
Number of organization units	1465	1709	1867	2158	2435	2564
Number of employees	22310	23463	25680	28092	30246	31.331

Source: *National Bank of Serbia*

The top players on Serbian banking market, counting on 75% participation on balance amount, are the banks majority owned by foreign shareholders. Five banks of major balance amount, over 100.000 billions Dinars have market share of 46.2%. Concerning the balance assets, the major market share of 11% pertain to Banka Intesa, the second position belongs to recent leader, Raiffeisen bank, then Hypo Alpe/Adria/Bank, Komercijalna Banka and Eurobank EFG. The greatest progress, according to monitored indicator, last year realized AIK Banka.

Bank's financial sources review points to banks credits in foreign countries decrease, which in context of credit expansion, leads to conclusion that stable financial sources banks can find, to great extend, at domestic deponents, and that deposits have an important role in financial source structure.

In second quarter of 2008, banks' deposit potential amounted 984.302 millions dinars. In comparison to first quarter 2008 results, currency potential is decreased for 2.6 billions Dinars. Share of 47.4% in total deposit potential and realized growth of 38.8 billions Dinars in respect to year 2007, besides the growth of 9.37 billions Dinars comparing to first quarter 2008, the citizens' deposits have the dominant position regarding deposit structure. The population in first months of 2008 was very economic, depositing foreign currency into national banking system

The population saving growth, refinancing and banks' borrowing abroad impacted to banks' credit activities reinforcement. The banking sector credit activity in 2008 concerning the previous year is increasing for 109.9 billions Dinars that is, 4.7% respecting the monitored year first quarter results. The structure of banks' placement implies the major placements in industry, contrary to year 2007, when placements to industry and citizens, concerning the growth rate, were equal. In the period 2006/2008, it was noticed the placement to citizens increase, particularly regarding the expansion of credits for individual housing construction. Placement share of individual housing construction is permanently growing, from 8.7% share in 2006, its participation has achieved 13.1% (2008). If uncontrolled credit expansion trend in Serbia will be continued in the future period, the consequences could be severe, such as companies and citizen's overdebtness, and considerable inflation growth.

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[4] 20 banks majority owned by foreign shareholders, 6 majority owned by domestic physical and legal persons, 8 majority owned by government.

Chart 2. Banking Sector Activities in Serbia (year 2008)
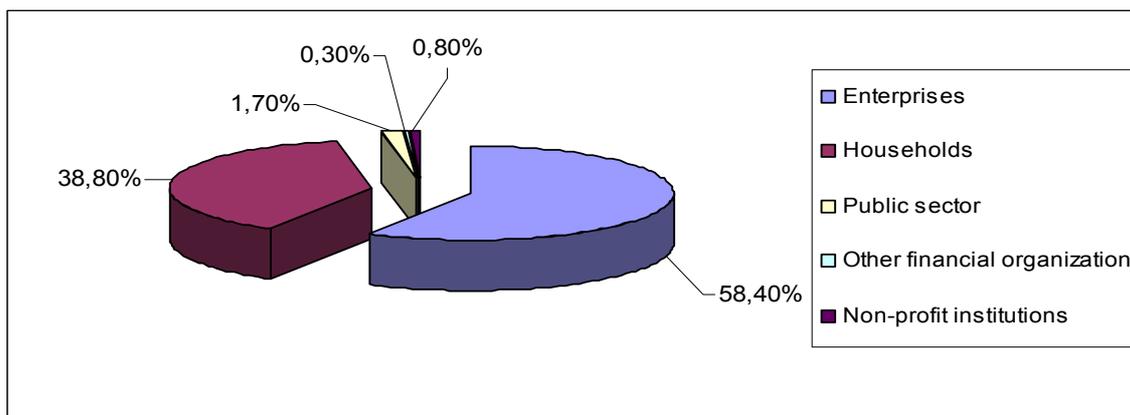
The Balance amount of banking sector in second quarter 2008 was for 2.1%, or 33.6 billions Dinars was higher respecting the one at the end of first quarter of the monitored year. The last three years exhibit assets balance growth tendencies. The total banking sector assets growth is noticed not only in Serbia, but in all other countries of the region. Such a positive trend is, at first place, the subject of great demand for consumer and individual housing construction credits, as well as the credits to small and medium enterprises, which started to present the considerable part in banks' financial results.

Chart 3. Individual loans in GDP percentage concerning GDP per capita in EUR for 2007
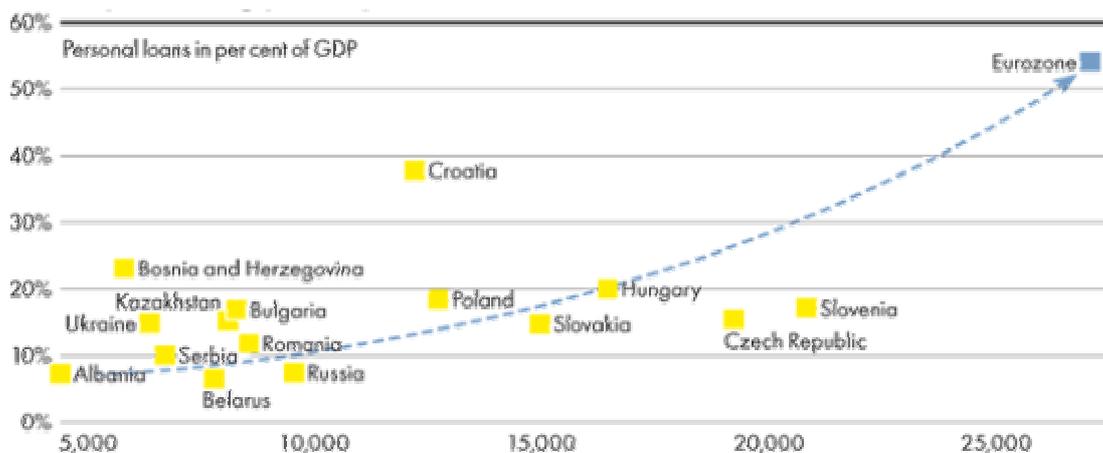
Source: *Annual report, Raiffeisen research*

In recent years banking in Serbia did not suffer profitability problems. The same trend is continued in 2008. For the first quarter 2008, the banking sector presents profit of 11 billions Dinars, consequently reaching the record of 20.9 billions Dinars for the first six months. The financial results for the first six-month period achieved the new record of 20.8 billions Dinars. The financial result of the first six months is equal to banks' realized profit in last year.

The conclusion could emerge that during the banking system reforming in Serbia, the great stress was pointed to competition strengthening, resulting in increased market concentration, foreign banks domination and, ultimately, interests decrease, as a consequence of competitiveness and system risk attenuation. The efficiency and stability ob Serbian banking system is growing year by year, and vulnerability is increasing. Despite expressed expanding of banking sector, the main deficiency, as recorded, is the financial sources and placement term disharmony.

Competitiveness of banking sector in Serbia

One of the basic principles of banking system reforming in Serbia is competitiveness reinforcement in this sector. Notwithstanding the fact that this market in Serbia is still in developing phase, the banks are mutually in severe competition. They are fighting for lower interest rates, each customer, both among industries and population, as well as quality human resources which, considering all the history of Serbian banking system, are very poor.

Intensive competitive struggle in progress simultaneously with decreasing the number of banks on our market caused increasing credit offer. Wide banks' organization network is indicating evidently the competitiveness of this sector.

Banking sector in 2008 is for 129 units (business units, subsidiaries, branches, desks, etc.) richer in relation to previous year. The process of opening new desks, branches, etc begun in 2003, when banking sector counted on half of that number. The average organizational units *per* bank in 2008 are 75,4 units. The number of customers *per* bank unit is decreased considerably by extending banking network. According to mentioned competitiveness indicators, banking market in Serbia is becoming similar to neighborhood markets, even to some developed countries in Europe. Concerning the fact that simultaneously by increasing the number of banks, the banking network enlargement trend is evident, it could be noticed that our market still suffer lack of banking services, while the banks express their desire to meet the market needs.

Finally, after the years of current payment instruments lack, contemporary Serbia has the banking system capable to respond to growing industry and individual needs, even E-banking transactions included. The capacity of Serbian banking system regarding branch density is approaching to EU average. In the years of 2004/2007 the number of ATMs is growing for 360%. The average annual ATMs growth rate, in that period, arose to 66,4%. Besides the ATMs number increase, the same period notice the ATMs rates *per* branch, annual transaction number, money transfer per ATM, POS terminals number, and their turnover volume.

Table 2. Number of ATM, transactions and total turnover

Year	Number of ATM	Number of ATM per branch	Annual number of transactions per ATM	Turnover per ATM in din	Total turnover in billions din
2004	450	0,26	12.675	44.808.889	20.164
2005	837	0,46	15.697	62.136.201	52.008
2006	1.348	0,62	18.774	80.876.855	109.022
2007	2.074	0,85	17.263	79.777.242	165.458

Source: *National Bank of Serbia*

The banks' efforts to go on with spreading the organizational network and bank services are the important proof that banking market potentials and competitive advantages are not exhausted to their maximum. The banking market in Serbia is still very investment attractive, therefore, in days to come, it could be expected the entrance of new players and competitive struggle intensifying. The competitive struggle reinforcement on banking market is positive, particularly for bank's service customers. The wider market space pretensions force existing banks to constant service adjustment creating the attractive and harmonized interaction in accordance with customers' needs and requirements.

The essential indicator of market competitiveness is sector profitability. Concerning balance data, the banking sector in 2003 realized the loss of 1.06 billions Dinars. The similar situation happened in 2004, when the loss was 4.99 billions Dinars. Owing to ownership, technology and management transformation of banking sector, the negative tendency is restrained, and this sector in last years records positive financial results. The nominal profit in 2007 was almost double (42%) in respect to previous year. In 2008 (second quarter) the banking sector realized the income of 20.9 billion dinars.

Chart 4. ROA and ROE bank profitability indicator in Serbia
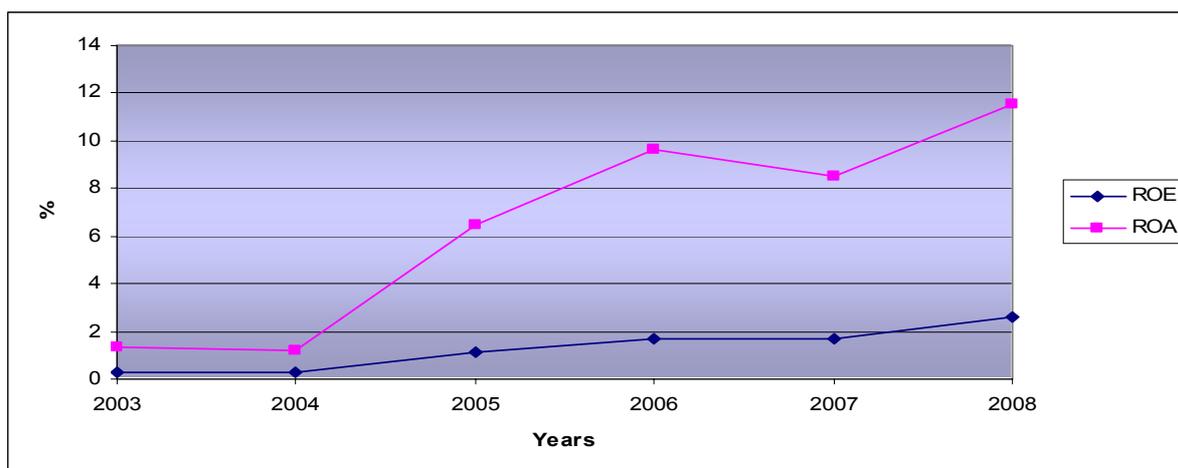
The main cause of profitability trend in banking sector could be considered the credit expansion, especially in citizens sector. In general, all the profitability indicators have the positive trends, except moderate growth of operative expenditure coverage deducted from balance assets from 2007 and 2008. It is interesting to stress the significant share growth of net interest income in balance assets comprising the same years. However, the noticed is the continuing sector efficiency growth trend, beginning from 2007; the operational expenditures coverage by net interest and tax income is significantly decreasing this year, too, although during the passed years the banks have been realizing intensive operational expansion.

Despite the considerable transition realized in profitability coefficients, should be added that achieved results are lower to certain extent in relation to other countries from our neighborhood.

The competitiveness on Serbian bank market in future period will be significantly determined by entrance barriers. The extremely restrictive monetary policy was the greatest regulatory barrier of entering our market. Concerning current events on global market, the hypothesis is that the restrictive monetary policy would be the main tool of banking sector stability protection in days to come. The continuous increase of referent interest rates distress the new players entering and decrease the credit activities of existing banks. Besides the restrictive monetary policy, the barrier role can play other factors, such as: instable business atmosphere, inadequate legislation policy, language and cultural difference, economy developing level, information technology, etc.

Conclusion: future perspectives of banking sector of Serbia

Large financial crises that hit world's economy will most certainly influence macroeconomic stability of Serbia, especially its banking sector. Global financial crisis is mostly due to the overspendings, first of all in mortgage market, especially in the USA and in Western Europe. Nevertheless, in this region the opinion of experts does not comply. Certain number of analysts forecasts very difficult period for Serbia. Recession, according to theirs opinion, could slow down the economy and its development in almost every segment, as well as the banking sector. Dynamical growth of banking sector will be disturbed by large scale of factors emerged as a result of global crises. The interest of foreign investors to invest in our economy will be increased; capital will be more expensive, interest rates significantly higher.

Analysts, with the opposite attitude, claim that the influence of global crises on our market, as well as on the markets in Central and Eastern Europe, will be limited. According to their opinion, banking sector in this region is very liquid with a strong deposit base so it is too pessimist to talk just about the negative consequences of the international crises. Yet, the assumption is that it is possible to expect slower growth of the real economy and as its effect slower growth of banking sectors due to the lim-

ited liquidity on the global market and the increase of the prices of capital. According to their opinion, the concernment of Serbian citizens regarding the money invested in banking sector as well as the over panicking that has been present over the last few months, is more than unjustified, considering the fact that the deposits are secured and covered by the liable reserves within the Central Bank of Serbia.

For the economy and the citizens, current situation most certainly demands higher state of caution and deeper analysis before the eventual decisions to invest, or to indebt further.

The issue that certainly represents the bad side of financial system in Serbia is a disproportional development of banking sector. Alternative financial sources are minimized which increases costs of banking services. For the enterprises this means domination of self financing, whereby no company with high potential growth cannot rely just on that, which most certainly puts the question mark on the long run. An inadequate development of capital market also additionally complicates the situation. However, the changes in regulatory framework, first of all regarding the possibilities for investment funds to function, most certainly represent a positive step forward towards solving problem of over bank position in Serbian financial system.

Current competition in banking sector is most certainly high which could be observed based on tendency of the banks towards riskier loans and the portion of NPL in the sum of loans. But, this is just the beginning and the place for further development of competition in this system most certainly exists. Interest rates are still relatively high and the demand is large. So fur, banks have been relying their business dominantly on the citizens (consumer and mortgage loans) but completed the privatization in this sector and re-approval of license for Greenfield investments, which means penetration of our market by large global banking systems, a growth of the portion of economy in banks' assets could be expected. The enterprises are still skeptical regarding long run loans and most certainly large number of them doesn't have adequate business history based on which they could apply for loans. By improving competition in the financial market in general, these problems should be overcome spontaneously.

The fact that most certainly aggravates and complicates continuance of the reforms in Serbian financial sector, within the whole banking system as well, is the current global financial crises. Though the optimists claim that it is possible to even find an opportunity within this crises (?!) and/or that Serbia will not feel the consequences, and the pessimists claim that the Serbian economy in general will almost collapse, most probably the truth is somewhere in between. By restrictive monetary and fiscal politics, Serbia can mitigate the consequences of the crises and relative insensibly survive it. The fact that could be observed even now in banking sector of Serbia, as a reaction to the crises, is the Government's resolution – increase of the guaranties on the citizens' saving in foreign currency (to 50.000 e), the decision of the Central Bank – increase of the referent interest rate. The growth of referent interest rate consequently decreases the volume of credits and in the same time the possibility to indebt in international financial market decreases. The decrease of foreign investments, meaning the decrease of foreign currency inflow, also complicates the functioning not only of the banks but initiates the slowing down of the economic growth. Also, some of the banks calculated that the flow of Swiss frank is very unpredictable at the moment, so they withhold loans in this currency. However, dramatic consequences of the global financial crises are beyond measure to expect in Serbia.

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Global Financial Meltdown: What Went Wrong, What Is Still Going Wrong and What the Consequences Will Be?

Marko Malović[1]

ABSTRACT – Current international financial crisis of apparently unprecedented scale (ever since the Great Depression of 1929) could have been spotted from afar and should have been nipped into a bud as early as in 2002! Global political and financial elites are not unable to find the solution to it, they are simply unwilling to identify the problem. The IMF and the BIS once again proved to be useless in their own professional backyard, since it was and still is politically incorrect and financially unremunerative to do so. Crisis has been amplified by sky-rocketing food and oil prices, lax regulation of credit derivatives and cheap-money policy worldwide, but essential culprit of this latest global distress is the greed of the international financial community that spawned fancy asset-backed securitized monsters, which came in too many guises and ultimately got out of hand. Financial mutation brought about jitters of illiquidity across the industry and likely return of depression economics. The paper deals with ill-suited handling of the crisis and probably dire consequences for both the present financial architecture in the economic centres and the future of developing countries at the periphery.

KEY WORDS: subprime crisis, speculative bubbles, credit derivatives, SPVs, boom bust cycles, bailout packages, countercyclical expansion, (de)regulation, recession, global financial reforms, developing countries

> *"This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of beginning"*
> *-W. Churchill-*

> *"We are both always and everywhere better off not dealing in lemons at all – because what goes around comes around."*
> *-U. Haque-*

Introduction

This what we're going through is the fifth global financial crisis in the last three decades,[2] and by far the biggest one after WWII. According to the IMF, immediate and direct losses in the form of balance sheet write-offs amount to 1.45 trillion $ [IMF, 2008] and rising while investment bodies are still being counted throughout the world financial centres. Massive bailout schemes earmarking even greater, breath-taking sums to be injected in the nearly collapsed financial system on a top of dead weight losses, shouldn't surprise us given that the combined equity capital stock of all US financial institutions is roughly $1.2 trillion dollars [Sinn, 2008]. Five global investment banks, nevertheless, succumbed to the crisis already, with Wall Street, City of London, Moscow, Tokyo and Frankfurt stock indices nose-diving for longer than anyone cares to remember. Some countries, notably Iceland and Pakistan, are likely to fall off the cliff without globally coordinated rescue and worldwide recession is by now a clear and present reality [The Financial Times, 2008].

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[1] Marko Malović, Belgrade Banking Academy, Belgrade
[2] World debt crisis of 1982, S&L and stock market crisis in late 1980s, Asian crisis of 1997 and particularly global financial crisis of 2001 predated the latest subprime mess.

The tongues, who claim that the worst is over, are the same ones who blatantly (mis)took progressively degenerating flew for a benign autumn cough back in '01, '07 and '08 alike. I'm afraid that the global financial turmoil may have only just begun. "While we have a process, we don't have a definition", F. Engels often used to say. Yet, bewildering times are instances when scientists cannot afford to be quiet at the expense of being potentially wrong. By now, we all know how the mortgage-backed tsunami first splashed in August 2007 and the fearful word "subprime" crept into the public discourse. Perhaps we don't gather enough on why neither G7 nor IFIs did anything substantial about it? Even more so since the paper boom was out there already in 2001/02 crisis, when banks were let off the hook and allowed to repackage and sell of their "smelly assets" only to inflate the non-banking portion of the speculative balloon and let the global financial bomb ticking [Malovic, 2006]. Moreover, in spite of the fact that dramatic transformation of international financial architecture is both needed and inevitable, it is too soon and even more so dangerous to reinstate Marxian communism in capitalist globalisation. However, the rise of pretty linear state interference and announced backlash of financial regulation among defenders of democracy and liberal capitalism themselves, are not directing crisis management or longer-term reforms in the right course either! Lastly, little is understood as yet on the far-reaching consequences of (handling) the global financial meltdown for the future of international banking and finance as we know it, let alone for the probability of lower-intensity lagged explosions across developing world in financial as well as real economic sense. The rest of the paper is stretched along the timeline of causes (past), management (present) and potential consequences (future), so as to tackle these crucially important issues.

What went wrong?

When growth is high as well as seemingly sustainable and money is cheap[3] and abundant, bankers tend to expand. That is so because low inflation, lots of liquidity and stable economic growth almost invariably produce real estate and other asset price bubbles which have "windfall (capital) gain" written all over them. While expanding aggressively or simply to keep up with their greedy competitors, bankers soon run out of credit-worthy prime borrowers. Hence, they went for subprime ones charging somewhat higher interest rate.[4] In nice weather terms, this initially glided very smoothly. Mortgage loans were government supported business in US, many borrowers got comfy grace periods[5] and hoped for either salary increases (due to unprecedently long period of impressive growth in the US) or cozy refinancing deal (due to capital gains from ever growing real estate bubble). Some of the expectations and suppositions of home buyers were obviously not well founded in foul weather conditions, but still there would be no crisis whatsoever without credit securitization [BBC Business, 2007].[6] It frees banks´capital (often more than once) and enables them to earn more fees by extending loans which are effectively disbursed by other financial intermediaries willing to buy MBSs, CDOs and

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[3] Unrestrained credit boom, as first noted by Kindleberger (2000), has always been the main ingredient of the build-up to financial crisis. Following Jubak (2008), current global financial fallout was arguably amplified by many additional circumstances that made the money cheap and credit abundant: 1) stubbornly expansionary interest rate policy of FED to fend off economic slowdowns during dot com and in particular after the NASDAQ bubble, 2) a weak yen and almost zero real rates in Japan which enabled speculators to engage in carry trade or massive security purchases elsewhere, 3) a gigantic surge of exports from emerging giants determined to hold down their national currencies and domestic absorption, and not least due to 4) soaring petro-dollar profits which were reinvested in Western banks just like three decades ago.

[4] As a rule, the spread charged is circa 2%. Subprime borrowers, aka „B" or „second chance" borrowers, are individuals with FICO credit score bellow 620 (on a scale from 380 to 850), who are taking loans considered risky both for lenders and themselves [NematNejad, 2007]. FICO score is credit-analysis synthetic which shows how likely one is to repay the loan, pending –among other things- on monthly earnings, credit history and amount of accumulated debt still unpaid. Alternatively, subprime borrower is the one who doesn't qualify for Freddie- or Fannie-supported mortgage.

[5] For example, usually offered deals included: interest only mortgages, or adjustable rate mortgages, or even low initial fixed rates [Gorton, 2008]. Some brokers went as far as supplying "no doc" mortgages which do not require any evidence of income or savings [NematNejad, 2007].

[6] Credit securitisation implies pooling together several active (still unpaid, immature) banking assets and offering them as collateral for third party investment in yet another derivative asset.

alike credit derivatives issued by investment banks.[7] The catch being that many financial institutions are prohibited or at least restricted by law from buying subprime debt or risky credit derivatives.

In order to circumvent the regulations, just as so many times before, investment bankers came up with novelty – they chopped off the subprime portfolio into half a dozen of tranches, defining the pecking order of risk taking if and when any of the subprime borrowers from the pool defaulted. As the notes from different tranches, senior (AAA), mezzanine (BBB), subordinated (A) and equity note (junk), carry different ratings, there is so-called cash flow waterfall, i.e. priority of payment, which attracted otherwise skittish or legally-constrained investors too. Problem with CDOs as opposed to CDSs and other balance sheet derivatives lies in the fact that the asset pool in contemporary CDO typically is not static, in other words it is being actively managed for better or worse [Anson *et alia*, 2004]. Credit enhancements[8] and rather questionable (up)grading methodology of credit rating agencies[9] blurred the investment picture a step further. However technically suffocating as it may seem, such a malevolent usage of credit derivatives is not horribly innovative, nor illegal for that matter. Confronted with bad loans and foreclosures coming from media sector and window dressing performed by discredited auditing agencies back in 2001/02, international banks did exactly the same trick and got away with it.[10] Once again, genetically mutating credit derivatives enabled investment banks to get rid of the large portion of the subprime loans as debt instruments with above prime credit ratings thus expanding the number of potential buyers of that debt and, in fact, making money on it!

Nevertheless, by offering better returns on the riskier slices of portfolio in order to attract suckers to buy them, banks had to lower the yields on the super senior tranches (since the overall cash flows from the pool backing a CDO is given). That made it harder to sell senior slices once they became "a liability" and practically forced many banks to keep them on their own books after all [The Economist, Dec.8th-14th, 2007]. On the other hand, recent surge in exploiting synthetic CDOs made risks global banks were exposed to even more obscure. Obliged by the law, intermediaries that held huge amounts of these instruments kept them in semi separate off-balance sheet entities, legal shells called SPVs, so as to allow themselves more business flexibility in accounting and regulatory terms. SPVs fund their operations by frequent roll-overs of short run debt which is then used to buy longer run debt. Now, synthetic CDOs[11] enable removal of credit exposure without actual asset transfer (and costly administrative burden of true sale of the underlying) to SPV. In addition, through intense use of credit derivatives, synthetic CDOs transfer credit risk directly from the sponsor (originator of the transaction) to the end buyers, so that after delinking, investors have no credit exposure to the sponsor. A synthetic arrangement also means that the risk of assets otherwise not suited for securitisation (bank guarantees, letters of credit etc.) may be transferred [Anson *et alia*, 2004]. Nonetheless, assets in question stay on the banks´ balance sheets! And indeed, contradicting one of the fundamental aims of securitisation, it doesn't seem that this time, "thanks to" synthetic deals, the awful lot of credit risk did leave the banking sector via financial innovations, but was rather shuffled around instead! When unmonitored credit boom, adverse selection and increasingly worsening financial visibility brought about first losses and suddenly slipped into a slump, interest rate differentials turned against SPVs and the hell broke loose.

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[7] These other financial intermediaries were also banks, but often much more vulnerable investors like insurance companies, pension funds etc [NematNejad, 2007].

[8] Overcollateralisation (meaning that overlying notes are engineered to appear lower in value compared to the underlying portfolio), cash reserve accounts (liquid contingency account to cover initial wave of losses), excess spreads (which deleverage derivative) and insurance wraps being the most frequent form of enhancement [*Ibidem*].

[9] Which are competing with each other and which in any case, it has been proven, cannot accurately calculate credit rating of structured products which contain market material by many issuers [Malovic, 2006].

[10] Citigroup and J.P. Morgan Chase, the biggest creditors of Enron and WorldCom (companies whose default put together represent greatest corporate loss of all times-34 bill.$), in the second quarter of 2003 already announce billions in profits! Deutsche Bank reduced its loan assets for 40% in 2002 and early 2003, ABN Amro transferred 34bill.$ of credit risk and Credit Suisse and UBS "freed up" more than 10bill.CHF each [*Ibidem*].

[11] Synthetic CDO consists of two legs: a short position in CDS (bought protection), by which the sponsor transfers portfolio risk to the issuer and a long position in a portfolio itself (of bonds and loans), the cash flow from which pays liabilities of overlying notes [Anson *et alia*, 2004].

What is still going wrong?

Just about everything! The problem being, nobody truly knows what this collapse is all about. And yet, national authorities were mostly prophesying about how the end is near. In such a cocktail, panic and recession are regrettable, but not surprising by-products. In a nutshell, instead of recognizing it, we are still throwing money at the problem.[12] Libertarians in office around the globe have been advocating elaborate plans to do little more than nothing. Neo-socialists on both sides of the pond are still screaming for "dirigisme" and ritual purging of every institutional pillar of free market capitalism. As an arithmetic mean of those voices, we have lots of newly released liquidity flashing around[13] and not much hard thinking: amazing rescue package of nearly 1 trillion US$ apparently left investors more or less unimpressed. Heavy government spending earmarked for 2009-10 is on its way as an attempt to mitigate bone-freezing recession in the US and consequently worldwide. In fact, European and US policymakers are doing exactly the opposite of what any money and banking textbook would suggest. They proved to be genuinely lenient towards moral hazard of the financial sector, they are bailing out and even recapitalizing greed- or competition-driven banks by taxpayers' money, they are mistreating the meltdown as liquidity crisis, whereas the confidence game at hand has much more to do with systemic failure, they are making unsecured loans directly to corporate sector etc. Moreover, too slowly disappearing information asymmetry within the overregulated banking sector is being accompanied by asymmetric information in policy arena as well as real economy, while suggestions for reforming the (inter)national financial architecture, rectifying bad off-balance policies and strengthening global financial oversight are frankly varying from ignorant to scary.

Some are blaming the subprime market for financial Armageddon, yet they are only shooting the messenger.[14] Others, German finance minister as the most prominent among them, are accusing the US in as much as Americans exported their toxic assets, bad (de)regulation standards and cut out their import potential.[15] Yet some are accusing the IMF and the BIS, while forgetting the fact that developed countries themselves, for the past decade or so, deliberately avoided and dwarfed those IFIs both in terms of financial and policy making relevance [The Guardian, 2008].[16] Another lot is blaming the illiquidity

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[12] Stiglitz (2008) rightfully compares the ongoing bailout to massive blood transfusion to a patient with severe internal hemorhaging. Congressional revisions, in my opinion, only increased the sum but regretedly decreased the effectiveness of the rescue package.

[13] Even that being possible without instantanious inflation cost only because or exactly because the eventual fall of crude oil price in the world markets.

[14] Indeed subprime market was the fastest growing particle of real estate market: 21% of mortgage applications between 2004 and 2006 were subprime compared to 9% between 1996-04. Subprime mortgages reached a record of $805 billion in 2005. However, statistics show that only 3.3% of subprime loans end up in foreclosure compared to 1.1% for conventional loans [NematNejad, 2007]. Without the help of greedy bankers and exuberant independent brokers who originated the dodgy underwritings, this number would hardly provoke an international crisis. Mortgage market is one of the most regulated segments of US financial system, and even though almost 12 million mortgages were contaminated as the real-estate bubble started to deflate [Stiglitz, 2008], only some 2 million foreclosures actually took place so far.

[15] This is downright stupid since US BoP position represents nothing more than a mirror-image of someone else's willingness (not obligation) to invest in its financial system, whereas not even economic superpower can be deprived of adjusting its import demand elasticity in the face of balance of payments/currency adversity. When it comes to financial regulation, Europeans (unlike the US) implemented Basel 2, which obviously didn't do miracles for prudential supervision either. Nonetheless, the first circumstantial causes of the crisis do lie with Clinton's repeal of the Glass-Steagal Act [Chossudovsky, 2008] and the Fed's monetary ease, i.e. responsibility for it rests with the US. "If too much money was lent and borrowed, it was because Chinese savings made capital cheap and the Fed was not aggressive enough in hiking interest rates to counteract that. Moreover, the Fed's track record of cutting interest rates to clear up previous bubbles had created a seductive one-way bet. Financial engineers built huge mountains of debt partly because they expected to profit in good times - and then be rescued by the Fed when they got into trouble" [Mallaby, 2008, p.1]. However, after becoming aware of the possible demise of Northern Rock in the UK and several Landesbanken in Germany, Europeans did exactly the same thing. According to Trichet (2008), since August 2007 ECB injected almost 300 billion € to stabilize euro-area money markets.

[16] Having said that, the IMF and BIS did fail us big time, however, not so much due to the lack of human and financial resources, but for lack of courrage and professional ethics to say the truth. Priminister Brown's and Kanzlerin Merkel's recent statements bear the taste of tautology at best or cynicism otherwise, when they urge for reform of the global financial system which will empower IMF and BIS with maintaining international financial stability and capacity to act as an early warning system for markets!

paradigm for financial cardiac arrest.[17] In fact, and for deep theoretical reasons, the world financial system has collapsed into insolvency, but before prescribing the diet and exercise, we had to restart the heart. "Nuclear option" might eventually work beyond and above the fire-fighting call of duty if recapitalized financial system picks up and returns to the precrisis lending pattern, but only provided that the asset price bubble subsequently gets back at least some of the air it lost through deflation process. Nonetheless, even if it doesn't, there's a widespread consensus among both academic economists and practitioners that political, financial as well as business cycle consequences of standing idly by for taxpayers across the globe would be even dearer. On the other hand, nobody likes recessions, nor overturning tables, hence, devil's advocate could argue that taxpayers raw deal could have been stricken more wisely if spent on unemployment benefits and SME tax holidays for investment in real capital, rather than on bailing out reckless speculation [Shiller, 2008], [Stiglitz, 2008]. Lack of regulation argument is the last but the most frequent and more misleading among the usual suspects. Yes, we certainly long for "reconstruction of creative destruction" epitomized by originate-and-distribute structured products, having in mind that -dipped into globally wandering liquidity- they created a favourable breeding ground for quite shockingly imprudent risk taking [McCreevy, 2008]. However, my argument is that too much regulation in banking sector has been equally disastrous as too little regulation in the rapidly expanding non-banking industry! On balance, we need as much further deregulation in the banking sector as additional regulation in banks' off-balance sheet activities and overall activity of the non-bank intermediaries.[18]

What the consequences will be?

It would be impossible to foresee every single crossroads where international financial crisis management might go awry. Thus, this last section may in fact push more on the normative side of the argument: what should the corollaries be, and therefore, what additional consequences might be lurking downstream.

Whatever happens, the world is unconditionally heading towards murky waters of re-regulation, significantly more government involvement in economic activity and strikingly larger budget deficits. With counter-depression Keynesianism back in macroeconomic fashion, Kyoto-inspired environmental protection is, alas, designated to be probably the first virtuous casualty [The Economist, Oct.11th-17th, 2008].

Big emerging markets like China, India or Brazil, will slow down for sure, but still are expected to grow at 4-5% *p.a.* which takes them out of immediate scope of this paper.

With regard to international financial centres and developed world, the length and severity of inevitable recession shall be chiefly determined by three interdependent developments. First is the ability (and speed) of nuclear option and bank-nationalization cum re-regulation experiment to deliver sustained breeze of reflating asset value into the global financial sales, *caeteris paribus*. [19]Second is the quality of urgently needed reform of IFIs (often dubbed Bretton Woods 2[20]). Third is pending on fre-

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[17] In such a constellation, bailout is justified and meaningfully required only during the intermezzo of confidence restitution in inter-bank money markets, whose nervousness is depicted by spread between the LIBOR and OIS or 3 month LIBOR compared to 3 month treasury bonds rate [Taylor-Williams, 2008]. Sadly enough, it has become evident that we are dealing with much a nastier situation here, namely, inter-bank illiquidity reflects the size of announced and estimated losses in the financial system as a (w)hole, i.e. mistrust of non-banking sector in its' own and counterparty's credit worthiness. FED's recent decision to ban "shorting" is only a wrap up on the reasons why hedge funds and the like won't be able to ride in rescue of prime brokers any time soon.

[18] For opposite argument engulfed in much more cynical political connotations see interesting article by Chossudovsky (2008).

[19] Desai (2008) warns that reestablishing credibility of financial system can be just as cumbersome as reestablishing solvency. The Economist (2008, Nov.1th-7th) illustrates the point with first indications of rescue packages being diverted from intended demand-driven use into precautionary household savings and excess banking reserves, without significant impact on the reference rates.

[20] The announced multilateral summit on November 15th could at best draw a blueprint of reform allies for present global financial architecture, something like a wish list of primarily Eurpeans and Chinese in terms of decision-making weight

quency and whereabouts of sporadic financial failures yet to occur among non-banking financial intermediaries. If I was to give condense answer to each of the presently unknown developments it would be: *I don't know*, *I sincerely doubt it* at least in the short run, and *Yes most likely*.

Thus, further reforms on several economic fronts may be safely identified at the horizon, some of them approaching dead ahead, others still spinning in intellectual and/or regulatory conundrum. When it comes to valuation failures, Sinn (2008) swiftly proposed the most resilient version of amending the mark-to-market accounting: company's assets should be valued according to the lower (of historical and current) value principle at tranquil times already, so that bubbles get deflated on the runaway rather than kept artificially overvalued in the midst of crisis.[21] Equally crucial, weaknesses in underwriting and upgrading procedures need urgent attention of BIS or alike global regulator, which has to find the way of attaching the collateralized responsibility for the risk assessment on distribution of asset-backed securities [Wellink, 2008].[22] In a overall perspective, arguably, central banks' operating frameworks for controlling broader liquidity concepts would also have to be improved. As pointed out earlier, a considerable source of funding stems from non-bank intermediaries and is fair to admit that central banks' control over such liquidity is quite indirect and pretty limited [Clerc, 2008], for no profound theoretical reason. The last point of concern is of utmost importance since, in historical retrospect, government purchases of bad assets in the banking sector itself and *de facto* centralized asset-management units usually failed to inforce institutional learning in the core lending practices of lemon banking industry [Desai, 2008].

Depending on their own traits, financial systems can serve as a shock absorber or if the right failure-screws are loosened, may innovate themselves into nasty amplifiers of havoc [Allen-Carletti, 2008]. For some people from financial industry, regrettably, competitive advantage boils down to making markets work less efficiently. One catastrophically diligent way of doing that is to surf on a deliberately raised asset-price tide whose ephemeral nature tends to be secluded by hidden or obscured information [Haque, 2008]. But what about all of us caught off-guard in the shallow waters?

In other word, let me finally turn to the foreseeable consequences of global financial turmoil for small open developing economies with still emerging financial markets. The good news is that sturdiness of their banking sector presently seems more or less genuine, with separate banking accounts from the parent HQs and no immediate exposure to contaminated loans. Also, foreign exchange reserves of developing countries appear to be bigger and more robust than ever before. On the other hand, even absent the global financial crisis, their precarious macroeconomic position would undoubtedly require them to follow the straight and narrow due to astonishing BoP deficits and steeply rising foreign debts they have amassed. Global credit crunch shall only add up to that. Stock market slump in transition countries we owe to the fact that over there, or in South-East Europe at least, domestic residents represent a minor percentage of securities holders, and majority of, in fact foreign, investors simply flew to safety or fled emerging markets in order to cover losses incurred elsewhere on first signs of global distress. As the sovereign credit-rating scores storm the fire stairs, many of the developing countries overvalued currencies will be finally battered by either contagious, speculative or debt servicing capital outflows, which will supplement - here and there already contemplated- wage freeze and revive

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and policy dogmas (e.g. Jayaraman (2008) accentuates notorious Washington consensus and hypocrete double standards in stabilisation requirements for South vs. North) which should be fundamentally altered, but not much would happen hastely and without consent of the US, who's new administration is still in the forming and simply isn't ready for anything of a Bretton Woods 2 scale.

[21] "It is difficult to keep a proper perspective and to exercise prudent judgment when all of your competitors are generating huge volumes of business. As one banker famously said last year: *As long as the music is playing, you've got to get up and dance*. Well, if it is the role of the central banker to take away the punch bowl just as the party gets going, perhaps the role of the supervisor is to silence the band so the bankers stop dancing." [Wellink, 2008, p.2]

[22] Rating agencies consider themselves answerable for assessing credit risk solely, whereas investors typically reckon with liquidity risk being accounted for in leading agencies' ratings too. Moreover, the metric used for structured product rating is identical to methodology used for simple bonds [Clerc, 2008]. In addition, if unresolved, this aggravates the awkward marriage of chiefly national bailouts and evidently international contagion [The Economist, Oct.18th-24th].

competitiveness in the medium run.[23] Meanwhile, exporters will have exhaustingly hard time to keep - let alone acquire new- foreign market shares, hence macroeconomic reply through pseudo-governmental export promoting banks and agencies should prop them up in their utmost capacity.[24] Crisis-provoked savings hike will prove detrimental in the shortest run, which is why the attempt should be made to replace the absorption loss by public infrastructural project spending and officially negotiated bilateral investment-related debt or equity inflows. Unfortunately, FDI, cross-border credits and other forms of international capital expansion are certainly going to shrink too, now when wealthy countries' businesses are suffering from recession themselves.[25] Similar drying up of remittances could be reasonably foreseen together with vanishing of multilateral and official transfers. In spite of alarming external position, monetary policy stance in developing countries needs to remain roughly neutral, with FX reserves used up for running the foreign debt down rather then for dissipation in defense of the misaligned national currencies. Obsolete austerity orthodoxies of the IMF should be kept at minimum until its deregulate, liberalize and privatize ideology is reduced so as to deliver faster and more obvious net-benefits for IMF's protégés. For those aspiring a soon EU accession as a last resort, sufficient is but the gaze at the institutional, financial and political tears in the fabric of the European project cruelly exposed during the international financial meltdown. The odds are that there shall be no swift enlargement, and if it happens after all, newcomers might be developed countries (like Iceland and Norway) rather than any of Balkan states. Provided that non-EU developing countries came to terms with their infrastructural, public administration and corruption insufficiencies, their end of recession tunnel may be in attracting the already deployed neighbouring businesses looking for cost-cutting asylums.

One way or the other, developed countries shall recycle and spread the burden of the crisis onto the rest of the world. Asian economies learnt the lesson of their own financial gambling and felt the bitterness of double-edged IMF policies only too well back in 1997/98 [Hüfner, 2008]. And indeed, by and large Asians appear not to have stepped on the wrong parts of financial minefield so far. If this *ad hoc* reasoning hints at any conclusion, I am at the point of suggesting that the next international crisis might touch upon the still unthrusted bubble economies, namely South-East Europe or even Russia itself.

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[23] The conventional caveat reminding that exchange rate changes coupled with popping of real estate bubble can result in large losses in the banking system and eruption of full-blown crisis if the banks passed on too much loans with foreign exchange clause onto debtors that lack foreign-currency revenue [Roubini-Spetser, 2004].

[24] However, for the time being, export-credit finance and infrastructure projects with spill-over effects remain the only two elements of fiscal expansion I would advise for.

[25] Outgoing structure of FDI in South-East Europe reveils that almost a third of the money ended up in real estate, feeding the local asset bubbles still standing only because of uneven demographic distribution biased towards the urban centres.

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Balance of Payment as the Indicator of B&H Economy Situation and Its Trends

Željko Marić[1]

ABSTRACT – Balance of payment is a basic document which enables sustained description of financial reliability of the country as well as economic forecasts for certain country that can be expected in the future. But, correct economic concluding requires gradually balance of payment statement analysis, i.e. analysis of all current (goods, services and transfers) and capital (foreign direct investments, portfolio investments and credits) transactions. It is necessarily because of great number of various types of international economic transactions and payment operations modes in the area of international economic relations. The subject of this paper is global analysis of Bosnia and Herzegovina balance of payment structure through its main items. On the basis of that analysis, the goal of this paper is to predict some trends in balance of payment structure which Bosnia and Herzegovina can expect according to existing B&H macroeconomic situation and its intention to wider international economic integration joining. So, the paper has intention to consider and propose the possible ways of balance of payment disequilibrium overcoming in the case of B&H frame of economic development (Washington consensus, currency board system, CEFTA enlargement on Western Balkan countries and EU enlargement).

KEY WORDS: Bosnia and Herzegovina, balance of payments disequilibrium measures, balance of payments disequilibrium overcoming, economic forecasts

B&H balance of payments analysis

Balance of payments represents systematized and overall list of all the international transactions between residents of the certain country with a rest of the world during a particular period of the time, usually a year. It is basic document whose sustained analysis enables evaluation about country creditworthiness and forecast about potential problems of certain country in international economic relations with a rest of the world. All IMF country members have a liability to use method of measuring the balance of payments in accordance to *Balance of Payment Manual* which is created by IMF. In that sense all nation use comparable method in collecting data and in reporting to the International Monetary Fund. The Central Bank is an institution which is responsible for data acquisition and reporting to the IMF. The structure of consolidated B&H balance of payment during last 10 years, i.e. since it has been collecting and public representing, is showed in a table 1.

Table 1. Bosnia and Herzegovina Balance of Payments

(in millions KM)	1998	1999	2000	2001	2002	2003	2004	2005	2006
I – Current account (1+2+3+4)	-607,2	-920,4	-839,9	-1.630,0	-2.450,2	-2.813,9	-2822,40	-3357,20	-2041,20
1. Goods	-5.482,4	-6.052,5	-5.868,4	-6.470,5	-6.891,6	-7.180,0	-7.192,6	-7.834,2	-6661,20
Export of Goods, fob	1.168,2	1.526,9	2.398,4	2.480,2	2.285,5	2.548,4	3.279,9	4.082,4	5255,80

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Import of Goods, fob	-6.650,6	-7.579,4	-8.266,8	-8.950,7	-9.177,1	-9.728,4	-10.472,5	-11.916,6	-11917,0
2. Services	334,8	328,7	396,7	497,7	453,3	580,9	678,40	774,00	950,00
Export	809,8	851,3	955,3	1.087,2	1.079,6	1.244,4	1361,50	1500,60	1736,80
Import	-475,0	-522,6	-558,6	-589,5	-626,3	-663,5	-683,1	-726.60	-786.80
2.1. Transportation Services, export	30,8	42,4	56,6	61,2	66,7	76,7	81,0	109,20	142,10
2.2. Transportation Services, import	-237,2	-252,2	-262,2	-259,7	-276,4	-291,0	-307,8	-316,0	-324.90
2.3. Travel Services, Export	435,2	450,7	494,4	580,9	592,0	651,2	760,40	808,20	918,90
2.4. Travel Services, Import	-142,6	-151,9	-154,8	-163,2	-172,9	-184,1	-186,7	-194,5	-244,00
2.5. Other Services, Export	343,8	358,2	404,3	445,1	420,9	516,5	520,1	583,20	675,80
2.6. Other Services, Import	-95,2	-118,5	-141,6	-166,6	-177,0	-188,4	-188,6	-216,1	-217,90
3. Income	1.423,7	1.336,6	1.253,3	1.163,1	1.055,2	925,1	760.40	712.20	720.60
Income receivable from abroad-credit	1.518,5	1.456,6	1.415,6	1.366,4	1.255,8	1.132,8	1015,90	1021,30	1071,70
Income payable abroad-debit	-94,8	-120,0	-162,3	-203,3	-200,6	-207,7	-255,5	-309,1	-351,10
3.1. Compensations to the labours, revenues	1.478,1	1.420,7	1.339,9	1.269,7	1.120,5	1.029,9	914,70	898,10	898,10
3.2. Compensations to the labours, expenditures	0,0	0,0	-5,0	-12,7	-15,3	-18,2	-21,0	-19,3	-21,1
3.3. Investment income, Revenues	40,4	35,9	75,7	96,7	135,3	102,9	101,2	123,2	202,3
3.4. Investment income, Expenditure	-94,8	-120,0	-157,3	-190,6	-185,3	-189,5	-234,5	-289,8	-330,0
4. Current Transfers	3.116,7	3.466,8	3.378,5	3.179,7	2.932,9	2.860,1	2931,40	2990,80	2949,40
Transfers from abroad - credit	3.268,5	3.625,5	3.538,5	3.339,2	3.143,2	3.072,8	3261,10	3305,20	3300,40
Government Sector	768,3	894,8	662,0	880,1	678,8	582,9	509,90	486,60	292,10
Other sectors	2.500,2	2.730,7	2.876,5	2.459,1	2.464,4	2.489,9	2751,20	2818,60	3008,30
Transfers to abroad - debit	-151,8	-158,7	-160,0	-159,5	-210,3	-212,7	-329,7	-314,4	-351,00
Government Sector	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other sectors	-151,8	-158,7	-160,0	-159,5	-210,3	-212,7	-329,7	-314,4	-351,0
II – Capital and Financial Account (1+2)	345,6	472,6	1.171,1	1.394,5	2.228,2	2.290,4	2183,90	2673,50	1247,80

1. Capital Account	871,3	1.148,0	1.159,9	875,4	848,6	804,6	679,80	645,80	532,40
Credits	871,3	1.148,0	1.159,9	875,4	848,6	804,6	679,80	645,80	532,40
Debits	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
2. Financial Account	-525,7	-675,4	11,2	519,1	1.379,6	1.485,8	1504,10	2027,70	715,40
2.1 Direct investments	117,4	324,5	310,1	259,8	551,1	660,3	1.042,0	820,7	660,60
Direct investment - Abroad	0,0	0,0	0,0	0,0	0,0	0,0	-2,4	-1,9	0,0
Direct investment in B&H	117,4	324,5	310,1	259,8	551,1	660,3	1.044,4	822,6	660,6
2.2. Portfolio investments	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
2.3. Other investments	-495,1	-412,3	-134,0	1.924,6	583,4	1.141,5	1136,40	1943,50	1259,40
Assets (sign "minus" means "increase")	-1.194,9	-1.870,6	-1.432,9	1.426,1	-283,0	173,4	528,6	824,4	548,4
Liabilities	699,8	1.458,3	1.298,9	498,5	866,4	968,1	607,8	1119,10	711,0
2.4. Reserve assets (sign "minus" means "increase")	-148,0	-587,6	-164,9	-1.665,3	245,1	-316,0	-676,7	-738,4	-1204,6
Monetary gold	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Special drawing rights	-8,8	-5,1	-9,3	9,8	7,1	0,8	4,8	0,2	-0,1
Reserve position in the IMF	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Foreign Exchange	-139,2	-582,5	-155,6	-1.675,1	238,0	-316,8	-681,5	-738,6	-1204,5
Other claims	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
IV - Net errors and Omissions	261,6	447,8	-331,2	235,5	222,0	523,5	638,5	683,7	793,40

Source: B&H Central Bank.

Deficit in the foreign trade of goods (the visible foreign trade) is the highest and the most disadvantageous item in B&H balance of payment as a whole. It is direct consequence of insufficient B&H economy competitiveness toward international market.[2] Besides that, Bosnia and Herzegovina is faced with a full foreign trade liberalization which is one of the main items in neoclassical economic development program known as *"Washington Consensus"* which is applied in Bosnia and Herzegovina in a full sense.[3] The statement that free foreign trade competition brings benefits through competitiveness increment for all its foreign trade partners is not correct in this case. The free foreign trade competition is fair field for all its members and no favour for anyone only in the conditions of equalized economic

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[2] *The Global Competitiveness Report* is well-known annual report which gives detailed report about world competitiveness for certain countries. The publishing house is a *World Economic Forum, Davos-Geneva*.

[3] The term "Washington Consensus" was initially coined in 1989 by John Williamson to describe a set of ten specific economic policy prescriptions (Fiscal discipline; A redirection of public expenditure priorities toward fields offering both high economic returns and the potential to improve income distribution, such as primary health care, primary education, and infrastructure; Tax reform - to lower marginal rates and broaden the tax base; Interest rate liberalization; A competitive exchange rate; Trade liberalization; Liberalization of inflows of foreign direct investment; Privatization; Deregulation - to abolish barriers to entry and exit; Secure property rights) that he considered to constitute a "standard" reform package promoted for crisis-wracked developing countries by Washington D.C based institutions such as the International Monetary Fund (IMF), World Bank and the U.S. Treasury Department.; http://en.wikipedia.org

development of certain countries which are on the level of full employment. All today developed countries have applied the effective custom policy in the past to protect their insufficiently developed economy until they have achieved significantly level of economic development to join into wider international economic integrations. The comparative advantages in the conditions of a free trade and bigger differences in economic development lead to a greater polarization on developed and undeveloped countries. In such conditions, liberal trade can brings economic benefit only to the developed countries. It is clear, that the foreign trade liberalization is a consequence but not a source of economic development. It is confirmed by many economic development ways of all today developed countries in the past. So, the policy of a full foreign trade liberalization which has been applying through different forms and agreements (*"Washington Consensus"*, Central European Free Trade Area enlargement on Western Balkan, *Stabilisation and Association Agreement* – SAA) is inappropriate in the case of B&H economy. Liberalization level should reflect the relative differences in the level of competitiveness. Also, it is a fact that the foreign trade in goods is dominated in relation to foreign trade in services within a structure of B&H Balance of Payments. It is also an additional signature of not enough developed country.

Bosnia and Herzegovina has achieved surplus in the foreign trade in services (factor and non-factor services), but because of their relatively smaller share in relation to foreign trade in goods, the total foreign trade balance has a very high deficit, too. The main part of services is a tourism which is expressed through the item of „travel services", but it is not correctly because the tourism represents a group of a different activities where the tourists spent on travelling, food, drinks, and many other various kind of entertainment. Many economists claim that the tourism could be a way of B&H foreign trade deficit overcoming. Bosnia and Herzegovina disposes with a relatively huge amount of natural resources which could be a base for development in all tourism types. But, it can be developed in successful way only if it will be developed on the principle of „cluster industry" building in tourism activity among Bosnia and Herzegovina and its neighbours countries, because Bosnia and Herzegovina is a very small country. In that way, the tourism activity can help not only for foreign trade deficit overcoming, but for economy development in all countries in the region.

Figure 1. The connection between donations and growth rate.[4]
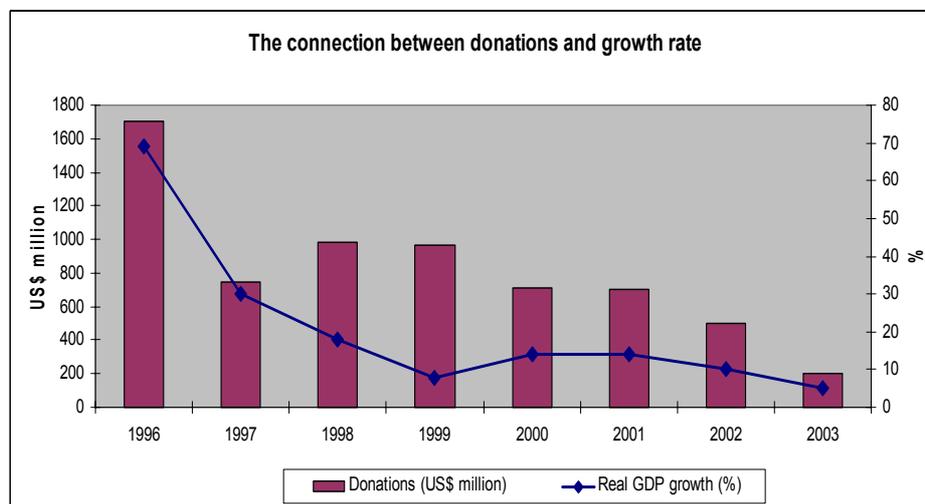
The current account that includes all sales and purchase of currently produced goods and services, income on foreign investments and unilateral transfers in also in deficit, but it is significantly smaller than foreign trade deficit. It is a consequence of a high level of current transfers (donations, retirements, foreign aid …) which have the most stable and the most important role into foreign trade deficit

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[4] Joseph K. Ingram: *The World Bank Role in the Development of a Financial Market in Bosnia and Herzegovina*, (http://siteresources.worldbank.org/INTBOSNIAHERZ/Country)

overcoming. The current transfers inflow of B&H citizens from abroad (about 3 billions per year or 1.5% of GDP in B&H) enable survival not only B&H citizens, but B&H economy as a whole. Although item „current transfers" represents a negligible share into balance of payments in many countries in the world, in the case of Bosnia and Herzegovina, it is very important.

But, the total balance of the B&H balance of payments (all current and capital transactions) has noted sustained surplus during last years. The technical equilibrium of B&H balance of payments has been achieving mostly by international financing support (for example – support from IMF, World Bank and some Governments) in the form of donations and foreign aid which has had very high share in postwar years and by foreign credits.

According to high international support (donations) and foreign credits, i.e. surplus in the capital account, Bosnia and Herzegovina has achieved continual foreign exchange increase.

Table 2. The continuous grow of foreign-exchange reserves

Gross foreign-exchange reserves	1999.	2000.	2001.	2002.	2003.	2004.	2005.	2006.	2007.
(in millions KM)	866	1021	2697	2484	2793	3479	4225	5452	6699,0
(in millions US $)	472	482	1234	1196	1611	2208	2686	3496	4686,0

Source: B&H Central Bank.

The current transfers and credits from abroad can not be solution for foreign trade deficit overcoming in a long period. The trend of foreign exchange reserves increase will has to be changed if the foreign trade deficits shouldn't be eliminated.

Donations were being smaller and smaller, and today they are practically disappeared. So, the foreign indebtedness has its reasonable limits. That's why these two ways can only temporarily be a method of foreign trade deficit overcoming.

Table 3. B&H foreign debt

Year:	2003.	2004.	2005.	2006.	2007.
Foreign debt (in millions KM)	4014.0	4032.0	4338.0	4071.0	3904.0
Foreign debt (in millions US $)	2565.0	2804.0	2617.0	2741.0	2730.0
Foreign debt (in % of GDP-a)	27.7	25.5	25.6	21.3	18.6

Source: B&H Central Bank.

Bosnia and Herzegovina has to find adequate approach to the competitiveness increase, so it could be possible to overcome B&H foreign trade deficit, i.e. to achieve economic balance of payments equilibrium. Such a huge foreign trade deficit is not sustainable in a long period and it has very negative consequences for B&H economy. B&H is in a very bad situation, and it is visible from the audit of the main real macroeconomic indicators (unemployment rates, income per capita, economic growth rate, foreign trade balance …). The macroeconomic equilibrium (the aggregate demand and aggregate supply equilibrium, i.e. price level stability) in such situation of a high unemployment is not a good solution. The stability of nominal macroeconomic indicators (inflation rate, public debt, budget deficit, exchange rate …) in Bosnia and Herzegovina is not a consequence of economic development but very restrictive macroeconomic policy (currency board system, hard budget policy) and impossibility of domestic producers to increase prices because of high foreign competition. The historical experiences of all today developed countries (for example Western European countries after Second World War) point out that Bosnia and Herzegovina in such situation should apply theory of expansive Keynesian economics (combination of budget deficit because of investing into infrastructure that is a base for industrialization, moderate inflation which can be under control of monetary policy and national currency depreciation which is a complementary to inflation and instrument for export encouragement), as well as effective custom protection to protect domestic not enough developed economy. The effec-

tive custom protection is also instrument for direction with a domestic unemployment resources and FDI as additional source of economic growth into certain sectors where Bosnia and Herzegovina has potential comparative advantages. But, the neoclassical concept of economic development (Washington Consensus) which is applied in Bosnia and Herzegovina with a total liberalization of foreign trade and macroeconomic stability is not logical in economic sense according to existing economic situation. Both the economic theory and historical experiences show that Bosnia and Herzegovina should implement different kind of economic development. Free market competition and FDI entrance can not bring economic development in the case of B&H economy.

Table 4. The most important macroeconomic indicators in B&H

	2003.	**2004.**	**2005.**	**2006.**	**2007.**
Real GDP growth rate (in %)	3.0	6.3	3.9	6.7	6.0
Inflation rate (in %)	0.6	0.4	3.8	6.1	1.5
Unemployment rate (in %)	42,0	43,0	45,5	32,4	31,1
State budget deficit (in % of GDP)	0.7	1.6	2.4	2.9	1.3
Current account balance (in % of GDP)	-19.4	-16.3	-18.0	-8.4	-13.1
The balance of foreign trade in goods (in % of GDP)	-49.5	-45.6	-45.8	-34.8	-38.7

Source: B&H Central Bank.

If the foreign trade deficit wouldn't be overcome, the trend of foreign exchange reserves increase will has to be changed in the opposite way. In that case, the foreign exchange reserves decrease, i.e. monetary base decrease will has negative influence on economic activity and make worse the economic situation in B&H economy. Than, the currency board, as the main source of macroeconomic stability will lose its economic sense, because the national currency will be crowded out, i.e. Bosnia and Herzegovina will pass through „informal currency substitution". Such situation in Bosnia and Herzegovina will have a great influence on national currency depreciation. But, the national currency devaluation in the conditions of high economy openness and capital market liberalization will bring so high flight of capital and destabilizing speculations. The final result of this will be financial crisis and recession.

How Bosnia and Herzegovina can bring its balance of payments into equilibrium

The real economic situation in Bosnia and Herzegovina is not optimistic in the sense of foreign trade balance. Bosnia and Herzegovina is a very limited in accordance with the possibilities for foreign trade deficit overcoming.

In accordance with economic theory, there are a few different ways for foreign trade deficit overcoming. The application and efficiency of each way depend on concrete terms and conditions in certain economy. The effective custom protection is a measure to protect some certain sectors where the domestic production can substitute import, i.e. the sectors where the domestic economy has comparative advantages or unused resources.[5] But, foreign trade liberalization is one of the main items of „Washington Consensus"program which is applied in a full sense in Bosnia and Herzegovina. *Effective customs protection* is very important at the very beginning of development of each country. During the time, as economies of scale will bring greater domestic production and smaller import dependence,

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[5] The rate of effective protection is calculated by following formula:

$$T = \frac{t - rq}{1 - r}$$

where: T – the rate of effective protection to producers of the final commodity; t – the nominal tariff rate on consumers of the final commodity; q – the nominal tariff rate on the imported input; r – the ratio of the cost of the imported input to the price of the final commodity.

effective customs protection will be cancelled. So, the CEFTA[6] 2006 agreement aims at establishing a free trade zone in the region of the South East Europe by 31 December 2010. And third, *Stabilization and Association Agreement*[7] aims free foreign trade among Bosnia and Herzegovina and EU countries by the end of 2008. In that way, Bosnia and Herzegovina will be much more expressed to the higher foreign competition. But, from the other side, *Stabilization and Association Agreement* can not bring higher export for Bosnia and Herzegovina, because she has had free export's possibilities toward EU through preferential trade arrangements since 1997. Unfortunately, Bosnia and Herzegovina hasn't used advantages of preferential trade arrangements because she hasn't had appropriate products, or production investments which can enable export for EU market. Besides that, Bosnia and Herzegovina hasn't had the adequate institutions for standard issue which are necessarily for EU market.

The balance of payment deficit can be also overcome by current macroeconomic policy (fiscal and monetary) through domestic production and export encouragement. But, Bosnia and Herzegovina has applied the currency board system from the very beginning of its establishment as a state (currency board is also part of Dayton peace agreement) and current macroeconomic policy is not possible. The money supply changes depending on balance of payment balance, i.e. the money supply is proportional to the foreign exchange reserves amount. So, the monetary authority in currency board system doesn't determine the money supply, and that is why the monetary authority is named „currency board". In this system, the monetary authority can not encourage economic growth by monetary policy. Monetary authority is entirely disabled in the state budget deficit encouragement or financing by primary issue of money which is necessary to obtain greater economic growth rates, i.e. for financing of the establishment of those parts of economy that market economy cannot function without (infrastructure, institutions, research and development, staff education etc.). Since debt accumulation of the state with domestic and foreign residents is restrained, as well as inflow of donations which significantly participate in coverage of budget deficits in the previous years and inability of deficit financing by Central Bank, B&H is forced on so called ''hard budget policy'', where public revenues are only covered from disposable domestic financial resources and developing politics cannot be conducted.

It will be impossible to overcome the foreign trade deficits in Bosnia and Herzegovina in along term because of all restrictions in macroeconomic policies (monetary, fiscal, foreign trade and exchange rate policy). In that case, the trend of foreign exchange reserves increase will has to be changed, i.e. foreign trade reserves amount will decrease. Within a framework of currency board system, it means money supply decrease, interest rate increase and recession of national economy. Devaluation as a measure for export encouragement and foreign trade deficit overcoming is not good solution because of high level of B&H economy openness and speculations. Devaluation will also make worse the import expenditure and foreign debt value. Such pessimistic forecast about possibilities for foreign trade deficit overcoming is a consequence of wrong macroeconomic policy in Bosnia and Herzegovina as a whole. The solution for B&H economy competitiveness increase should be achieve into public expenditure structure, because it is generally known that Bosnia and Herzegovina has so high administration costs. Public expenditure – switching policy is a measure by which Bosnia and Herzegovina can reduce a significantly part of public expenditure and increase productive investments. It means that Bosnia and Herzegovina should simplify a state and reduce administrative costs.

Conclusion

Bosnia and Herzegovina has been achieving very stable macroeconomic balance situation, i.e. stable price level from the very beginning of its establishment as a state. It is not a consequence of real economic development but the strictest macroeconomic policy implementation (*currency board* system implementation, hard budget policy implementation) and foreign trade liberalisation. Bosnia and Her-

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[6] Conference on CEFTA (Central European Free Trade Area) enlargement held in Bucharest, 7. April 2006. The parties of the CEFTA agreement are: Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Macedonia, Kosovo, Albania and Moldova.

[7] The European Commission has created the Stabilisation and Association Process in 1999, as the framework for Western Balkan countries to move closer to the European Union.

zegovina has noted sustained foreign reserves increase, i.e. total balance of payment surplus. But, the analysis of B&H balance of payments structure or its items shows that B&H economic situation is a very unfavourable. The huge and continuous foreign trade deficit in goods shows the real situation about B&H economy competitiveness toward international competition. Besides that, the relatively small foreign trade share in services and current transfers as the most stable and most important source of B&H balance of payment deficit covering is a confirmation of insufficient B&H economy development.

The balance of payment deficit financing through foreign donations and foreign debts can not be the solution for a long period. Bosnia and Herzegovina has to achieve balance in autonomous transactions with a foreign trade partners because they take place for business or profit motives and they represent the real situation of relative economic competitiveness of certain country. The long-term disequilibrium in autonomous transactions will cause recession in a B&H economy as a whole.

But, Bosnia and Herzegovina is a very limited in autonomous macroeconomic policies conducting (custom policy, monetary policy, fiscal policy and exchange rate policy) which can be used, according to economic theory, for foreign trade disequilibrium overcoming.

The application of neoclassical macroeconomic program (known as a Washington Consensus), which is appropriate for high-competitiveness developed countries on the level of full employment but not for underdeveloped countries, in the case of B&H economy can not bring good results.

In the case of foreign trade disequilibrium overcoming impossibility, the trend of foreign exchange reserves will has to be changed in a long period. The devaluation of national currency in that case will be inevitable. The expectation of devaluation will cause high level of speculation and flight of capital because of foreign exchange risk and those two facts will probably generate financial and economic crisis in the conditions of full international capital movement.

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Applying MGARCH Models in Finance

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ABSTRACT – In this paper we give literature review about application of multivariate GARCH (MGARCH) models in modern finance and economy. First, we will present basic concept of multivariate volatility (GARCH) modeling. MGARCH models specify equations for how the covariance moves over time and these models have been designed to model the conditional covariance matrix of multiple time series. Problems of portfolio Value-at-Risk (VaR) estimates, portfolio optimization, risk assessment, volatility transmitting, asset allocation, hedging in futures markets, pricing of assets and derivatives, CAPM betas require a multivariate framework, because all problems mentioned above require covariances as inputs. This implicates very wide application of MGARCH models. Additionally, in this paper we will also describe the leverage effect in multivariate GARCH models.

KEY WORDS: Multivariate GARCH models, volatility, application of MGARCH models, leverage effect

Introduction

The goal of this paper is to give overview about application of multivariate GARCH (MGARCH) models in finance. The application of MGARCH models is very wide. Some of typical applications are: portfolio optimization, pricing of assets and derivatives, computation of the value at risk (VaR), futures hedging, volatility transmitting and asset allocation. All aforementioned problems require covariances as inputs, so these problems require a multivariate framework [15]. It should be noted that in many financial econometric models the conditional-variance equation plays a major role. For example, the systematic risk as measured by beta depends on the (conditional) second moments of the asset returns, and so does the minimum-variance hedge ratio. Reliable estimates and inference of these quantities depend on well-specified conditional heteroscedasticity models [24], [15].

The paper is organized as follows. In Section 2, we present basic concept of multivariate volatility (GARCH) modeling. In Section 3, we give literature review about application of multivariate GARCH (MGARCH) models in different areas of finance. Section 4 presents the leverage effect in multivariate GARCH models. Finally, Section 5 concludes.

Basic concept of volatility modeling

Multivariate GARCH models specify equations for how the variances and covariances move over time. Modeling a covariance matrix is difficult because of the likely high dimensionality of the problem and the constraint that a covariance matrix must be positive definite [18]. The crucial stage in MGARCH modeling is to provide a realistic but parsimonious specification of the variance matrix ensuring its positivity. Obviously a disadvantage of the multivariate approach is that the number of parameters to be estimated in the GARCH equation increases rapidly, which limits the number of assets that can be included [9], [15]. In this section we give an overview of different types of MGARCH models. The models covered are vector ARCH model (VEC, initially due to Bollerslev, Engle and Wooldridge, 1988), diagonal VEC model (DVEC), the BEKK model (named after Baba, Engle, Kraft

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[1] Jelena Minović, Ivana Simeunović, Belgrade Banking Academy, Belgrade

and Kroner), Constant Conditional Correlation Model (CCC, Bollerslev, 1990), Dynamic Conditional Correlation Model (DCC models of Tse and Tsui (2002) and Engle (2002)) [16].

The VEC model

The general multivariate GARCH(p,q) model is given as:

$$VEC\left(\Sigma_t\right) = C + \sum_{i=1}^{q} A_i \cdot VEC\left(\varepsilon_{t-i}\varepsilon_{t-i}^{'}\right) + \sum_{j=1}^{p} B_j \cdot VEC\left(\Sigma_{t-j}\right), \qquad (2.1)$$

where A_i and B_j are parameter matrices containing $(N^*)^2$ parameters [with $N^* = N(N+1)/2$], whereas the vector C contains N^* coefficients. VEC is the column-stacking operator. We will assume that all eigenvalues of the matrix $\sum_{i=1}^{q} A_i + \sum_{j=1}^{p} B_j$ have modulus smaller than one, in which case the vector process $_t$ is covariance stationary with unconditional covariance matrix given by $_t$, say [12], [16].

The diagonal VEC (DVEC) model

Under the diagonal VEC (DVEC) model, each variance-covariance term is postulated to follow a GARCH-type equation. The model can be written as follows [25, 7]:

$$\sigma_{ij,t} = c_{ij} + \sum_{h=1}^{p} a_{hij}\varepsilon_{t-h,i}\varepsilon_{t-h,j} + \sum_{h=1}^{q} b_{hij}\sigma_{t-h,ij} \qquad 1 \le i \le j \le k, \qquad (2.2)$$

where c_{ij}, a_{hij} and b_{hij} are parameters. The DVEC multivariate GARCH model could also be expressed as an infinite order multivariate ARCH model, where the covariance is expressed as a geometrically declining weighted average of past cross products of unexpected returns, with recent observations carrying higher weights. Now, we will present the diagonal VEC model in the form:

$$\Sigma_t = C_0^* + \sum_{i=1}^{m} A_i^* \odot \left(\varepsilon_{t-i}\varepsilon_{t-i}^{'}\right) + \sum_{j=1}^{s} B_j^* \odot \Sigma_{t-j} \qquad (2.3)$$

where m and s are non-negative integers, and $\odot$ denotes Hadamard product[2] (element by element matrix multiplication) [21]. Let us define the symmetric $N \times N$ matrices A_i^* and B_j^* as the matrices implied by the relations $A = diag\left[vec\left(A^*\right)\right]$[3] for and $B = diag\left[vec\left(B^*\right)\right]$ for and C_0^* as given by $C = vec\left(C_0^*\right)$ [4]. The model which is represented by Eq. (2.3) is DVEC(m,s) model [21], [16].

The BEKK model

The BEKK model is in form:

$$\Sigma_t = C_0 C_0^{'} + \sum_{k=1}^{K}\sum_{i=1}^{q} A_{ki}^{'}\varepsilon_{t-i}\varepsilon_{t-i}^{'}A_{ki} + \sum_{k=1}^{K}\sum_{i=1}^{p} B_{ki}^{'}\Sigma_{t-i}B_{ki}, \qquad (2.4)$$

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[2] If X = (x_{ij}) and Y = (y_{ij}) are both $m \times n$ matrices, then $X \odot Y$ is the $m \times n$ matrix containing element wise products ($x_{ij}y_{ij}$) [4].

[3] If v is a vector of dimensions m then $diag(v) = I_m \times v$ [4].

where C_0 is a lower triangular matrix and A_{ki} and B_{ki} are $N \times N$ parameter matrices. The BEKK representation in Eq. (2.4) is a special case of Eq. (2.1) [12]. Based on the symmetric parameterization of the model, $_t$ is almost surely positive definite provided that $C_0 C_0$' is positive definite [21]. The necessary condition for the covariance stationarity of the BEKK model is having the eigenvalues, i.e. the

characteristic roots of $\sum_{i=1}^{q} \sum_{k=1}^{K} (A_{ik}^* \otimes A_{ik}^*) + \sum_{i=1}^{p} \sum_{k=1}^{K} (B_{ik}^* \otimes B_{ik}^*)$ less than one in modulus [17], [16].

Constant Conditional Correlation (CCC) Model

Bollerslev (1990) suggested a multivariate GARCH model in which all conditional correlation are constant and the conditional variances are modeled by univariate GARCH models. This so-called the Constant Conditional Correlation Model (CCC) [25]. Thus the CCC model is given by

$$\sigma_{ii,t} = c_i + \sum_{h=1}^{p} a_{hi} \varepsilon_{t-h,i}^2 + \sum_{h=1}^{q} b_{hi} \sigma_{t-h,i} \qquad i = 1,...,k \qquad (2.5)$$

$$\sigma_{ij,t} = \rho_{ij} \sqrt{\sigma_{ii,t} \sigma_{jj,t}} \quad 1 \le i < j \le k \qquad (2.6)$$

$$\rho_t = \rho = \left[\rho_{ij} \right], \rho_{ii} = 1 \qquad [2, 25]. (2.7)$$

where $_t$ is the $N \times N$ conditional correlation matrix of $_t$ and $_t$ is symmetric with unit diagonal elements. The dynamic of the covariances is determined only by the dynamics of the two conditional variances. There are $N(N-1)/2$ parameters in $_$ 2], [16 .

Dynamic Conditional Correlation Model (DCC)

For N-dimensional returns, Tse and Tsui (2002) assume that the conditional correlation matrix $_t$ follows the model (DCC$_T$(M)) [21]:

$$\rho_t = (1 - \theta_1 - \theta_2) \rho + \theta_1 \psi_{t-1} + \theta_2 \rho_{t-1} \qquad (2.8)$$

$$\psi_{ij,t-1} = \frac{\sum_{m=1}^{M} e_{i,t-m} e_{j,t-m}}{\sqrt{\left(\sum_{m=1}^{M} e_{i,t-m}^2 \right) \left(\sum_{m=1}^{M} e_{j,t-m}^2 \right)}}, \ e_{it} = \varepsilon_{it} / \sqrt{\sigma_{iit}} \qquad (2.9)$$

where θ_1 and θ_2 are scalar parameters, $\theta_1, \theta_2 > 0$ and $\theta_1 + \theta_2 < 1$. $\quad$ is like in CCC, i.e. $N \times N$ positive-definite matrix with unit diagonal elements, and ψ_{t-1} is the $N \times N$ sample correlation matrix using shocks ($\quad$ from $\quad = t - M, t - M + 1, ... , t - 1$ for a prespecified M. A necessary condition to ensure positivity of ψ_{t-1} is that $M \ge N$. Notice that $\psi_{ii,t-1} = 1$ for each i by construction [21, 2]. $\quad _t$ is a weighted average of correlation matrices ($\quad, \psi_{t-1}, \quad _{t-1}$). Hence, $\quad _t > 0$ if any of three components is greater than zero. If $\theta_1 = \theta_2 = 0$, the CCC model is obtained. Hence one can test for CCC against DCC$_T$(M) [2]. Estimation of the two scalar parameters θ_1 and θ_2 requires special constraints to ensure positive definiteness of the correlation matrix. The choice of $\quad$ and M deserves a careful investigation [21], [16].

Engle (2002) proposes the model ($DCC_E(1,1)$):

$$\rho_t = \left(diag\, Q_t\right)^{-1/2} Q_t \left(diag\, Q_t\right)^{-1/2} \tag{2.10}$$

where Q_t = ($q_{ij,t}$) is a $N \times N$ matrix, symmetric and positive, given by $Q_t = \left(1 - \theta_1 - \theta_2\right)\overline{Q} + \theta_1 e_{t-1}e_{t-1}' + \theta_2 Q_{t-1}$, where e_t = (e_{1t}, e_{2t}, …, e_{Nt})' is the standardized innovation vector with elements $e_{it} = \varepsilon_{it}/\sqrt{\sigma_{iit}}$, $\overline{Q}$ is the unconditional covariance matrix of e_t, it is $N \times N$ matrix, symmetric and positive, and θ_1 and θ_2 are non-negative scalar parameters satisfying $0 < \theta_1 + \theta_2 < 1$, what implies that $Q_t > 0$ and $\psi_t > 0$ [21, 2]. Q_t is the covariance matrix of e_t, since q_{iit} is not equal to one by construction. If $\theta_1 = \theta_2 = 0$, and $\overline{q}_{ii} = 1$, the CCC model is obtained. Hence one can test for CCC against $DCC_E(1,1)$. In both DCC models, all the conditional correlations have the same dynamics [2], [16].

The application of MGARCH models

The success of the autoregressive conditional heteroscedasticity (ARCH) model and the generalized ARCH (GARCH) model in capturing the time-varying variances of economic data in the univariate case has motivated many researchers to extend these models to the multivariate dimension [23]. While univariate descriptions are useful and important, problems of risk assessment, asset allocation, hedging in futures markets and options pricing require a multivariate framework, since high volatilities are often observed in the same time periods across different assets [27]. There are many examples in which empirical multivariate models of conditional heteroscedasticity can be used fruitfully. An illustrative list includes the following analyses: model of the changing variance structure in an exchange rate regime (Bollerslev, 1990), calculation of the optimal debt portfolio in multiple currencies (Kroner and Claessens, 1991), evaluation of the multiperiod hedge ratios of currency futures (Lien and Luo, 1994), examination of the international transmission of stock returns and volatility (Karolyi, 1995) and estimation of the optimal hedge ratio for stock index futures (Park and Switzer, 1995) [23].

C. M. Hafner and H. Herwartz (1998) introduced volatility impulse response functions (VIRF) for multivariate time series exhibiting conditional heteroskedasticity. For the general VEC representation of multivariate GARCH models they provided the analytic expressions for VIRF. The structural dependence of the conditional correlation was shown to depend crucially on the multivariate GARCH specification in use. Volatility shocks were highly persistent for bivariate exchange rate series. Using the BEKK model as parameterization device they found deviations from a restricted version of the so-called diagonal model to be significant [14]. These authors (2006) introduced a new concept of impulse response functions tracing the effects of independent shocks on volatility through time while avoiding typical orthogonalization and ordering problems. They applied their methodology to a bivariate system consisting of foreign exchange (FX) rate series, and they discussed various examples of historical shocks and their impacts on volatility. They found, among other things, considerably different interpretations using VIRF and conditional volatility profiles, respectively, for shocks affecting the volatilities in an asymmetric way, that is, a shock that perturbs one series but not the other [12]. Again, same authors (2004) used the general VEC representation of multivariate GARCH model. They proved sufficiency or necessity of particular parameter restrictions for noncausality in variance (linear causality in variance). They showed that a convenient alternative to residual based testing was to specify a multivariate volatility model, such as multivariate GARCH (or BEKK), and constructed a Wald test on noncausality in variance. The Wald test was shown to have superior power properties under a sequence of local alternatives. Furthermore, they showed by simulation that the Wald test is quite robust to misspecification of the order of the BEKK model, but that empirical power decreases substantially when asymmetries in volatility are ignored [17]. In their paper (1998) these authors employed bivariate GARCH in Mean time series models in order to explain excess return of 20 major German

stocks in the light of the CAPM framework with time varying betas. The dependence of beta on news was characterized with respect to different sources (asset specific vs. market general news). The empirical result suggested that negative news emerging from the market involve a stronger impact on beta relative to positive news [13].

Wenling Yang, David E. Allen (2004) estimated futures hedge ratios from four alternative modeling frameworks, an Ordinary Least Squares (OLS)-based model, a Vector Autorregression (VAR) model, a Vector Error-Correction model (VECM) and a diagonal VEC (DVEC) multivariate GARCH model. They compared the hedging effectiveness of these hedge ratios. The multivariate GARCH time-varying hedge ratios outperform the other constant hedge ratios, and MGARCH hedge ratios provide the highest rate of return as well as the greatest portfolio risk reduction [28]. Bera, Garcia and Roh (1997) reported that the BEKK model did not perform well in the estimation of the optimal hedge ratios. Lien, Tse and Tsui (2001) reported difficulties in getting convergence when using the BEKK model to estimate the conditional-variance structure of spot and futures prices [22].

To capture the time-varying feature of conditional correlation between equities and exchange rates, Tong (1996) adopted the BEKK multivariate GARCH model. The BEKK algorithm permits time-variation in the conditional covariance while it ensures the condition of a positive-definite, variance-covariance matrix. But as for many currency markets, Sheedy (1998) found that the BEKK specifications would not be effective in eliminating the correlation structure [26].

Siu Pang Au-Yeung and Gerard Gannon (2002) applied BEKK-GARCH model with multiple switch points in the variance equations and they found to capture the structural changes that have taken place in the Hong Kong markets. They found the BEKK-GARCH (1,1) model with 3 switching points was superior to other models with less switching points. It was able to capture structural changes in the volatility structure of the HSI and HSIF. Hence, their results showed there are significant impacts on the informational efficiency in the stock and futures market following the policy changes [17].

Matteo Bonato (2006) combined the appealing properties of the stable Paretian distribution to model the heavy tails and the GARCH model to capture the phenomenon of the volatility clustering. A multivariate GARCH structure (diagonal BEKK and VEC) is then adopted to model the covariance matrix of the Gaussian vectors underlying the sub-Gaussian system. He was applied the model to daily U.S. stock returns [6].

Aslihan Altay-Salih, Mustafa C. Pinar and sven Leyffer (2003) proposed a constrained nonlinear programming view of multivariate GARCH volatility estimation models in financial econometrics. Their results demonstrate that constrained nonlinear programming (NLP) is a worthwhile exercise for GARCH models, especially for the bivariate and trivariate cases, as they offer a significant improvement in the quality of the solution of the optimization problem over diagonal VECH and BEKK representation of the multivariate GARCH model [1].

Rombouts and Verbeek (2004) analyzed optimal portfolio choice focusing explicitly on downside risk. In particular, they investigated the economic value of multivariate volatility models (DVEC, DCC models of Tse and Tsui (2002) and Engle (2002)) when optimal portfolios are constructed under a Value-at-Risk (VaR) constraint. Value-at-Risk defines the maximum expected loss on an investment over a specified horizon at a given confidence level, and is used by many banks and financial institutions as a key measure for market risk. They explored the usefulness of semi-parametric multivariate GARCH models for asset returns for evaluating the VaR of a portfolio. They also illustrated how such models can be used to determine an optimal portfolio that is based on maximizing expected returns subject to a downside risk constraint, measured by VaR. The advantage of the multivariate approach is that the VaR of any portfolio of assets can be determined from the GARCH estimates and the corresponding non-parametric estimate of the multivariate distribution of the innovations [19].

C. Brooks, A.D. Clare and G. Persand (2002) have investigated the possible use of multivariate GARCH models with time-varying conditional covariances and correlations in calculating minimum capital risk requirements (MCRRs) for portfolios of assets. Their most important result is that more accurate MCRRs estimates might be achievable if they can consider the VaR problem in a multivariate

context. The model that they have applied in paper appears to have been relatively accurate, at least compared with equivalent calculations based on univariate models [8].

Kroner and Sultan (1991) applied the constant-correlation bivariate GARCH (bivariate CCC-GARCH) model to hedge the currency exposure risk. While conditional variance of different assets and currency forward prices changes over time, the conditional correlations for currency markets are assumed to be constant in order to get a positive definite variance-covariance matrix as proposed in Bollerslev (1990). This constant-correlation approach has been widely applied because of its computational simplicity. But the financial data of equities and exchange rates provided strong evidence that the assumption of having a constant correlation was violated for these markets [26].

Luc Bauwens and Sebastien Laurent (2004) showed that a high dimensional VaR problem could be solved without imposing strong restrictions on both the covariance structure and the distribution of the innovations. They showed that new family of distributions (the multivariate skew-Student density) combined with a multivariate DCC-GARCH model is useful for modeling financial returns and forecasting the Value-at-Risk (VaR) of portfolios of assets. Indeed, they found that the multivariate skew-Student density provides better, or at least not worse, out-of-sample VaR forecasts than a symmetric density [3].

Robert Engle (2002) showed in his paper that the bivariate version of DCC model provides a very good approximation to a variety of time varying correlation processes. The comparison of DCC with simple multivariate GARCH and several other estimators showed that the DCC is often the most accurate. This is true whether the criterion is mean absolute error, diagnostic tests or tests based on value at risk calculations. Empirical examples from typical financial applications are quite encouraging as they reveal important time varying features that might otherwise be difficult to quantify. Statistical tests on real data indicated that all of tested models are misspecified but that the DCC models are competitive with the multivariate GARCH specifications and superior to moving average methods [11].

Shohreh Valiani (2004) adopted MGARCH specification that has been applied to estimate the time-varying correlations of underlying assets and related currency forwards in order to hedge the currency exposure risk in an international portfolio context. His paper adopted a simple conditional risk minimizing model and based on the time-varying correlations of security and currency forward exchange rate returns estimate the optimal weights of investment in different underlying assets accompanied by the necessary amounts of currency forward hedges. The empirical investigation shows that the optimal multivariate GARCH dynamic hedging strategy can capture the currency fluctuations the best and over-performs the risk controlling procedure [26].

John Elder (2003) derived an analytical expression for an impulse-response function for a vector autoregression with multivariate GARCH errors, where the vector of conditional means is a function of the conditional variances. He also provided the appropriate interpretation of an impulse-response function for such models and suggest interesting empirical issues that can be addressed within this framework [10].

Y. K. Tse and Albert K. C. Tsui (1998), applied the multivariate GARCH model with time-varying correlation (DVEC) to three data sets, namely, the exchange rate data, the national stock market data and the sectoral price data. This model was found to pass the model diagnostics satisfactorily and compared favorably against the BEKK model, while the constant-correlation MGARCH (CCC) model was found to be inadequate. Extending the constant-correlation model to allow for time-varying correlations provided some interesting empirical results. In particular, the estimated conditional-correlation path provides an interesting time history that would not be available in a constant-correlation model [22].

Tim Bollerslev (1989) proposed a multivariate time series model with time varying conditional variances and covariances, but constant conditional correlations (CCC model). Parametrizing each of the conditional variances as a univariate GARCH process, the descriptive validity of the model was illustrated for a set of five nominal European U.S. dollar exchange rates following the inception of the European Monetary System (EMS). When compared to the pre-EMS free float period, the comovements between the currencies were found to be significantly higher over the later period [5].

Michael Schröder and Martin Schüler (2003) attempted to assess the Europe-wide systemic risk in banking. Systemic risk is one of the main reasons why banks are regulated and supervised. As a measure of systemic risk they used the conditional correlations between pairs of national bank stock indices of the EU countries. The correlations were estimated using bivariate GARCH-models which considered the influence of the national stock market index and a short-term interest rate as explanatory factors. The correlations measured the linear relationships between the residuals of the GARCH-models and as these residuals mainly reflect bank specific factors they are suitable to quantify the systemic risk [20].

Jelena Minović (2007) applied MGARCH (restricted BEKK, DVEC and CCC) models to the analysis of the Serbian financial market. She considered bivariate and trivariate time series models. The main finding of her paper is that conditional covariances exhibited significant changes over time for the both stocks (Hemofarm and Energoprojekt) and the index (BELEX15). So, the correlation between log returns of stocks and index was very unstable over time in Serbian frontier markets. She showed that even restricted version of BEKK, DVEC and CCC models with reduced number of parameters could gave fairly accurate results (for detail see reference [15]).

Leverage effect in multivariate GARCH models

Leverage effect is the tendency for volatility to rise more following a large price fall than following a price rise of the same magnitude [7]. For example, for stock returns, negative shock may have a larger impact on their volatility than positive shocks of the same absolute value (this effect is unveiled by Black 1976). In other words, the news impact curve, which traces the relation between volatility and the previous shock, is asymmetric. For multivariate series the same argument applies: the variances and the covariances may react differently to a positive than to a negative shock [4]. Most multivariate GARCH models do not allow for asymmetries [9].

Kroner and Ng (1998) applied the model to large and small firm returns. They found that bad news about large firms can cause additional volatility in both small-firm and large-firm returns. Furthermore, this bad news increase the conditional covariance. Small firm news had only minimal effects [4].

Peter De Goeij and Wessel Marquering (2004) analyzed bond and stock market interactions by modeling the time-varying covariances between stock and bond market returns. The main contribution of their paper is that it extends the multivariate model by allowing for asymmetric effects in covariances between stock and bond returns. They used the asymmetric diagonal VECH[4] model in the matrix notation:

$$\Sigma_{t+1} = C + B\square\,\Sigma_t + A_1\square\,\varepsilon_t\varepsilon_t' + A_2\square\left(\varepsilon_t^-\varepsilon_t^{-'}\right) + A_3\square\left(\varepsilon_t^-\varepsilon_t^{+'}\right) + A_4\square\,\Im\left(\varepsilon_t^+\varepsilon_t^{-'}\right),$$

where C, B, A_1, A_2, A_3, and A_4 are ($N\times N$) parameter matrices, $\Im$ is the operator that permutes rows of a square matrix, in such a way that the lower triangular part of the matrix is substituted by the upper triangular part of the matrix, and $\varepsilon_t^- = \left[I_{\varepsilon_{1,t}}\varepsilon_{1,t},...,I_{\varepsilon_{N,t}}\varepsilon_{N,t}\right]'$ and $\varepsilon_t^+ = \left[\left(1-I_{\varepsilon_{1,t}}\right)\varepsilon_{1,t},...,\left(1-I_{\varepsilon_{N,t}}\right)\varepsilon_{N,t}\right]'$ [9].

They showed that asymmetric effects are present in the covariances between stock returns and returns on a second asset. They also showed that daily returns on the S&P 500 and NASDAQ indexes exhibit significant leverage effects. Not only variances, but also covariances, between stock and bond returns

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[4] VECH is the operator that stacks the lower triangle of a $N\times N$ matrix as an $N*\times 1$, $N*=N(N+1)/2$ vector, while VEC is the operator that stacks a matrix as a column vector [15].

exhibit significant asymmetries. Overall their findings imply that a symmetric specification is too restrictive to model the conditional covariances. Especially bad news in the stock market is followed by a much higher conditional covariance than good news in the stock market. This holds irrespective of the sign of the bond market shock. The cross effects in asymmetries appear to be important as well. Covariance between stock and bond returns tend to be relatively low after bad news in the stock market and good news in the bond market. Thus they find evidence that the cross-asymmetry terms are important when modeling covariances between asset returns. Overall the results indicate that the performance of the asymmetric diagonal VECH model[5] of conditional second moments is quite good. Asymmetries in covariances have important implications for portfolio managers [9].

Peter De Goeij and Wessel Marquering inferred that the conditional covariance is high after shocks of the same sign, while shocks in opposite directions lower the conditional covariance. This is because bond returns are positively correlated. As the assets move together, shocks in the same direction involve a higher risk than shocks in opposite directions. This make sense, as it is riskier to invest in two assets that are highly positively correlated than to invest in two assets that are less correlated [9].

Hansson and Hordahl (1998) add the term $D \square \, v_{t-1} v_{t-1}'$, in a DVEC model like (2.3). Where D is a diagonal matrix of parameters. To incorporate the leverage effect in the (bivariate) BEKK model, Hafner and Herwartz (1998) add the terms $D_1' \varepsilon_{t-1} \varepsilon_{t-1}' D_1 1_{\{\varepsilon_{1,t-1<0}\}} + D_2' \varepsilon_{t-1} \varepsilon_{t-1}' D_2 1_{\{\varepsilon_{2,t-1<0}\}}$, where D_1 and D_2 are 2×2 matrices of parameters and $1_{\{...\}}$ is the indicator function. This generalizes the univariate GJR specification (for detail see reference [15]) [4].

Conclusion

The main aim of this paper is application MGARCH models in different area economy and finance. We present some literature review about application of these models. In the beginning of this paper we introduced basic concept of multivariate volatility (GARCH) modeling. The key is that in many financial econometric models the conditional-variance and conditional-covariance equations plays a major role. There are many examples in which empirical multivariate models of conditional heteroscedasticity can be used fruitfully. So, multivariate descriptions are useful and important, because problems of risk assessment, asset allocation, hedging in futures markets and options pricing, portfolio Value at Risk estimates, CAPM betas, require a multivariate framework and covariances as inputs.

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Venture Capital in the Central and Eastern European Countries and Croatia

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ABSTRACT – *Venture capital has greatly developed over the last three decades in the United States, but much less so in Europe, especially in the CEE countries. Therefore, the purpose of this paper is to provide a comparative analysis of the venture capital in the CEE and Croatia, with special emphasis on the situation of the venture capital in Croatia. After a short overview of the general development of venture capital and its origins, the situation in the CEE and Croatia is analysed in more detail by using different measures such as the ability to attract capital, venture capital investments as a percentage of GDP, index of economic freedom and combined scores. All the measures show that Croatia lags behind all the CEE countries, but more importantly, they also show that Croatia has a large potential for the development in this area.*

KEY WORDS: *venture capital, investment activity, sources of finance, Index of economic freedom, Central and Eastern Europe, Croatia*

Introduction

Entrepreneurial ventures – in other words, businesses that are innovative and oriented towards growth – are often resource constrained and they face considerable challenges in gaining the access to financial resources, as well as knowledge resources like business know-how, experience and networks. An answer to these problems could lie within the venture capital segment of the financial market. Venture capital and private equity funds represent a new and underdeveloped segment of the financial market in the CEE countries, as well as in Croatia. Therefore, the aim of this paper is to provide a historical overview of private equity and venture capital funds in the CEE countries, regarding their investment activity and type of investments. Furthermore, the paper will analyse the current state of private equity and venture capital funds in Croatia, with an emphasis on key problems why that financial market segment still is not quite developed. In the end, a comparative analysis of the CEE countries and Croatia will be presented, followed by some recommendations, given in the conclusion, on how to improve the overall investment climate in Croatia in terms of the venture capital financing.

Private equity and venture capital funds in CEE

Private equity and venture capital funds exist for over 18 years in CEE. These funds have raised over 7 billion euros from 1990 to 2005, while fundraising increased dramatically in the following 3 years. Therefore it can be said that although it is a very young segment of the financial market, it is also substantially developed. Moreover, around 75% of the total funds raised in the previously mentioned period has been invested in more than 900 investments (EVCA, 2007).

Especially interesting for the region, concerning the private equity and venture capital activity, were the years 2003 and 2004 that forgo the EU accession of some countries taken into analysis, since in those countries many changes occurred in that period, primarily in the judiciary system and overall business environment that gave a boost to the investment activity. Moreover, becoming a member of the EU is of great importance for the candidate country and has many positive connotations. Investors

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automatically perceive countries that are EU members, or EU candidates, as being less risky with growing markets, not to mention the importance of harmonisation with the EU standards in the law, administrative and economic policies that further improve investment climate. Economies of the CEE countries that recently entered the EU grew faster than the EU-15, with a constant increase in foreign and domestic investments. Therefore, similar scenario may be expected concerning Croatia's future EU membership status.

Graph 1 clearly demonstrates an evident increase of funds raised by private equity in the region over the last six years, which indicates a great interest of private equity investors for the region. The source of major part of funds collected was from non-domestic investors. More than 80% of capital in 2006 has been raised primarily from Western Europe and North America, which traditionally represent main sources of capital. On the contrary, in the EU more than half of capital needed, on average, comes from domestic sources of financing (EVCA, 2007).

Graph 1. Fundraising of the private equity in CEE, 2002–2007
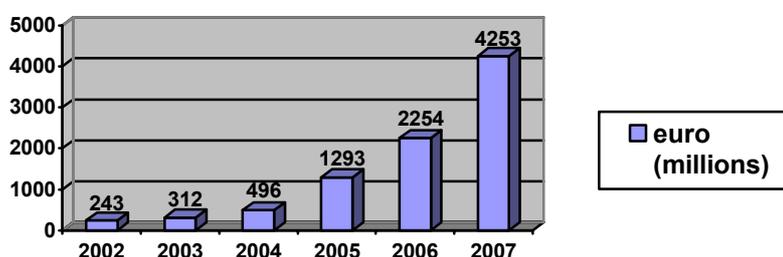
Source: Authors' calculation based on the data collected from EVCA

The fundraising of private equity capital increased dramatically in 2004, in the amount of 59% compared to 2003, while the region experienced an all-time record of 161% increase in 2005 compared to 2004. The increase continued over the next years and in 2007 more then 4.25 billion euros were raised, which represents a growth of 89% in comparison to the record high in 2006 (EVCA, 2007). However, despite the recent remarkable growth of fundraising activity, the CEE countries still do not manage to attract the desired amount of capital needed to finance all the prospective business opportunities.

Investment activity

The private equity investment activity increased dramatically over the past years in all the observed CEE countries. An all-time record of threefold increase was reached in 2006 as compared to 2005, as it can be seen from Tables 1 and 2 (EVCA, 2007). The highest level of total investments was noted in Hungary, Poland, Czech Republic and Romania. Moreover, until 2006 some 90% of the region's investment activity was concentrated in these countries. However, only Hungary and Slovakia followed a smooth, long-term upward trend while most of the countries experienced changes. The trends turned negative significantly in Romania, Czech Republic, Lithuania, Estonia and Slovenia in 2004 and in Bulgaria, Latvia and Croatia in 2005. Fortunately, investments followed positive trend again from 2006 onwards. The reasons for such changes probably lie in the fact that year-to-year changes are usually affected by limited number of very large transactions.

Most of these countries showed an extreme growth in 2007, notably Poland, Bulgaria, Romania, Poland and the Baltic countries. Slovenia and Croatia experienced a large increase in 2006, which continued in 2007. Although Czech Republic and Hungary were the only countries that experienced a decrease in 2007, the long-term trend was still upward compared to prior years.

Table 1. Private equity investments as a percentage of GDP in CEE, 2002–2007

Country	2002	2003	2004	2005	2006	2007
Romania	0.037	0.159	0.055	0.088	0.115	0.392
Hungary	0.110	0.154	0.150	0.167	0.883	0.487
Bulgaria	0.016	0.101	1.110	0.000	0.143	1.923
Poland	0.069	0.098	0.069	0.045	0.118	0.222
Czech R.	0.037	0.052	0.019	0.112	0.315	0.133
Latvia	0.008	0.036	0.120	0.068	0.000	0.793
Lithuania	0.011	0.031	0.007	0.070	0.076	0.567
Estonia	0.010	0.022	0.004	0.120	0.031	0.332
Slovakia	0.018	0.016	0.021	0.052	0.045	0.043
Slovenia	0.007	0.015	0.000	0.007	0.130	0.139
Croatia	0.014	0.011	0.015	0.002	0.035	0.046
Total	0.054	0.088	0.096	0.073	0.218	0.325

Source: Authors' calculation based on the data collected from EVCA

**Table 2. Total investments of private equity funds in CEE,
2002–2007 (in millions of euros)**

Country	2002	2003	2004	2005	2006	2007
Romania	18,008	82,020	32,543	70,000	109,956	475,861
Hungary	75,747	110,755	121,562	147,247	734,360	491,367
Bulgaria	2,694	18,043	215,976	-	35,812	555,653
Poland	137,238	177,213	134,437	107,818	303,621	683,518
Czech R.	27,370	39,422	16,074	108,952	354,208	170,250
Latvia	998	2,692	13,261	8,719	-	159,211
Lithuania	1,206	5,647	1,182	14,359	18,103	158,821
Estonia	698	1,661	365	12,659	4,031	51,690
Slovakia	4,737	4,479	7,059	19,467	19,348	23,460
Slovenia	1,720	3,714	-	2,009	38,712	46,663
Croatia	3,312	2,799	4,021	756	12,033	17,244
Total	273,728	448,445	546,480	508,320	1,667,013	3,005,161

Source: Authors' calculation based on the data collected from EVCA

When measured as a percentage of GDP, investments are still below the average for Europe as a whole. Nevertheless, although the CEE region lags behind the European average, the gap is evidently shrinking. While in 2005 the CEE countries represented 19% of the European average of 0.388% of GDP, in 2007 they reached 57% of the European average of 0.571% of GDP (EVCA, 2007).

Type of investments

When comparing countries by type of investments, in the CEE region, just as in Europe as a whole, the largest volume of investments is in buyouts. However, unlike in Europe, buyouts made the largest proportion of total investments in 2006, even 91%, which was far beyond the European level, which was more or less stable over the years and around 70%, as it can be seen from Table 3.

The highest proportion after buyouts goes to expansion and replacement capital, but their ratios vary from year to year in both CEE and Europe. However, we may notice different trends. While in CEE expansion capital followed a downward trend until 2007, replacement capital showed an upward trend until 2006, whereas in 2007 they both grew significantly. Just the opposite, in Europe expansion capi-

tal was at similar level until 2006, when it started a downward trend, while replacement capital varied from year to year without a clear long-term trend (EVCA, 2007).

Table 3. Type of investments as a percentage of total investments in CEE and Europe, 2003–2007

CEE	2003	2004	2005	2006	2007
Seed	0.17	0.0	0.0	0.1	0.1
Start-up	5.40	1.1	1.8	2.7	0.8
Expansion	32.42	38.7	25.9	5.7	12.9
Rescue/Turnaround	-	-	-	-	0.2
Replacement capital	11.42	19.3	24.8	0.5	8.8
Buyouts	50.59	40.9	47.6	91.0	77.2
Total	100.00	100.0	100.0	100.0	100.0
Europe	**2003**	**2004**	**2005**	**2006**	**2007**
Seed	0.57	0.4	0.2	0.3	0.2
Start-up	6.82	6.0	5.0	10.0	3.2
Expansion	21.56	21.4	21.8	15.4	13.4
Rescue/Turnaround	-	-	-	-	0.2
Replacement capital	7.87	2.5	4.8	5.1	4.2
Buyouts	63.18	69.7	68.2	69.2	78.8
Total	100.00	100.0	100.0	100.0	100.0

Source: Authors' calculation based on the data collected from EVCA

Seed financing and start-up made only a small proportion of private equity investments just as in whole Europe, but they were both at much lower levels than in Europe. When comparing the distribution in CEE to the European one, we may say that buyouts, expansion and replacement capital are at the approximately same level, while seed and start-up investments are at the much lower level.

Venture capital and private equity in Croatia

The development of small and medium sized enterprises (SMEs) is the key to a stable and efficient economic growth in developed countries. Therefore, a half of all investments in the EU was financed by venture capital funds; in the USA this proportion is even higher. These funds in Croatia were restrained of doing business owing to an improper law on investment funds. In 2005, by adoption of the Law on Investment Funds[2] and the Law on Croatian Agency for Supervising Financial Services[3], the legal framework for the development of venture capital was established in Croatia. The new law on investment funds allowed the registration of companies' venture capital funds as open-end investment funds with private offers, and it also regulated investment activities. Until then, the funds were founded offshore and they operated in Croatia through the intermediation of domestic companies that searched for potential investment candidates.

According to the new law on investment funds, the funds are to be established on a certain period, minimally 10 years, and should be governed by a special management society. The minimum size of each fund should be 75 million kunas. The number of investors should not exceed 20 and, after a period of 5 years, capital should not be beyond 50% of its initial value. Stakes should be sold only to qualified investors: institutional investors, or investors whose net value of assets is at least 20 million kunas and minimum amount of investments 10 million kunas. These facts are essential for the long-term venture capital financing and thus should be used only by those investors who have enough capi-

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[2] Law on Investment Funds, NN – 150/05
[3] Law on Croatian Agency for Supervising Financial Services, NN – 140/05

tal to invest for a longer period of time, without endangering its own portfolio. The new law on investment funds has speed up the formation of venture capital funds, and their value was recognized by the Ministry of the Economy, Labour and Entrepreneurship and the Croatian Bank for Reconstruction and Development, which got also involved in the formation of venture capital funds.

Currently, there are several venture capital funds operating in Croatia, and those are: Quaestus Private Equity, Nexus Private Equity Partners, Copernicus Capital, SEAF Croatia, Horizonte Venture Management, Vienna Capital Partners, KD Private Equity, and Poteza Ventures. They have invested approximately 80 million euros in a roughly 50 projects.

Quaestus Private Equity is the first registered venture capital fund with private offer in Croatia. The company is present on the market since 2003, but only in 2006 it was registered according to the new law on investment funds. Quaestus has invested in several companies in the field of telecommunications, food production and medical services[4]. It manages capital of 35 million euros, which was funded by 9 renowned Croatian companies[5].

The second venture capital fund, and currently the newest one, Nexus Private Equity Partners is a private venture capital fund established in October 2008. It manages capital of 36 million euros, which was also invested by eminent Croatian companies (70%), institutional investors (12%) and individuals (18%). Since it is rather new, so far it has not made any investments.

Table 5. Venture capital and private equity funds in Croatia

VC & PE funds	Size (in millions)	Size of total investments (in millions)	Number of total investments
Quaestus Private Equity	€ 35.0	€ 11.67	3
Nexus Private Equity Partners	€ 36.0	-	0
Copernicus Adria	$ 30.0	$ 30.00	11
SEAF Croatia	$ 8.2	$ 8.00	21
Horizonte Venture Management	€ 20.0	-	12
Vienna Capital Partners	€ 35.0–40.0	€ 38.00	4
KD Private Equity	€ 31	-	0
Poteza Ventures 2007	€ 50	-	2
BICRO – VENCRO	€20	-	-

Sources: http://www.nexus-pe.hr; Čipčić Bragadin, S. (2007): *Venture capital financing*

Croatia Capital Partnership (CCP) is one of the first and most active private equity funds in Croatia. The fund is managed by Copernicus Adria. The founders and main shareholders are the European Bank for Reconstruction and Development (EBRD), Bank of Zagreb (Zagrebačka banka), Cassamarca Treviso Bank, Erste Bank Wien, International Finance Corporation and Advent International. Copernicus has invested in 9 companies in Croatia and in 2 companies in Serbia. The fund manages 30 million dollars and till today has invested all the available investment capital. It has invested 7.4 million dollars in telecommunications, then in CATV and Adriatic kabel (4 million dollars), IVB and KabelNet (2.2 million dollars). CCP is also a major owner of Globalnet group.

SEAF Croatia is one of the most active investors in SMEs. It was founded in 1997 by an international fund, the Small Enterprise Assistance Fund. It is partly financed by the USAID, and by SEAF headquartered in Washington DC, which manages or is a proprietor of 13 similar funds around the world. SEAF is, however, obliged to store profit in Croatia for further investments. This fund provides not only capital, but also support in terms of business planning, technical counselling, marketing, produc-

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[4] Hospitalija, Metronet, Tele 2, Hlad, Akromion, GFG Gustus, Vulić & Vulić
[5] Privredna banka Zagreb**,** Croatia osiguranje**,** Nexe grupa**,** Konstruktor inženjering, Dalekovod**,** FIMA holding, Institut građevinarstva Hrvatske, Jamnica, MSAN grupa

tion and accounting. SEAF manages 8.2 million dollars, out of which 8.0 million dollars is invested in 21 projects like DCM Cable Television, Digital Point/Express, Iskon Internet, and Renoprom.

Horizonte Venture Management is an Austrian venture capital fund management team with a 16 years track record of investing in the South-eastern Europe. It was founded in 1985 as a venture management group for the South-eastern Europe. It has built network of branches outside Austria, which includes Croatia too. It manages capital of 20 million euros that was invested in 12 projects.

Vienna Capital Partners is an Austrian company that invests mainly in Austria and Croatia. It manages capital of roughly 40 million euros. In this area, it has invested mainly in media, so it also appears as an owner of several newspapers like Serbian "Blic" and Croatian "Nacional".

KD Private Equity Fund manages capital of 31 million euros. The fund was launched in spring 2006. Investors in KD Private Equity Fund include KD Group, major Slovenian banks and the Swiss government development fund SECO. KD Private Equity Fund has intention to invest in companies in Albania, Bosnia, Bulgaria, Croatia, Macedonia, Moldavia, Montenegro, Romania, Serbia and Slovenia.

Poteza Ventures is the largest fund of venture capital, which actively invests in high tech projects in Croatia. It is a Slovenian fund in which is also incorporated Croatian capital. According to the newest information[6], the fund manages 50 million euros, and has realized two investments: one in Slovenia and another in Croatia; in the latter case it is the Right Pace (Pravi korak), which launched vertical Internet search engine GoHome.hr. The management of Poteza Ventures announced two more investments in the near future.

Besides in legislation, Croatia made a step forward through the formation of the Business Innovation Centre (BICRO) and the Croatian Institute of Technology. BICRO is the key organization within the national innovation system, the basic role of which is the development and implementation of government support programmes aimed at strengthening the technology development as the main generator of a sustainable economic growth. These two institutions founded venture capital fund VENCRO. The fund is managed by a private sector management company selected through a public call for proposals[7]. The initial investment of the Croatia's government was 4.5 million euros, and it is expected that the private partners will invest additional 20 million euros. The programme supports the establishment of venture capital funds and the development of the overall venture capital industry.

Reasons for the underdevelopment of venture capital and private equity funds in Croatia

Recently some progress has been made concerning conditions that could increase venture capital investments, but still it is the least developed segment of the Croatian financial market. According to the research of EVCA[8], on the Eastern European market, Croatia is at the bottom of the ladder in terms of attractiveness for venture capital investors. In evaluating the problems that CEE transition countries and Croatia face regarding efforts in attracting venture capital, we considered only some of the factors included in the Index of Economic Freedom (IEF)[9], while there are also other economic, political and cultural factors that might be considered. The degree of economic freedom shows situation in a certain country concerning business freedom, trade freedom, fiscal freedom, monetary freedom, investment

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[6] http://www.poslovni.hr

[7] NN – 13/07

[8] www.evca.com

[9] The Index of Economic Freedom is a series of 10 economic measurements created by the Wall Street Journal and the Heritage Foundation. Its objective is to measure the degree of economic freedom in the world's nations. The methodology has shifted and changed as new data and measurements have become available, especially in the area of labour freedom, which was given its own indicator spot in 2007. Another change is that the Index is overseen by an academic advisory board. The Index scores nations on 10 broad factors of economic freedom using statistics from organizations like the World Bank, the IMF and the Economist Intelligence Unit. The 10 factors are averaged equally into a total score. Each one of the 10 freedoms is graded using a scale from 0 to 100, where the upper limit (100) represents the maximum freedom. A score of 100 signifies an economic environment or set of policies that is most conducive to economic freedom.

freedom, financial freedom, labour freedom, government size, property rights and freedom from corruption. Variables of special interest to investors are investment freedom, trade freedom and property rights, since these are some of the critical factors that investors examine while deciding whether to invest in a certain country.

Table 6. Index of Economic Freedom in 2008

Country	Overall ranking (out of 161 countries)	Regional rank (out of 41 countries)	Average economic freedom (%)
Mostly free			
Estonia	12	5	77.8
Lithuania	26	13	70.8
Moderately free			
Czech Republic	37	21	68.5
Latvia	38	22	68.3
Hungary	43	23	67.2
Bulgaria	59	28	62.9
Romania	68	30	61.5
Slovenia	75	33	60.6
Mostly unfree			
Poland	83	35	59.5
Croatia	113	37	54,6

Source: www.heritage.org

Taking into account all the ten factors, the European average of economic freedom is 66.8%. Most of the European countries fall into the category of moderately free countries, and none of them falls into the category of free or repressed countries. According to the data provided, the best performing countries, those most likely to attract venture capital, are Estonia and Lithuania, followed by Czech Republic and Latvia. Croatia is ranked 37th out of 41 countries in Europe, as it can be seen from Table 6, and its overall score of 54.6% is below the average for Europe, together with scores of Poland, Bulgaria, Slovenia and Romania. Croatia earned a score of 54.6%, which is 0.7 percentage points higher than the last year. Croatia stands slightly above the European average in trade freedom, financial freedom, and monetary freedom.

Croatia's most conspicuous weakness in terms of economic freedom is its outsized government. This appears in other areas: heavy regulations on business, labour, and even rights to property. Furthermore, there are insufficient tax incentives, inability of pension funds to invest in companies not quoted on the organized market, and restrictions concerning investment possibilities of insurance companies. The court system is liable to corruption, political interference, and inefficient bureaucracy. Moreover, there are significant unofficial restrictions on foreign investments. Concerning investment freedom, foreigners may invest in nearly every sector of the economy, but the problem of complex bureaucracy, very slow legal system, and subsidies to state-owned enterprises remain. Regarding property rights many observers view the judicial system as most affected by corruption. The court system is inefficient, and business disputes drag on courts for years. The government is working on the judicial reform, but much remains to be done.

Unenviable situation of Croatia sends the wrong message to foreign and local investors that are interested in investing capital in it, and therefore Croatia still belongs to those European countries where tax and legal environments are inconvenient for venture capital investments. Also, this situation is likely to continue since Croatian entrepreneurs are not sufficiently educated to recognize potentials of the venture capital financing and most of them believe that this kind of financing is not a necessity fearing of potential investors influence on their business policies.

Comparative analysis of venture capital and private equity funds in CEE and Croatia

When comparing Croatia to the rest of the CEE countries, from Table 1 it can be seen that Croatia lags behind the CEE countries concerning private equity investments as a percentage of GDP. Although there was a slight increase in 2004 after a long period of stagnation and low activities in 2005, investments fell dramatically to the level of 0.002%, far below the CEE average. Similar scenario was experienced by Bulgaria, Czech Republic, Lithuania, Estonia and Slovenia. Hungary and Slovakia were the only countries that followed an upward trend without great deviations.

**Graph 2. Private equity investments as a percentage of GDP in Europe,
leading CEE countries and Croatia, 2003–2007**
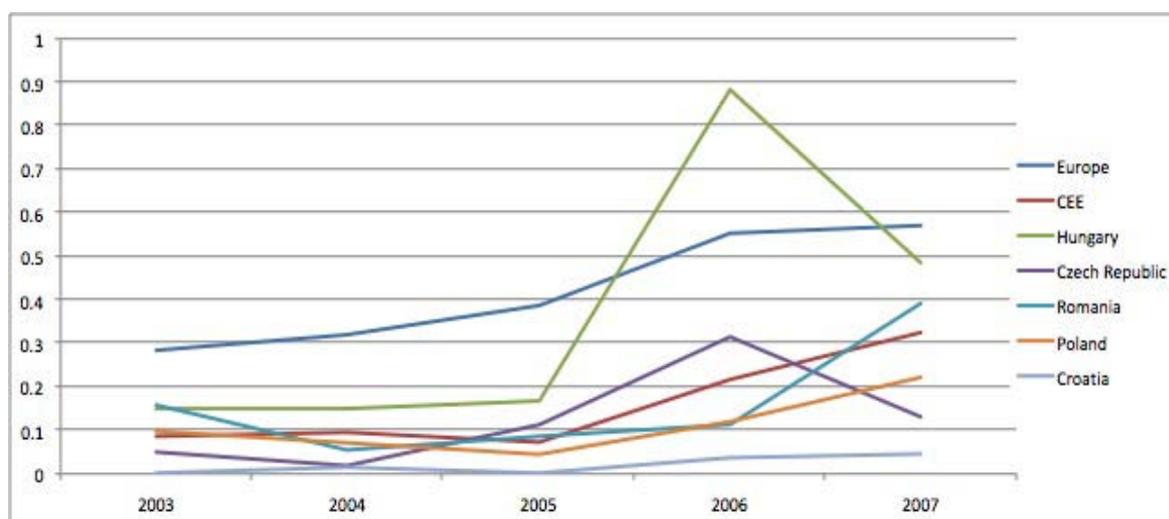
Source: Authors' calculation based on the data collected from EVCA

Nevertheless, things turned positive for Croatia in 2006, when it faced heavy increase in comparison to 2005, which continued onwards. The very same trend was followed by Slovenia, Bulgaria and the Baltic countries that went through an upsurge in 2007. Although investments as a percentage of GDP in Croatia are still below the levels of the CEE countries observed and Europe as a whole, except for Slovakia, it is evident that the gap is shrinking (see Graph 2).

Comparing the total investment activity of private equity funds in Croatia and the CEE countries, Table 2 clearly states that all observed countries are in a far better position then Croatia. Only Bulgaria, Latvia, Lithuania, Estonia and Slovenia had a lower investment activity in the first couple of years of the decade, but from 2003 all of them have recorded an immense increase in the total investment activity, leaving Croatia far behind. Therefore, it can be said that great changes occurred in the CEE countries that entered the EU in 2004. The Baltic countries experienced an increase even 50 times higher compared to 2003. This could be explained by various factors. One of them is certainly an extremely low rank of the index of economic freedom (seen Table 6) that puts Croatia in the position of mostly unfree countries. Also, there is a fact that all of the observed countries were candidates for the EU accession and from 2004 full members, which in turn had a definitive impact on the strong growth of the overall investment activity and therefore on the private equity as well. Hence, Croatia's EU accession may in turn able the private equity market to flourish.

Conclusion

Croatian entrepreneurs still do not understand the importance of innovative SMEs and their potential for further growth. Many of them still have fear of entrepreneurship and do not accept advises of in-

ternational experts. Only minority will try to seek international customers, which indicates a need for the development of international competitiveness, and corresponds to the IEF results, where Croatia is rated as a country with relatively high barriers to foreign investments. Therefore, Croatia should lower the barriers to foreign investments, difficulties in licensing and registration, and provide incentives to innovative and R&D activities in order to improve its overall entrepreneurial activity.

Also, a big problem relates to the underdevelopment of the capital market. According to the EBRD, Croatia's stock market capitalization is not satisfying, as well as the liquidity of the market. Therefore, the provision of quality trading instruments is important, along with the strategy for further privatisation. Many companies in Croatia are still nationalized. Hence, there is a large potential for their future privatisation through IPOs, which can be a great investment opportunity for private equity investors that, in turn, could improve the situation on the stock market through the quality and amount of stocks traded.

Therefore, in order to upgrade venture capital and the private equity market, Croatia should intensively work on the improvement of the judiciary system and financial markets, because they are the ones that determine the trust of investors and their perception of the country's risk level while making investment decisions. Since the possibility of financing projects is still mostly bank-oriented, Croatia should alter the law regulation that puts legal constraints to domestic investors such as pension funds, insurance companies and other investment funds to take part in the private equity or venture capital financing. Also, the promotion of innovative entrepreneurial culture and the removal of barriers to foreign investments should provide an overall better investment environment.

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World Economy Crisis, Financial Hurricane or Structural Breakdown

Ismail Musabegović[1]

ABSTRACT – On Monday, September 15, 2008, financial hurricane hit Wall Street. The wealth started melting rapidly in all layers of American society. The biggest consequences effected investment bank Lehman Bros, whose share value had dropped for 94%, and Merrill Lynch which was bought by the Bank of America Corp. The US government tried to revive lost confidence of the investors by launching individual financial interventions to financial institutions. First signs of "credit crunch", which is the official term for financial crisis, occurred more than year ago. Some authors call this crisis, mortgage credit crisis. There are several causes which lead to financial crisis. The causes can be grouped as follows: US Foreign Policy, Monetary Policy of Federal Reserve, Deregulation – lack of regulation, and Quasi-financial instruments – risk management.America immediately tried to help stumbled financial institutions with individual financial "injections", and for relatively short time spent approximately USD 600 billion. The effect of this help had limited action and did not stop negative trend. US government was forced to take another step and form intervention fond in the amount of additional USD 700 billion. At the end, my opinion is that this financial crisis does not represent financial hurricane, but deep structural breakdown in world economy.

KEY WORDS: financial market, crises, investment bank, risk management, regulation

Introduction

Once the world financial crises occur, it is often easy subsequently to explain principal causes. The big problem is that the damage was already made, billions of dollars simply evaporated and as a result of stock market crises one of the main outcomes will be economic recession. In order to recover the economy many years are needed[2].

In my article, in Pregled dated May 29, 2006, I have indicated several important signals that we can expect the adjustment in the world stock markets, which will have elements of financial downfall with far-reaching consequences in global economy. The most important consequence, certainly, is recession. Economic recession, above all, implies significant GDP fall, resulting from difficult operating conditions, output depression and unemployment enhancement. Globally, the most developed countries will first bear the burden and then the problem would expand to developing countries and countries in transition.

Financial hurricane on Wall Street

On Monday, September 15, 2008, financial hurricane hit Wall Street, financial center of the world. In New York, where 500 thousand people work in financial institutions, fear and uncertainty dominated from the lowest structures, through multimillionaires, to world royal families. The wealth started melting rapidly in all layers of American society.

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[1] Ismail Musabegović, Belgrade Banking Academy, Belgrade
[2] Musabegovic, I. (May 2006), Is economy shock expected? , *Pregled,* p. 17

The bad news, which was basically a trigger of negative trend, was bankruptcy announcement of investment bank Lehman Bros[3], whose share value had dropped for 94%. Only few days before, the bank had market value nearly USD 46 billion, and on Monday, September 15, 2008 its market value was nearly USD 145 million. On the same day, Bank of America Corp. bought Merrill Lynch, one of the five largest American investment banks, for USD 50 billion, which was equal to half of its market value in the preceding week. Also, on the same day it was announced that AIG (American International Group), the largest insurance company in the world, was on the edge of collapse. Previously, in the beginning of 2008, Bear Stearns also one of the five largest investment banks, had announced bankruptcy.

All these events as well as others reinforced fear in all leading financial institutions in America. On the same day the wave of bankruptcy expanded to other world financial centers. The anxiety also arose among the governments of the developed countries.

At the same time, Goldman Sachs, one of the leading investment banks, received financial aid in the amount of USD 5 billion from famous world investor Warren Buffett. The US government tried to revive lost confidence of the investors by launching individual financial interventions to financial institutions. The same strategy was followed by the governments of the other developed countries, especially The Great Britain, France, Germany and Japan.

US administration's individual aids and uncoordinated activities of European governments, as well as European Central Bank, additionally disturbed the investors, who had started to sell their securities. Financial stampede started and majority of shares significantly dropped in their value in all financial markets in the world. For a relatively short time leading world share indexes lost more than 30% of their market value.

The beginning

First signs of "credit crunch", which is the official term for financial crisis, occurred more than year ago. Some authors call this crisis, mortgage credit crisis. The obvious indicator for emergence of economic problems was the collapse of two strongest mortgage banks in US, Fannie Mai and Freddie Mac. These two banks had the largest share in the real-estate market in America. Their role, simply said, was to direct the resources, debited from the state, to loans for real-estate market. The US government prevented collapse of these two banks by nationalizing them. This move pointed out that there might be significant increase in budget deficit, which already threatened the economic stability. At that moment the new problem occurred. It is possible that holders of Treasury bonds would not want to finance budget deficit anymore, because of the expected interest rate decrease, which will reduce yield of investment. Interest rate decrease is expected to represent economic stimulant in order to ease the economic difficulties. The countries, like China, Russia and oil producer countries will be able to demand higher interest rates or they will deleverage assets, which will be direct impact to American economy and to the dollar value. In short term, dollar value will increase, due to demand for currency as a result of selling pressure of securities.

All this leads to the further fall of share's value in all world stock markets. Until the end of 2008 further market falls are expected for new 20-30%. The panic, which had started on September 15, 2008, after the leading share index Dow Jones dropped for 504 points, led to credit contraction. Credit contraction resulted in threat to liquidity of overall financial system. In relatively short period of time regular daily banking transactions were aborted. The reason for this interruption was mistrust between banks and fear that some of the banks in their credit portfolios have "toxic" securities, which can generate problems, which can lead to bank bankruptcy. The countries immediately reacted through their central banks, and started "pumping" the money in the financial system, in order to maintain regular daily activities in economic sector.

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[3] Lehman Brothers was no. 4 investment bank in USA, with nearly 25 thousand employees and operating in all financial centers in the world. Author's remark

This economy shock has consequences in all segments of global society. Negative influence will be reflected on each individual, institution and country in all continents in the globe. However, depending on many factors, this influence will have different intensity. It is certain that global slowdown in economic growth represents one of the major consequences of this financial crisis.

There are several causes which lead to financial crisis. Crisis begun in US and very quickly spread to the entire world. The causes can be grouped as follows:

1. US Foreign Policy
2. Monetary Policy of Federal Reserve
3. Deregulation – lack of regulation
4. Quasi-financial instruments – risk management.

During the last ten years US conducted foreign policy from the point of power supremacy, rather than reaching the solution by diplomatic negotiations. From the economic point of view, US government chose very expensive method in international relations with minimal political effects and very destructive economic consequences. Economically speaking, the US government significantly financed its own military engagement in the world. Each year hundreds billions of dollars from the budget were spent on unproductive activities, which, generally, represent ballast for the economy, except for the benefit of small number of companies in military industry sector. It is very important to emphasize that such outflow from the budget is nonrenewable. Simply, larger part in economy sector of America was damaged irretrievably because of financing military solutions in foreign policy.

In late 1990's several financial crisis occurred in the world (Mexico 1994, Asia 1997, Russia 1998), but not one had affected US directly. In the beginning of 2000 certain fractures in American economic system started perceiving. The events from September 11, 2001, had only strengthened the position of military part in US administration. Economic problems marginalized for which some external factors were quoted as causes. At the same time, Federal Reserve, which is responsible for monetary policy, in order to overcome difficult conditions in economy, started to lower key interest rates. Key interest rates occasionally were raised, in order to prevent potential inflation, as a permanent danger caused by extensive budget deficit. Second significant consequence is weakening of American currency. The result of this monetary policy was creation of "easy money" prepared for high-risk loans.

First victims of the latest financial crisis were investment banks. I have to mention that investment banking, after the Wall Street Crash of 1929, was completely separated from commercial banking by Glass-Steagalli Act of 1933. During the period 1933-1999, totally 66 years, financial system functioned like separated segments of investment and commercial banking. Investment banking was engaged in public and private market transactions for corporations, state and investors. The mentioned transactions included mergers, acquisitions, underwritings and issuing of equity and debt securities. Investment banks consulted and advised their clients in issuing necessary financial instruments, whether providing liquidity or development financing. Besides, investment banks dealt with other activities related to securities, like trading, securitization, collateralization, financial engineering, broker-dealer operations and investment management.

Gramm-Leach-Bliley Act from 1999 enabled investment banks to deal with the commercial banks activities, and commercial banks to deal with investment banking activities. At first sight, that is entirely objective and advisable solution, because it leads to forming large financial institutions, which can provide their clients with full services. However, joining together two banking systems, commercial and investment banking, where commercial is highly regulated, significant segment of activities not controlled by regulatory bodies was formed. The lack of proper regulations in these giant financial institutions was quickly displayed through bankruptcy of large companies, like ENRON and WORLDCOM.

"Easy money", artificially boosted positive investment climate and greed of the financial institutions management, creating room for specific financial products highly exposed to risk. Securitization and financial derivatives, traded by high leverages, enabled forming of virtual liquidity of different securities. Industry sector, which was the first to profit from this situation, was construction, more precisely real-estate companies in US. The lack of regulatory rules enabled financial institutions to approve

housing loans to those, who according to commercial banks criteria were not qualified. This kind of loans was called "ninja" loans, which means that the user does not have regular job, asset nor credit reputation. These loans, later, through the process of securitization, convert into mortgage-backed securities and were sold to the investors. As a result of large money supply real-estate prices increased sharply. Falsely initiated price increase in real-estate market enlarged enthusiasm in other sectors of economy (steel, cement, home appliances...). Mortgage loans, as seen by investors, were relatively safe investment, considering that collateral was real property. In America up to September 2008, 53 millions mortgages were approved, from which 10% were risky as estimated.

In order to explain the problem we have to distinguish two kinds of mortgage loans. First kind makes prime mortgages, where, commonly, deposit or participation of 20% is conditioned. When property market value increases, considering that the property was bought by means from this credit, the bank offers to its client new credit, without participation, collateralized by new, higher market value of the same property. These credits are credits designed for the purchase of new property and are called second mortgage or subprime mortgage. It is clear that spiral of these credits additionally falsely increases the demand for properties and their prices quickly go up. The whole system of financing the property falsely is "pumping" till the point of breaking. This point is initiated by realizing that production price of properties is multiply lower than market price. At this moment the system is crashing, property prices go down vertiginously, and negative chain effect occurs in overall economy.

Relatively low interest rates create for investors the climate to search for securities which could bring higher yield. One of potential areas for investment is bonds of developing countries or lower rank companies, which are offered at relatively high yearly interest rates. Investment in these securities is connected with high exposure to risk. In order to partly hedge the risk of credit default, investment banks offered to investors additional instrument as kind of investing insurance - CDS (credit default swap). CDS represents financial derivative which, basically, acts like insurance policy. The CDS price is given as partial value of high interest rates for high-risk bonds, by which the investor disclaims his part in interest rate in favor of swap dealer. Regulatory bodies were not controlling these financial derivatives, because it was supposed that only big "sophisticated" investors use them. CDS were formed by private contracts, usually between hedge fond, investor and swap dealer. CDS, as financial instrument, became very popular among the investors, especially banks and insurance companies. The problem occurred when bankruptcy among swap dealers started. By this time the investors became aware that bonds in their portfolios, which were high-risk bonds, were not insured, i.e. protected against credit default risk. Once more American financial system was disrupted.

While investment optimism dominated in financial markets, real economy confronted with ever bigger operating problems. Difficult conditions in economy led to profit decreasing and employments shrinking. More people were disabled to service their credits and first cracks appeared in credit system. The panic expanded rapidly and share value of leading investment banks started to fall, making domino effect on other financial markets. Spiral of negative effects dispersed rapidly and global financial system entered into serious crisis. As I have mentioned earlier, the mistrust between banks expanded because of their fear of holding "toxic" securities. Now many banks had to pay back the loans, where the real properties, which represented collateral, practically, lost notable part in their value. With the decrease of property value came the value decrease of other securities. World financial system seriously was damaged and regular financial activity between banks completely was aborted.

The reaction

In October 2008 followed the panic and uncoordinated action of the governments of developed countries. America immediately tried to help stumbled financial institutions with individual financial "injections", and for relatively short time spent approximately USD 600 billion. The effect of this help had limited action and did not stop negative trend. US government was forced to take another step and form intervention fond in the amount of additional USD 700 billion. This financial package was based on the nationalization of individual financial institutions. This approach in solving financial crisis shakes fundamentals of liberal capitalism and market economy. Europe followed the American exam-

ple with its financial package in the amount of EUR 2000 billion. Efforts of the governments of European countries to coordinate their action were not completely successful. Practically, each government had the possibility to individually undertake measures to respond to coming crisis. Powerful countries, like Japan, Russia and China, also individually undertook the measures to block the effects of world financial crisis.

We will not analyze the details of individual actions of the countries, but I have to mention the measures which China undertook, as something which will have influence on the global economy. China announced own package of stimulant for Chinese economy in the amount of RMB 4000 billions, which is approximately USD 586 billion. The undertaken measures of Chinese government were directed, principally, at extensive infrastructure projects, aid for poor farmers and decrease of export taxes. I believe that these measures will lead to maintaining relatively high rate of GDP growth, which will further reflect growing of GDP in range of 8% and 10% yearly. These measures lead to domestic market strengthening, maintaining current level of employment and increase of Chinese economy self-sufficiency. China will still grow, because of its monetary policy in relation with depressed domestic currency, and US trade surplus, which is approximately USD 20 billion per month. Aside this, China will continuously be one of the largest creditors of American government with holding the American Treasury bonds in the amount of USD 1000 billion.

The world financial crisis will have several phases. Each phase will pass through series of economic shocks. The crisis had started with the real-estate market crisis. This shock passed to financial sector which caused collapse of current financial structure. The next shock will be in real economy sector, in which the automotive industry will be affected first. Automotive industry, led by GM and Ford in America, will face reduced demand, which will cause production decrease, which will lead to new employment shrinking. Employment decrease in automotive factories will cause further lay offs in all cooperative factories of automotive industry. This kind of development further will affect employment decrease in car dealer's network which is connected to automotive industry. Chain reaction can further reflect on gas stations network and even on small car washes. Everything that happens in US quickly will expand to all countries and regions in the world.

Conclusion

I believe that, practically, none of the economy sectors would be spared from negative consequences. According to some estimation, the needed time for stabilizing the world economy will be between 3 and 9 quarters, and economy recovery will take between 3 and 5 years. The whole process would imply the new arrangement between 20 developed countries, which would create entirely new frame for world economy.

At the end, I conclude that this financial crisis does not represent financial hurricane, but deep structural breakdown in world economy. The recovery will be long and will require coordinated action of developed countries. Restructuring of world financial and economic system will represent the process directed at several areas. First of all, we have to expect changes in US Foreign Policy, changes in reforming international financial institutions, changes in concepts of risk management, with particular attention on preventing individual moral hazard, as well as on additional measures to regulate the market of financial derivatives.

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Role and Comparative Efficiency of European Banks in Serbia's Financial Sector[1]

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ABSTRACT – *This paper examines the cost efficiency of Serbian banks by the Stochastic Frontier Approach method for the 2003-2007 years and 33 banks sample. The results obtained are analysed in terms of the ownership structure of the studied banking system. A special attention is paid on the importance and cost-efficiency of foreign banks examined. It is found that state-owned banks are generally less performing in terms of cost-efficiency while European banks, playing the more and more important role and having an increasing share of the market, tend to be more efficient.*

KEY WORDS: *cost efficiency, banking sector, Serbia, stochastic frontier approach*

Introduction

The soundness and efficiency of banks are especially interesting to study in the current context of a financial crisis. In the present paper we would like to study the cost efficiency of the banking sector in Serbia by Stochastic Frontier Approach method considering the last changes in ownership structure, the growing role and the share of foreign banks in this system.

While speaking about Serbia we always have to remember the difficult path to stabilisation that this country has experienced and the present political issues. We have also to underline that in Serbia, and more generally in the Balkan countries, the banking sector is the major actor of the financial system[4]. Thus its overall efficiency is very important especially in regard of modern conjuncture and the global financial crisis in addition to the generally acknowledged role of banks to provide financial support for economic development and growth[5]. The particular reason for the investigation of European banks efficiency lies within of coarse continuing integration of the Serbian financial system into the European one and the proved dramatic increase of foreign participation in the banking sector. We must also take into consideration the general European influence upon the financial sector of Balkan countries: many different programs of partnership and aid are running, especially what concerns us – the banking regulation and standards. This tends to improve the overall efficiency of Serbian banking sector.

There is a number of recent studies investigating the relationship between relative cost efficiency of banks and their ownership in different countries, and in particular in transition economies (see, for example, Asaftei and Kumbhakar (2008), Fries and Taci (2005), Hasan and Marton (2003), Kraft et al. (2006), Kasman and Yildrim (2006), Weil (2003), etc.) Nevertheless, to our knowledge, none of such

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studies examines the Serbian banking system case. A single-country study has, as known, an advantage on cross-country analyses as it avoids environmental heterogeneity problem. Our sample covers all Serbian banks existing today for the purpose of understanding the role of foreign participation and, in particular, the importance and relative efficiency of European banks in Serbian banking sector.

The rest of the paper is organized as follows. In Section 2, the evolution and the last reforms of the banking sector in Serbia are described. In Section 3, we give a short description about the overall efficiency of Serbian banks. In Section 4, we present our econometric model and data choices. Finally, in Section 5, we report the results of the bank efficiency scores and compare them with the ownership structure of the banking sector to draw conclusions.

The evolution of Serbian banking system

Commercial banking sector in former Yugoslavia, unlike in the majority of other socialistic countries, was separated from central bank. In the period from middle sixties to late nineties, the banking system was based on quasi-market principles including some positive features like autonomy in decision making and leading of business policy. However, banking activities were subjected to interests of loaners instead to owners, implying low business efficiency and profitability.

After the overall reforms of Yugoslavian economy in 1989, the ownership of Yugoslavian banks was transferred from society6 to firms. The government decided to convert deposits of large socially-owned firms to shares, organizing the banks as closely held companies. The process of transformation of existing large banks was followed with the establishment of new small banks in private ownership, often with doubtful credibility due to a soft supervision. Unfortunately, principles of banking business remained the same as they were before ownership transformation. After the disintegration of Yugoslavia, Serbian economy felt into a state of chaos, due to war, embargo and hyperinflation. Hyperinflation hardly damaged Serbian banking sector; households' savings in dinars, which in 1990 participated with 53% in banking credit potentials, was melted and loans to real sector became mostly disvalued.

After the monetary stabilization in 1994, changes in ownership structure of banks was related to restricting of intensive increase in demand of real sector for loans. The fear of the mistakes from the past fostered the Serbian government to impose new rules of borrowing to offset default risk on new loans and increasing demand for them. It forced the loaners to become shareholders by automatic conversion of 20% of loan to shares of lending bank. However, banking management was still substantially driven by political decisions rather than profitability principles. Until the reforms in 2001, Serbian banks remained insolvent, inefficient and non-profitable; i.e. percentage of interest paying asset in total asset of Serbian banks was only about 6% in 20007.

After the political changes in 2000, the new Serbian government defined and adopted Strategy of banking system restructuring in 2001. This strategy was followed with enhancement of regulatory requirements for work licenses, which forced small banks to merge with other banks. Reforms were implemented in few steps. Firstly, banks were imposed to detailed financial analysis in order to determine their solvency. Secondly, insolvent banks were closed, including four big state-owned banks which market share was over 56%. All these resulted in sharp fall in number of banks - from 86 in 2000 to 50 in 2002. This number could be even smaller, but during the 2001 five foreign banks got greenfield working licenses.

Next step in reforms started with adopting of the Strategy of banks privatization. The implementation of this Strategy was supported by a new legislation related to regulation liabilities to households due to old savings in foreign currency and liabilities to Paris and London Clubs. Government decided to convert all of those liabilities into public debt. As the result, Republic of Serbia became temporary owner

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[6] Socially-owned property was established in Yugoslavia as a substitute to state-owned property in order to move control of commercial business from government to workers
[7] Annual Report for 2000, National Bank of Serbia

in 16 banks (major owner in 11). According to Strategy, Republic of Serbia was supposed to sell its shares to the public. Also, issue of greenfield licences was interrupted.

Today, seven years after the beginning of reforms, we can characterize them as mostly successful. Some of the positive aspects include: closing of insolvent banks, increase of foreign ownership, introducing of new banking products and technologies as the consequence of foreign banking penetration, increase in number of employees, restoring of households' and firms' confidence, increase in competition, positive financial results of sector as a whole etc. Movements of some important indicators during the last five years are presented in table 1:

Table 1. General indicators of Serbian Banking

	dec 2003	dec 2004	dec 2005	dec 2006	dec 2007
Number of banks	47	43	40	37	35
Number of foreign banks	11	11	17	22	21
Number of employees	22,310	23,491	25,680	28,092	30,246
Total asset (million RSD)	367,486	516,869	775,413	1,169,271	1,561,822
Return on asset[8] (%)			1.13	1.70	1.70
Return on equity (%)			6.46	9.67	8.54
Interest rate spread (b.p.)	12.07	10.99	10.70	10.82	7.05

Source: National Bank of Serbia

However, the process of restructuring of Serbian banking system is still going on. The short to medium term priorities in Serbia include the completion of the privatization process for banks and insurance companies, a further reduction of bad loans, implementation of the central bank's Supervisory Development Plan and the establishment of a collateral registry to encourage corporate lending. Longer term challenges include further pension reforms, the development of non-banking financial services and greater availability of finance for the private sector.

Overall efficiency of Serbian banks

Positive effects of Serbian banking reforms significantly improved the efficiency of banking services market. Operational, informational and allocational efficiencies were simultaneously improved by increase in competition, introduction of new products, technologies and know-how, imposing of transparency, narrowing of interest rate spread, interruption of inefficient lending policy, etc. On the other side, the direction of changes in operational efficiency of banks as business systems is not so clear, according to different efficiency measures that can be applied. One of the most common measure of banking efficiency is the efficiency ratio, which can be calculated in few different ways:

- Non-interest expense divided by total revenue less interest expense
- Non-interest expense divided by net interest income before provision for loan losses
- Non-interest expense divided by revenue
- Operating expenses divided by net income from fees and interests

For all versions of the ratio, an increase means the company is losing a larger percentage of its income to expenses. If the efficiency ratio is getting lower, it is good for the bank and its shareholders. The fourth version of this ratio[9] is adopted as official indicator of banking operational efficiency by NBS. Efficiency ratio values for the last five years are presented in table 2.

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[8] In 2003 and 2004 banking sector booked loss

[9] Actually, NBS calculate this ratio reversibly and present it as operational expenses to net income from fees and interest cover ratio.

Table 2. Efficiency ratio of Serbian banking sector

	2003	2004	2005	2006	2007
Operating expenses[10] (in million RSD)	25,111	31,979	43,005	60,778	72,106
Net income from fees and interests (in million RSD)	31,074	37,837	53,123	70,423	90,854
Efficiency ratio	0.81	0.85	0.81	0.86	0.79

Source: National Bank of Serbia and author's calculations

We can see from the table that values varied over time without strict support of downward trend. According the NBS, high values of efficiency ratio are consequences of strong operational expansion during the previous years: "Despite strong operational expansion, banks managed to curtail growth in operational expenses so that income from purely banking operations amounted to 126% of operational expenses"[11].

Some other indicators, presented by Matić (2007), correspond to stagnation and even decreasing of banks' efficiency. She found that the ratio of total operating revenues to total assets felt from 0.19 in 2005 to 0.13 in 2007, while the ratio of net interest income to total operating assets felt from 0.05 to 0.04 for the same period. "Efficiency of total assets' use was largely influenced for sure by high rates of credit potentials' immobilization due to the required reserves", she concluded[12].

In the two next sections, we propose our estimation of the cost function of Serbian banks in order to evaluate the comparative efficiency of foreign owned banks with state-owned and private domestic banks in Serbia.

Econometric model and data

The objective of a bank, like of any firm, is to produce more outputs using less inputs. The frontier analyse represents a good instrument to estimate the relative efficiency of banks. Different economic efficiency concepts (based on profit or cost function) could be applied to banking data.[13] In this paper, bank efficiency is examined by studying a cost function as the data on output prices needed to estimating a profit function is not available. Here, cost efficiency is a measure of how close a bank's cost is to what a best-practice bank's cost would be for producing the same output bundle under the same conditions.

The next important step is the choice of the Frontier efficiency method. There is no consensus on the "best" method to determine the cost efficiency. Both types of methods: parametric frontier methods (Stochastic Frontier Approach (SFA), Thick Frontier Approach (TFA), and Distribution Frontier Approach (DFA)) and non-parametric models (Data Envelopment Analyse (DEA) and Free Disposal Hull (FDH)) have their advantages and disadvantages.

The method to estimate the bank's efficiency used in this paper is the Stochastic Frontier Approach (SFA) chosen primarily for its wide use in application to the banking data in transition countries (see for example Asaftei and Kumbhakar (2008), Fries and Taci (2005), Hasan and Marton (2003), Kraft et al. (2006), etc.). The SFA consists in estimating of a cost function by imposing a restrictive functional form and by assuming that the random error is divided into two elements: the first one, the inefficiency term (u_{it}), is non-negative and follows asymmetric distribution and captures inefficiencies due to poor management, and the second one, the random term (v_{it}), follows symmetric distribution and reflects a "bad luck" phenomenon beyond the control of management:

$$lnC_{it}=f(w, y) + u_{it}+v_{it} \tag{1}$$

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[10] According to NBS, operating expenses consist in cost of wages and some other operational cost included in income statement position 'other operational expenses'.

[11] Report on Financial System 2007, National Bank of Serbia

[12] Matic, V. (2008), Serbian banking sector in 2007

[13] See Berger and Mester (1997) for the cost and profit efficiency concepts comparison.

where C_{it} denotes total costs, f represents functional form, w is the vector of input prices, y is the vector of output quantities.

In our study, the translog functional form (2) was adopted due to the short time series and its simplicity and large use among other works, even if we are aware that Fourier-flexible functional form could be used instead and seems to be more suitable for banking data.

$$\ln C_{it} = \alpha_0 + \sum_{m=1}^{M} \alpha_m \ln Y_{mit} + \sum_{n=1}^{N} \beta_n \ln W_{nit} + \frac{1}{2} \sum_{m=1}^{M} \sum_{p=1}^{P} \alpha_{mp} \ln Y_{mit} \ln Y_{pit}$$
$$+ \frac{1}{2} \sum_{n=1}^{N} \sum_{r=1}^{R} \beta_{nr} \ln W_{nit} \ln W_{rit} + \sum_{m=1}^{M} \sum_{n=1}^{N} \phi_{nm} \ln Y_{mit} \ln W_{nit} + u_{it} + v_{it}$$

(2)

In the banking efficiency literature there is no agreement on the nature of banking inputs and outputs. We adopt here the intermediation approach[14] according to which banks use deposits or deposit costs and other operating costs (inputs) to create loans and other earning assets (outputs). Besides, the variables choice is largely influenced by data availability. For instance, as we do not dispose of data on employees' number, we use a commonly used approximation to estimate labor costs and other operating costs (the ratio of operating expenses to total assets). Table 3 lists the variables associated with the translog cost function specified here before.

Table 3. Definitions and descriptions of variables

Variable	Definition	Description
		Dependent Variable
C_{it}	Total costs	Interest, Fees and Commission Expenses + Other Operating Expenses
		Output Quantities
Y_{it}	Total loans	Loans to banks + Loans to clients
		Input Prices
$W1_{it}$	Operating cost ratio	Other operating expenses / Total Assets
$W2_{it}$	Funding cost ratio	Interest, Fees and Commission Expenses / (Liabilities to banks + Liabilities to Clients + Securities)

The data used in this paper come from National Bank of Serbia; they consist in banks balance sheets and income statements with the full cover of five years activity. All variables are deflated to 2003 prices using the retail prices index.

Our sample consists of 33 Serbian banks with their activity between 2003 and 2007 (National Bank of Greece was merged with Vojvodjanska banka in 2008, while Opportunity banka a.d. Novi Sad is excluded from the sample as disposing only one year data). This period was chosen because we consider that the highly volatile structure of the Serbian banking sector started to stabilize: we can see that the number of banks decreased significantly from 104 in 1998 then 87 in 2001 and to 38 in beginning 2006. Changes in the ownership structure continue and this fact represents a good opportunity to study the relative efficiency of different forms of Serbian banks.

Table 4. Number of banks by ownership category

At the end of the year:	2003	2004	2005	2006	2007
Total number of actives banks	47	43	40	37	35
In majority state ownership	17	14	11	8	8
In majority ownership of domestic private person	19	18	12	7	6
In majority foreign ownership	11	11	17	22	21

Source: National Bank of Serbia

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[14] The intermediation approach was proposed by Sealey and Lindley (1977) and is used by a number of recent efficiency studies (for example, by Berger and Mester (1977).

During the considered years, the ownership structure of Serbian banking sector remarkably changed: from the clear domination of state-owned banks to the domination of foreign-owned banks. It is known[15] that the competition in the Serbian banking sector during this period was working well, but it still needs to be preserved and/or regulated because of current consolidation trend.

As one should make an assumption on the distribution form of inefficiency term (u_{it}), we compare two possibilities: half-normal distribution and truncated normal distribution. The Log likelihood ratio (LR) statistics leads us to accept the null hypothesis that the half-normal distribution is adequate as well as whether efficiency assumed to be time-invariant or time-varying. Indeed, here after we are using the results of our translog specification assuming a half-normal distribution of inefficiency term.

To obtain our results we use the high quoted T. Coelli software Frontier 4.1 with it's guide Coelli (2005).The program's outcomes are inefficiency scores for each bank. A perfectly efficient bank has a cost efficiency estimate equal to one. For a given bank, more important is the deviation from one, less efficient this bank is. Compared to the ownership structure, these scores will allow us to draw conclusions, first, as to if the ownership has an impact on the bank efficiency and, second, as to if the foreign, which are mostly European, banks are more efficient that the public ones or the private Serbian banks.

Analysis of efficiency results

One of the first results obtained from the estimation of banks' cost efficiencies is that state-owned banks are globally less efficient than private domestic and private foreign-owned banks. These results are robust independently of database sample. The gap between the efficiency of private domestic and foreign banks is rather narrow. The explanation we can give for it is that most of domestic banks benefited from the foreign expertise and knowledge, for example, from European partnership programs. Moreover, the number of domestic private banks dropped more than by half to the end of analysed period which makes the conclusion difficult to draw.

The average cost inefficiency of Serbian banks for the whole accounted period is estimated to be 28.21% above the best-practice score. During the period the average cost-efficiency of Serbian banks was instable, as we mentioned above.

Table 5. Cost inefficiency estimates by categories of ownership

Categories of ownership	Cost inefficiency estimates (%)
State-owned[16]	35.14
Domestic Private	28.28
Foreign – by country of origin (number of banks; part of total assets of banking sector):	24.72
– Hungary (1; 2,7%)	10.86
– Greece[17] (5; 22%)	18.19
– France (2; 6%)	20.14
– Cyprus (1; 1,1%)	24.25
– Austria (4; 23%)	26.25
– Germany (2; 5%)	27.46
– Italia (3; 185)	33.27
– Belgium (1; 0,7%)	33.33
– Slovenia (1; 1,4%)	35.14

Source: author's calculations, National Bank of Serbia, Bankscope database

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[15] Müller-Jentsch D. (2007)

[16] We consider as state-owned banks whereby the Republic of Serbia is the largest, direct or indirect, shareholder.

[17] We consider AIK banka a.d. Nis to be of Greek origin as Agricultural Bank of Greece has the largest part in its capital (20,83%).

Table 5 illustrates our estimation of the cost inefficiency structure by categories of ownership. It appears from the obtained estimates that state-owned banks in terms of cost efficiency seem to be less performing.

Analysing the foreign participation in Serbian banking sector, first of all, we find that all foreign banks are European with a numerous and important in terms of market share Greek, Austrian and Italian presence. Table 5 demonstrates the cost inefficiencies estimators of foreign banks ranged by their average score. As anticipated, European banks show, in terms of cost efficiency, a relatively better performance.

These results are to be taken with caution. We calculated score as simple average, but regarding the prevalent share of foreign banks (81% in 2007) in total assets, effective influence of foreign banks on overall efficiency could be underestimated. Also, the banking system of Serbia is still in a stabilizing process and had experienced several banking reforms and ownership reorganizations. For example, some foreign participants entered Serbian market in difficult conditions when they needed to reorganize the purchased actives.

Conclusion

Stochastic Frontier Approach and analysis of the ownership structure, with mentioned caution, authorize us to come to the conclusion of the important role played by European banks in Serbian banking sector. The importance of this role can be appreciated at two levels: firstly, because of their big share of domestic market, and secondly, because of their influence over general concurrence due to their relative better cost efficiency. State banks seem to be less efficient than private banks what corresponds to theoretical predictions.

In the present work, we have used one of possible and rather simple specification due to data specificity. It is our first attempt to apply the cost efficiency frontier method to the case of Serbian banks in order to evaluate the relative efficiency of European actors compare to national ones. To complete this work the next step would be to proceed to a comparative analysis of cost efficiency of banks in other countries of Balkan region. It would be interesting to examine the impact of European banks on the Balkan's banking systems in the long run. The principle issue is to analyse whether the presence of European banks is beneficial to the overall efficiency and soundness of the domestic banking system.

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Stock Exchange Indexes on World Market – Influences on Financial Markets of Western Balkan Countries

Adnan Rovčanin[1], Sejfudin Zahirović, Jasmina Okičić[2]

ABSTRACT – *In this paper the authors research the correlation level of financial markets of "huge" world economies and economical systems of transitional countries. Special emphasis has been placed on the correlation level of the stock exchange index DJIA and the indexes of Western Balkan countries (CROBEX, BELEX15, SBI20, SASX-10, MBI10 and MOSTE). A high correlation level of the above stated indexes (markets) has been confirmed.*

KEY WORDS: *stock exchange, stock exchange index, correlation, financial market, securities, prices of securities*

Introduction

Contemporary market economies are highly monetary economies where money operations as well as money surrogates operations are dominant business. Financial system, without any doubt, presents a vital part of every economy. The importance of financial system for economical growth, and for the total social development, is best confirmed by the fact that countries with strong and stable financial systems develop faster, while the countries with undeveloped and rigid financial system experience frequent crises. Therefore, it is not too much to say that a financial system presents the lever of economical growth and development of every country.

The fact is that international and globalisation processes have made that movements on world financial market proceed according to the law of "domino effect". In other words, there is a high correlation level of movements on world financial markets. Therefore, it is almost impossible to talk about financial systems of particular countries.

The subject of this research is to determine intensity of (negative) movements on financial markets of developed countries on financial movements and markets of "small" countries. We are to observe the influence of financial crisis in the USA on the rest of the world.

Financial crisis in the USA – causes and consequences

Negative trend on financial markets, which has first overcome the USA market, has rapidly spread to other countries in the world, causing "deep" disturbance of financial and total economical system of other countries. Taking into consideration the importance of financial system for economy of every country, it is not unexpected that the crisis of financial system in the USA, which culminated with the crisis of mortgage loans, has turned into crisis of total economical system, causing recession and unemployment. Since the USA present to a large extent "world centre of financial power", the crisis in the USA has caused huge problems in European countries.

It is for sure that the crisis in the USA reflects on both financial and total economical movements in the countries of former Yugoslavia. The year of 2007 was very turbulent on Balkans stock exchanges. Optimism which reigned at the beginning of the year was replaced by "indescribable pessimism".

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The level of correlation between Dow Jones Industrial Average index and indexes on stock exchanges in Bosnia and Herzegovina, Croatia, Serbia, Montenegro, Slovenia and Macedonia is researched in the paper. The six indexes have been observed: SASX-10, CROBEX, BELEX15, SBI20, MBI10, MOSTE, and the same have been compared to DOW JONES INDUSTRIAL AVERAGE (DJIA).

On the bases of research results, it will not be hard to make a conclusion about the intensity of financial crises in the USA on other countries, in other words on the countries of former Yugoslavia, which are the subject of the research.

Stock exchange indexes – representative of stock exchange movements

Stock exchange indexes present one of the most important indicators of financial market development, and economy in total. They indicate price changes of securities and as such they have a wide application in analysis of stock exchange business and making decisions about buying and selling stocks. The use of indexes is diverse, and they are used:
- As a measure of short-term changes in market movements
- When making investment decisions
- For historical analysis
- As a performance measure of securities portfolio
- As a basis for making derivation decisions
- As a platform while constructing index funds[3]

Every index is evaluated in a different way. The basic questions which are asked when constructing an index are:
- Which is the needed size of the sample?
- How will stocks in index basket be weighted?
- Will index represent market in total, or just one of its segments?
- Will index be constructed as arithmetical or geometrical average?
- Frequency of estimating index value
- Credibility of index constructors
- Which stocks are included in index basket?

Stock exchange indexes should be expressed in units which are easily understood and which can provide answers to relevant questions.

Correlation of DJIA and stock exchange indexes of former Yugoslavian countries

DJIA and CROBEX

We observe correlation of DJIA and CROBEX. Variable x (independent variable) is to present DJIA, while variable y (dependent variable) is the index of Zagreb stock exchange, CROBEX.

Dispersion diagram is constructed on the basis of disposable values of these two indexes.

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[3] http:// www.ekof.bg.ac.yu/ (accessed 13.08.2008.)

Figure 1. Dispersion diagram of DJIA and CROBEX
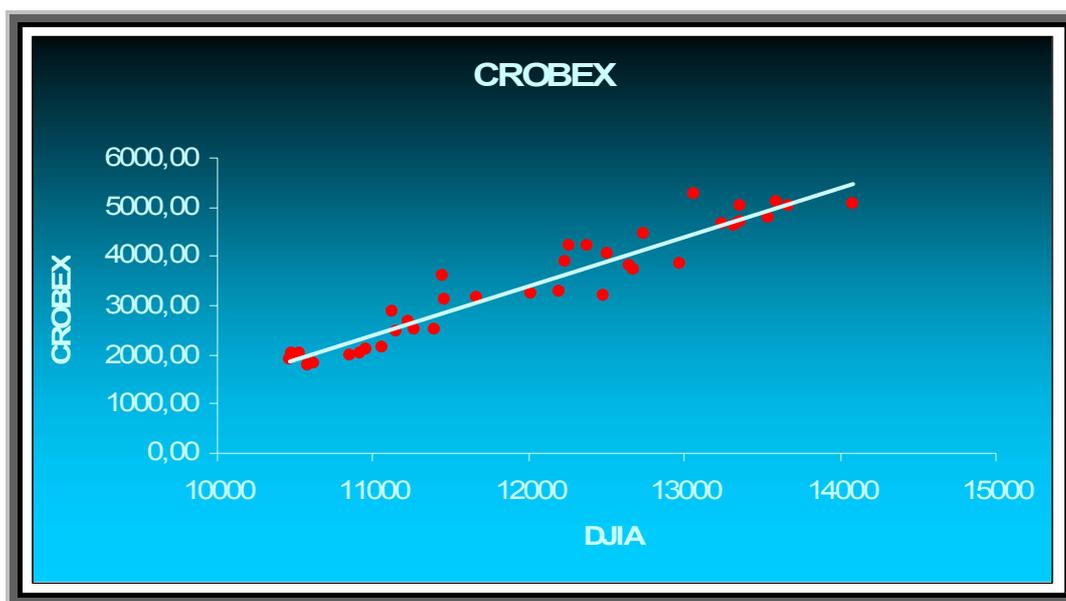
The following is noticeable from the above dispersion diagram:

- Correlation between the observed variables is positive and high, since the straight line which goes through the dispersion "cloud" increases (r>0) and follows the points on the graph quite well.
- Even increase of variable X is followed by even increase of variable Y, in other words it is justified to use linear model of regression
- Since the straight line has positive slope, regression coefficient is positive.

Output-table of regression analysis:

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-8653,25	625,458989	-13,83503801	9,36966E-16	-9922,99813	-7383,5
DJIA	1,003721	0,051742917	19,39822928	2,62184E-20	0,898677257	1,108765

Only some data from Output-table are important for determent of linear regression equation, and they are: Coefficients: Intercept (-8653, 248885) is the value of constant article a, and coefficient with the variable DJIA (1, 003720961) value of regression coefficient b. Therefore, equation of linear regression model is:

$$\hat{y} = 1,003720961x - 8653,248885$$

Regression coefficient b indicates an average change of independent variable (y) when dependent variable (x) increases by one (a unit of measurement). Therefore, if the value of DJIA increases for one index point, the value of index CROBEX will increase by 1,003720961 index points.

The question that follows is: "How precisely can the value of dependent variable be predicted for a certain value of independent variable?" Evaluation of model representative quality is based on analysis of residual departing real values (y_i) from expected values ($\hat{y}_i$) of dependent variable.

As indicators of representative quality of linear regression model, the following are analysed: variation regression, standard regression deviation, regression variation coefficient, determination coefficient.

Output-table of regression analysis, with suitable values of above listed measures of representative quality, looks like this:

Regression Statistics	
Multiple R	0,956505182
R Square	0,914902163
Adjusted R Square	0,912470796
Standard Error	336,1460369
Observations	37

ANOVA

	df	SS	MS	F	Significance F
Regression	1	42518718,54	42518718,54	376,2912991	2,62184E-20
Residual	35	3954795,533	112994,1581		
Total	36	46473514,07			

Therefore, the value of 95,65% implies that there is a strong correlation between the observed values of DJIA index and CROBEX index. Determination coefficient is 0,914902163 (R square), which means that the linear model which has been chosen (where the independent variable is index Dow Jones value) explains 91,49% movements of index CROBEX value.

DJIA and BELEX15

In this case the dispersion diagram looks like this:

Figure 2. Dispersion diagram of DJIA and BELEX15
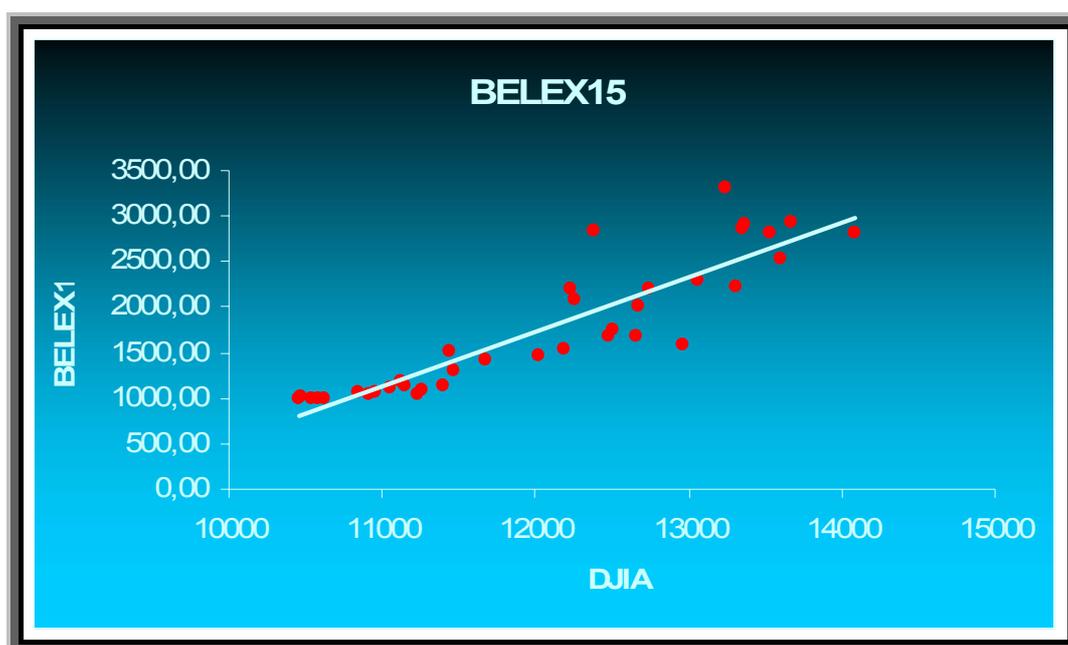
It is possible to conclude form the previous diagram that there is a positive correlation between DJIA and the index BELEX15. In other words, when the value of DJIA increases the value of index BELEX15 increases, too.

Output-table of regression analysis:

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-5496,688348	586,7511493	-9,368006103	4,54821E-11	-6687,8565	-4305,52
DJIA	0,602055947	0,048540698	12,40311684	2,28212E-14	0,503513092	0,7005988

The needed coefficients a and b can be read from the output-table, and they are: Coefficients: Intercept (-5496, 688348) is the value of constant article a, and coefficient with the variable DJIA (0, 602055947) is the value of regression coefficient b. Therefore, equation of linear regression model is:

$$\hat{y} = 0{,}602055947x - 5496{,}688348$$

It is noticeable from the given equation that if DJIA is zeros the value of index BELEX15 is negative, in other words it decreases by 5496,688348 index points. If situation is different, and the value of DJIA increases by one index point, the value of index BELEX!% increases by 0,602055947 index points.

Output-table of regression analysis crisis:

Regression Statistics	
Multiple R	0,902582555
R Square	0,814655269
Adjusted R Square	0,809359705
Standard Error	315,3429352
Observations	37

ANOVA

	df	SS	MS	F	Significance F
Regression	1	15297761,34	15297761,34	153,8373074	2,28212E-14
Residual	35	3480440,837	99441,16678		
Total	36	18778202,17			

Correlation coefficient (Multiple R) is 0,902 or 91% which implies that there is a noticeable linear correlation between DJIA index (independent variable x) and BELEX15 (dependent variable y). Determination coefficient (R Square) in this case is 0, 8146, which means that the linear model, where independent variable is DJIA index, explains 81% of BELEX15 index variation.

The presented ANOVA table provides data about the importance of achieved regression model. It is possible to read out the value of empirical F-ratio which is 153, 8373074 (F), as well as its p-value (*Significance F*) 2, 28212E-14, which in mathematical form is 2, 28212*10[-11]=0, 0000000000228212. On the basis of this value it is possible to conclude that the independent variable (in this case DJAI index) significantly influences variation of dependent variable (Belgrade stock exchange index BELEX15) with the risk level of p<0,01. Therefore, the chosen linear regression model is statistically relevant.

DJIA and SBI20

Dispersion diagram in this case looks like this:

Figure 3. Dispersion diagram of DJIA and SBI20
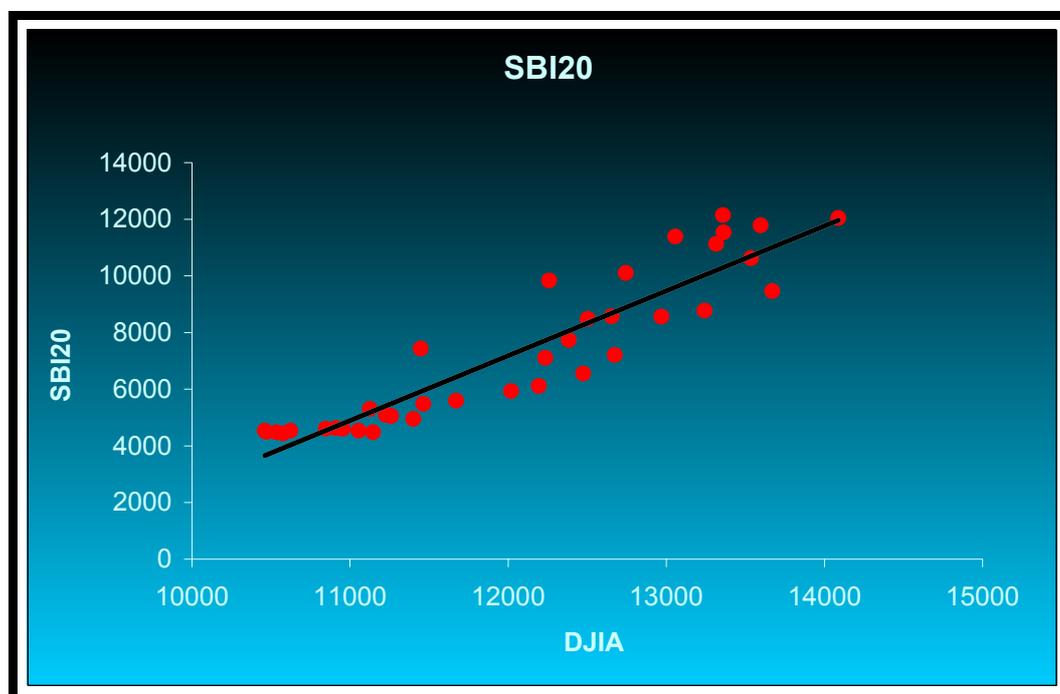
According to the form of diagram, it is possible to conclude that it is justified to choose a linear regression model, which will be proved later. After choosing a model, it is necessary to formulate the equation of the given model. Values of a and b coefficient, which are necessary for formulating the equation are presented in the following output-table of regression analysis.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-20256,5253	1922,367836	-10,5373	2,12E-12	-24159,13941	-16353,911
DJIA	2,28703482	0,159033479	14,38084	2,95E-16	1,964179701	2,60988995

Coefficients: Intercept (-20256, 5253) is the value of the constant article a, which presents the value which Ljubljana stock exchange index SB120 has when the value of DJIA index is 0. Coefficient with variable DJIA (2, 28703482) is the value of regression coefficient b, which presents the value that the index SB120 increases by when the value of DJIA increases by one index point. Therefore, equation of linear regression model, where DJIA is independent variable (x) and SBI20 is dependent (y), is:

$$\hat{y} = 2,28703482x - 20256,5253$$

Output-table:

Regression Statistics	
Multiple R	0,924801
R Square	0,855257
Adjusted R Square	0,851122
Standard Error	1033,155
Observations	37

ANOVA

|	df	SS	MS	F	Significance F
Regression	1	220749503	2,21E+08	206,8085	2,94597E-16
Residual	35	37359352,51	1067410		
Total	36	258108855,5			

Correlation coefficient (Multiple R) is 0,924 or 93% which implies that there is a remarkable linear correlation between DJIA index (independent variable x) and SBI20 index (dependent variable y). Determination coefficient (R Square) in this case is 0,8552 which means that the linear model, where the independent variable is DJIA index, explains 81% of SBI20 index variation.

DJIA and SASX-10

Dispersion diagram of DJIA and SASX-10 looks like this:

Figure 4. dispersion diagram of DJIA and SASEX-10
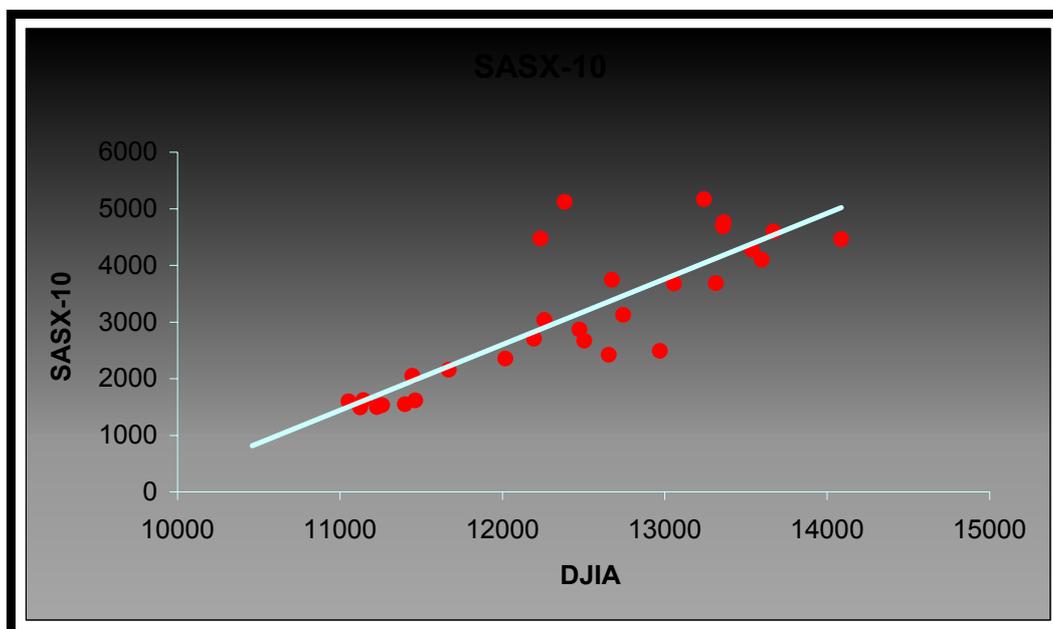
If we observe the previous dispersion diagram, we can choose linear regression model. To be certain that the chosen model is also the model that explains the existence of correlation between DJIA index and SASX-10 index well, it is necessary to evaluate the representative quality of the regression model. All of the necessary data for formulating the equation of the model can be seen in the following table, in the column Coefficients.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-14763,55049	1309,629071	-11,27307786	3,37E-13	-17422,23883	-12104,86214
DJIA	1,427165091	0,10834288	13,17267085	3,99E-15	1,207217354	1,647112829

Therefore, equation of linear regression model

$$\hat{y} = 1,427165091x - 14763,55049$$

Output-table of regression analysis:

Regression Statistics	
Multiple R	0,912222448
R Square	0,832149795
Adjusted R Square	0,827354075
Standard Error	703,8457032
Observations	37

ANOVA

	df	SS	MS	F	Significance F
Regression	1	85961227,38	85961227,38	173,5193	3,98564E-15
Residual	35	17338957,09	495398,774		
Total	36	103300184,5			

Correlation coefficient (Multiple R) is 0,912 or 91% which implies that there is a remarkable linear correlation between DJIA index (independent variable x) and SASX-10 index (dependent variable y). Determination coefficient (R Square) in this case is 0,832 which means that the linear model, where independent variable is DJIA index, explains 83% of SASX-10 index variation

DJIA and MBI10

Dispersion diagram for DJIA and MBI10 looks like this:

Figure 5. Dispersion diagram of DJIA and MBI10
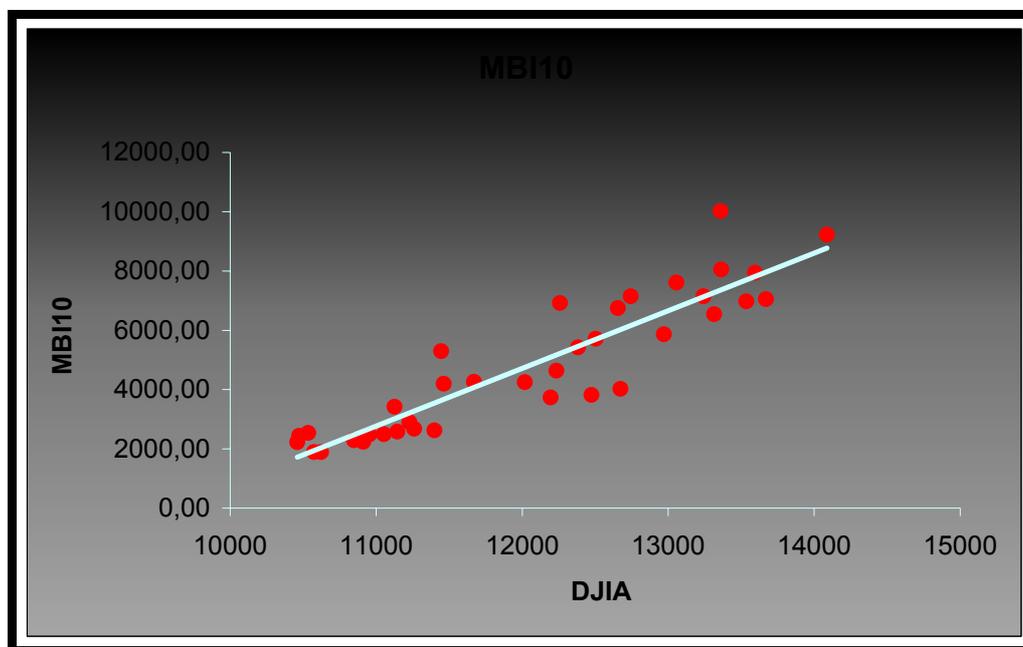
On the basis of previously presented diagram it is possible to evaluate the correlation form between the observed variables and to construct a suitable model. Therefore, there is a positive correlation between DJIA and MBI10 index, which can be explained using linear regression model. The following table presents the data for formulating the equation of linear model.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-18609,1148	1760,862797	-10,5682	1,96E-12	-22183,8563	-15034,37
DJIA	1,943519361	0,145672504	13,3417	2,74E-15	1,647788458	2,2392503

The equation is:

$$\hat{y} = 1,943519361x - 18609,1148$$

The table of regression analysis:

Regression Statistics	
Multiple R	0,914156
R Square	0,835682
Adjusted R Square	0,830987
Standard Error	946,3563
Observations	37

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	1,59E+08	1,59E+08	178,0011	2,74166E-15
Residual	35	31345658	895590,2		
Total	36	1,91E+08			

After establishing the equation, it is necessary to estimate the representative quality of the chosen model. The table *Regression Statistics* provides the necessary data for evaluation of the model as it follows: correlation coefficient (Multiple R) is 0,914 or 91% which implies that there is a noticeable linear correlation between DJIA index (independent variable x) and MBI10 index (dependent variable y).

DJIA and MOSTE

In this case, dispersion graph looks like this:

Figure 6: Dispersion diagram of DJIA and MOSTE
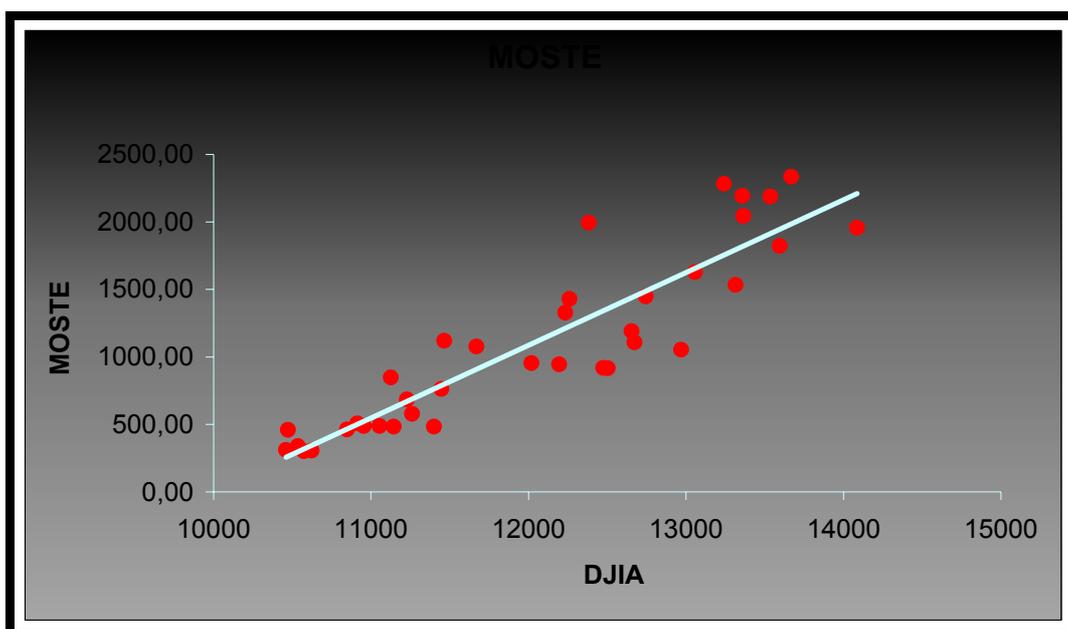
After defining the regression form, it is necessary to define equation parameters of regression direction. The parameters can be read in the out-put table of regression analysis. The table looks like this:

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-5368,670056	512,0815129	-10,484	2,43E-12	-6408,250789	-4329,089324
DJIA	0,537875593	0,042363435	12,69669	1,16E-14	0,451873249	0,623877937

Therefore, the equation is:

$$\hat{y} = 0{,}537875593x - 5368{,}670056$$

Output table:

Regression Statistics	
Multiple R	0,90643
R Square	0,821616
Adjusted R Square	0,816519
Standard Error	275,2126
Observations	37

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	12210062	12210062	161,2061	1,16327E-14
Residual	35	2650968	75741,95		
Total	36	14861030			

The given tables are necessary to estimate the representative quality and importance of the chosen regression model. The table *Regression Statistics* provides the following information: multiple correlation coefficient R (Multiple R) is 0,906 or 91% which implies that there is a remarkable linear correlation between DJIA index (independent variable x) and MOSTE index (dependent variable y). Determination coefficient (R Square) is 0,822 which means that 82% of MOSTE index variation is explained using the linear model where the independent variable is DJIA index.

Conclusion

On the basis of the research of correlation of "big" financial markets and financial markets of transitional countries, it is not difficult to conclude that the overall movements in world economy make "small" countries, no matter if they want to or do not want to, accept what is imposed by the developed countries.

Practical apply of regression and correlation analysis, has provided establishing the intensity of correlation of big financial markets and markets of transitional countries, monitoring the stock exchange indexes DJIA and stock exchange indexes of Western Balkan countries. On the basis of research results, the highest level of correlation between DJIA and CROBEX can be easily noticed. A high level of correlation exists as well between DJIA and the other observed indexes of former Yugoslavia countries.

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Public Debt and the Financial Integration of the Balkan Countries in the Financial European System[1]

Marius Samizafy[2]

ABSTRACT – This paper aims at examining the level of financial integration of Albania, Bosnia and Serbia in the European system from the public debt perspective. It also analyzes to what extent the public debt accession criteria helps in the assessment of the impacts of such integration on the European financial stability. Our main results show that the effective use of the Euro from 2001 improves the European financial integration of these countries, however, the US$ remains their prevailing public indebtedness currency (original sin) between 1991 and 2006. In addition, an analysis of two financial instability factors highlights that, even though the Balkan potential candidate countries meet the debt to GDP ratio, they do not satisfy the conditions of solvency and sustainability and are subject to default. This is due to insufficient public revenues, smaller economic growth rate relative to public debt dynamics (debt overhang) and lower public debt efficiency.

KEY WORDS: public indebtedness, country solvency, sustainability, original sin, debt overhang, financial integration, European Union, Balkan countries

Introduction

In the prospect of a future membership in the European Union, potential candidate countries must engage in the process of meeting the accession criteria along with the *Stabilization and Association Process*[3]. In addition, they should also try to satisfy the membership criteria to put forth their willingness to integrate the European Union system more rapidly. One of the main criteria addresses government finance management given the important role that the public sector might have in the economy. The government finance criteria involve two conditions to be met by each member country in order to avoid distorting the stability of the European Union financial system: on the one hand, public deficit should not exceed 3% of GDP and, on the other hand, public debt must be inferior to 60% of GDP[4]. Both indicators could be used to measure the financial integration of all member countries from a public viewpoint (Baele L. and ali, 2004). However, the economic literature on the European construction focuses more on the public deficit criteria to the detriment of the public debt criteria, despite its importance in the analysis of the domestic and/or the regional economic performance of a potential applicant country. A number of emerging or transition economies[5], such as the Western Balkan countries, could be considered in this category. Therefore, it would be interesting to study their case. This paper examines the implications of the Balkan potential candidate countries in the public financial integration of the European Union through two main questions:

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[1] This paper is one of the results of the research of *Hubert Curien Partnership* program "Pavle Savic" (Serbian-French technology cooperation for 2008/2009) titled *FINANCIAL SYSTEM INTEGRATION OF THE BALKAN COUNTRIES IN THE EUROPEAN FINANCIAL SYSTEM* realized in the research cooperation between the University of Nice –Sophia Antipolis, CEMAFI (France) and the Institute of Economics Sciences, Belgrade (Serbia)

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[3] Agreements for mutual commitments between the EU (offering tariff-free access, financial and technical assistance) and potential candidate countries (engaging in political, economic, trade, or human rights reforms).

[4] According to the Maastricht convergence criteria, the ratio of gross government debt to GDP must not exceed 60% at the end of the preceding fiscal year. Even if the target cannot be achieved due to the specific conditions, the ratio must have sufficiently diminished and must be approaching the reference value at a satisfactory pace.

[5] According to the World Bank, economies with low-to-middle per capita income.

- What is the level of public financial integration of the Balkan potential candidate countries in compliance with the public debt membership criteria in the European Union financial system?
- To what extent does the public debt accession/membership criteria help assess the impact of the public financial integration of the Balkan potential candidate countries on the stability of the European Union financial system?

The rest of the paper is organized as follows: Section 2 examines the effort of BPCC to integrate the financial system of the European Union from a public indebtedness profile based on the analysis of its currency composition. Section 3 puts forth the limits of the debt/GDP ratio to assess the possible negative impacts of this public financial integration of the BPCC on the European Union financial system stability by underlining the role of country default in fragilizing the broader financial system it belongs to through sovereign insolvency and public debt unsustainability. Section 4 concludes.

Public indebtedness profile and financial integration

A country is in the process of integrating the public financial system of a regional grouping when it adopts measures to eliminate the various barriers that have existed for cross-border transactions with other partner countries and when it puts into application a number of structural and operational reforms to modernize its public finance system such as harmonizing its financial and fiscal regulations in compliance with other member countries (García-Herrero A. and Wooldridge P., 2007). This catching-up process could also be reflected in the effort of the government to promote the regional preference clause by primarily transacting with other European countries. Regarding public debt, we would assume that a country is financially integrated in the public finance system of the European Union if its public indebtedness is mainly contracted in European currencies, if its creditors belong in majority to the European Union system and if it uses European-like instruments for public debt risk management. In order to assess the integration effort of the Balkan potential candidate countries in the European Union public financial system, it is interesting to find out whether they have gradually directed their public indebtedness transactions towards the European Union financial system. For this regard, let us examine their public indebtedness profile by currency/creditors decomposition (in line with Claessen S., 1988).
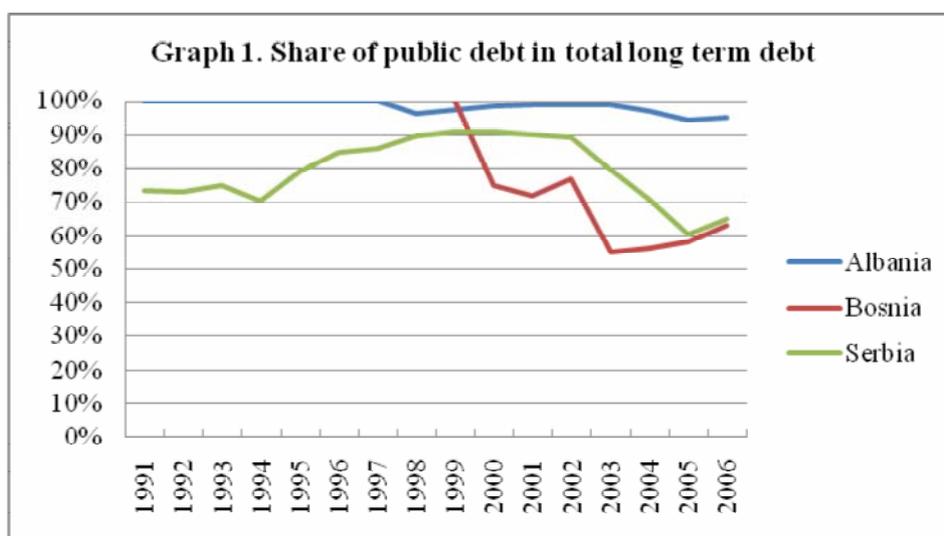
Sources: World Development Indicators, Global Development Finance, Government Finance Statistics

We conduct our analysis based on the assumption that public debt (public debt and publicly guaranteed debt) accounts for 98%, 69% and 79% of total long term debt in Albania, Bosnia and Serbia respectively[6].

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[6] Calculations are based on figures from various databases of the World Bank and the International Monetary Fund.

Table 1. Public indebtedness by currency - Albania (%)

ALBANIA	1991-2000			2001-2006		
Currency	Average share in total debt	Absolute growth rate	Annual average growth rate	Average share in total debt	Absolute growth rate	Annual average growth rate
European	24.35	-92.13	-21.51	27.64	61.21	10.78
US$	50.89	3.55	31.85	61.67	-25.50	-4.41
Others	5.34	243.80	32.21	10.69	112.25	16.00
N/A	19.42					

Sources: own calculations

The Albanian government mainly borrows from the dollar zones and more than half of its public debt is denominated in US$, which accounts for around 60% of total public debt. However, despite a sharp decline of about 90% in the public debts contracted with European currencies between 1991 and 2000, the use of the new single currency in the European Union has a positive effect on the borrowing behavior of the Albanian authorities towards public indebtedness from 2001. Public debt denominated in Euro records an annual average growth rate of around 10% for the 2001-2006 period.

Table 2. Public indebtedness by currency- Bosnia (%)

BOSNIA	1999-2000			2001-2006		
Currency	Average share in total debt	Absolute growth rate	Annual average growth rate	Average share in total debt	Absolute growth rate	Annual average growth rate
European	12.96	19.00	19.00	36.16	18.01	3.48
US$	27.55	0.64	0.64	37.41	18.48	6.31
Others	29.25	12.29	12.29	26.43	-36.27	-5.75
N/A	30.24					

Sources: own calculations

Similar public indebtedness patterns could be noticed in Bosnia[7] from 2001 because the share of public debt denominated in European currencies increases from 13% to 36% on average. Moreover, the US$ remains the main borrowing currency with an annual average growth rate of about 6% between 2001 and 2006, way beyond other foreign currencies, the share of which decreases from 29% to 26% in the total public indebtedness.

Table 3. Public indebtedness by currency- Serbia (%)

SERBIA	1991-2000			2001-2006		
Currency	Average share in total debt	Absolute growth rate	Annual average growth rate	Average share in total debt	Absolute growth rate	Annual average growth rate
European	19.59	3.56	1.22	28.51	61.25	10.38
US$	19.45	0.66	6.17	52.94	-94.36	20.44
Others	54.45	-11.29	-1.05	18.55	112.25	-20.82
N/A	6.51					

Sources: own calculations

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[7] Data for Bosnia are unavailable before 1999.

The public indebtedness pattern of Serbia is slightly different because it borrows mainly in other foreign currencies for the 1991-2000 period, with a proportion in the total public debt of around 55%. Public debts denominated in US$ and in European currencies account each for about 19%. In spite of an increase of the public indebtedness in Euro from 2001, Serbia primarily owes debts in US$, which records an annual average growth rate of around 20% between 2001 and 2006.

In sum, public debt in the potential candidate countries is mainly denominated in US$ [8] (Hausmann R. and Panizza U., 2003), even though there is an effort to hold government bonds denominated in European currencies and in Euro. The share of euro-denominated public debt has increased constantly from 1991 and records a global growth rate of about 30% in comparison with dollar-denominated public debt which remains on top with an average global proportion of around 50% of total public debt within 20 years. On average, the Western Balkan countries show a gradual integration in the public financial system of the European Union by increasing the share of their public borrowing from other European countries.

In order to better assess the financial integration of a country in a regional system, it would also be interesting to examine its public indebtedness profile by creditor composition (in line with the public debt management strategies recommended by the World Bank). Such an analysis will not be addressed in this paper due to data unavailability.

In addition, we could also assess the financial integration of a country into a regional system in consideration of a convergence in the operational and institutional framework of its public debt risk management (Velandia A., 2002). Public debt risk management takes into account the way the government forecasts and covers the financial risks related to public indebtedness, more specifically, the interest rate risk and the exchange rate risk. A country would be financially integrated with the European Union in this field if it adopts a similar behavior as the other European Union member countries and if it uses financial derivatives from the European Union financial markets. We are unable to analyze in-depth this aspect of public financial integration (i.e. public debt risk management) in the Balkan countries due to data and information unavailability.

Whether a country is partially or totally integrated in a regional financial system, it is likely to influence the stability of this system, which explains why acceding to the European Union necessitates meeting a number of qualitative and quantitative criteria. As far as public financial integration is concerned, the accession criteria concern a public debt threshold inferior to 60% of GDP. In the next section, we will examine to what extent this criteria could be used to assess the impact of the integration of the potential candidate countries in the public financial system of the European Union.

Financial integration and financial system instability factors

In this section, we will try to explain why the public debt accession criteria are insufficient to assess the impacts of potential candidate countries financial integration on the European Union financial system stability. Then, we will propose other indicators to be taken into consideration for this purpose.

The public debt to GDP ratio seems insufficient to assess the potential impacts of potential candidate countries financial integration on the European Union financial system stability because it does not take into consideration two main factors of financial system instability, which are country insolvency and public debt unsustainability. If a country is insolvent, it is likely to be unable to repay its debts, and if the country contracts new debts to repay its older debts while it is insolvent, its public debt is likely to become unsustainable. Such a situation might deteriorate the insolvency of the country and lead to default (Alessina and ali, 1992). When a country defaults, it is likely to suffer a financial crisis and given its level of integration in the regional system, it might impact negatively the stability of the whole system by a domino effect on other member countries depending on their degree of vulnerability.

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[8] Such a indebtedness behavior is described in the economic literature as a financial original sin, which consists for a government to mainly borrow in foreign currencies.

Country solvency analysis

Country solvency reflects the capacity of a country to face its debts with its own revenues. If it owes more than it can repay, the country is insolvent. We use a public debt to tax revenues ratio and a public debt service to remaining tax revenues ratio because they better reflect the debt burden that the country has to deal with. We choose to use tax revenues[9] instead of GDP because they reflect the proper financial resources of the country to measure solvency, denoted S. Regarding the second ratio, public debt service represents the amount of public debt to be repaid, with the related interests, by a country per year, and tax revenues should account in this case for the remaining share of tax revenues allocated to public debt servicing [10] after payment of public expenditures. However, for simplification, we only consider general government final consumption expenditures to determine these remaining tax revenues.

A country solvency can be calculated with the following indicators:

$$S_t = \frac{PD_t}{TR_t} \qquad\qquad S_t = \frac{PDS_t}{TRR_t}$$

<div align="center">or</div>

$$\begin{cases} PD : \text{ public debt} \\ TR : \text{ tax revenues} \end{cases} \qquad \begin{cases} PDS : \text{ public debt service} \\ TRR : \text{ remaining share of the tax revenues} \\ \qquad \text{allocated to public debt service} \end{cases}$$

We would assume that $S < 1$ means that the country is solvent (the higher S^{11} is, more the country is solvent) and $S > 1$ denoted that the country is insolvent.

<div align="center">

Table 4. Country solvency analysis (1991-2006)

Country	Annual average		
	PD/GDP	**PD/TR**	**PDS/TRR**
Albania	0.17	1.25	-0.19
Bosnia	0.31	1.55	-2.44
Serbia	0.41	1.77	-0.82

Sources: *own calculations*

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Table 4 shows that all three countries meet the accession public debt criteria because their respective public debt is inferior to 60% of GDP. For instance, Albania has a debt to GDP of around 17% on average in 20 years, which grants it a comfortable public indebtedness position from default. However, if we consider the public debt to tax revenues ratio and the public debt service to tax revenues after payment of public expenditures ratios, all countries are likely to enter the vicious circle of sovereign default because they do not meet the solvency criteria defined above. Indeed, their PD/TR ratio is on average superior to 1, which means that they face severe financial stringencies and are likely to be unable to cover their public debt burden. Tax revenue shortages might come from various factors such as inefficient tax system, uncompetitive economy as well as inefficient allocation of public debt resources. For instance, even if the country attracts foreign direct investments, a weak absorption capacity of its productive sectors would offset the expected positive effects of such inflows. Moreover,

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[9] Eventually, we will use the gross disposable income when tax revenues are unavailable.

[10] Total tax revenues could be used first to finance public operating and investment expenditures before public debt repayment

[11] $S = 1$ is not a sustainability threshold level because the use of public debt stock is more relevant for this purpose. Such a public debt threshold could be calculated analogously with an investment project profitability and a break-even point analyses.

given that the remaining tax revenues after payment of public expenditures is negative in the three countries, we would assume that they are insolvent because they do need other sources of financial backing to repay their debts.

In addition, it should be noticed that an analysis based on another decomposition of public debt servicing by currency would be interesting in order to take into consideration the role of the exchange rate and foreign international reserves in the solvency of a country. If public debt denominated in foreign currency grows faster than tax income, primary surplus and foreign reserves, the country is likely to be unable to meet its deadlines. The new solvency equation would be as follows:

$$S_t = \frac{PDSLM_t + \left(PDSFC_t - FER_t\right)}{TRR_t}$$

$$\begin{cases} PDSLM : \text{ public debt service in local money} \\ PDSFC : \text{ public debt service in foreign currency} \\ FER : \text{ foreign exchange reserves} \\ TRR : \text{ tax revenues remaining after payment of public expenditures} \end{cases}$$

Data unavailability on an accurate currency decomposition of the public debt service in the Balkan potential candidate countries restrains us from conducting such analysis.

Public debt sustainability analysis

Public debt sustainability (Yilmaz A., 2007; Roubini N., 2001) constitutes an important factor that is likely to influence the stability of the financial system to which a country belongs. It is mutually reinforcing with country solvency. Public debt is sustainable if the country can contract new debts without exposing itself to the eventuality of being in the incapacity to repay (insolvency or default risk). This is partly due to the credibility and creditworthiness of the country as well as to the efficiency of public indebtedness. An efficiency[12] analysis of the public indebtedness consists of assessing its impacts on the past and future economic performances of the country.

We assume that public indebtedness is efficient if, on the one hand, it generates an economic growth rate greater than the positive variations of public debt servicing (which is a past performance analysis) and, on the other hand, the net present value of remaining and/or projected public debts is positive (which is a future performance analysis).

Past performance efficiency analysis

To analyze the elasticity of GDP to public debt, we would assume that if GDP growth rate is superior to public debt growth rate, public indebtedness is efficient. Reversely, public indebtedness is inefficient and thus unsustainable[13].

Table 5. Sustainability analysis from public debt past efficiency

Annual average (%)	Growth rate		1US$ PD Δ on GDP	1% PD Δ on GDP
	GDP	PD		
Albania	18.23	22.63	-4.82	-0.39
Bosnia	14.04	4.04	1.59	0.41
Serbia	-0.33	-2.05	-120.10	-46.01

Sources: own calculations

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[12] We assume that public debt efficiency can be assessed by the national income it helps to generate. It reflects therefore the elasticity of GDP to public debt as well as profitability of public debt to be repaid.

[13] We do not take into consideration in our calculations: arrears, new debts or debt forgiveness/cancellation.

Table 5 shows that the public debt of Albania is inefficient because if it increases by 1US$, it entails a decrease of around 5% in GDP. In addition, if Albanian public debt increases by 1%, GDP falls by 0.4%. This may be explained by a faster growth of public debt, 23% on average per year for 1991-2006, relative to GDP with 18% growth rate for the same period. In contrast, public debt seems efficient in Bosnia because it impacts positively on GDP. An increase of 1% in public debt helps increase GDP by 0.4%. However, such performance is not really comparable to the other Balkan potential candidate countries because it concerns a shorter period (1999-2006). Reversely, public indebtedness is more inefficient in Serbia because if it increases by 1 US$, it decreases GDP by around 120US$.

To sum up, the past efficiency of public indebtedness in the Balkan potential candidate countries is questionable because it mainly affects negatively their economic performance. What about its future efficiency?

Future performance efficiency analysis

To analyze to future performance efficiency of public indebtedness, we can analogously use the profitability analysis of an investment project by using public debt-related terms in the equation. The traditional measures of debt sustainability are based on a similar method by considering the net present value (NPV) of the debt. The International Monetary Fund suggests, for example, the following indicators:

Table 6. Debt Burden Thresholds[14]

Policy	NPV of debt in percent of			Debt service in percent of	
	Exports	**GDP**	**Revenue**	**Exports**	**Revenue**
Weak Policy	100	30	200	15	25
Medium Policy	150	40	250	20	30
Strong Policy	200	50	300	25	35

Sources: *International Monetary Fund*

In line with the IMF, we propose the following sustainability formulation of public indebtedness with regards to its future economic efficiency.

$$NPV(PD_t) = \sum_{t=1}^{n} \left(\frac{Y(PD_t) - PDS_t}{(1-r)^t} \right) - PD_t$$

PD : public debt stock ($\square$ initial investment)

$Y(PD)$: share of GDP generated by public indebtedness ($\square$ earnings)

PDS : public debt service ($\square$ expenses)

r : average interest rate of public debt ($\square$ weighted average cost of capital)

In our analysis, we would consider disbursements of total long term debts for future public debt and a *GDP/PD* elasticity for *Y(PD)*. Moreover, we will assume that if *NPV(PD)* ≥ 0, public indebtedness is efficient and thus sustainable. In contrast, if *NPV(PD)* < 0, public debt is unsustainable.

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[14] Joint IMF-World Bank DSF-Debt Sustainability Framework for low-income countries.

Table 7. Sustainability analysis from public debt future efficiency

		Average NPV	Sustainability
Albania	-	97,387,849	Non sustainable
Bosnia	-	174,422,829	Non sustainable
Serbia	-	55,510,881	Non sustainable

Sources: own calculations

Table 7 shows that none of the three countries satisfies the sustainability criteria regarding their respective public debt future performance. The net present value of their future disbursements is negative, which means that their public indebtedness does not help in generating a sufficient return to face debt principal repayments and interest payments for 2007-2016.

In sum, no Balkan potential candidate countries meets the solvency and the sustainability criteria that might help to lessen the negative impacts of the public financial integration of the Balkan potential candidate countries in the European Union financial system, even though they satisfy the public debt accession criteria.

Conclusion

The financial integration of Albania, Bosnia and Serbia in the European Union financial system has improved significantly since 2001 with the effective use of the Euro as a single transaction currency among European Union member countries. Their public debt denominated in Euro almost levels up with the US$ and to date, Balkan potential candidate countries are more financially integrated in the world financial system as far as public indebtedness is concerned. However, present trends seem to promote a deeper European integration.

The impacts of Balkan potential candidate countries integration in the stability of the European Union public financial system remain unclear. In this paper, we put forth an argument that the public debt accession criteria is an insufficient instrument for this purpose because it does not take into account two main factors that are likely to generate the instability of a financial system: country insolvency and public debt unsustainability. Our empirical studies show that even though Balkan potential candidate countries meet the public debt accession criteria, they are in the path of being unable to face their public debt repayments and are likely to default. They do not generate sufficient tax revenues and record a GDP growth rate smaller than public debt dynamics. Moreover, an increase, both in absolute and relative terms, in public debt affects GDP negatively. Finally, the net present value of their future public debt disbursements is negative, which intensifies the default risk that is more likely to shockwave the European Union financial system.

Future research would analyze in more details the impact of the integration of potential applicant countries in the European Union financial system and define more appropriate country solvency and public debt sustainability thresholds.

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The Importance of Required Reserves for Banks Liquidity Maintenance[1]

Slavica Stevanović, Grozdana Belopavlović[2]

ABSTRACT - The basic principles of banking performance are principle of safety, of liquidity and of profitability. The application of these principles is obligatory for the banks in relation to their influence for stable and efficient banking performance. The primary and secondary banks' reserves serve for liquidity maintenance, as one of the conditions for successful bank performing. One of the main indicators of banks liquidity are compulsory reserves deposited at central bank. The reserve requirement rate are differential and determined by central bank in dependence of the bases on which they are calculated. The required reserve on banks deposit potential represents the important foothold of monetary politics with remarkable influence on financial flows through banks.

KEY WORDS: principles, liquidity, banks' required reserves, bank

Basic principles of banking performance

Concerning the legal person business activities, it must be distinguished that those activities are led by determined requirements and principles enabling the highest business results, stable performance and financial risk protection. The principles of correct performance, permanently present at economy activities subjects are profitability, safety, liquidity, over-indebt protection, flexibility and independence. Among the mentioned principles of banking performance three are the most significant, and respected by all over the banking world and without which the banking activities can not be possible. Those three factors are the principle of safety, of liquidity and of profitability. The mentioned principles characterize banking activities and oblige the bank to apply them in order to avoid insecure, non liquid and non rentable performance. Each deviation of the main principles could distract equilibrium and efficiency of banking sector, as well as the country economy efficiency. The bank management aims to find balance in relation to profitability, security and liquidity, which are *condition sine qua non* for realization of good performance and lower risk level.

The safety principle is characterized by the bank certainty that the business partners in contracted terms will realize the accorded responsibilities. In that sense it is realized the monitoring of credit capabilities, liquidity, cost-effectiveness, and credibility of banks business partners. Business relations are established with partners that in all senses respect the good businessman performance principle. The safety principle is particularly distinguished in customer selection and approved credit insurance. When mentioning the safety of banks creditors, the safety factors are bank profitability in function of primary safety and bank capital in the role of secondary creditors' safety. Deposit insurance contributes to the banking sector stability in Serbia giving the population the guaranty that the deposited resources are protected in banks, even in case that the National Bank of Serbia withdraw the license for work and adopt the decision on condition fulfillment for initiating the bankruptcy procedure over a bank.

The market economy, respects the liquidity principle as a key factor of standard performance. The essence of the liquidity principle is the legal person obligation to be capable in every moment to exe-

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cute due payments to the creditors. Banks have to maintain permanently its liquidity, day liquidity included, what is the main sustainability precondition on financial market. Bank liquidity position could define the very balance structure depending on percentage of primary reserve liquidity as the most liquid asset position, the securities of various due terms, as well as the less liquid parts like credits and stable assets. However, on the bank liquidity position affects also the liabilities liquidity, where some positions are more liquid, which means that creditors can require the deposit or credit returning in short term, while some bank balance sheet are less liquid because of longer due terms. However, liquidity is related to off-balance sheet than can be activated and have repercussion on bank liquidity decreasing, likewise approved but not drawn on credit lines, given guaranties, etc. On static aspect, the liquidity is monitoring by assets, liabilities and off-balance sheet items analyses on certain date. A dynamic liquidity analysis is more adequate because it observes the dynamics of money inflow and outflow. The harmonization of money inflow and outflow in monitored period determines the liquidity position, while the liquidity deposit level is not of key importance.

Banks have a goal to maximize the shareholders assets value with acceptable risk level. The main goal positioned on this way requires new possibilities to increase income, business efficiency and more effective planning and control. The basic profitability measures are: Return on Assets, as indicator of management bank assets efficiency; and Return on Equity, as income measure that bank holders realize on assets invested in bank. In modern flows of banking activities development, the priority is given to the stability principle in relation to profitability principle. It is more useful to operate with stable and liquid performance with insured profit, than to create maximum possible profit on behalf of stability and liquidity.

Bank liquidity management

The main bank managers' tasks are liquidity, assets and capital adequacy management.[3] In order to have enough cash to cover the liabilities towards its deponents, the bank has to maintain the liquidity providing enough liquid assets. The banks that have enough reserves surplus over the level of required reserves, the reserves out flow by deponents do not have to provoque the changes in balance state structure. The banks that do not have enough reserves are facing the problem of cash assets lack necessary for the settlement towards their deponents. The debt at other banks can cover the reserves lack, but in the same time it creates the liabilities volume increase based on received credits and expenditure increase on interest behalf. Cash assets lack, the Banks overcome by selling the securities from its portfolio, but it creates the bank's transaction cost increase. The most expensive way that bank assure the resources necessary for deposit out flow, is to decrease the placement in form of credits. Previously mentioned problems and expenditures created by its solving, are the reasons why the banks keep the deposit surplus, although the credits and securities provide the bank greater profit.

The demand for liquidity and the offer of liquid assets in determined moment are often unbalanced, which creates the deficit, or, liquid money surplus. For majority of banks the demand for liquidity is coming because of clients deposit retirement, credit requests by clients that bank desires to keep, repayment of previous obligations, business and tax expenses payment, cash dividends payment to shareholders. In order to fulfill the mentioned liquidity demand, the banks provide the liquid money from a number of potential sources. The most important one is banks clients' deposits. The other sources could be clients' debts repayment and selling securities from banks portfolio, ensuring the fresh means for satisfying new liquidity necessities. The means could be ensured by debiting in foreign countries, too.[4] Regarding liquidity, the various demand and offer sources together define bank net liquidity position in sequence of time.

Commercial bank reserves serve for insurance of its liquidity or as an instrument of monetary and credit policy to regulate banks credit activities and quantity of circulating capital. The prerequisite for normal bank activities is liquidity maintenance, which comprises the capacity to settle claims on its

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[3] Mishkin S. F. (2006) The Economics of Money, Banking, and Financial Markets, pg. 208
[4] Rose, P., Hudgins, S. (2005), Banking Management and Financial Services, pg. 348

due date. The liquidity maintenance is important bank performance requirement, comprising the capacity to settle due payments on its due term. The repayment of credits, taking of assets from own accounts opened at bank, or pay-off to customers on behalf of money retirement based on approved credit, payments to deponents on behalf of deposit retirement, are some of liabilities that bank has to settle on customers request. "The bank is liquid when, keeping necessary liquidity reserves, can without obstacles act it credit activities and pay all its due liabilities on time" [5]. The liquidity rate showing the level of deposit covering placement, and required reserve are quantitative indicators of liquidity impaction on financial power, state and excellence of bank performance.

Required reserves as banks liquidity reserves

Required reserve are deposit reserves that banks divide and are obliged to keep on its account at central bank. Together with cash and deposits at correspondent banks, the necessary reserves are primary bank liquidity reserves. Primary liquidity reserves are used in case the outflow money is bigger than inflow one. However, it is essential to define the optimal level of required reserve in order to avoid the creation of non used resources, which in case of placement would contribute to bank transactions profitability. Regarding required reserve the central bank has the responsibility to cover banks liquid necessities, in accordance with disposed reserves. The bank can decide to place its assets into short term securities issued by the state, central bank or great corporations. Being easily converted into cash, the mentioned short term securities are used as secondary liquidity reserves that fulfill bank liquid necessities.

The banks' required reserves have two main roles. The first one is of prudential characteristics, because through regulation of liquidity it assists to financial system stability, while the other one acts as the transmission instrument of monetary policy measures on economic activity and inflation, through regulating the credit offer. The economic theory the most often mentions two essential required reserves acting guidelines on economic activity and inflation, mainly by credit offer extension and foreign assets in-flow control. Concerning the credit channel theory, the required reserve affects on economic activity and banks' credit potential because the required reserve rate increase results in banks' credit offer decrease, and its consequence is the economic activity deceleration and, finally, inflation decrease. On the other side, the fact is that required reserves rate increase impacts on capital in-flow decrease, particularly on the one of speculative character. [6]

The changes of deposit percentage and other assets kept as required reserves could have the great influence on credit expansion in banks and other deposit institutions. The reserves increase requirement signifies that banks have to set aside more cash resources on every deposit. In the same time, it means the less credit banks' potential, or less disposed assets for approving the new credits. On the other side, the greater reserves requirement could affect the interest rate increase owing to decrease of cash assets volume on disposal for credit approval. The required reserves amount decline activates the cash assets liberation and now, the resources they can be invested in more profitable business activities. The reduction of required reserves setting aside enables the banks to increase their credit potential, and the consequence is the interest rates declination.

The essential goal of cash assets position management is to maintain the required reserves on stipulated level, with no reserves surplus, and as well as, without great reserves deficiency. The quantity of cash assets, which banks have to keep as required reserves, depends on each bank's deposits volume and composition. When the bank's amount of required deposit is defined, the next step is to compare this amount to the real daily average required reserves degree. In case that the real required reserves are greater than stipulated, the bank has the reserves surplus. In that situation the bank's management has to react quickly and invest the reserves surplus. Each reserves surplus extending over required reserves degree results as expenditure regarding the possibilities of income realization based on profit-

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[5] Đukić et al. (2004), Banking, pg. 259
[6] www.ubs-asb.com/s/Bankarstvo/2008/14.htm

able bank's activities. If the defined amount of required reserves is greater than real required reserves amount on daily average bases, the bank has the reserves deficiency.

The level of required reserve is stipulated by the National Bank of Serbia in form of reserve requirement rate. In accordance with the Decision on Banks' Required Reserves at the National Bank of Serbia, there are prescribed different reserve requirement rate, depending on basis they are calculated on.

Table 1. Reserve requirement rate at NBS

	In use on:		
	1/2007	**11/2007**	**10/2008**
Rate on:			
Basis in dinars	10	10	10
Except:			
Term deposits over 1 month		5	5
Liabilities indexed by currancy clause	45	45	45
Basis in foreign exchange			
Except:			
New foreign exchange savings	40	40	40
Subordinated capital	20	20	/
Leasing foreign exchange	100	100	/*
Credits from abroad	45	45	/

Source: National Bank of Serbia; authors own
* Reserve requirement on money leasing companies from abroad

Banks' required reserves are calculated on deposits liabilities in Serbian dinars, credits and securities, as well as on all other liabilities in dinars. On the other side, the required reserves are calculated on liabilities in foreign currency deposits, credits, securities and all other foreign money liabilities, including subordinated liabilities in foreign currency, and foreign currency resources received from abroad according to transactions that bank execute in name and on behalf of third person[7]. Required reserves accounting is realized on every 17th in month on the amount of average daily accounting state of assets in dinars and foreign currency for the previous month. The accounting period is from 18th to 17th in current month.

Required reserves in dinar are calculated on liabilities based on deposits in dinars, short term securities and other liabilities in dinars by 10% rate. The stipulation of necessary reserves lower rate level in relation to previous years (21% in 2004, 20%, and then 18% from 2005. to 2006, when the rate is decreased on 15%) was aiming to stimulate banks to collect accumulation sources in dinars. The required reserves rate on basis in dinars composed by liabilities in dinars based on deposits termed more than one month is decreased on 5%, in 2007.

On liabilities per foreign exchange deposits, short term securities the foreign exchange required reserves are calculated on 45% rate. The increase for 2% in relation to March 2006 and 7% in relation to the end of 2005 is aimed to delimitate the banks indebting abroad. For deposits in dinars indexed by foreign currency clause, it is adopted the 45% rate of foreign exchange required reserves, because they are equalized, for foreign currency clause, as deposits in foreign money.

From April 2006, on inflow from abroad based on deposits and commercial banks credits it was applied the 60% foreign currency reserves rate, in case of two years repayment period. This National Bank of Serbia measure ought to contribute to deceleration of commercial banks credit activities based on abroad debits. By the new National Bank of Serbia Decision on Banks' Required Reserves from December 2006 and stipulated necessary reserves rate of 60% on short term credits, is withdrawn. The National Bank of Serbia cancelled the required reserves on banks credits from abroad, retroactive too, since October 1, 2008, while this rate till now was 45%. By taking the mentioned measures the banks will provide more circulating currency and better credit conditions.

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[7] Decision on Banks' Required Reserves Held at the National Bank of Serbia.

The step-by-step required reserves rate decreasing based on new foreign exchange savings[8], measures will ultimately decrease the banks debits abroad and stimulate the credit activities based on domestic accumulation, through even more intensive foreign exchange savings collection. The required reserves rate on foreign exchange population deposits is 40% and keeps staying stable in 2008.

The Law on financial leasing, adopted by the National Bank of Serbia, stipulates the decree that obliges leasing companies to keep reserves on special bank account and calculate reserves on loans, other borrowing and supplementary payments from abroad, aiming to decrease the debit rate in foreign countries. From 2006, the required reserves on foreign exchange leasing assets was 100%, but the National Bank of Serbia, adopting new measures in October 2008, withdrew the required reserves on currency that leasing companies borrow from abroad. Also, the banks will be disburdened from the extraction of 20% required reserve on subordinated liabilities that was adopted since March 2006. The basic goal of these measures is to facilitate the refinancing abroad, as well as to assure the untroubled credit insurance for national companies' financing product activities.

The National Bank of Serbia changed the very structure of foreign exchange required reserves. Instead of previous dividing of 90% in Euro and 10% in dinars, from October 2008 the calculated necessary reserves in euros are 80% and 20% in dinars, providing better foreign currency bank liquidity.

The National Bank of Serbia statements quarterly demonstrates daily bank liquidity. On 30.06.2008 in the Republic of Serbia the total assets on giro - account was amounting 73.447.906 thousands dinar, while the calculated required reserves were 65.907.570 thousands dinar. As the indicators of liquidity were quoted credits for liquidity maintenance, and deposit of liquid assets surplus, at the National Bank of Serbia, which represent the permanent bank benefit. In the second quarter of 2008, the credit for liquidity no bank has used, in comparison to the first quarter of 2008 when the credit value for liquidity on behalf of securities deposit have amounted 950.000 thousand dinar.

Conclusion

The financial institutions survival and prosperity depends, among other, from public trust. The lack of trust can ruin the bank liquidity by unexpected deposit withdrawal by banks deponents. The liquidity maintenance is profitability prerequisite, but liquidity accomplishing presents the limit factor in expected profitability achieving.

The required reserve rate represents the important instrument of credit regulating, and bank liquidity regulating instrument. The change of required reserve rate influences on decrease, or extension of commercial banks credit potential, and on the other side, on creation of additional banks liquidity. The new measures of the National Bank of Serbia from October 2008 related to required reserves withdrawal on certain basis parts will disburden the banks, but hardly insure the same credit volume as before, owing to more expensive money factor in foreign countries.

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[8] New foreign exchange savings reffered to saving paritions payed in after 30.06.2001.

Various Innovating Instruments of Financial Markets Recommended in Case of a Fall in the Underlying Asset Price

Vincent Šoltés, Michal Šoltés[1]

ABSTRACT – *Innovation of investing instruments has been one of the main characteristics of financial markets recently. As financial crisis resulted in significant decrease of stock as well as commodities markets, instruments which are profitable at price down of underlying assets became more popular. The aim of this contribution is to state some new investing certificates suitable at price down of underlying assets. These innovating instruments are listed and analysed according to the risk profile those with the highest risk through those with the less risk profile finishing with guaranteed products. This paper was prepared within the VEGA project No.1/0810/08 "The trends of the derivatives markets' development in the Slovak republic in the context of the Slovak republic entry to the Euro zone.*

KEY WORDS: *investing instruments, certificates, underlying assets*

Introduction

The US mortgage crisis followed by the financial crisis has already hit Europe as well because of globalised markets. Even if the bottom line has not been officially declared yet, the impact on the price movement, in stock markets in particular, has been disastrous. Take, for example, Germany's DAX Index from December 2007 to October 2008. It slumped from 8035 to 4020 points, i.e. a dramatic 50% drop. Even more significant has been the index decline of recently joined EU member states. For instance, Romanian ROTX index nosedived over the same period from 21,000 to 4960 points, i.e. by more than 76% and CECE index from 3050 to 1200 points, i.e. by 60%. Russian RDX index declined substantially over the period mentioned above, from 2300 to 703 points, i.e. by nearly 70%.

Considering the fact that the above-mentioned crises will trigger a significant slowdown of economic growth, if not a recession, in fact all over the world, it might be said that the recent massive price slump has affected commodities as well. For instance, oil prices since hitting a record of $147 a barrel have fallen back sharply to $62 a barrel, i.e. by nearly 58%.

Although no one can predict with any certainty movements in financial markets, we can realistically expect increased market volatility, price fall or stagnation rather than rise.

The purpose of this paper is to state various innovating instruments of financial markets which are appropriate in case of price down or stagnation of underlying assets. These innovations will be listed with regard to risks involved.

Linear short certificates

Linear Short certificates track the underlying assets in an inverse manner. If the value of the underlying asset drops, the value of the Short certificate rises, or, conversely, their price falls when the underlying asset value rises. This increase or decrease is linear. Thus the leverage is -1 and there are no other limitations. Therefore, these products are considered to be an average risk investment.

These Linear Short certificates represented an ideal investment opportunity at the end of 2007 in particular as well as in May 2008.

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Table 1 shows the outcome of the investment by means of Linear Short certificates on DAX, CECE and BRENT OIL underlying assets depending on the investment date whereas the resale date is 24 October 2008. The Short certificates were issued by an Austrian bank-Raiffeisen Centrobank.

Table 1 Linear Short Certificates

Certificate	Underlying Asset	Purchase Date	Sale Date	Total Return %	Return in % p.a.
AT0000A05644	DAX	15.5.2008	24.10.2008	62	141
AT0000A06QY8	CECE	15.5.2008	24.10.2008	98	220
AT0000A07SD6	BRENT OIL	15.7.2008	24.10.2008	165	594

Source: Own calculations referring to www.rcb.at

Table 1 indicates that there existed (and still exist) investment instruments by means of which due to the panicky share sell-off, substantial profits might have been earned from relatively safe underlying assets at relatively low risk. However, taking into account a significant decline of given assets, profit opportunities by purchasing the above-mentioned Linear Short certificates are considerably limited even disputable.

Short Turbo certificates

The so-called Short Turbo certificates are an ideal choice for risk-hungry investors and those who are convinced that the value of the underlying asset will go down. These instruments are, however, characterised by a very high risk and are equipped with a financial value S_{STRIKE} called strike. In case of Short Turbo certificates, it is always above S value of the underlying asset. If p denotes subscription ratio and N_E denotes issuer costs, then the theoretical value of the Short Turbo certificate can be determined according to (see [3])

$$k_{ST} = (S_{STRIKE} - S)p + N_E \tag{1}$$

It is clear that the closer the underlying asset value gets to the strike value, the cheaper the certificate is. On the other hand it is riskier because once the underlying asset value reaches the strike, certificate trading is over and the investor looses his entire investment. Sometimes there is a barrier B below the strike value which if reached, trading is over. The investor gets just a small part of the amount invested.

Table 2 indicates the outcome of the investment by means of Short Turbo certificates on DAX, CECE, RDX and BRENT CRUDE OIL underlying assets depending on the investment date whereas the sale date is again 24 October 2008. As in the previous case, these certificates were issued by Raiffeisen Centrobank.

Table 2.Short Turbo Certificates

Certificate	Underlying	Strike	Barrier	Purchase Date	Sale Date	Total Return %	Return in % p.a.
AT0000A07KD3	DAX	8350	8250	15.5.2008	24.10.2008	233	441
AT0000A07KD3	DAX	8350	8250	22.10.2008	24.10.2008	700	700
AT0000A07MN8	CECE	3450	3350	15.5.2008	24.10.2008	193	366
AT0000A07MN8	CECE	3450	3350	5.11.2007	24.10.2008	459	473
AT0000A084D0	RDX	2700	2625	15.5.2008	24.10.2008	280	531
AT0000A084D0	RDX	2700	2625	13.12.2007	24.10.2008	583	699
AT0000A0AT69	BRENT CRUDE OIL	147.79	145.29	27.8.2008	24.10.2008	231	1386
AT0000A0AT36	BRENT CRUDE OIL	165.27	162.77	27.8.2008	24.10.2008	159	896

Source: *Own calculations referring to www.rcb.at*

As can be seen from Table 1 and 2, profits earned by means of Short Turbo certificates are considerably high in comparison with Linear Short certificates. On the other hand, one must bear in mind that DAX index was at 7820 points on 22 October 2007, i.e. 430 points from the barrier. Thus, if it had kept rising, and if it had reached the 8250-point barrier, the investor would have lost almost the entire amount of investment. That was extremely risky investment.

Discount Classic certificates

The so-called discount certificates are fairly popular with investors. There are several kinds of discount certificates but what they all have in common is that they are sold at a discount. The simplest are the so-called Discount Classic certificates which will be dealt with in the next section.

In return for this cheaper investment, the potential gain is limited to a predefined level C called a cap. If we multiply this value C by a subscription ratio p, we get the maximum rate that the issuer pays to the investor at maturity of the Discount certificate, but only if the value of the underlying asset S is at least C on its maturity date. Otherwise, the value pS will be paid out. The function of profits earned from Discount classic is defined as (see [3])

$$P(S) = \begin{cases} n(pS - k_0) & ak \ S < C \\ n(pC - k_0) & ak \ S \geq C, \end{cases} \tag{2}$$

whereas k_0 is the purchase rate.

If the investor expects the value of the underlying asset to be lower (higher) on its maturity date, he chooses a Discount Classic certificate with the cap being lower (higher) than the value of the underlying asset S_0. If he expects the value of the underlying asset to remain unchanged, he goes for the certificate with the cap equal to the value of the underlying asset. The maximum return at p.C-k_0 level will be earned if the value of the underlying is at least C on its maturity date.

When considering investment in Discount Classic certificates, one should calculate the maximum possible return as well as the amount by which the value of the underlying asset must rise (eventually even fall) by the maturity date to get the maximum return. These parameters can be calculated according to

$$P_{max} = \left(\frac{C \cdot p}{k_0} - 1 \right) \cdot 100\%, \tag{3}$$

$$OC = \left(\frac{C}{S_0} - 1 \right) \cdot 100\%. \tag{4}$$

When choosing a Discount Classic certificate on a given underlying asset, the following decisive factors must be taken into account: the expected value of the underlying asset at certificate maturity, maximum return, cap distance and investor's attitude to risk.

Table 3 shows Discount Classic certificates issued by Commerzbank on the DAX underlying asset with maturity on 15 December 2010 whereas the rate k_0 is of 31 October 2008. The value of DAX index by the end of this trading day was S_0=5057 points. By means of the above relations (3) and (4), we have calculated the values P_{max} and OC for different certificates varying according to the cap value. Subscription ratio p=0.01.

Table 3. Discount Classic certificates on DAX with maturity on 15.12.2010

Certificate	Cap C	Rate 31.10.2008 k_0	Maximum yield P_{max}	Cap Dis-tance OC	Maximum yield p.a.
DE000CB2261	2000	17.61	13.57	-60.45	6.38
DE000CB2262	2500	21.55	16.00	-50.56	7.53
DE000CB2263	3000	25.26	18.76	-40.67	8.83
DE000CB2264	3500	28,26	21.86	-30.79	10.28
DE000CB2265	4000	31.93	25.53	-20.90	12.01
DE000CB2266	4500	34.88	29.01	-11.01	13.65
DE000CB2267	5000	37.53	33.22	-1.13	15.63
DE000CB2130	5500	39.91	37.81	+8.76	17.79
DE000CB2131	6000	42.00	42.85	+18.64	20.16
DE000CB2132	6500	43.79	48.43	+28.53	22.79
DE000CB2133	7000	45.22	54.79	+38.42	25.78
DE0004BLH	7500	46.37	61.74	+48.31	29.05
DE0004BLJ	8000	47.26	69.27	+58.19	32.59
DE0004BLK	8500	48.03	76.97	+68.08	36.22
DE0004BLL	9000	48.43	85.83	+77.97	40.39
DE0004HGM	9500	48.93	94.15	+87.85	44.30
DE0004HGN	10,000	49.05	103.87	+97.74	48.88
DE0005HXM	10,400	50.29	106.80	+105.65	50.26

Source: *Own calculations referring to* www.zertifikate.commerzbank.de

Let us suppose that the investor wants to invest EUR10,000.

If he expects a recession to last for at least two years and the share index to reach around 3000 points by 15 December 2010, then he will buy 396 DE000CB2263 certificates with the cap being 3000 at the rate of 25.26. The function of profits earned from this investment is:

$$P_1(S) = \begin{cases} 396(0.01 \cdot S - 25.26) & ak\ S < 3000 \\ 396(0.01 \cdot 3000 - 25.26) = 1877.04 & ak\ S \geq 3000. \end{cases}$$

Should the value of DAX index reach at least 3000 points on 15 December 2010, the investor will get a return of 18.76%, i.e. 8.83% p.a. Such investment poses just a slight risk as the value of DAX index may fall by approx. 40% and the investor will still receive the maximum return.

If the investor expects a recession to last but the value of DAX index is around 5000 points on 15 December 2010, he will then buy 267 DE000CB2267 certificates with the cap being 5000 for 37.53 per piece, i.e. EUR10,020.51.

The function of profits earned from this investment is

$$P_2(S) = \begin{cases} 267(0.01 \cdot S - 37.53) & ak\ S < 5000 \\ 267(0.01 \cdot 5000 - 37.53) = 3329.49 & ak\ S \geq 5000. \end{cases}$$

Provided the index actually hits at least 5000 points on 15 Dec 2010, the investor will achieve a return of 33.22%, i.e. 15.61% p.a.; and all this, in spite of the fact that the value of index will actually be at its current level. However, if the index drops and its value is for instance 3000 points, the investor will suffer a loss of 20% on his investment.

If the investor assumes that DAX hits approx.8000 points on 15 December 2010, he will buy 210 DE000CB4BLJ certificates with the cap being 8000 for 47.26. The function of profits in this case is

$$P_3(S) = \begin{cases} 210(0.01 \cdot S - 47.26) & \text{ak } S < 8000 \\ 210(0.01 \cdot 8000 - 47.26) = 6875.4 & \text{ak } S \geq 8000. \end{cases}$$

This investment is considerably riskier since in order to achieve the maximum return of 69.27%, the value of DAX index must rise by 15 December 2010 by more than 58% (approx. to the level the index reached a year ago). Provided that the index value remained at its current level, the investor would suffer a relatively small loss of nearly 6%. However, if the index fell to 3000 points, loss would be more than 36%.

Let us create a portfolio which will consist of 132 certificates with the cap being 3000, 89 certificates with the cap being 5000 and 70 certificates with the cap being 8000 (we have invested approx. one third in each certificate). Thus, the total amount invested is EUR9982.69.

Then the function of profits earned from this investment is

$$P_4(S) = \begin{cases} 2.91 \cdot S - 9982.69 & \text{if } S < 3000 \\ 1.59 \cdot S - 6022.69 & \text{if } 3000 \leq S < 5000 \\ 0.70 \cdot S - 1572.69 & \text{if } 5000 \leq S < 8000 \\ 4027.31 & \text{if } S \geq 8000. \end{cases}$$

Table 4 shows profit and loss values generated by the above-mentioned investments at the presupposed values of DAX index on 15 Dec.2010.

Table 4. Investment outcomes

DAX value on 15.12.2010	Profit or loss in EUR for particular investments			
	$P_1(S)$	$P_2(S)$	$P_3(S)$	$P_4(S)$
3000	+1877.04	-2010.51	-3624.60	-1252.69
3753	+1877.04	0	-2043.30	-55.42
3788	+1877.04	+93.45	-1969.8	+0.23
4000	+1877.04	+659.49	-1524.60	+337.31
4726	+1877.04	+2597.91	0	+1491.65
5000	+1877.04	+3329.40	+575.4	+1927.31
6000	+1877.04	+3329.40	+2675.4	+2627.31
7000	+1877.04	+3329.40	+4775.4	+3327.31
8000	+1877.04	+3329.40	+6875.4	+4027.31
more than 8000	+1877.04	+3329.40	+6875.4	+4027.31

Source: *Own calculations*

Table 4 indicates that by diversifying we have set up a portfolio which is , out of four considered investments, the second least risky in case of a significant fall, the second best performing in case of stagnation and the second best performing in case of substantial rise of DAX index at maturity.

Table 3 explains why discount certificates are that popular with investors. As they are issued with the cap value ranging from 2000 to 10,400 points, each investor either the most conservative or the most aggressive can find a discount certificate for his, in this case, approximately two-year investment.

Provided the investor is considering a short-term investment, let's say approx. half a year, Discount Classic certificates are again the right choice for him.

Table 5 shows a set of Discount Classic certificates issued by Commerzbank on the underlying asset DAX but the maturity date is 16 April 2009.

Table 5. Discount Classic certificates on DAX with maturity 16.4.2009

Certificate	Cap C	Rate 31.10.2008 k_0	Maximum Yield P_{max}	Cap Distance OC	Maximum Yield p.a.
DE000CB17PT	2000	19.44	2.88	-60.45	6.28
DE000CB17PY	2500	24.02	4.08	50.56	8.91
DE000CB17QD	3000	28.43	5.52	-40.67	12.05
DE000CB17QJ	3500	32.66	7.16	-30.78	15.64
DE000CB17QD	4000	36.56	9.41	-20.90	20.54
DE000CB17QU	4500	40.12	12.16	-11.01	26.55
DE000CB9TOC	5000	43.25	15.60	-1.13	36.07
DE000CB9EGA	5500	45.81	20.06	+8.76	43.80
DE000CB9EGF	6000	47.72	25.73	+18.65	56.18
DE000CB9EGL	6500	48.88	32.98	+28.53	72.00
DE000CB9EGR	7000	49.55	41.27	+38.42	90.11
DE000CB9EGU	7300	49.77	46.67	+44.35	101.90
DE000CB9EGW	7500	49.87	50.39	+48.31	110.02
DE000CB9EHB	8000	50.03	59.90	+58.19	130.79

Source: *Own calculations referring to* www.zertifikate.commerzbanke.de

Supposing that DAX is from 3000 to 7000 points on 16 Apr 2009, we could then create a portfolio by purchasing, e.g. 117 certificates with the cap being 3000, 77 certificates with the cap being 5000 and 67 certificates with the cap being 7000 (we have invested approx. one third of the total amount invested 9976.41 EUR in each certificate).

Then the function of profits earned from the total amount invested is

$$P_5(S) = \begin{cases} 2.61 \cdot S - 9976.41 & \text{if } S < 3000 \\ 1.44 \cdot S - 6466.41 & \text{if } 3000 \leq S < 5000 \\ 0.67 \cdot S - 2616.41 & \text{if } 5000 \leq S < 7000 \\ 2073.59 & \text{if } S \geq 7000. \end{cases}$$

Table 6 shows profit (loss) values of the created portfolio at the presupposed values of DAX index at maturity.

Table 6. Profits from the portfolio at maturity of certificates

DAX value	Profit in EUR	Return in %	Return in % p.a.
3000	-2146.41	-21.51	-48.97
3500	-1426.41	-14.29	-31.21
4000	-706.41	-7.08	-15.46
4500	+13.59	+0.13	+0.29
5000	733.59	+7.35	16.05
5500	1068.59	+10.71	23.38
6000	1403.59	+14.07	30.72
6500	1738.59	+17.42	38.05
7000	2073.59	+20.78	45.38
7500	2073.59	+20.78	45.38

Source: Own calculations

Conclusion

This paper deals with various innovating instruments of financial markets which are profitable just when the value of the underlying asset falls (Linear Short certificates, Short Turbo certificates). Additionally, Discount Classic certificates are analysed. Regarding a wide spread of the cap value, they actually are always a wise investment whatever the expected scenario of the underlying asset price movement is.

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Integration of Financial System of Republic Serbia into Financial System of EU- Banking: Trends and Challenges [1]

Nataša Tanjević[2]

ABSTRACT – *This work contains a brief assessment of financial sector in Serbia, (banking as dominant one) including implications of global crisis and both regulatory and institutional scope which is in the process of harmonization with EU regulations.*

KEY WORDS: *integration, financial system, banking*

Introduction

World economic crisis which is getting bigger every day provides a special insight into entire social and political reality of Serbia, and especially in financial sector which was the first under stroke – and at the same time this sector makes capillary system of still, not enough developed domestic economy. Complexity of domestic problems almost makes impossible for any kind of narrow analysis within one economic sphere to be performed, but it focuses on following a complete process of macro and micro factors that will determine the position of our country in the final instance – standard of living. Of course, apart from domestic people, society in wider sense, business community as well looks into future, hoping for positive changes of business conditions. It is not at all easy task of local reforms in many areas, and it is even made more difficult by global crisis which implies macroeconomic instability without any indication about its duration.

World crisis and Serbia

Crisis began in the middle of 2007 when it was determined that huge amount of unrecoverable claims that had been approved by American banks to second class subprime mortgage loans.

Using the securing technique the banks have grouped these claims into pools and based on that and through independent go-betweens issued easily marketable securities. In this way they have transferred these claims from their own balance sheet to off balance sheet, and thanks to expansion of new investment and hedging instruments they have dispersed risk to numerous interested investors. At the same time, due to non existence of known history of used hedging instruments makes more difficult estimation of their risk and price (the moment when quality of claims that is behind those instruments is brought into question.) Seeing how danger appears and that unrecoverable secondary claims will return risk into banks' balance sheet, general crisis of trust arose among participants in financial market and solvency deterioration of entire financial system. Timely identification of risk originate claims is made more difficult, and apparent dispersion of risk onto numerous participants on the market is provided. Due to enormous exposure of European banks towards market of these securities, crisis soon moved to Europe, in the first place to Germany and United Kingdom. It is said enough about proportion of crisis by largely used institutions of last lender resort, it presents action of saving the banks with crisis by central banks. As inevitable consequence followed mistrust among financial institutions

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and increasing of interest rates Euribor and Libor. It is pointless to say about all consequences for banking sector and economic growth (above all USA, Western Europe and Japan). While the most developed countries of the world consider ways for functioning of global economy in the future and possibility of establishing global regulator (defined as International Monetary Fond), Serbia is trying to preserve its financial system networked in her transitional structure.

Already mentioned crisis, in several ways has influenced current state on Serbian financial market. Firstly, interest rates for all kinds of indebtedness, increased – taking unfavorable loans abroad reflects on increase of interest rates in Serbia itself, while weight of indebtedness is transferred to final users of loans- economy and residents. On the other hand, effect of the world stocks indexes crash reflected on Serbian stock. Investors who quickly sold shares of Serbian companies for dinars, by selling shares bought more quantity of foreign currency and thus caused sudden fall of domestic currency. Likewise, consequences on volume and time money indebtedness of legal entities from Serbia are inevitable, both for new indebtedness as well as for roll over of already founded loan lines. Apart from this, parallel with increasing pressure of inflation, tendency of slowing the growth of GDP and increasing deficit amount of balance of current transactions. Political instability slowed down foreign direct investment and increased indebtedness abroad.

Characteristics of financial system

Financial system of Serbia is still bankcentric having in mind that detention of speedy growth from previous period is more than obvious, due to powerful loan expansion. This expansion has influenced operational development (increase in number of employees and organizational units), followed by recapitalization sector and growth of its deposit base. Except all these things, financial system has been characterized by improved performance of non banking financial institutions. Nevertheless, non banking institutions had relatively low share in financial system of Serbia. (under supervision of the National bank of Serbia).

Basic indicators of financial system development (in dinars, in %)				
	2007.	Index[3]	2006.	Index
Number of financial institutions	79	113	70	96
Banks	35	95	37	93
Insurance companies	20	118	17	89
Leasing companies	17	113	15	107
Management agencies Volontary pension Fund	7	700	1	-
Balance amount, billion RSD	1.732	134	1.293	148
Balance /BDP	69,6%	114	60,8%	122
Balance sum per capita	231.964	133	173.772	148
Total credits, billion RSD	858	149	577	135
Basic indicators of financial system development (in dinars, in %)				
Total deposits, billion RSD	960	144	666	137
Total insurance premium billion RSD	45	118	38	110
Financial leasing debts, billion RSD	76	131	58	123
Property Volontary pension fund, billion Rsd	3	1500	0,2	-
Concentration , HH index				
Banking sector	578	94	614	92
Insurance sector	1523	82	1.857	103
Financial leasing sector	1.505	90	1.671	90
Sector Volontary pension fund	3.309	33	10.000	-
Number of employee	40.617	112	35.356	109
Banking sector	30.246	108	28.103	109
Insurance Sector	9.697	123	7.876	108
Financial leasing sector	478	123	388	118
Sector Volontary pension Fund	196	270	73	-

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[3] Index column marks the deegre of change in relation to previous year in procentage

Herfindahl – Hirschman's index (HH index) presents sum of square share specific quantity (for example: balance sheet sum, deposit, loan) of all market participants in the sector. Unless value of calculated index is less than 1.000, it is considered that on the market is not present concentration, if value index is between 1.000 and1.800 on the market is expressed "reasonable concentration", and if value of HH is above 1.800, it is considered that exist „high concentration".

Source: the National bank of Serbia

It is general estimation that due to well capitalization of banking sector and its expressed liquidity that banking sector was risk resistant. However, intensive loan expansion towards residents, most of all, as long- term currency indexed loans with variable interest rate indirectly exposed banks to loan risk. Thus, stability risks of this sector are concentrated on loan activity directed to residents. Therefore, it is obvious that banks in the following period will emphasize liquidity maintenance and focus on deposit activity.

Regulatory scope- state and other problems

Current law on banks instituted after many changes and amendments in the period 1993-2005 (six times) is complied with international standards and directives of EU, including provisions of Basel II. The majority of banks on our market are banks with main office in EU that have to work in accordance with Basel II. It should be emphasized that rules of this act have to be implemented in our legislation in processes of admission in the EU. (for example, in case of Croatia this document became binding during 2008, because of expected admission in 2009). In Subordinate legislation regulations established by the National bank of Serbia in more details are regulated the most important legal constitutions from area classification of bank balance sheet assets and off balance sheet items, capital adequacy , risk management,(including closer defining compliance risk of banking business), giving preliminary approval for founding banks as well as accordance in processes of acquiring and performing control by the National bank of Serbia over other banks, external bank audit and control of banking group on consolidated base. Likewise, in order to remove risks which can appear as consequence of bank's coordination lack with decisions by which is regulated money laundry prevention as well as prevention of financing terrorism, procedure " know your client' is obligatory for the banks.

Based on Law on banks regulator established following decisions:

1. Decision on capital adequacy of banks "RS Official Gazette" No 57/2006, 116/2006, 56/2007.
2. Decision on the classification of bank balance sheet assets and off balance sheet items, "RS Official Gazette" No 57/2006, 116/2006
3. Decision on Risk Management by banks "RS Official Gazette" No 57/2006, 86/2007.
4. Decision on external bank audit, "RS Official Gazette" No 41/2007
5. Decision on terms and conditions of identification, monitoring and management of bank compliance risk, "RS Official Gazette" No 86/2007, 89/2007
6. Decision on minimum contents of the "know your client" procedure "RS Official Gazette" No 57/2006.
7. Decision on the uniform manner of calculating and disclosing the effective interest rate on loans and deposits, "RS Official Gazette" No 57/2006.
8. Decision on implementing the provision of the law and banks relating to granting of a provisional permit and subsequent issuing of a full operating license to a bank as well as on implementing specific provisions relating to granting approvals of the National Bank of Serbia, "RS Official Gazette" No 51/2006, 129/2007.
9. Decision on detailed conditions and manner of conducting bank supervision by the National bank of Serbia, "RS Official Gazette" No 51/2006.
10. Decision on implementing provisions of the law on banks relating to consolidated supervision of a banking group, "RS Official Gazette" No 86/2007.
11. Decision on terms of granting approval to banks to act as insurance agents, "RS Official Gazette" No 57/2006.

12. Decision on terms and conditions of granting approval to banks for setting up or acquisition of subordinated companies, "RS Official Gazette" No 60/2007.
13. Decision on detailed conditions and manner in clients complaints handling, "RS Official Gazette" No 114/2006.

Decisions which came into force on 1. July 2008 are the following:

1. Decision on the classification of bank balance sheet assets and off balance sheet items, "RS Official Gazette" No 129/2007
2. Decision on Risk Management by banks "RS Official Gazette" No 129/2007
3. Decision on liquidity risk management, "RS Official Gazette" No 129/2007
4. Decision on capital adequacy of banks "RS Official Gazette" No 129/2007

Other relevant laws:

Apart from Law on banks, other relevant laws in banking sector are:

- Law on the National bank of Serbia, "RS Official Gazette" No 72/2003, 55/2004.
- Company Law, "RS Official Gazette" No 125/2004
- Basic direction of change of this law will be complied with Securities Market Law and other financial instruments.
- Law on general administrative procedure "RS Official Gazette" No 33/97 and 31/2001
- Law on payment operations ("RS Official Gazette" No 3/2002, 5/2003 and "RS Official Gazette" No 43/2004 and 62/2006)
- Foreign Exchange operations Act, "RS Official Gazette" No 62/2006 – by this decision basically it is allowed purchase of debtor's securities. However, sublegal acts which regulate payments on this base are insufficient and unfinished, so the role of banks as holders of payment operations with foreign countries and intermediary for trading with Securities is unclearly defined as well as reporting obligation of the National bank of Serbia.
- Securities Market Law, "RS Official Gazette" No 47/2006 – main lack of this act is incompleteness of rules for appliance of first public biding Initial public offer .With regard to this, new scheme contains above other things : possibility for investors to enter and pay newly named and-or already existing securities, through public biding; new definitions of Initial public offer in accordance with EU directives; issuer obligation to prepare leaflet for share leasing in such way that leaflet comprises of existing and newly issued securities; preliminary notification as substitute for preliminary leaflet. Beside this, draft of changes complies Commission status for Securities with its supervision measures with EU directives International organizations of securities commissions standards, deletes obligation of receiving approval from the National bank of Serbia for trading with foreign legal entity Securities and makes possible "networking" between shares seller and purchaser.

Regarding Securities market it is necessary to mention that it is being late with tax deduction in this area, which would certainly have a great influence on improving investment climate (reducing or canceling capital-gains tax, and tax on transfer of ownership of Securities).

It will certainly represent a challenge for banks (normative, organizational and financial), so far for Serbia nonobligatory (The Markets in Financial Instruments Directive – MIFID appliance of documents accepted by the European Parliament and Council by which united market and regulatory establishment for institutional services, for 30 countries of European economic area. Main areas regulated by Directive are: authorities, license regulation and validity.

Clients categorization; fulfillment of clients' orders; transparency before and after trade; the best handling etc.

Aim of this regulation is summed up- better protection of clients, transparency of trading with Securities, protection against manipulation on the market and abuse of privileged information. (this regulations deserves a special analysis)

- Bank and Insurance Company Bankruptcy and Liquidation Law, "RS Official Gazette" No 61/2005

- Deposit Insurance Law, "RS Official Gazette" No 61/2005
- Deposit insurance Agency Law, "RS Official Gazette" No 61/2005.
- The Law Against Money Laundering, "RS Official Gazette" No 107/2005 and 117/2005

Current solutions are not completely complied with relevant regulations of EU (so called Third Anti Money Laundering Directive). Beside that, appliance of this law and sublegal acts instituted on its base showed certain disadvantages of these regulations that have caused for the banks many difficulties due to insufficient coordination of relevant state entities. Draft of the new Law Against Money Laundering, and Terrorism Financing follows European solutions for already mentioned directive and above all through adopting new items (such as - "beneficial owner") processing of certain institutes of comparative law (trust), giving instructions for dealing with entities that do not have a form of economic enterprise, institutionalization of approach based on risk (risk based approach), higher level of integration of financial institutions and financial information services, etc.

- Foreign Trade Law, "RS Official Gazette" No 101/2005.
- Accounting and Auditing Law, "RS Official Gazette" No 46/2006
- Law on administrative disputes("SRJ Official Gazette, No 46/96)

Law on banks, based on its sublegal acts is partially complied with following legal acts of European Union: 77/780/EEC, 83/349/EEC, 87/62/EEC, 89/299/EEC, 89/647/EEC, 91/308/EEC, 86/635/EEC, 93/6/EEC, 92/121/EEC, 92/30/EEC, 95/26/EC, 98/33/EC, 2000/12/EC, 1606/2002/EC и 2086/2004/EC 2004/69/EC, 2006/48/EC, 2006/49/EC, 2006/43/EC, 1983/349/EC, 1978/660/EC, 1968/151/EC, 2005/60/EC, 2003/51/EC.

Based on Law on banks the following decisions were made:

- Decision on Risk Management by banks "RS Official Gazette" No 129/2007, Decision on capital adequacy of banks "RS Official Gazette" No 129/2007, Decision on implementing provisions of the law on banks relating to consolidated supervision of a banking group, "RS Official Gazette" No 129/2007. And Decision on liquidity risk management, "RS Official Gazette" No 129/2007 are partially complied with directives: 87/62/EEC, 2006/48/EC, 2006/49/EC, 98/33/EC, 2004/69/EC, 86/635/EEC, 83/349/EEC
- Decision on the classification of bank balance sheet assets and off balance sheet items, (new) partially complied with Directives 2006/48/EC, 1606/2002/EC and 2086/2004/EC. Decision on external bank audit, partially complied with Directives 2006/43/EC, 1983/349/EC, 1978/660/EC, 1968/151/EC, 1986/635/EC. Decision on minimum contents of the "know your client" procedure, partially complied with Directives 91/308/EEC and 2005/60/EC. - Decision on the uniform manner of calculating and disclosing the effective interest rate on loans and deposits ("RS Official Gazette" No 57/2006) partially complied with Directives 87/102/EEC and (90/88/EEC, 98/7/EC - amending 87/102/EEC).
- Decision on external bank audit, partially complied with Directives: 2006/43/EC, 2003/51/EC, 86/635/EEC, 83/349/EEC and 78/660/EEC, a Decision on detailed conditions and manner of conducting bank supervision by the National bank of Serbia partially complied with Directives 2000/12/EC and 2006/48/EC.

Institutional frame of banking system

The National bank of Serbia is authorized for enforcement of the Law on banks and institution of sublegal acts based on Law on banks. By the Law on the National bank of Serbia, ("RS Official Gazette" No 72/2003, 55/2004 and 85/2005) position, organization, authorities and functions of the National bank of Serbia are established as well as relation between the National bank of Serbia and other institutions of Republic Serbia, international organizations and other institutions. Independence of the National bank of Serbia in fulfillment of its functions is foreseen in the Constitution of Republic Serbia, and by the Law on the National bank of Serbia it is regulated that the National bank of Serbia is independent and autonomous in its work.

Basic aim of the National bank of Serbia is achieving and maintaining of price stability and maintenance of financial stability as well. The National bank of Serbia, among other things, issues work permissions and full operating license to the other banks, insurance companies, pension funds, leasing companies and controls their work.

The National bank of Serbia cooperates with foreign and domestic regulatory entities in order to perform and improve its control functions. In the process of supervision the National bank of Serbia, beside institutions in Republic of Serbia Cooperates with institutions in other countries which supervise, and the way of mutual cooperation is defined by an agreement between the National bank of Serbia and specific supervising institution. The National bank of Serbia is in process of signing memorandum about cooperation (Memorandum of Understanding) with supervising institutions of Belgium, Russia, France, Macedonia, Austria and Germany, while memorandums are already signed with the Central bank of Cypress, the bank of Greece, the Central bank of Montenegro, the bank of Slovenia, the Central bank of Bosnia and Herzegovina, the bank of Italy and Hungarian supervisory institution.

The National bank of Serbia has also signed two multilateral agreements between institutions which perform supervision in Eastern Europe.

Trends and challenges

Having in mind already mentioned, it is completely acceptable for short- term priorities[4] are based on further development of regulatory scope of supervision of banking business, in order to adequately manage risks in the financial sector. Realization of this aim requires constant following of bank's work, as well as development of over limited cooperation based on supervision by signing the Memorandum about cooperation with authorized institutions of other countries. Moreover, one of priorities of the National bank of Serbia in the following period is strengthening of institutional capacities and improving capabilities of human resources.

In accordance with strategy of introduction of Basel II standards, which are applied in relevant directives (2006/48EC and 2006/49/EC), the National bank of Serbia plans to change the already existing sublegal regulations. Till the end of 2009, it is expected institution of new decisions about risk management, managing the bank's liquidity risk, disclosing, market risks, operational risks , high exposure, techniques of lessening loan risk, standard approach, external loan rating agencies (ECAIs), IRB approach, securing2. According to the strategy, process of implementation of Basel II standards should be finished till the end of 2011. Introduction of additional capital requirements for market risks as well as other changes, regarding either capital calculation, or risk items, certainly will influence on objectification of capital indicators.

 In the following three years privatization of remaining banks which are still owned by the Republic of Serbia is foreseen, meaning that in the end one bank will stay as majority ownership of state. In addition to this, in the next two years selling minority packages of shares which are owned by Republic of Serbia in business banks will be continued.

Conclusion

Although without legal obligation, Republic of Serbia for four year tends to harmonize through Action plans its national right with right of EU, to build administrative and institutional capacities for process of European integration. A big step forward to integration in EU is made by signing the agreement about stabilization and joining, although the same agreement will not have big positive effects on economy, considering the necessary costs of adjusting legal scope and economy for business within EU. In that sense it is important to mention that in wanted process is important to understand (and improve) much wider legal scope than financial, starting from Labour law, registration of economic

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[4] National EU Integration Programme

entities, infrastructure, and competition protection, intellectual property, tax and customs, planning and construction, environment protection etc.

Parallel with compliance of legal scopes in wider context, Serbia needs new strategy for attracting direct foreign investments, and especially bearing in mind the fact that process of privatization of state property has come to its end. To urgency of these steps points out the fact that financing companies in Serbia by issuing Securities does not exist (beside few recapitalizations of mature companies and banks on stock market), that neither company has by direct issue of shares nor by issue of bonds gathered capital, and that on market of Securities dominates trade with treasury notes of the National bank of Serbia (repo operations), that indebtedness abroad in the previous year has been doubled comparing to newly created debt towards domestic banks, and that support of state to companies is modest and ragged through several institutions (funds and agencies).

As it is already stated, indirect financing exposes banks to liquidity risk, and monetary government to dilemma: to support formally or informally banking sector or to leave banks to the market (by which we risk financial turbulence and solvency crisis of entire economy). According to so far measures of the National bank of Serbia before and after global crisis, it is quite obvious that regulator has chosen the first option (correction of obligatory reserve, loan conversion, early payment, correction of reference rate etc.). So, the structure of financial system and available option for investment financing will influence on the position of the company, but also it will influence on the behavior or regulator, that is state administration.

To sum up the review in financial (banking) sector in Serbia, and in context of finding models of opposing to recession trend of economic crisis, it is very important to underline once again the need for creating necessary conditions for attracting direct foreign investors (in the first place Greenfield and portfolio).

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Housing Actualities and Development
of Housing Finance in Croatia

Mladen Mirko Tepuš[1]

ABSTRACT – This paper is presenting needs and affordability limitations of housing and housing finance models in Croatia. Different housing and housing finance models have been developed in order to find accessible solutions that would enable average citizens to solve their housing problem. Four housing finance models currently existing in Croatia are analyzed in this paper (banking finance, contract savings for housing, the Fund for the Long–Term Financing of Residential Construction with Government Subsidy and the Publicly Subsidized Residential Construction Program – POS). The most important home loan lenders are universal banks (dominating the housing finance market), whereas more active lending activities of housing savings banks are still expected. The Fund for the Long–Term Financing of Residential Construction with Government Subsidy has never gotten under way, and the most recent government model – POS has raised strong interest of citizens. However, existing models have not provided an adequate solution to the housing and housing finance problem. This paper hints at potential problems with adequate funding of main creditors, restrictive trends of housing finance terms and growing interest rate at the same time. A solution that may improve the present situation and foster the development of the national housing and housing finance market is proposed in the form of developing a national secondary mortgage market.

KEY WORDS: housing, banks, home loan, primary and secondary loan market, Croatia

Introduction

The general urbanization level (ratio of town residents to the total population) stands at 51.09% and is expected to rise further. In line with the trend, the urbanization level is expected to reach 75-80% by 2015. The average population density is relatively low at 78.39 residents per sq km. The fact that towns represent the main hubs of employment is among the reasons that 16% of the total population lives in the metropolis. Out of the total housing units in 2003, 67.03% were in towns and 15.6% of the total population were day migrants (or commuters). Croatia's demographic picture based on the facts collected in the 2001 census can be described as less than satisfactory, senior citizens prevail in the population and the number of deaths exceeds the number of births (the population is shrinking).[2]

Housing supply and demand

The data available on the number of housing units, households and population might lead to a conclusion that there is no lack of housing. However, even a rough analysis shows an evident overpopulation of a number of dwellings (as several households sometimes inhabit the same dwelling) as well as a considerable shortage of housing in large centers/towns, low housing standard (the average housing area was just 27.6 sq m per person in 2001, etc.)[3] and strong demand for social housing, while a number of dwellings are in need of renovation (e.g. 7.2% of inhabited dwellings lack sewage, 6.3% have

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[1] Mladen Mirko Tepuš, Erste Card Club d.d. Zagreb

[2] According to the Ministry of Environmental Protection, Physical Planning and Construction 2003 Status Report for the Republic of Croatia, 23.7% of the population was young (between 0-19 years of age), mature population (between 20-59 years of age) represented 54.5%, while the old population (60+ years old) accounted for 21.3%.

[3] After: Fröhlich, Z., Bežovan, G. and others, 2001, p. 10-13

no water supply and some 14% have no WC or bathroom). All this considering, the demand for the purchase and renovation of housing is expected to grow in the future, and so is the demand for home financing.

There is a shortage of urban housing stock, especially in four largest agglomerations. Estimated shortage for the Capital of Croatia - Zagreb is about 45.000 housing units.[4] Dwelling stock that is still in hands of local authorities (social housing) is in very poor living condition. The part of urban dwelling stock which was previously owned by state and was mostly privatized with the beginning of transition has a problem with maintenance. A remarkable part of the privatized housing stock needs serious investments and renovation. Homeland war damage contributed to an erosion of the housing standard as 135,000 dwellings were destroyed between 1991 and 1994, worsening the living conditions of numerous displaced persons and refugees. A total of 25,609 units were completed in 2007, up 15.8% compared with 2006. The number of dwellings built each year still lags behind the pre-transition period (in the 1980s, 20-30,000 units were being built annually).

Recent survey on social issues (Target, 2004) with representative sample on national level indicated 20% of respondents needed more housing space; 27% cases had finished housing; 24.9% had finished doors and windows; walls and floors were finished in 21.2% of cases, while 14.5% indicated problem with humidity in flats.

The rented housing market is poorly organized and the exact number of tenants is difficult to determine as a large number of people who let housing do not report this officially in order to avoid paying tax. Around 37,000 households in Zagreb alone (or 13.5%) have the status of lessees (tenants), paying a monthly rent of 5-7 EUR per sq m[5]. Furthermore, large cities have a considerable number of dwellings with several rooms inhabited by the elderly, so this points to insufficient and inadequate programmes of care for senior citizens.

The first signs of stabilization in the region following the Homeland War brought about a considerable increase in housing prices. The average price per sq m of new-built dwellings in 2007 was between 12,308 kuna (in Zagreb area) and 9,803 kuna (in other towns), while the average monthly net wage totalled 4,841 kuna. A comparison of these amounts shows that an average citizen needed 2.5 – 2.0 monthly net wages for the purchase of a square meter of housing, i.e. financing the purchase of one's own flat or house from the regular income is impossible.

In the absence of one's own funding, housing may be bought and financed by borrowing on the financial market. However, a large number of average Croatian citizens cannot meet the current criteria of commercial banks – the main market creditors providing long-term housing loans immediately.

Housing finance market and system

Organized housing financing in Croatia is the business of commercial banks and housing savings banks - HSB (germ. *Bausparkassen*). Commercial banks often participate in home financing together with housing savings banks, and their products are included in various housing models (e.g. the government-subsidized POS model). Government Supported Long-Term Housing Financing Fond was introduced in 1997 but has stopped functioning after just one year of existence.

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[4] After: Bežovan, G., Tepuš, M. M., Fröhlich, Z., 2004.
[5] Bežovan, G., Tepuš, M. M., Fröhlich, Z., 2004, p. 35.

Figure 1. Development of housing finance market in Croatia

Basic data on housing financing products of the main creditors are shown in the table below.

Table 1. Housing finance indicators and trends per creditors

INDICATORS		2004.	2005.	2006.	2007.
I. MACRO INDICATORS					
GDP (at current prices)	(million EUR)	28681	31263	34220	37497
GDP per capita	EUR	6461	7038	7707	8452
Real GDP y-o-y rate of growth	%	4,3	4,3	4,8	5,6
Unemployment rate	%	18,5	17,8	17	17
Average gross monthly wages	EUR	831	868	921	1008
Average yearly inflation rate	consumption price index	2,1	3,3	3,2	2,9
II. COMMERCIAL BANKS					
Assets	mlrd EUR	31,8	36,2	42,3	47,9
Loans	mlrd EUR	18,3	21,9	26,9	30,9
Retail loans	mlrd EUR	9,0	10,8	13,2	15,6
Home loans	**mlrd EUR**	**3,0**	**3,8**	**5,1**	**6,3**
Corporate loans / Retail loans in total loans	% of Σ loans	40,5 / 49,3	39,3 / 49,4	40,4 / 49,2	38,8 / 50,6
Coverage of total loans by provisions	% of Σ loans	4,6	3,7	3,0	2,6
Deposits	mlrd EUR	21,6	23,8	28,2	32,4
III. HOUSING SAVINGS BANKS					
Assets	mlrd EUR	0,7	0,8	0,9	n/a
Home loans	**mlrd EUR**	**0,1**	**0,1**	**0,2**	n/a
Deposits	mlrd EUR	0,7	0,8	0,8	n/a

Source: Croatian National Bank and calculations done by Author

Table 2. Typical Mortgage Products

Major products	Method of payment	Loan interest rates	Maturities	Borrowers	LTV	Others
Home loan of Commercial bank	Monthly instalments (amortization)	6.70-8.50% (adjustable)	mostly 15-20 years (possible up to 35 years)	Higher&middle - income households	up to 100%	Loan amount limited: wage less living cost minimum (app. 300 EUR; average loan amount 40,000-50,000 EUR; indexed to EURO; deposits are requested (5%); co-borrowers are allowed; guarantor (1) is requested ; real estate as collateral (1:1.2); loan fees 0.5-1.5% of the loan
Home loan of Housing Savings Banks	Monthly instalments (amortization)	4.44-6.0% (fixed)	up to 20 years	Households	up to 100%	Controlled use of funds; co-borrowers allowed; guarantors are requested; real estate as collateral (1:1,5); deposit is requested (30-50%); indexed to EURO; loan fee 1%

The Banking Law and the CNB regulations form the basis of the regulatory system of housing financing while the other key national legal regulations that govern housing financing issues are the following: Civil Law, Land Registration Law, Law on Ownership and Other Material Rights, Deed of Assignment Act, Bankruptcy Law, General Tax Law, Income Tax Law, Execution Act, Penalty Interest Rate Act, Draft (Bill of Exchange) Act, Trial Proceedings Act, Notary Public Service Act, Foreign Currency Act and various CNB decisions or directives (e.g. those regulating a single way of expressing the effective credit and deposit interest rate, or a classification of bank credits and potential liabilities etc.).

Table 3. Regulator and Supervisor

	Name of organization	Establishment	Main functions
Primary mortgage market (Lending and credit market)	1. Croatian National Bank	Latest law in 2001.	Central bank; Supervision Authority for Banks, Housing Savings Banks and Payment System; Banking regulation
	2. Ministry of Finance	-	State Treasury, Supervision, Regulator
	3. Money-Laundering Prevention Office	1997	Anti Money-Laundering Authority - Supervisor for payment transactions
	4. Deposit Insurance and Bank Rehabilitation Agency	1994	Deposits insurance (up to 55,555 EUR) and bank rehabilitation
Secondary mortgage market (Funding market)	not existing	-	-

The business of commercial banks and housing savings banks is supervised by the CNB, along with the Ministry of Finance etc. (e.g. housing saving banks are also supervised by the State Auditor's Office).

Housing financing by commercial banks - Along with the process of transition the Republic of Croatia also embarked on a reform aimed at building an efficient, market-based financial system, transparent by international standards. The early banking regulations were drafted after those in Germany, while also taking into account quality solutions found in other countries. However, the inherited and current state of affairs at the time did not enable a complete "copying" of foreign models. The proposed legislation could not be such as to cause major "breakdowns" within the banking system, but at the time its provisions were supposed to influence banks to develop their business in line with the market rules.[6] After the Bank and Savings Bank Act was adopted in October 1993, universal-type commercial banks began to be founded and they nowadays represent the most developed type of local deposit financial institutions. The development of commercial banks has gone through various stages, and Croatia also had two banking crises.

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[6] Leko V., 1999

There were 33 active commercial banks in Croatia at the end of 2007. Total commercial banks' assets at the end of 2007 reached 345.0 billion kuna and stood 13.3% higher compared to 2006, or 172.4% higher compared to 2000. The share of housing loans approved by commercial banks in their total assets amounted 13.0% at the end of 2007 while it amounted 9.2% at the end of 2004.

There is no organized trade in housing loans in Croatia, and banks engage in housing financing as portfolio lenders. Commercial bank encounter numerous problems related to housing loans, the most significant of which are an information asymmetry, i.e. insufficient information on retail clients (a credit register was established in 2004), and difficulties related to the valuation and use of collateral (property assessors, in bankers' opinion, are not focused enough on the market value; collection by seizure and sale of mortgaged property is difficult to implement and very often takes a long time).

It is evident from the share of housing loans in the total household credits that the absolute amount of these loans as well as their relative share in the portfolio of commercial banks is growing. The reasons for such developments lie in the following: stable growth of long-term savings deposits, fall of the interest rates charged by banks on housing loans, rise of living standards, loan security (loan service by retail clients has proven the best), improvements in property rights and judicial practice (e.g. fiduciary rights) etc.

Housing loans are currently offered on the local financial market at a nominal interest rate of between 6.70 and 8.50% (effective interest rates[7]) annually, and various credit worthiness criteria are applied.[8] The main criteria for obtaining a housing loan are a borrower's income (salary size) and the quality of the company he/she works for (the stability of its business is assessed). Depending on these criteria additional requirements may also be made (a borrower's own participation; co-borrowers and/or guarantors with appropriate income; certain type and amount of collateral – most often a housing unit worth at least as much as the loan amount to be approved[9], life insurance policy of the borrower tied over to the bank etc.).

Recently, some banks have issued housing loans indexed to the Swiss franc, thereby promoting lower interest rates (between 3.99 and 4.50% in 2004) and others have granted loans under a repayment-free model, with nothing but the interest repayable over the loan period while the respective share of matured principal is paid into an investment fund. Such products represent an innovation on the local housing loan market and their supply is limited.

Refinancing housing loans from more favourable resources has had negligible scope in Croatia so far, although housing loan contracts include the clauses that regulate this issue, mostly providing for the payment of a certain fee. However, such a state of affairs is definitely influenced by the widespread practice of Croatian banks which, prior to approving housing loans, require that borrowers open current accounts with them for the payment of their whole salary (or other regular income) and do not approve housing loans before a certain period has elapsed (usually three months). Therefore, the choice of a bank to apply to for a housing loan does not depend exclusively on loan terms. Nevertheless, there has been some liberalization of loan terms in that respect as well lately, and it is sure to continue in the future.

The characteristics of housing loans granted by commercial banks in Croatia are very similar, so we may speak about a certain standard of primary housing financing set by the banking industry which is applied throughout the country. For now, there have been no housing loans with the credit characteristics adjusted to particular groups of retail clients (so-called hybrid housing loans etc.) although there is scope for developing such products (e.g. for people who let private villas in the residential parts of towns and as well as numerous rooms and tourist apartments along the Adriatic coast etc.).

To finance housing loans, Croatian banks do not yet issue mortgage bonds (European model) or mortgage-backed securities (Anglo-Saxon model), nor do they rise funding for this particular purpose in

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[7] The Croatian National Bank has set the effective interest rate, i.e. the unique method of calculation of interest rates that the banks have to present to clients and public, since 1st January, 2002.

[8] Olmost all the home loans granted in Croatia are indexed to foreign currency (mostly euro).

[9] The mortgaged property has to be insured against fire, natural disasters etc. in the minimum amount equal to the loan amount (hazard insurance).

any other manner. The main sources of their housing funding are deposits and their own capital, with the EBRD special-purpose credits/deposits and long-term syndicated loans used by some banks also worth mentioning. Because of actual monetary measures in force for commercial banks funding, main long term funding source that is coming from abroad (EBRD and syndicated credits), are treated in a way of becoming to expensive for acceptable placement on retail market. Because of the indirect prevention of further cross border long term funding further long term financing might become a system problem.[10]

Most savings at commercial banks are denominated in foreign currencies (foreign currency deposits account for 35.4% of the total liabilities in the aggregate balance sheet of commercial banks) and are mostly household deposits. Toward the end of 2007, household deposits made up 52.2% of the total deposits.

Figure 2. Distribution of Deposits as at end of 2007 by Sectors (in %)
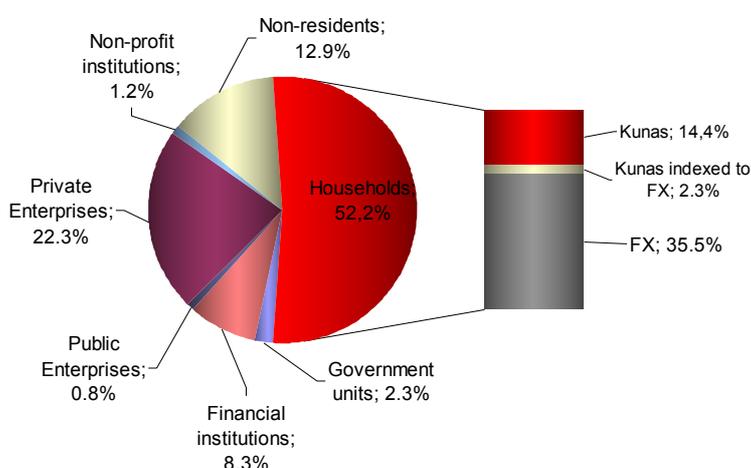
When raising housing loans, retail clients are required to make a deposit of 10-20% (of the total loan amount) and some banks enable the deposit and loan processing fee to be subtracted from the disbursed loan amount. The deposit is most often tied over the loan period and bears no or very negligible interest. Recently, it has been possible to raise a deposit-free housing loan under partially changed loan terms, as banks may require a life insurance policy of the borrower, a larger number of guarantors and/or larger mortgage amount.

Contract Savings Model – Housing Savings Banks - Croatia, as a number of other countries at the beginning of the transition process, introduced a model to develop housing financing by engaging private citizens' own funds for the purpose of resolving their housing problems. It is a contract model of special-purpose savings with housing savings banks, similar to those in Germany and Austria (Ger. *Bausparkassen*).[11]

To regulate and help develop the contract special-purpose housing savings and financing model, the Housing Saving and Government Incentive to the Housing Saving Act was passed and came into force on 1st January, 1998. It enabled the establishment of financial institutions that specialize in housing financing – housing savings banks. Soon after this Act came into force, housing savings banks began to be founded, expecting a good acceptance in the market and solid business results. Three housing savings banks were founded in the first year after the Act came into force, and two were founded later. During 2002 two housing savings banks merged as a result of their mother-banks merger. The housing savings banks with the Croatian National Bank license operating on end of 2004 were: 1. *PBZ stam-*

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[10] Tepuš, 2008

[11] The first housing savings banks in the transition countries of the region were founded in: Slovakia in 1992, Czech Republic in 1992 and Hungary in 1997.

bena štedionica d.d.[12], 2. *Prva stambena štedionica d.d.*, 3. *Raiffeisen stambena štedionica d.d.*, and 4. *Wüstenrot stambena štedionica d.d.*

The Housing Saving and Government Incentive to the Housing Saving Act defined the terms under which housing savings banks may be established as well as their operations, the housing savings and housing loan terms, the terms, criteria and procedure of using state incentives for housing and penal provisions. Art. 20 Par. 2 Cl. 2 of the Act stipulates that a maximum agreed interest rate to be charged by a housing savings bank on a housing loan may not exceed the interest rate it pays on housing savings deposits by more than 3,0 percentage points.

The stimulation of housing savings by Croatian citizens is visible from direct incentives, i.e. budgetary funds allocated to all the housing savings banks in the amount equal to 15% of one's own payments into housing savings deposits over a previous calendar year. The basis to which 15% in state incentives is added is legally limited to 5,000 kuna (887 USD) at most, so a maximum amount of incentives a single housing depositor may get is 750 kuna (133 USD).[13]

An analysis of the operations of housing savings banks in Croatia since they were established reveals three distinct periods: a) the first did not allow for housing savings contracts with a protective monetary clause (which is often referred to as the "currency clause" in public), b) the second period since 8th July, 1999, when agreeing the clause was enabled, making it the main reason for a marked increase in the amount of savings deposited with housing savings banks in the following years, and c) the third period started from July 2005 with the state incentive reduction and de-regulation of Housing Savings Banks operation. By the end of 2004, housing savings banks had concluded more than 630,000 housing savings contracts with private citizens.

Figure 3 illustrates a rift between the housing savings accumulated by housing savings banks and the amount of housing loans they granted in the period under observation, with their respective trend. Since a significant portion of loans has not yet "come up" for granting, in the circumstances of strong demand for housing loans housing savings banks have been placing the funds for other purposes defined by the law.[14] Before July 2005, under the Housing Saving and Government

Figure 3. Overview of Deposits and Home Loans in the Housing Savings Banks Model

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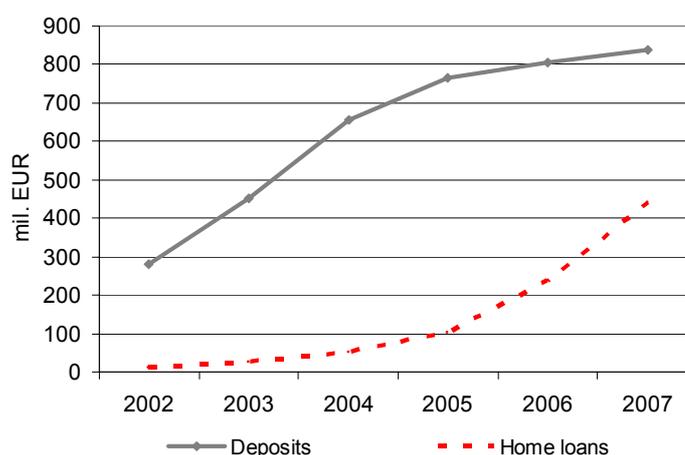
[12] *PBZ stambena Štedionica* d.d. began operating early in 2003.

[13] The state incentives amounted 25% (1,250 HRK = 222 USD) of the same basis (5,000 HRK = 887 USD) before 2005.

[14] The lending policy of housing savings banks is regulated by Art. 10 of the Housing Saving and Government Incentive to the Housing Saving Act, which stipulates that the funds may be used for financing clients' housing loans, investment into the financial market instruments with first-class guarantees (deposits), as well as for the purchase of first-class sovereign securities issues and other securities issued with state guarantees or bank guarantees and placements with safe credit institutions.

Incentive to the Housing Saving Act, housing savings banks were not allowed to engage in direct interim financing of housing depositors, but they have all developed a form of cooperation with commercial banks that enables them to offer a product with appropriate characteristics in the local market. Nevertheless, such a form of interim financing had imposed additional costs, while also hampering the development of this product and a whole area of housing savings banks' business policy. Therefore, instead of financing housing loans their credit potential was channelled into financing the government and its institutions through bond investment.

Socially-Supported Government Housing Construction Programme - A socially-supported government housing construction programme (known as "POS") is the Government's latest market incentive housing model, implemented in Croatia since 11ᵗʰ December, 2001, when the Socially-Supported Housing Construction Act was passed. This model is designed to resolve/improve the housing needs and conditions of households by engaging public funds (those of the government, towns and municipalities) and combining them with the funding of commercial banks and households. It is implemented through the construction of housing units organized so as to optimize the use of public and other funding for the coverage of costs, ensure its repayment and enable the financing of housing purchases on instalment schemes, under more favourable than market conditions as far as the interest rates and years of repayment are concerned. The socially-supported housing construction model envisages the construction of flats provided that their maximum sales price does not exceed 1,109.37 euros per sq meter of the net usable area. Local self-administration units determine the housing needs and interest for the purchase of flats in their respective areas, and are under obligation to provide adequate building site with utilities and other communal infrastructure for this purpose. Those units also set the terms, criteria and procedure for determining the order of priority for the purchase of flats under this model.

If the flats under the POS programme are purchased on an instalment scheme, the buyers have to provide 15 percent of the estimated value of the flat as their own share, 45 percent is financed by a bank loan, while the Ministry of Environmental Protection, Physical Planning and Construction and self-administration units finance the remaining 40% of the value of flats. Each person buying a flat on an instalment scheme has to meet the credit worthiness criteria set by the state Agency for Real Estate Affairs (APN) or a commercial bank providing the loan funds, and the flat being bought is used as collateral to guarantee the repayment of the entire debt including interest. After each such purchase the commercial bank loan is to be repaid first, followed by the remaining part owed to the Ministry and self-administration unit. The annual interest rate charged on the bank portion of the loan is 7.85% and is linked to the six-month EURIBOR, while the interest on the Ministry and self-administration unit's funding (40% of the flat's value) is not payable for the first 16 years and only a so-called compound interest at a 2% rate is calculated. Over the next 15 years, the loan is to be repaid at a 5% annual interest, and the total repayment time on an instalment scheme may not exceed 31 year starting from the time a purchase agreement is concluded. The monthly annuity is set as an even amount over the entire loan period, but it may not be smaller than 0.25% of the total purchase price of the flat. By end of March 2008, a total of 4,540 flats under the POS programme had been completed while 4,536 flats were sold.

Conclusion

On the basis of an analysis of the housing financing models presented in this paper one may conclude that Croatia has traditionally been dominated by a deposit-based housing financing model, with commercial banks appearing as the main creditors, although new models and products that have emerged in the past few years are also being developed. As part of the moves to help households resolve their housing problems, the State-Supported Long-Term Housing Financing Fund Act, the Housing Saving and Government Incentive to the Housing Saving Act and a Socially-Supported Housing Construction Programme were adopted. Croatian citizens have shown particular interest in the housing savings bank products and the Socially-Supported Housing Construction Programme, while a state-supported long-term housing financing fund did not take off in practice.

The ratio of housing loans to the Gross Domestic Product has been rising continually over the past few years, and it can be expected to continue rising in the future because of exposed housing needs of citizens and present urbanisation processes as well. Because of the restrictive monetary policy measures in place and current global financial crisis further funding of home loans might slow down further housing placements as well. Home loan are probably to become more restrictive in the soon future while interest rates are expected to rise as well.

Housing lending in Croatia is led by the several biggest banks per assets size and the granted loans are indexed to foreign currency mostly the euro. Nevertheless, the interest charged by commercial banks is for the most part variable, while housing savings banks grant loans at fixed interest rates.

The operations of housing savings banks in Croatia, as well as those in a number of other countries, depend primarily on state incentives (premium) paid into individual accounts of housing depositors. The Croatian housing savings model could develop further through a process of deregulation of the housing savings bank operations, which would enable direct financing of developers' (housing) projects, investments in real estate and provision of some other banking services.

The latest housing financing model (POS) bears a certain resemblance to the social housing programmes in Finland (as households are required to provide 15% of the funding) and France (since part of the responsibility for the programme is shared by the central and local government, with the local government units responsible for the urban and housing planning and preparing the sites for building). Still, the fact that it is heavily subsidized by the government, apart from its "political charge", is a major shortcoming of this model. Its development might be helped by structural changes to enable private sector investment and initiative, thereby reducing state funding for this model.

The rented housing market has not been part of the housing reform to date as far as the supply or the demand side is concerned, so regulating this segment might benefit all stakeholders.

The problems related to housing financing with the help of the models presented in this article have not been completely resolved. Therefore it seems justifiable to launch an initiative for designing a national model to envisage resorting to the capital market as a source of funding for housing financing. To that end it is necessary to set the standards or criteria for granting housing loans on the primary market, establish an efficient and comprehensive register of pledged property, while also spurring the development of a system of housing loan repayment insurance (not vital). Certain laws (depending on the model to be developed) would also need to be modified and amended to make sure that the issues such as who may trade in credit portfolios and in what circumstances, are properly and accurately regulated.

Licensing and establishment of legal agencies to take part in such a model would also have to be regulated, and Croatia would have to pass legislation governing national mortgage bonds (or mortgage-backed securities), and then set and supervise the minimum criteria that the securities issued on the basis of a mortgage pool have to meet.

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Internationalization of the Shareholder Capital in Banks and Creation of the New Financial Products in Serbia

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ABSTRACT − This paper analyzes the basic banking sector development processes viewed through development of the financial markets, stock-exchange operations and trading with the shares -- particularly those originating from privatization --, as well as through protection of the rights and interests of minority shareholders. The special reference is made to internationalization of the shareholder capital in banks and creation of the new financial products in Serbia, primarily through intensifying the real and the banking sector's privatization process, development of the institutional investors and higher inflow of the foreign capital, respectively. With consistent implementation of the macroeconomic and institutional reforms in the country, the foreign investors' confidence in local economy is growing stronger and they direct the flow of their capital towards the referenced market. The overall assessment is that faster development of the financial markets, and particularly the equity markets and higher inflow of the foreign capital combined with wider assortment of new products will expand the options of a faster national socio-economic development and the extended presence of our country in the international capital flows.

KEY WORDS: banks, market, equity, financial market, privatization, investors, foreign capital, shares, exchange, stock-exchange transactions, new banking products

Transition processes in the banking sector

In course of the presently ongoing transition, the pluralism of political parties and the democratic changes in Serbia, which have been particularly intensified since the year 2000, a significant step has been made towards achieving human rights and freedoms, higher respect for the rules of law and operation legalities as well as towards creating of a more favorable socio-economic ambience in the country. The macroeconomic stability has been established, visible changes in the legal and economic system have been made and a number of the legal-state institutions have been built. Over 350 new laws supporting structural reforms have been passed together with a number of by-laws (decrees, guidelines, decisions, etc) that are more closely regulating some provisions of the Law. All of those served as basis for faster privatization of the companies and banks, liberalization of the foreign trade, increased responsibility of state institutions in managing public finances and, particularly, the fiscal policy, as well as for the improvements accomplished in the area of equity markets and stock-exchange operations.

Changes in the equity structure and development of the shareholding with creation of the securities' market and especially with creation of the stock exchange operations, stands as new incentive to development of the economic system and structuring of a market ambient in which the business professionalism, competition and an enterprising philosophy combined with modern management become a new moving force of the society's progress.[3] This has led to increase of the privatization base and shareholders' activism, with the said base consisting of almost two thousand companies and banks

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with quoted shares. In addition, there have been significant changes in the trading structure, caused by increase in participation of the shares compared to participation of the bonds, treasury bills and other securities. The afore-mentioned created a basis and built a foundation for even faster reform that should be primarily directed to economic development and structural changes. This particularly applies to improvement of the business environment and creation of a social climate more favorable for building of an efficient and competitive economic structure. In all of this, key role should be the one of even bigger success of the privatization, company's restructuring and development of the small and medium-size companies and entrepreneurship, as well as legal protection of the property, contracts and investors.

All of those changes greatly influenced positive results recorded in the period from 2005 to 2007[4] when the average growth rate of the GDP was 6,5%, the macroeconomic stability and stability of the currency exchange rate was improved and the foreign currency reserves kept growing (about 10 billion EURO), the net inflow of direct investments was 6,2 billion Euros, the unemployment rate dropped to 18,7% and the citizens' hard currency savings increased to have been at the level of 5 billion Euros at the end of 2007. This created a basis and established a more solid foundation for even faster reforms of the society that would lead to a higher economic growth, improve business environment and create a social climate more favorable for building an efficient and competitive economic structure.

However, the achieved economic results have been accompanied by an increased level of the internal and external misbalancing, which in the year 2007 was characterized by the inflation of 10,1%, the commodity transactions deficit of 21,5% GDP and the current transactions deficit of 13,7% GDP.

Without considering all aspects of the socio-economic development of the country, this paper is focused on the banking sector and primarily on internationalization of the shareholder capital in banks and creation of the new products demanded by modern markets.

In addition to the production sector, more and more important for implementation of the country's development policy is the finances and banking services and products sector. This is primarily applying to development of the financial and equity markets, which in our country have been particularly intensified with transition processes going on in all of the post-socialist countries. Beside changes in the socio-economic and political system, proprietary structure and the management and decision-making modes, the transition has also activated significant changes in the finances and banking sector.[5] Based on those, the legal and institutional conditions on the financial market have been built, these being of significant importance for development of the new financial products, which open new options for the increased investment activity that is a prerogative of a speedy economic growth and new jobs, respectively. This has resulted in the new institutions, economic associations, entrepreneurships and the new educational, expert and scientific disciplines, professions and activities required by modern markets. In addition to it, a road towards the development, organization and work of the new educational and professional organizations and their institutions, societies and other forms of the mutual-interest associations has been opened.

Creating new products and services

With creating institutional conditions in the legal and other regulatory areas and with the financial and banking institutions enterprising and professional behavior, the conditions for designing the new financial and banking products and services for the financial market are made. These actions are supposed to make direct contribution to increasing the overall economic activity and to expanding the space for new employment, respectively. In addition and on the basis of it, the free cash funds available to the population on their new dinars saving accounts as well as on their (new or old) foreign currency saving accounts, in the form of securities or similar, may be –through the new institutional investors, such are the investment and retirement funds —invested in the programs and projects that are

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[4] »Memorandum on the Budget and the Economic and Fiscal Policy for the year 2009 with projections for the years 2010 and 2011«, Pg. 1

[5] Milan Vujović: »A Road to the Shareholding «, Vedes, Belgrade, 2002. Pg. 209

not only profitable but also contributing to a faster social development and, indirectly –new employment. Beside direct employment for the new jobs opened in the financial, banking and insurance organizations, there are much bigger employment opportunities through the programs and projects implemented within framework of the new investments, which are based on the capital collected in the market. Accordingly, the development of financial markets and the stock-exchange transactions are contributing to the increased number of market participants and to the extension of the products and services assortment, i.e. the overall investment activity and new employment.

A faster trade and economic development, the more profitable businesses and the greater development options – especially the bigger capital investments in the real economy sector, may be partially expected from the domestic but mostly from the companies, banks, insurance companies, the investment and retirement funds and other investors with majority of the foreign capital. With the above accomplished the realistic options for designing the new products that are going to contribute to further development of the equity market and, respectively, the new employment are opened.

The faster socio-economic growth has been, certainly, assisted by the Law on Investment Funds[6], Law on the Optional Retirement Funds (yr.2005) and the Law on Leasing (yr. 2003), with which the large professional investors were introduced to our market for the first time.

Operating in Serbia today are seven retirement/pension funds and associations and ten investment funds, while there are seven more requests for operating license still pending. This should contribute to an even faster development of the financial market and speed-up the privatization process. Besides, these funds should be viewed as the institutions of collective investment in which the cash funds are to be collected and invested in order to make a profit and reduce risks. With this, the more favorable conditions for many investors are created in our country, primarily for small investors who will have the opportunity to invest their funds through professional investors to the programs that are profitable.

The investment fund resources may be invested in: debt securities issued by the National Bank of Serbia, Republic of Serbia, the territorial autonomy and local self-governing units and the other legal persons if guaranteed by the Republic of Serbia, as well as in the securities of the international financial institutions, debt securities issued by the EU and OECD member states, mortgage bonds issued at the territory of the Republic of Serbia and the other securities that are meeting trading requirements and are in conformance with the conditions proscribed by the Securities Commission.

With development of this, very important market segment and with opening other possibilities for development of the economy, the space for new employment and faster resolving of the unemployment problem that our society is faced with, is extended. This can be accomplished primarily through:

- the domestic and foreign companies', banks', investment funds' and other investors' investments in the new development programs and projects, which require hiring of the professional, educated and enterprising human resources,
- organization, development and functioning of the new financial investors such are the investment, pension/retirement and other funds and their institutions, organizations and associations that will have considerable funds at their disposal and that are to use those funds rationally in order to create new jobs, and
- investments of the strategic partners, the investment and other funds in modern development and improvement of the work processes in the companies, banks and the other organizations, which are offering opportunities for new employment.

For successful performance and profitable operations of the emerging financial organizations, such are the investment and pension funds, custody banks, financial leasing and the other, it is necessary to provide for the educated and professionally trained human resources. This primarily refers to the portfolio managers, the tax and investment advisors as well as the other banking and the dealer-broker experts and professionals that are presently scarce on our market.

In addition to this, it is very important for further development of the financial markets and the country in general that a number of the educated, highly qualified and professional human resources with the

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[6] » The Law on Investment Funds«, Official Gazette of the Republic of Serbia, Belgrade, No. 46

experience and some, with a significant capital, has returned from abroad and engages in the work of some companies, banks, stock exchanges, brokerage-dealer, insurance and consulting firms, or decided to do the business independently. The knowledge and experience they acquired and confirmed at the financially developed markets, together with the capital they own, will greatly contribute to the improved organization, functioning and professional work in the newly established financial organizations and institutions at our market. Nevertheless, from the standpoint of the new financial products as well as the organizations themselves, a more developed financial market will definitely require education of a growing number of new human resources that will have to acquire the new knowledge, which will enable them to get actively involved with the modern work process.

With faster arrival of the companies, banks, insurance companies and other investors bringing the foreign capital to our market and with a modern work processes organization, professionalism, wide assortment of the new products and services and high level of the technical-technological and computer equipment, the mentioned requirements are becoming more actual. The whole situation should also contribute to a faster development of the combined banking services' market, these products and services being the investment banking, insurance deals, corporate management, keeping of the securities, etc.

Trading shares at the stock exchange

The transition in general and the privatization in our country in particular are for quite a while opening some other issues as well. These issues include trade with the securities and financial derivates, among which --especially with the shares originating from privatization — trading with the share participates in the securities trade, is being increased. It contributes to increase of the market capitalization at the exchange, with turnover for the year 2007 being over 2,0 billion Euros.[7] Participation of the shares in the total turnover of the Belgrade Exchange is 90%. The foreign investors participated in the exchange trading with 48%, and in the shares transactions with 54,6%. It is important to point out that last year, the newly founded investment and pension funds got included in the exchange trade for the first time.

The increase in the exchange trade will be particularly influenced by the free shares distributed to the citizens who did not exercise that right through the companies' privatizations. To clarify: the state passed a special law on distributing free shares once the privatization and sale of public companies such are JAT, Telekom, Elektroprivreda Srbije, Naftna industrija Srbije, Aerodrom »Nikola Tesla« and Galenika is completed. It is estimated that this right will be exercised by four million citizens.

The structure of trade transactions shows the highest participation of the companies' shares (53%), followed by bank shares (37%) and government bonds (10%). Beside those, there is a growing participation of the companies, which are trading according to the continuing trade method (50 companies), whose participation is 63% while the participation of the ones trading according to the prevailing price method is 27%. The constantly growing presence of foreign investors participating in the securities' trade transactions and particularly in the trade with shares on our market is indicative of the increasing internalization of the shareholder capital and stands as a good example for the foreign investors that are interested to make investments in our country. Contrary to this, the sale of all shares to foreign investors, such was the sale of "Hemofarm" shares to the German "Shtade", led to a significant drop in the turnover of these shares at the Belgrade Exchange, since they are traded with abroad.

 When talking about exchange transactions with the banks' shares, it should be pointed out that most of the shares that are the subject of transactions are those with the majority domestic capital. Majority owners in the privatized banks – primarily the foreign banks that have bought off the government package of the individual banks' shares—are not appearing on the stock exchange market, yet. It is their strategic decision and a long-term interest to follow on the economic stabilization and a favorable economic ambience in the country and achieve the improved results and faster development, add sup-

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[7] http://www.belex.co.yu

plement capital or enter the merger or acquisition with some other local bank, with which they will improve their rating on the banking services market.

Table 1. Serbia: The direct foreign investments in cash – net (000 USD)

Sr.No.	Country	2000.	2001.	2002.	2003.	2004.	2005.	2006.	2007.	KINO
1	Austria	183	1.421	33.876	93.747	146.104	201.189	520.356	1.161.096	2.157.972
2	Greece	334	1.280	12.496	62.268	52.968	249.536	923.698	336.401	1.638.981
3	Norway	0	2	74	280	0	29	1.546.993	3.187	1.550.565
4	Germany	6.152	9.788	82.801	75.708	51.985	187.320	905.824	69.530	1.389.108
5	Netherlands	0	102	2.248	598.963	102.008	92.113	-214.119	-27.958	553.357
6	Slovenia	33	11.254	9.561	29.036	15.706	183.563	201.241	92.856	543.250
7	France	0	81	87.489	7.858	24.022	62.347	159.085	84.391	425.273
8	Luxemburg	0	128	3.619	4.108	2.387	108.885	8.843	241.537	369.507
9	Hungary	0	275	1.167	4.224	16.567	24.677	244.045	31.494	322.449
10	Great Britain	0	1.225	6.618	20.631	79.620	63.330	135.915	-26.584	280.755
11	Italy	2.006	594	7.553	21.325	10.149	18.316	52.752	155.363	268.058
12	Monte Negro	0	0	0	0	0	0	12.946	209.288	222.234
13	Switzerland	35	86	2.913	12.559	29.401	56.990	-15.421	96.157	182.720
14	Croatia	0	1.096	5.243	34.446	10.806	40.484	25.240	35.944	153.259
15	Bulgaria	0	0	133	129	9.910	655	54.270	46.916	112.013
16	USA	343	1.906	18.099	15.068	18.187	22.257	-29.612	31.825	78.073
17	Slovakia	3	10	10	18.342	0	25.447	19.325	3.084	66.221
18	Latvia	0	0	5	15.330	17.082	6.441	10.527	3.535	52.920
19	Israel	0	0	260	207	3.052	14.294	4.544	26.510	48.867
20	Belgium	0	0	344	1.925	2.523	12.407	6.464	24.038	47.701
21	Russia	736	3.581	2.556	3.359	538	14.324	15.992	488	41.574
22	Lichtenstein	0	216	57	2.162	2.974	-41.316	-17.538	-2.937	-56.382
23	Cyprus	762	2.045	41.717	31.581	16.310	71.551	-387.154	137.427	-85.761
24	B&H **	189	169	2.951	5.056	2.104	4.692	-16.750	-838.608	-840.197
25	Others	476	129	4.664	13.098	182.000	21.175	118.913	109.317	449.772
	TOTAL	**11.252**	**35.388**	**326.454**	**1.071.410**	**796.403**	**1.440.706**	**4.286.379**	**2.004.297**	**9.972.289**

NOTE: For the year 2006, the foreign investments from Norway are listed without the license for TELENOR for 410 million and without the investments from Austria for purchase of the third license for 425 million dollars, since according to the BOP technology those have been carried as the capital licenses and patents.

Source: The National Bank of Serbia.

The concentration of capital and reduction of the number of banks have been, primarily, determined by economic strength of the society, the value of social product, level of the financial market development, level of the economy's integration with the international capital flows, social standard, and similar. With stabilization of the local socio-economic circumstances, with exercising the rules of Law, strengthening of the macroeconomic stability and, respectively, faster development of the society as a whole, a more intensive development of the equity market and, particularly the stock exchange operations and the arrival of the new and the financially stronger investors are to be expected. At the same time, the strengthening of integration processes in developed countries will intensify same processes in our economy and particularly in the banking sector. This will open new areas in the banking sector and stimulate the equity market, the bank shares and the other securities, in particular. Under these market-development conditions and lead by the aspirations for faster development and higher profits, the ma-

jority shareholders in banks will become more interested in activating their participation in the exchange trade operations.

Foreign investments in the banking sector

Over the period of intensified privatization from 2001 to 2007, a significant net inflow of direct foreign investments of about 15 billion dollars created conditions for financing of the new infrastructural and other development projects, which are of great influence to the development of local economy. With reference to this, however, it is necessary to emphasize that the said investments have mostly been the result of the revenues from privatization of 3.254 socially-owned companies, state-owned, the sale of "Mobtel" to Norwegian "Telenor" an sale of the third mobile operator license to "Mobilkom Austria",

The banking sector reform, which has been intensified during the last five years, led to the change of ownership structure and shareholder internationalization as well as to corporate management of the capital in banks, which are characterized by reduction of the domestic in favor of the foreign capital and by increase of the private relative to the state-owned capital.

There are 35 banks functioning in the country, 25 of which with the majority foreign capital, meaning that in the total banking sector's capital, the foreign capital participates with 84%.[8] If viewed by the countries, the foreign countries with highest participation are Austria 25%, Greece 20% and Italy 10%. Changes in the banks' ownership structure will have an influence on concentration of capital in the region, strengthening of the balance position of the banks, expansion of the banks' network, introduction of the modern operations, increased efficiency and professionalism, as well as on a more rational and functional organization and forming of the new banking groups. In view of the already completed (Banca Intessa and Sanpaolo Bank) and the announced merger of some banks with the majority foreign capital (NLB and Continental Bank), the number of banks in our country will continue to reduce. It should also been mentioned that for the first time since the year 2001, the National Bank of Serbia issued license for instituting its operations to the Moscow Bank from Russia, which will be opened for business soon.

Table 2. The Banking Sector of Serbia – Structure of the ownership capital

Sr.No.	Element	31.12.2005.	31.12.2006.	31.12.2007.
1.	Total number of banks	40	37	35
2.	Majority foreign capital			
	Number of banks	17	22	25
	Share in the overall balance amount	66%	80%	84%
	Share in the overall equity	49%	67%	84%
3.	Majority domestic capital			
	Number of banks	23	15	10
	Share in the overall balance amount	44%	20%	16%
	Share in the overall equity	51%	33%	16%

Source: Association of the Banks of Serbia

Investing foreign capital in the banking sector is determined by the motives, modalities, effects and the level of banks' capital management.

The motives for investing foreign capital in the banking sector start with the interest in investing capital in new markets with the prospects of a fast and long-term sustainable growth, including the potential for expansion of the organizational units, such are the representative, branch and front offices, the

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[8] The Banking Sector in Serbia in the Year 2007 (Association of the Banks of Serbia), Belgrade, April 2008, Pg. 9

increased demand for banking products and higher investments in the profitable and development projects.

The modalities for investing foreign capital depend on the possibilities to obtain green field licenses, increase share capital and conduct a tender sale of the banks' state-owned capital, including development of the stock-exchange markets.

The effects of investing capital are reflected in development of the new business philosophies and profitable operations in the banks, transfer of a long experiences and development of the shareholding culture, the application of new technologies and financial innovations, the increased offer and assortment of banking products, promotion and improvement of the competitive environment, development of the business ethics and increasing investments in the projects that are profitable.

Managing the banks' shareholder capital is characterized by decisive role of the capital owner in the managing process, as well as by strengthening of the bank through profitable operations and higher responsibilities and devotion of its management to the development goals.

When the motives of the internalization of shareholder capital in banks are concerned, they are in:

- Maximized use of the bank resources: capital, human resources, organization, IT systems, business network, management, modernized operations
- Market rating/position of the mother bank: the level of development, corporate image, stability and professionalism, confidence of the clients, development of the operations network, the level of integration with the international capital flows
- Avoiding the regulatory restrictions – mitigating limitations to the in-country capital movement, operating on the new markets
- Decreasing the rate of risks: timely assessment of the political, economic and social factors impacting the operational risks and preparation of a defense strategy
- A special bank-client relationship: monitoring of the major standing foreign clients, focusing on a successful appearance on the new markets, followed by planning of the further development strategies.

Restructuring of the domestic banking sector may be realized through sales of the remaining state-owned majority package of shares in some banks (Srpska bank, Credy bank, Privredna bank Pančevo, Jubmes bank, Poštanska štedionica bank), then through the mergers, integration and acquisition of the banks as it has already been done with a certain number of banks (OTP bank has become the majority shareholder in the Kulska, Niška and Zepter banks; Nova Ljubljanska bank and Coninental bank, HVB and Exsim bank, the merger of Banca Intesa and the Sanpaolo IMI bank), as well as through strengthening of the capital and more profitable operations of the majority domestic capital banks (Komercijalna bank, AIK bank, Agrobank, Univerzal bank, Čačanska bank, Metals bank, Privredna bank Beograd).

Changes in the banking sector's ownership structure have opened new processes in development of the banking business. Primarily, a growing participation of the foreign share capital, changes in the management structure, development of the new business philosophies, i.e. development of a more profitable business. With these, the domestic market has been enriched with the additional capital and the new banking products, which opened up wider possibilities for the higher loan arrangements and investing activity. With the appearance of foreign banks, the banking sector's operational network was extended, particularly in the field of resident operations. This has contributed to extension of the banking services' assortment and quality, application of modern knowledge, promotion of the new organization, the work process and managing technology, as well as to the increased employment. In addition to it, growing competition in the banking sector[9] and particularly the increasing number of the majority foreign capital banks is forcing banks to intensify application of the other forms and methods for maintaining and acquisition of the new customers to their services.

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[9] Veroljub Dugalić, Vesna Matić: »The Reform of Banking Sector in the Republic of Serbia«, »Economic Annals«, Belgrade, April 2006, Pg. 83.

For efficient performance of the said operations and growing needs of the clients, both corporate and natural persons, it is necessary to provide for the qualified, educated and professionally trained human resources. This, by itself, opens the opportunities for employment of the new human resources. From the standpoint of recruiting the new, young and educated human resources and development of the financial market in general, it is of a special importance to provide for continuing education of the HR qualified for the exchange and modern trading operations, particularly in the area of trading with the privatization-originating shares, which are expected to be more and more present in the stock exchange transactions. This will be accomplished with the ever developing electronic trade, easier access to the information and reduction in the transaction costs.

Also, introduction of the novel trading methods --such is the algorithm-guided transaction of shares, with which traders on the basis of quantitative models decide when to place their purchase or sales orders that are automatically generating submission and size of the order – is opening even wider opportunities for employment of the new human resources (at the end of 2005, in the USA over 25% of the trade was done with use of this model).

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Structural Characteristics and Profitability of Banking in Selected Transition Economies

Vlastimir Vuković[1]

ABSTRACT – This paper analyses the linkage between banking structure development and banks profitability in transition countries. Foreign banks entry is the main indicator of profit attractiveness of the local bank market and one of the factors of the structural development. However, that is not sufficient proof of adequate correlation of the structural development of bank sector and its profitability. Therefore, the most important structural characteristics are comparatively analyzed (excluding regulatory environment and supervision) - privatization level, capacity, network density, market concentration and banking intermediation efficiency. Then ROA (return on assets) and ROE (return on equity) profitability are examined. Finally, the comparison of structural development and bank profitability in selected transition economies has been done. Due to the pretension, as well as general similarities, of Serbia to achieve the status of the candidate for EU membership, the comparative group of transition countries is consisted of the EU members: Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovenia, and Slovakia.

KEY WORDS: transition economies, banking structure, privatization level, capacity, network density, market concentration, intermediation efficiency, ROA and ROE profitability

Introduction

Since the beginning of the structural changes in the banking sector in European transition countries, numerous researches of relations between ownership, penetration of foreign banks, market concentration, efficiency and performance of banks in these countries have been carried out, as well as their comparison with developed countries, mostly the EU member states.[2] The relationship between the structural characteristics of banking profitability and a country is especially inductive, because it clarifies the motives of an entry of foreign banks and explains the accelerated expansion of the banking sector in all transitional countries.

Extremely fast growth of banking in Serbia, almost on the edge of the credit boom, has lasted since 2003. However, the real achievement of this expansion can be investigated in comparison to the structural characteristics of domestic banking with the banking in transition countries, which have already achieved the strategic goal of Serbia - join the EU. The relationship of these characteristics and profitability at the same time facilitate the prediction of future developments in the banking sector.

 Structural development of the banking sector in all EU countries, the transition, and as well as developed, is continuously analyzed by the European Central Bank (ECB).[3] The methodology and statistics of ECB were predominantly used in this paper, because of consistency of the research procedures and comparability of the data. European Bank for Reconstruction and Development (EBRD) data were also used, especially concerning privatization and efficiency intermediation.[4] The data about the banking sector in Serbia were primarily retrieved from the EBRD statistics data, and the remaining part, from the National Bank of Serbia (NBS).[5]

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[1] Vlastimir Vuković, Belgrade Banking Academy, Belgrade
[2] See Bonin et al. (2005) and Fries et al. (2006).
[3] ECB (2007a).
[4] EBRD (2007).
[5] NBS (2007).

The paper examined the following structural characteristics: 1) the level of privatization, 2) the sector capacity, 3) the network density, 4) the market concentration, and 5) the efficiency of banking intermediation. The level of privatization was measured by the percentage share of foreign and state-owned banks assets in the total banking assets. The selected indicator of the capacity of the banking sector was assets per employee, and the indicator of the network density was the number of inhabitants per branch. Herfindahl-Hirschman index and the ratio of concentration of the five largest banks were used for the establishment of the market concentration. The efficiency of banking intermediation was assessed according to the share of credits to the private sector, particularly households, in total of domestic credits, compared to the percentage of banking assets in GDP and the capital multiplier.

Profitability of the banking sector was presented using two indicators - return on asset (ROA) and return on equity (ROE). By comparing the profitability and the structural characteristics of their relationship, the correlation and causal connection was examined.

The banking sectors of the selected group of countries have mostly passed the stages of development, which are only yet to come in the domestic banking, which justifies their choice. Also, many other variations of grouping of countries are possible, depending on the target and the scope of research.[6]

Structural characteristics

The structural characteristics of the eight transition countries banking sectors - the seven members of the EU and Serbia - during 2006, are shown in Table 1. The first two indicators show the level of privatization, the third represents the sector capacity, the fourth network density, and the fifth and sixth the market concentration.

Table 1. Some structural characteristics of banking sector in 2006

Country	Foreign-ovned banks (%)	State-ovned banks (%)	Assets per employee (Eur millions)	Population per branch	Herfindahl-Hirschman index(HHi)	Concentration ratio 5 largest banks (C5)
BG[7]	80,1	1,8	0,83	1.379	707	50,3
CZ	84,7	2,2	3,03	5.458	1.106	64,1
HU	82,9	7,4	2,39	3.105	823	53,5
PL	74,3	21,1	1,22	7.393	599	46,5
RO	87,9	5,9	0,87	4.828	1.165	60,1
SL	29,5	12,6	2,94	2.885	1.300	62,0
SK	97,0	1,1	2,13	4.588	1.331	66,9
SRB	78,7	14,9	0,53	3.428	614	47,2

Sources: ECB (2007a), EBRD (2007), and NBS (2007).
Note: asset share of foreign-ovned banks and state-ovned banks (in per cent).

At first glance it can be seen that the foreign-owned banks share in the banking in Serbia is greater than in Slovenia and Poland, and approximately close to Bulgaria and Hungary. Numerous studies confirm that "the foreign bank presence has been linked to growth and better allocation of resources in emerging markets."[8] Influence of foreign banks entry explains and reduces the gap in bank efficiency between Central and Eastern European and Western European countries (Weill, 2007). It is redundant

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[6] For example, Tore de la Augusto, Peria Maria, and Schmukler Sergio in the reasearch called "Involvement with SMESs: Beyond Relationship Lending" (World Bank Conference, May 5-6, 2008) comparatively analyze larger group of banks in four countries: Argentina, Chile, Colombia and Serbia.

[7] Abbreviations: BG – Bulgaria, CZ – Czech Republic, HU – Hungary, PL – Poland, RO – Romania, SL – Slovenia, SK – Slovakia, SRB – Serbia.

[8] Compare Correa (2008), p. 24.

to emphasize that minimizing of barriers for entry has been the requirement for penetration of foreign banks in the banking sectors of transition countries. Entry liberalization at the same time is also the important structural characteristic.

According to the participation of state-owned banks, Serbia is the second behind Poland and Slovenia and close to average, which is a consequence of long delays in start of the process of domestic economic transition (Sorsa et al., 2007). Generally, the level of privatization of the banking sector in Serbia is close to the approximate average of the observed group of countries in transition.

According to the methodology of ECB the assets per employee is the indicator of the capacity of the banking sector. According to this indicator, the capacity of banking in Serbia does not fall behind only for the other transition countries - older EU members (two to six times), but also for new members - Bulgaria (to 36%) and Romania (to 39%). However, the true scales of this slowdown are shown compared to the average assets per employee for the EU 25 countries and MU 12, [9] shown in Figure 1.

Figure 1. Average assets per employee in 2006
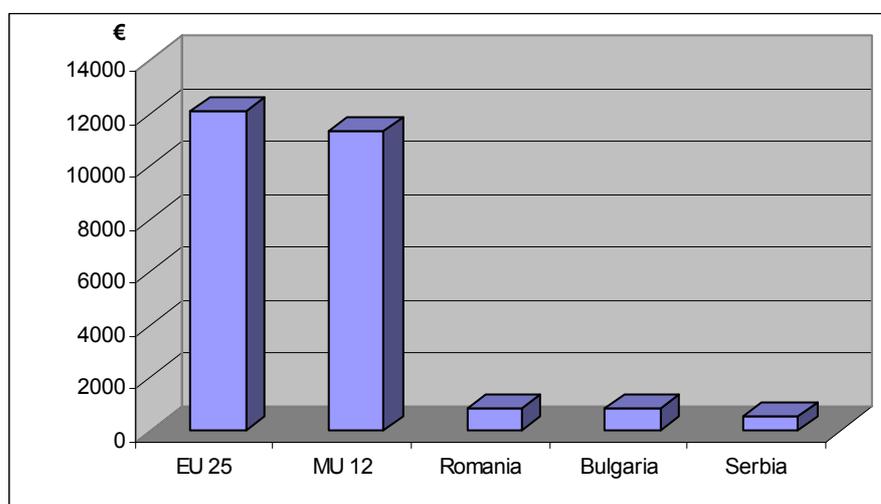
The capacity of banking in Serbia, despite the increase in assets per employee to 2.2 times since 2003, falls behind by 23 times from the average of the EU 25.[10] At the same time, the banking sector in Czech Republic, which is considered to have the largest capacity in the group, falls behind 4 times compared to the capacity of the EU average.[11]

However, the differences between the banking analyzed in these eight countries and the other EU members are much less when compared to the other indicator of capacity - population per employee (EU 25 - 152, BG - 287, CZ - 271, HU - 256, PL – 245, RO - 369, SL - 170, SK - 275, AUT - 263).

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[9] EU 25 stands for ECB for the period until the end of 2006, when the Union had 25 member states, and MU 12 stands for Monetary Union (12 countries participating in the euro area), for the period until the end of 2006.

[10] "Tight monetary policy of the NBS continued into the last quarter of 2006 ... A note should be taken of the fact that monetary policy tightness was underpinned by the monetary policy measures implemented as far back as end of 2005 and first half of 2006.", NBS (2007), Inflation report, Fourth quarter 2006, p.5. It is this restrictive character of monetary policy, especially the high reserve requirement ratios, one of the primary causes of low levels of assets per employee in the banking in Serbia. The degree of monetary restriction reflects the EBRD monetization indicator - broad money (M2) in per cent in gross domestic product (GDP), according to which Serbia has 2.2 to 5 times less per unit of GDP than in other transition economies (EBRD, 2007). Placing the objective of curbing inflation is the argument for international money sterilization, but despite the record sub monetization there are high inflation expectations, which have put Serbia for years among the countries with the highest inflation in Europe.

[10] The average member of the EU 25 exceeds EMU 12 because of United Kingdom, whose banking sector , after the inauguration of euro, according to the size of assets acquired the leading position in Europe from the banking in Germany.

Within the group of eight countries, measured by this indicator, the capacity of the banking sector in Serbia is greater than in Czech Republic, Slovakia, Bulgaria, and Romania.

Population per branch ECB also makes the indicators of capacity and the network density (ECB, 2007). The network density in Serbia is greater than in Poland, Czech Republic, Romania, and Slovakia.[12] It is interesting that the banking sector in Serbia, according to the network density, exceeds eleven EU 25 countries, including the Netherlands (4,728), United Kingdom (4,700), Ireland (4549), and Sweden (4,531).

The proportion of the population toward branch can be expressed as the number of branch per 100,000 people. This relationship shown in Figure 2 illustrates the gradual convergence of the network density of branches of "old" and "new" members of the EU.

Figure 2. Branch per 100.000 people in 2006
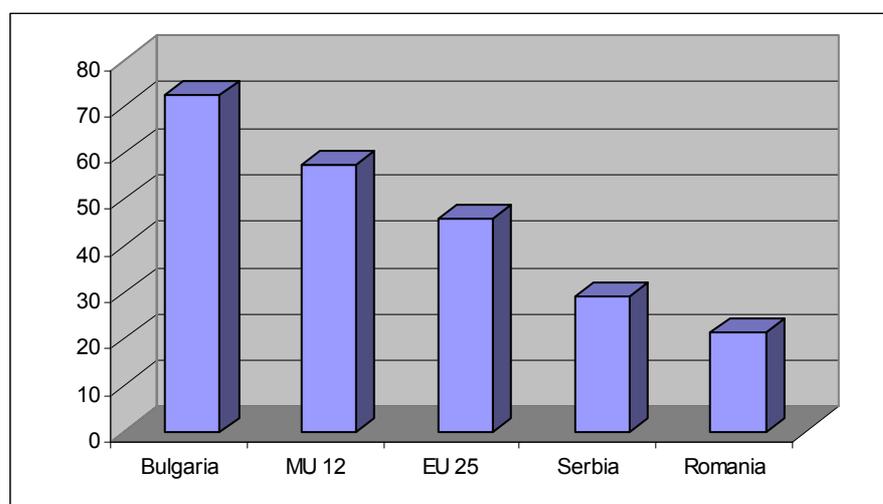
The presented data testify that the gap is minimized in the network density between the banking in transition countries and the EU banks. They show that the network density of branches is no longer the obstacle in the development of banking, not only in Serbia but also in other transition countries in Europe. At the same time, it is the proof that the network density is not sufficient precondition for the development of a banking sector in one country.

According to the density of branches in the banking network, Serbia exceeds some developed European countries and is closer and closer to the EU average, while by the assets per employee it is at the bottom of the ladder comparing to other transition countries - members of the EU. The growth rate of assets per employee is significantly limited by the monetary policy.

Market concentration of the banks in the observed transition countries is noticeably low, especially in Poland and Serbia. Concentration in the banking markets in all eight analyzed transition countries is lower than in some of the developed EU countries - Finland 2,560 HHi and 82.3% C5, Belgium 2,041 HHi and 84.4% C5, Netherlands 1,822 HHi and 85.1% C5 (the ECB, 2007). The low level of market concentration is suitable for the development of competition. Therefore, these indicators point to the respectable level of competition in all eight countries, considering that the official lower limit of oligopoly in Europe is 2000 HHi points, and in the United States 1800 HHi points. The conclusion about the banking market in transition countries can be corroborated by the information that most credit institutions in these markets are branches and subsidiary banks from the developed EU countries.

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[12] Bulgaria still has a greater network density (1.379), but it has been the result of small offices (the number of employees per branch is threefold less than the EU average, in contrast to Serbia, whose banking units have approximately the same average employment as a branch in the EU 25). Therefore, and indicator branch per 100,000 people Bulgaria exceeds the EU 25 average for even 58% and the average of MU 12 for 27% (Figure 2).

Because of "banking specificities", there is an opinion that the concentration of banks is not directly correlated with the degree of competition, which is proved by the results of the empirical researches (Claessens, 2006). However, the fact that the economically developed countries are practicing severe monitoring and limiting the concentration of banks in order to protect from the competition, confirms the power of the evidence about their interdependence.

Despite the low concentration, real interest rates on credits in the transition economies surpass the same rate in the concentrated and oligopolic markets of the developed countries members of the EU. However, it is not the proof of autonomous "pricing" in relation to market concentration, but it only confirms the inevitable gradual "catch up" process. The banking markets of the observed eight countries, as well as all others, are characterized by product differentiation, characteristics of monopolistic competition markets.

Intermediation efficiency level reflects the structural development of the banking sector. Important indicators of the intermediation efficiency are the ratio of private sector credit and credits to households and GDP, the proportion of banking assets to GDP and the capital multiplier.

Table 2. Some indicators intermediation efficiency level

2006 Country	Domestic credit to private sector (%)	Domestic credit to households (%)	Total banks asset in per cent of GDP	Capital multiplier (A/E)
BG	47,4	16,6	88,4	13,2
CZ	39,9	16,5	101,3	19,1
HU	54,6	18,5	104,0	15,0
PL	33,4	15,6	69,7	13,6
RO	26,3	11,2	53,1	12,8
SL	67,1	17,0	114,4	16,8
SK	39,2	13,1	93,6	17,3
SRB	18,9	7,2	61,0	5,7

Sources: ECB (2007a), EBRD (2007), and NBS (2007).
Note: Domestic credit in per cent of GDP.

The largest credits to the private sector in relation to GDP provides the banking sector in Slovenia, then Hungary and Bulgaria. Slovenia at the same time has the highest GDP per capita (19,219 USD), while Serbia has the lowest GDP per capita (3,835 USD) and the least credits to the private sector[13] in relation to GDP. According to the domestic credit to households in per cent of GDP, Serbia is also convincingly on the tail of this group of countries (EBRD, 2007). However, in the total banks assets toward GDP the lowest is Romania, and then Serbia and Poland. Indirectly it may be concluded that banks in Serbia have markedly lower share of private sector credits in total assets, which may be explained by the relatively high volume purchase two-week repo securities.

Banking sector in Serbia has by far the lowest capital multiplier, and the maximum capital adequacy. Banking in other seven countries has two, three or four times higher multiplier, but it is their leverage effect that is still considerably lower than in the developed EU member countries. Potential leverage gives evidences about the possibilities of growth of banking sector assets of all eight countries in the next years.

The indicators - high degree of privatization, relatively dense network of branches and low market concentration - confirmed that according to the structural characteristics, banking sectors in the transition are gradually approaching economic developed EU countries. The stopping capacity measured by

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[13] By definition, cross-border bank lending is excluded, although guaranteed by the domestic banks (IMF, 2008).

assets per employee, as well as the modest level of intermediation, signals significance of a long term process of economic transition.

Banks profitability

ROA and ROE banking profitability of the observed eight countries in the transition are shown in the next Table 3. The relation between these two indicators of profitability reflects the sector leverage and the capital multiplier.

Table 3. ROA and ROE banking sector profitability in 2006 (in per cent)

Country	BG	CZ	HU	PL	RO	SL	SK	SRB
ROA	1,82	1,23	1,43	1,56	1,79	0,89	1,27	1,70
ROE	24,07	23,48	21,47	21,15	22,97	14,98	22,01	9,67

Sources: ECB (2007), EBRD (2007), and NBS (2007).

ROA indicators of the monitored banking sectors show large differences in profitability - of 1.82% in Bulgaria to 0.89% in Slovenia. Obviously, the new EU members Bulgaria and Romania have the highest ROA profitability, and Slovenia that is the most developed, the lowest. However, the ROE profitability is extremely equated (from 21.15% to 24.07%), except Slovenia (14.98%) and Serbia (9.67%). Equalization is the result of the influence of the capital multiplier, which allowed the same banks from the developed EU[14] countries a similar return on equity of their subsidiary in various transition countries. Hence, there is the founded assumption that foreign banks planned approximately equal ROE target rate, to which the management of subsidiaries customized the level of leverage.

The banking sector of Serbia was ranked at the high third place by performance in 2006 with its 1.70% ROA immediately after Bulgaria and Romania. High ROA is the indicator of lagging for other countries, because this indicator shows the level of the development in banking.

The height of the banking return on assets is proportionally reverse to the sector development (Figure 3). Border line of the developed banking sectors and the sector in developing countries is presented by one percent ROA indicator, which divides the EU banking space into 11 countries with credit institutions in developing and 16 countries with the developed banking. The first group, which consists almost entirely of transitional countries (except Slovenia), ends with Portugal (1.01%), and the other starts with Spain (0.96%). The fundamental cause of this correlation is the law of diminishing returns that acts stronger with the growth of banking assets.

The negative correlation of the banking sector development and ROA profitability is enormously influenced by the country's credit rating, which determines average level risk premium rate.

Transition countries - EU member states, have the higher ROE indicator of the economically developed members, whose return on equity is ranging from 10.24% (Germany) to 23.34% (Belgium). However, the ROE discrepancy between these two groups of countries is considerably less than the difference in the ROA profitability. Five developed EU countries, apart from Belgium, had ROE indicator above 20% (Austria, Sweden, Spain and France). Relatively lower range of ROE indicators of banks in transition countries and the old EU member states is also the result of increasing capital multiplier in the countries with developed banking.

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[14] Raiffeisen Bank, Bank Austria HVB, Hypo Alpe Adria Bank, Societe General Bank, Uni Credito (Radzic and Juce, 2008, p. 9).

Figure 3. ROA indicators distribution in 2006

Country	ROA
Germany	0,31
Netherlands	0,47
France	0,6
Ireland	0,64
Denmark	0,7
Belgium	0,71
United Kingdom	0,71
Sweden	0,73
Luxembourg	0,73
Italy	0,77
Cyprus	0,82
Slovenia	0,89
Greece	0,92
Finland	0,93
Austria	0,94
Spain	0,96
Portugal	1,01
Malta	1,02
Latvia	1,06
Czech Republic	1,23
Slovakia	1,27
Hungary	1,43
Poland	1,56
Lithuania	1,66
Estonia	1,67
Serbia	1,7
Romania	1,79
Bulgaria	1,82
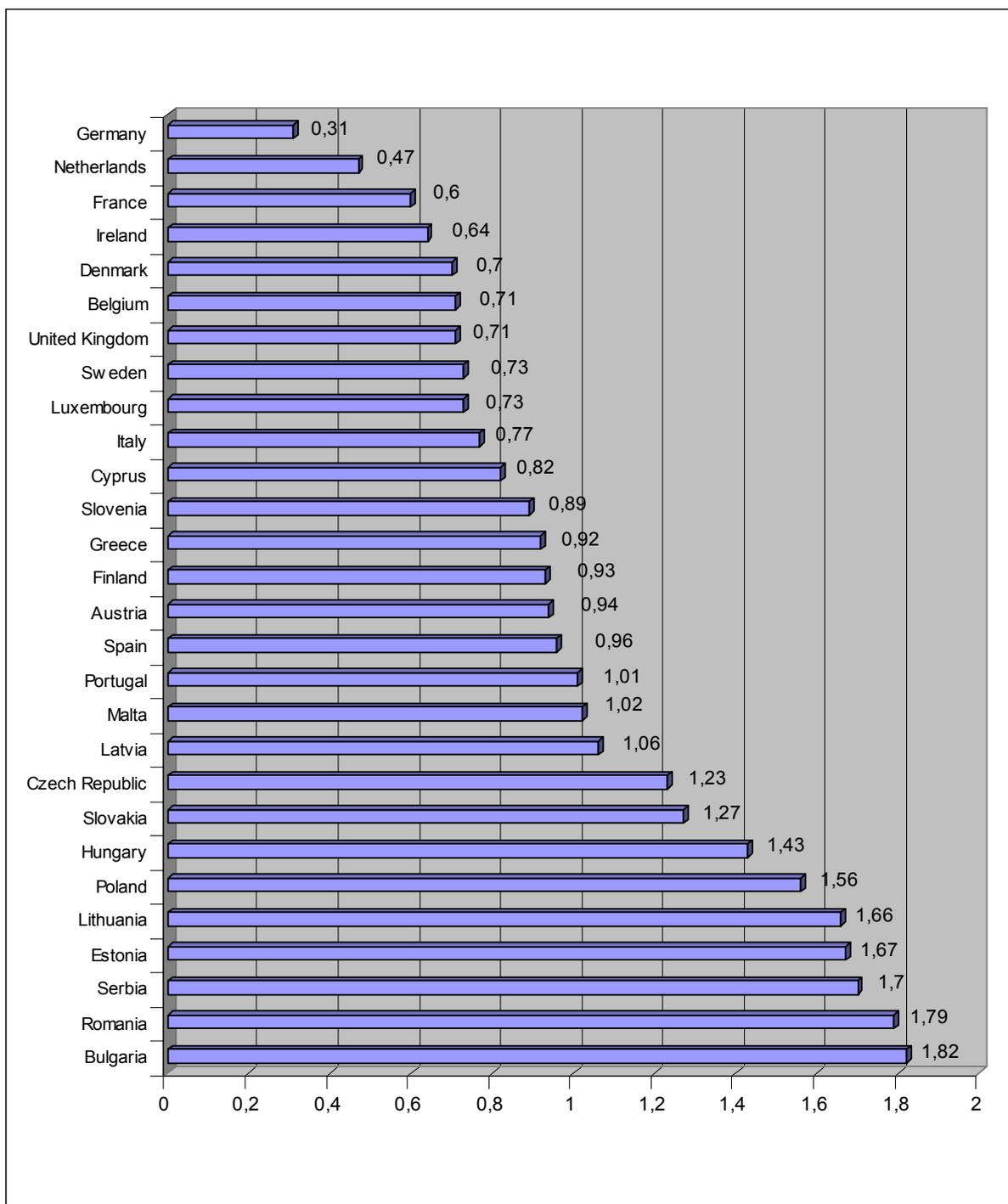
Sources: ECB (2007), and NBS (2007).

Detailed analysis of the banking sector in Serbia shows that banks in the ownership of the domestic shareholders mostly have a higher ROA and lower ROE profitability, and the banks in a foreign ownership - lower ROA and higher ROE indicator in relation to the sector average.

Rapid expansion of the international banking will continue in a great measure to affect the profitability and structural changes in the banking sector of the developing countries, despite the current financial turmoil in the world (WB, 2008).

The findings of this brief comparative analysis of the banking sectors in transition countries have significantly higher ROA and slightly higher ROE profitability in comparison with the developed members of the Union. Generally, when the ROA profitability declines, banking becomes more developed. The distribution of ROE indicator is less equitable, but the banking sectors of transition countries are in average profitable. Reducing the barriers between the banking systems of the developed and transition countries – the member of the EU (Berger, 2007) will contribute to the convergence of their ROA and ROE profitability.

Structures - profitability linkage

The basic relationship between the structural characteristics and the banking sector profitability of the seven countries in transition - the members of the EU and Serbia has already been determined – is that with the development of the structure decreases the sectored ROA profitability. However, the ROE profitability remains relatively high due to the leverage effect and the capital multiplier, which grows with the development of the banking sector. The same pattern of the relation between the structure and profitability also exists in the banking sectors of developed EU countries.

Comparing the analyzed structural characteristics individually with the ROA profitability shows large differences in the correlation. The degree of privatization of banks, measured by the share of foreign-owned banks and state-owned banks in the market, is not connected in any way with the ROA profitability, in the group of the eight transition countries and as well as the EU 25 countries. Both indicators were lower in most of the developed EU countries than in transition countries (Berger, 2007).

The capacity of the banking sector, the assets per employee, shows a negative correlation with ROA profitability, so that countries with the lowest capacity have the highest ROA indicators, and vice versa. At the same time, this is a causal connection, which is a phenomenal form of the law of diminishing returns. However, the relation between the assets per employee and the ROE profitability is negligible.

The network density established on the basis of population per branch, does not show any significant connection with the ROA banking profitability of the eight transition countries and the developed member states.

Finally, market concentration, measured by indicators HHi and Cr5 also does not correlate with the banking sector of ROA profitability, as well as ROA profitability.[15]

Conclusion

Structural characteristics of the banking sectors in the seven transition EU countries and Serbia - a high degree of privatization, relatively dense network of branches and low market concentration - confirms that their banking is getting closer to the economically developed countries of the EU. Penetration of foreign banks from the developed countries of the EU has the strongest influence on the structural development of the banking sectors in transition countries. Foreign banks have invested their capital, introduced advanced technology, trained their staff, set an efficient organization and implemented modern management in the banking of transition countries. Therefore, the lagging in capacity, measured by assets per employee, as well as the modest level of intermediation are not insurmountable obstacles to their further development and convergence with the developed banking sectors.

The comparative analysis has shown that the banking sectors of transition countries have significantly higher ROA and slightly higher ROE profitability compared to the developed EU members. A general pattern is that ROA profitability declines as banking develops, primarily as a consequence of the law of diminishing returns. The range of ROE indicators is considerably lower, thanks to the leverage effect, but banking sectors of transition countries are in average profitable.

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[15] It is necessary to bear in mind that this analysis is autonomous in relation to the structure-conduct-performance framework, which uses other indicators of banking efficiency.

The individual structural characteristics are not correlated with ROA profitability, except for the assets per employee. This indicator of capacity is negatively correlation with ROA profitability, so that the countries with the most minimal capacity are in average more profitable. Thus the connection of the capacity shown in this way and ROE profitability is not significant.

Relevant data show that the analyzed group of the eight transition countries in average has a higher degree of privatization of banks and a lower market concentration than a developed banking sector. According to the privatization, the network density and concentration of the banking market in Serbia is close to the average in transition countries. The banking sector in Serbia has noticeably fallen behind by the assets per employee and the efficiency of intermediation in relation to the transition countries – the EU member states.

The current world financial crisis will definitely slow down some, but it will not stop the process of structural development in the banking of transition countries.

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The Free Movement of Capital Under the Stabilisation and Association Agreement

Jovan Zafiroski[1]

ABSTRACT – The free movement of capital is an essential condition for the achievement of a full economic integration in Europe and particularly for the creation of the European Economic and Monetary Union. For these reasons, it is perceived as one of the fundamental freedoms in the European Union together with the free movement of peoples, goods and services. The aim of this text is to explore the notion of the free movement of capital in the framework of the Stabilisation and Association Agreement which is the key element for a preparation of the Western Balkans countries in the process of a complete integration in the European Union and its Internal Market in particular. Thus, after a short introduction, the significance of the free movement of capital in the European Union and the reasoning of the European Court of Justice concerning this issue is given. Secondly, the provisions of the Stabilisation and Association Agreement signed with the Western Balkans countries relating to the free movement of capital are analysed. Thirdly, the Commission's estimation about the achievement of a certain degree of free movement of capital in the countries in the process of Stabilisation and Association is examined considering the wording of the recent reports concerning the progress in the Stabilization and Association Process.

KEY WORDS: free movement of capital, Western Balkans countries, Stabilisation and Association Agreement, Stabilisation and Association Process

Introduction

The free movement of capital is an essential condition for the achievement of a full economic integration in Europe. It is perceived as one of the fundamental freedoms in the European Union together with the free movement of peoples, goods and services. The rights relating to movement of goods, workers and services are useless without freedom of movement of capital. Development of an integrated financial market depends on two basic conditions. Firstly, it depends on the elimination on all the legal and technical barriers relating to cross-border services and the right on establishment. Secondly, a legal framework for free circulation of capital is necessary. Moreover, the free movement of capital is crucial for the creation of the European Economic and Monetary Union

The aim of this text is to explore the notion of the free movement of capital in the framework of the Stabilisation and Association Agreement (hereinafter SAA). It is the key element of the Stabilization and Association Process which is used as a preparation instrument for the Western Balkans countries towards complete integration in the European Union (hereinafter EU) and its Internal Market in particular. The process of the removal of all the legal and technical barriers on the free movement of capital between the European Union and the countries which are candidates for EU membership is fundamental for accomplishment of the other objectives settled in the SAA notably those relating to the Internal market.

The text is composed of two parts. In the first part an overview on Community law both from the aspect of the Treaty provisions, secondary legislation and the Case law concerning this issue is given. In the second part, the provisions in the SAA relating to the free movement of capital are presented and the current situation in this filed in two countries from the Western Balkans is examined.

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Overview of the EC legal framework relating to the free movement of capital

The Treaty of Rome which came to force in 1958 was based on four freedoms: goods, services, workers and capital aiming to create an economic community with a strong competition. However, capital was not following the dynamics of the integration process of the other freedoms. This was due to the fact that the Treaty provisions relating to the capital declare that Member States are obliged to remove all the restrictions on the free flow of capital only to extent to proper functioning of the Common Market. In this respect, the free movement of capital was an objective which is to be achieved gradually. Nevertheless, the Treaty of Rome was a starting point in the process of complete liberalization of capital movements which was achieved in 1990 with the Directive 88/361/EEC as a secondary legislation of the Community.[2]

The success of the Directive was further incorporated in the Treaty of Maastricht which created the EU. This Treaty settled the principles of a common currency for the members of the Union which was an additional reason for strengthening the capital movements within the EU and its Member States.
The EC Treaty makes no difference of treatment of the movement of capital between Member States within the Union and the movement of capital between the Union and third countries. Even so, the exceptions from the basic rule of the free movement of capital are leading to different approach on this issue. Therefore, in the following part of the text the EC Treaty provisions relating to the free movement of capital will be analyzed both form the aspect of the movement of capital within the Union and between the Member states of the Union and third countries.

Capital movements within the EU

The central provision relating to the free movement of capital is Article 56 EC (ex Article 73b) which in the first paragraph states that "all the restrictions on the free movement of capital between Member States and between Member States and third countries shall be prohibited". The same approach is taken for the payments. Second paragraph of the Article declares that "all restrictions on payments between Member States and between Member States and third countries shall be prohibited". With this approach on a most clear and unambiguous manner freedom of movement of capital is promoted.
Article 56 EC contains an unconditional prohibition on any restriction on free movement on capital and payments. Considering the exceptions on this rule settled in Article 58 EC (1) (b) the dilemma is if the rights on the Member States to take all requisite measures to prevent infringements of national law or regulations does not preclude Article 56 from having a direct effect. In its decision on the Case *Sanz de Lera* the European Court of Justice (hereinafter ECJ) found that no further implementing measures is required for Article 56 to have effect or in other words, Article 58 EC (1) (b) does not prevent the direct effect of Article 56 EC simply because those discretions are subject to judicial review[3].

Article 56 EC does not identify which transactions might be considered as movement of capital and does not interpret what the capital is. These are mainly practical questions for determining the scope of implementation of these provisions. The answer might be found in the secondary legislation. Namely, in its Annex I, the Directive 88/361/EEC contains a nomenclature of transactions that are to be considered as movement of capital. Taking into account that the Treaty provision on which the Directive is based is no longer in force the legal status of this document is doubtful. However, in the Case *Trummer and Mayert* the ECJ declared that "insofar as Article 73b EC carried over in substance the contents of Article 1 of the Third Directive, that nomenclature retained the indicative value it had for the Directive"[4]

The limitations of Article 56 are laid in Article 58 EC which provides rights on Member States to apply the relevant national provisions relating to taxation and prudential supervision on financial institu-

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[2] European Commission- DG Economic and financial affaires, 2003, European Economy, No 6, pg.330
[3] Sideek Mohamed, 1999, European Community Law on the free movement of Capital and the EMU, Kluwer Law International, pp.97-101
[4] Flynn Leo, "Coming of Age: The Free Movement of Capital Case Law 1993-2002", 2002, Common Market Law Review 39, pg. 4

tion. Measures taken by Member States justified on grounds public policy and public security are also permitted. This broad possibility for restriction might lead to serious distortions of the principle of the free movement of capital. Nevertheless, the third paragraph requires that those measures and procedures shall not constitute means of arbitrary discrimination or restriction or hidden obstacle for free movement of capital and payments and should be objectively justified. This was supported by the Case law of the ECJ which will interpret the objective justification requirement strictly. This can be confirmed in the *Verkooijen* Case[5].

Third countries

Provisions settled in Article 56 EC relating to the free movement of capital and payments with third countries give an impression that they equally treat the capital flows and payments as the capital and payment flows between the Member States. In practice it is not the case for the reason of Articles 57, 59 and 60 EC which contain certain restrictions on the free movement of capital. Namely, by the virtue of Article 57 EC the Member States have maintained all the restrictions on the free movement of capital that existed before 31 December 1993 involving direct investment, the provisions on financial services or the admission to securities on capital markets. Moreover, in circumstances when movement of capital from third country extremely endanger the operation of economic and monetary union Article 59 gives a possibility to adopt restrictive measures for a period not exceeding six months.

According to Article 57 (2) EC the cooperation and further liberalization might be achieved by adopting measures by the Council. Thus, acting by qualified majority voting the Council may additionally strengthen and foster the free movement of capital with a third country. Unanimity is required when the measure relating to the movement of capital means step back from current provisions.

The role of the EU concerning economic and financial issues becomes more important on international level and on the European continent in particular. Therefore, as far as the third countries are concerned, there are several forms of multilateral and bilateral agreements which are affecting in a different manner the movement of capital and payments. Thus, the agreements with the Mediterranean countries are called Euro- Mediterranean Association Agreements, Association Agreements with third countries, agreements with the eastern countries from the ex-soviet bloc are entitled Partnership and Cooperation Agreements and the most important for the analyses of this text the Stabilization and Association Agreements which are signed with the countries from the Western Balkans.

The free movement of capital in the Stabilization and Association Process

After a long period of uncertainties and debates, the European Council in Feira in 2000 presented its strategy for integration of the countries from the South- Eastern Europe in the EU i.e. the Stabilization and Association Process. The key element of this process is the Stabilization and Association Agreement. At present, almost all the countries (except Montenegro) from the region have signed the Agreement and it is in force in Macedonia and Croatia.

The main objective on the SAA is to prepare the country to become a member of the European Market and to strengthen the capacities and abilities to perform the responsibilities of being a member of the EU. As it was explained above, the free movement of capital is one of the four fundamental freedoms on which the European integration process is based. For that reason, one Chapter in the SAA is dedicated to this issue.

The importance of the free movement of capital and payments in the pre accession period might be also seen in the negotiation process which is held by the European Commission and the candidate country[6]. The process of negotiation concerning the free movement of capital is in the fourth chapter and it is led by the Directorate General for Internal Market. At present, Republic of Macedonia is a

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[5] Craig Paul, Grainne de Burca, 2002, EU Law: Text, Cases and Materials, pg. 683
[6] After obtaining a status of a candidate country on Commission' recommendation the Council decides if the country is ready to open the negotiation process by chapters.

candidate country but there is still no recommendation for opening the negotiation process. Republic of Serbia is expected to become a candidate country in 2009.

The wording of the provisions concerning the free movement of capital in the different SAA signed with the Western Balkan countries are similar or in some case identical. Therefore, in this part of the text the provisions concerning the free movement of capital settled in the SAA signed with the Republic of Macedonia and the Republic of Serbia are going to be analyzed. Current situation in this area is going to be presented from aspect on the legislation in force and the Commissions opinions concerning the countries progress in adopting of this part of the *acquis communautaire*.

Legal basis for free movement of capital in the Stabilization and association agreement

A reading of the texts of the SAAs concluded with Macedonia and Serbia shows that there is a same wording relating to the question of free movement of capital. Thus, the free movement of capital and payments is covered in the Title V concerning Movement of workers, establishment, supply of services, capital, or to be more precise in its chapter Chapter IV relating to Current payments and movement of capital. A single difference in the two texts might be found in the possibility for acquisition of real estate in Serbia by nationals of EU Member States.

The obligations settled in the SAA concerning the free movement of capital are to be achieved in two stages. During the first stage, four years after entering into force of the SAA, the Parties will prepare all the necessary conditions for providing the capital movements. In the second stage, which will be discussed and decided by the Stabilization and Association Council the approach for the entire fulfillment of the free movement of capital will be considered. At present, the SAA with Serbia waits its ratification from all the Member States of the EU. The SAA concluded with Macedonia has not *de jure* pass in the second phase even it is in force from 2004, however, as it is going to be discussed in the last part of this text numerous questions concerning the second stage are by now *de facto* implemented.

The provisions might be divided on provisions relating to payments and transfers on the current account of balance of payments and transactions on the capital and financial account of balance of payments.

The SAAs provides that "the parties undertake to authorise, in freely convertible currency, in accordance with the provisions of Article VIII of Agreement of the International Monetary Fund, any payments and transfers on the current account of balance of payments between the Community and Macedonia/Serbia"[7]. With this provision there is unconditional opportunity for all the transfers and payments on the current account which means fostering the trade between the parties of the Agreements. This liberalization in payments and transfers on the current account of balance of payments affects the trade in goods and services, dividends/interests from abroad and net unilateral transfers form abroad. Since the main objective on the SAA is creating better conditions in the countries for joining the European market it is understandably why the same provision is settled in the Interim Trade Agreements which were signed with both countries[8].

Liberalisation in relation to the strengthening the economic ties between the Parties is provided by ensuring the free movement of capital relating to direct investments in companies (and the liquidation or repatriation of these investments and of any profit stemming there from). The cooperation in the financial markets and financial services is provided by providing the free movement of capital "relating to credits related to commercial transactions or to the provision of services in which a resident of one of the Parties is participating, and to financial loans and credits, with a maturity longer than a year". Furthermore, in the second stage on the implementation on the Agreement free movement of

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[7] Article 62 of the SAA concluded with Serbia, Article 58 of the SAA concluded with Macedonia
[8] Article 35 of the Interim trade agreement concluded with Serbia, Article 31 of the Interim Trade Agreement concluded with Macedonia

capital for portfolio investment and financial loans and credits with maturity shorter than a year is to be provided[9].

A difference in the wording and the obligations imposed in SAA concluded with Serbia and the one with Macedonia makes Article 63 (3) which requires Serbia to authorize the acquisition of real estate by nationals of Member States of the EU. Thus, from entering into force of the SAA the acquisition will be performed by the existing procedure and four years after entering into force of the SAA Serbia should adjust legislation relating to the acquisition of real state and ensure a same treatment of nationals of Member State of the EU as compared to its own nationals. This provision imposes obligation on very explicit manner which confirms the impression that every future enlargement is more demanding than the previous. The same demand was addressed to Macedonia not in the SAA but thought the possibility for further facilitating the movement of capital which SAA includes. Namely, the SAAs authorize the Parties to consult each other with a view to facilitating the movement on capital in order to promote the objectives of the SAA[10].

The Agreement provides a possibility for safeguard measures with regard to movements of capital for a period of maximum six months. This kind of measures might be taken in exceptional circumstances when movement of capital threatens to cause difficulties in monetary policy or exchange rate policy in one of the contracting Parties[11]. There should be no doubts about this solution since, as explained above the original Treaty provisions impose same rights for Member States concerning the free movement of capital within the EU.

Current situation

Macedonia

The obligations relating to the transactions on the current account of balance of payments are completely fulfilled. Namely, in 1998 Republic of Macedonia adopted Article VIII of the IMF Statute introducing convertibility in payments through current transactions with abroad. In this respect, all the transactions between the residents and non resident on the current account are liberalized in respect to Article 58 of the SAA.

For the area of the movement of capital and payments the most important are the provisions settled in the Law on Foreign Exchange Operations[12]. Namely, the transactions which should be liberalized in the first stage of the SAA concerning direct investments, commercial credits and financial loans and credits with maturity more than one year are incorporated in this law. Furthermore, free flow of financial credits with maturity less than one year is provided for non residents, which is an obligation for the second stage of the SAA, as explained, has *de jure* not started yet.

The acquisition of real estate (apartments and residential buildings) by nationals of the Member States of the EU is provided even it is not an explicit obligation deriving from the SAA. It is considered as highly important element in completing the freedom of movement of capital. This was done by amendment on the Law on ownership rights and other real rights. However, the right of ownership of construction land requires prior authorization and acquisition of agricultural land remains.

In its recent report on the progress of Macedonia in the integration process presented in November 2008 the European Commission estimates that good progress has been made in the liberalization on the free movement of capital. Macedonia performs well in complying the obligations settled in the SAA for this part of the of the *acquis communautaire* especially in its approximation of legislation[13]. However, the remaining obstacles in the free movement of short term capital movements and cross-border transfers have to be removed.

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[9] Article 63 (1) and (2) of the SAA concluded with Serbia, Article 58 (1) and (2)of the SAA concluded with Macedonia

[10] Article 63 (7) of the SAA concluded with Serbia, Article 58 (5) of the SAA concluded with Macedonia

[11] Article 63 (5) of the SAA concluded with Serbia, Article 58 (4) of the SAA concluded with Macedonia

[12] Law on Foreign Exchange Operations, Official Gazette of the Republic of Macedonia, No. 34/01, 49/01, 103/01, 51/03 and 81/08

13 European Commission, Commission Staff Working Document, Republic of Macedonia 2008 Progress Report, pp. 33-34

Serbia

With the adoption on the Law on foreign exchange transactions in 2002 which meets the terms on Article VIII of the IMF Statute the transactions on the current account of balance of payments are liberalized. Moreover, on May 2002 dinar became external convertible in current transactions. Hence, the obligations settled on the SAA concerning the current account are to a great extent fulfilled.

As far as the capital and financial account is concerned good progress has been made with the adoption on new Law on foreign exchange transactions[14] which introduced gradual liberalisation of movement of capital. In the Commissions 2006 Progress Report it was estimated as an important step in the process of fulfilment of the criteria relating to the Stabilisation and Association Process. The Law introduces several novelties which are of a great significance for the free flows of capital and payments as described in the SAA. Namely, capital transactions of long dated securities (investments in equity instruments and debt securities issued by OECD countries and International financial institution), financial derivates, investment and voluntary pension funds and insurance are liberalised for free flow. Transfers originating of direct resident investment abroad/ non resident in the Republic of Serbia are liberalised. Residents are authorized to commit deposits abroad, in respect of the legal act passed by the National Bank of Serbia. Furthermore, transfers abroad from the foreign currency or dinar bank accounts of non-residents, after tax deductions are flowing freely. Payments aiming to acquiring real estate are liberalized both for residents and non residents.[15] Even if there is strong commitment for removing all the obstacles in the free movement of capital many efforts should be done in the liberalisation short -term capital flows.

In its recent report on the progress of the Republic of Serbia in the integration process presented in November 2008 the European Commission estimates that slight progress in the filed of free movement of capital has been achieved. The Commission finds as positive the regulation on personal transfers of foreign cash to and from Serbia. However, the Commission finds that the transactions on current account and external payments are not completely liberalized and restrictions relating to short- term credit and portfolio investments are still present. As far as the direct investments are concerned there some restrictions in the arms sector where investment are subject on certain preconditions. Regarding the liberalization on the acquisition of real estate foreign nationals and legal persons may purchase property only if there is reciprocal agreement with their country of origin and if they can prove that they are conducting business activities in Serbia. In order to acquire property legal entities are required to be established in Serbia. The general evaluation on the progress in the filed on free movement of capital and payments even if there is slight progress in liberalization, Serbia needs further efforts to respond on the obligations laid in the SAA.[16]

Conclusion

The free movement of capital and payments is crucial element for implementation of the EU goals and objectives. Namely, the integration on the financial markets and creation of the European Economic and Monetary Union is impossible to be achieved without free circulation of capital and payments. Nevertheless, the elimination on the obstacles impeding the free movement of capital was not following the dynamics of the other freedoms relating to the free movement of persons, goods, services. The complete liberalization is achieved with the Treaty of Maastricht creating the EU and the jurisprudence on the ECJ promoting the free movement of capital in a broader sense.

Article 56 EC provides full liberalization of the movement of capital and payments between the EU Member States and third countries. Several forms of bilateral and multilateral cooperation between the EU and third countries are known. In this respect, after a long period of uncertainties and debates, the European Council in Feira in 2000 presented its strategy for integration of the countries from the

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[14] Law on Foreign Exchange Operations, Republic of Serbia, Official Gazette, No. 62/2006

[15] The Government of the Republic of Serbia, October 2008, National Programme for Integration with the European Union (NPI), pp. 254-255

[16] European Commission, Commission Staff Working Document, Republic of Serbia 2008 Progress Report pp.33-34

Western Balkans in the EU i.e. the Stabilization and Association Process and its key element the SAA. The SAA contains provisions on gradual liberalization on the movements of capital with the EU and its Member States which should be accomplished is two stages. During the first stage, four years after entering into force of the SAA, the Parties are to prepare all the necessary conditions for providing free capital movements. The second stage is going to be discussed and decided by the Stabilization and Association Council. The provisions in the SAA concerning free movement of capital might be divided on provisions relating to payments and transfers on the current account of balance of payments and transactions on the capital and financial account of balance of payments. A slight difference in the wordings on the SAA concluded with Macedonia could be noticed relating to the question of acquisition on the real estate in Serbia by nationals on the Member States of the EU.

The progress in the achievement of free movement of capital and payments is evaluated by the European Commission in its Progress reports. In its recent report on the progress of Macedonia in the integration process presented in November 2008 the European Commission estimates that good progress has been made in the liberalization on the free movement of capital. Macedonia is a candidate country since 2005 but has not opened the negotiations yet. According to the Commission Macedonia performs well in complying the obligations settled in the SAA for this part of the of the *acquis communautaire* notably in the filed of approximation of legislation. Nevertheless, the remaining obstacles in the free movement of capital are short term capital movements and cross- border transfers which have to be removed.

The recent report on the progress of the Republic of Serbia in the integration process prepared by the European Commission and presented in November 2008 finds that slight progress in the filed of free movement of capital has been achieved. The main remarks are concerning the transactions on current account and external payments which are not completely liberalized and on the restrictions relating to short- term credit and portfolio investments which are still present. However, the SAA concluded with Serbia is not yet in force and Serbia is expected to become a candidate country in 2009. In this respect, much effort should be done in the process of liberalization on the free movement of capital.

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