

POSITION AND ROLE OF CENTRAL BANKS, WITH REFERENCE TO NBS IN CONDITIONS OF GLOBAL FINANCIAL CRISIS

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Abstract—Period that has led to the latest crisis has unequivocally shown that global financial market has managed risks in an inadequate way and that capital was allocated wrongly which has led to big disturbances in all markets. Extremely high financial leverage in case of financial intermediaries was a result of their significant dealing with the activity of investment banking, business that was prohibited for banks during the big global crisis. Starting from that fact, in this paper it is pointed to the role of Central Bank in the preservation of financial stability, protection against the existing, as well as the future, potential, global economic-financial crisis. In recent years, in leading economic policies the attitude that low and stable inflation is necessary and almost sufficient condition for financial stability and economic growth is prevailing. This attitude has essentially influenced the role of Central Bank in leading monetary policy. In the creation of the new financial and monetary system, Central Bank has a key role in preservation of financial stability, particularly from the aspect of applying prudential control, regulation and supervision of banks. Efficient struggle against global financial crises requires harmonization of goals and control over various instruments and close cooperation between Central Banks within prudential control and supervision of banks, not only in national, but also in global plan. The role of NBS in the period of crisis and post-crisis period is analyzed.

Keywords—Central Bank, financial crisis, prudential control, monetary policy, banking sector, illiquidity.

I. INTRODUCTION

ALL Central Banks are today under the control of the state and represent a subsystem of financial system of each national economy which, in addition to classical functions of money creation and financing of the state, also has a significant role in maintaining the stability of financial, banking and economic system, efficiency strengthening, quality of bank and economic subjects functioning, as well as integration of national and international financial market.

In conditions of global financial crisis, it is not logical that each institutional subject is responsible only for one

goal and that he uses only one instrument. This assumption is sustainable in rather simplified theoretical models. In real economy, especially in the economy in crisis, due to correlation of factors, there are numerous synergies that require multiple goals and multiple instruments from models that are the basis of leading the economic policies in order to realize them. International financial institutions, such as IMF and WB, use such work mode when financing the programmes for structural adaptation in economies in development and transition. Recently, EU also conditions crediting of deficit to members with financial problems (Portugal, Italy, Greece, Spain, Ireland) by a policy that is based on reducing public investments, reduction of state administration, as well as reduction of salaries and pensions in public sector which is in function of consumer prices' stability.

After the latest global economic-financial crisis and initiative of global financial organizations and institutions for identifications of future financial organizations and institutions for identifying future potential causes of risks and operative recommendations for their preventive activity, before Central Bank as one of active participants in financial market, a new challenge is set and that is a special responsibility not only for stability of prices, but also for providing financial stability. Particular significance is attributed to the application of prudential processes from the aspect of reducing the possibility of absolute or relative loss in relation to expectations and strengthening the resistance of financial systems against future shakes [1].

Focus is on risk control and capital adequacy. Micro-prudential regulations protect clients against unconscious financial intermediaries. Macro prudential regulations are aimed at elimination of pro-cyclic policies and minimization of their negative effects.

Certainly, that implies a combination of prudential control in combination with basic goals of Central Bank, and those are price and financial stability. Regulations of financial system influence the behaviour of banks and

insurance companies in the first place, as well as other subjects from financial and non-financial sectors.

After each financial crisis, Central Banks have experienced changes in organization and practice, which is also expected after the current global financial crisis, which began in 2007. Among numerous questions, the two regarding the future role of Central Bank are hot: 1) greater responsibility of Central Bank in providing financial stability and 2) leading monetary policy in a different way.

International financial crisis has not avoided a single country of the world, it only manifested itself in different ways, but challenges before Central Banks are similar and experiences are different and, for that reason, experience exchange is necessary, both among developed and developing and transitional countries. Central Bank needs to have a greater number of goals, so in addition to the stability of consumer prices, it is necessary to provide the stability of assets prices, which is particularly insisted on by expert team of UN led by J. Stiglitz [2].

IMF experts led by O. Blanchard say that in addition to the goals mentioned, Central Bank also needs to have exchange rate stability, output structure and reaching certain level of employment in its scope of activities [3]. In this paper we analyze: 1) Activity and initiatives against current and future crisis; 2) macro prudential control and financial risk; and 3) Role of NBS in conditions of financial crisis.

II. ACTIVITY AND INITIATIVES AGAINST CURRENT AND FUTURE CRISIS

Since three decades when deregulation of financial markets has become a platform for conducting economic reforms in the most developed economies, the world had about 100 crises of which the last one from 2008 was certainly the biggest, deepest and the most complex. This statement is supported by: depth of disorder, length and global character of crisis. It seems that in the last three decades, economic theoreticians and practitioners have forgotten about the lessons from the period of Great Depression, which refers to the role of a state in economic life.

Current financial crisis differs from previous crises according to the size and scope, especially after the crash of Lehman Brothers when it has grown into a real global crisis. This financial crisis is of a different nature in comparison with crises from the past. Instead for the financial sector to be a "servant" of real sector, it has turned into the "master" of not only the real sector, but entire society. Without adequate risk management, investment fever was extinguished by unmeasured emission of securities. In case of all crises, illiquidity always appears on the surface.

Main initiator of discussion on international, global financial stability is a group of underdeveloped countries, G20, which imposes additional tasks and obligations to the Financial Stability Committee (FSC).

FSC is particularly divided into international and national developmental policies and main elements of international reform, which member countries of G20 have agreed with on meeting Pittsburgh, and which refer to [4]: 1) strengthening the capital of banks and standard liquidity; 2) improvement of OTC market and derivatives market; 3) important financial institutions to systematically reduce moral hazard; 4) reformation of practice for supporting financial stability; 5) addressing to important financial institutions and adoption of resolutions; 6) respecting international supervisory and regulatory standards and 7) improvement of transparency.

Contemporary market economies adopted the attitude that adequate capital of banks is a strategic pillar for sustainability of highly competitive system with strong risks in business, which provides the banks to borrow in financial market under favourable conditions. Regulatory institutions recently undertake rapid and corrective measures in relation to the banks in which capital rate is reduced below certain level. Main goal of activist policy of regulatory institutions is to act rapidly on the increase of capital rate, before it comes to complete liquidation of the available bank's capital. American regulatory authorities also have one broader system for banks in which they are ranged according to one formula that contains six elements and this rating system is called CAMELS [5].

Processes of financial market globalization and strengthening of big banks' business have created a need to perform international harmonization of rules in the business of banks and other institutions. Carrier of international coordination of rules for banks is Basel Committee on Banking Supervision. This Committee was formed in 1975 by the governors of Central Banks of highly developed countries, with the aim to define unique principles and standards that refer to safety of banking. It consists of high financial officials of 12 countries, of which eight are from European Union and four from other countries (USA, Canada, Japan and Switzerland).

Basel Committee adopts the rules of banks' control based on consultations with greater number of banks and officials of Central Banks from a series of countries. Regulations brought by Basel Committee are not automatically legally obligatory for banking institutions, because those regulations become legally obligatory only when they are adopted by parliaments of countries, in the form of laws. It is necessary to stress that Basel principles (rules) of prudential supervision are accepted by more than 100 countries and it is believed that banking of a country does not have a satisfactory credibility, unless Basel principles on banking are adopted.

Basel Committee for banking supervision has started an ambitious programme with the aim to train banking sector to absorb shocks that come from financial and economic stresses and thus to significantly lessen the

impact of risk overflow from financial sector into the sector of real economy [6].

The most important measures refer to:

1. part of these reforms is aimed towards enterprises and activities that are of systematic nature, especially requirements with capital,
2. micro-prudential rules are revised on the address of risk against overflow into real economy, with suggestion to introduce counter-cyclic capital protection and
3. particular attention of Committee package is dedicated to the impact on economy, both in developed and transitional countries [7].

Special emphasis is put on weaknesses of supervisory framework of European Union, which is still different to all members, regardless of the visible progress achieved in integration of financial markets and increased importance of cross-border entities [8].

In this context, expert team led by former general manager of IMF J. Larosiere, who defined certain recommendations with the aim of establishing more efficient, integrated and sustainable supervisory framework. Key recommendations of Larosiere's team refer to:

1. establishing European Systemic Risk Board (ESRB), which will be responsible for macro-prudential supervision of financial system within a community, with the aim of preventing or mitigating systemic risks and
2. establishing European System of Financial Supervisors (ESFS), which consisted of the network of national financial supervisors, which would work together on new European Supervisory Authorities (ESAs). ESFS would harmonize rules and coherent application of supervisory practice [9].

Ambitious plan of EU predicts two pillars of financial supervision structure. First one, European Systemic Risk Board (ESRB) will be authorized and responsible for macro-prudential supervision of entire financial system of European Union, and the second, European System of Financial Supervisors (ESFS) will be aimed on micro-prudential supervision.[10]

European Systemic Risk Board (ESRB) will deal with sources of potential threat to stability of financial system that can originate from macroeconomic movements, as well as events within entire financial system.

III. FINANCIAL RISK AND PRUDENTIAL CONTROL

The appearance of the last two crises has shown that global financial market has managed risks in an inadequate way and that it allocated capital improperly, which led to major disorders in all markets.

Banks have entered the trade with complex securities on the basis of mortgages without a possibility to more precisely estimate the risks they were exposed to. In addition, banks were included in trading with other risky securities without adequate exposure to risk of participants in transaction. As for the financing, in

countries with high systematic risk, banks usually transfer the burden of foreign exchange risk onto the real sector and population through so-called "foreign exchange clause". Financial risk is a risk from the failure of significant part of financial sector to reduce the availability of loans, which can have a negative impact of real economy in return [11].

There are also the other definitions of financial risk such as: financial risk is a possibility of losing on investment or speculation; financial risk is a possibility of losing contained in methods that are used for financing a company, which can endanger its ability to provide adequate return; financial risk refers to uncertainty of losses due to negative changes in prices, interest rates, exchange rates and value of money [12].

Each reduction of economic activity does not imply simultaneously systemic risk, but the appearance of systemic risk inevitably leads to descending phase of conjuncture cycle and transformation of economic activity into deep recession, more rarely depression. Basically, systemic risk has two sources: 1. There is a strong common tendency of financial companies, as well as enterprises and households to expose to risk too much in the period of reviving credit cycle and to become to averse in decline and 2. Individual banks usually do not consider effects of their activities' overflow onto the risk in the rest of financial infrastructure.

Systemic risk is particularly high in developing economies due to their traditional exposure to foreign exchange risk due to low competitiveness that influences greater volatility of foreign exchange rate. When exchange rate risk is high, due to risk interaction, it comes to even greater errors in capital allocation. For that reason, it is paradoxical that banks in these economies prior to the crisis have encouraged consumption instead of investments, as well as investments into non-productive sectors although economy is at unsustainable level of economic activities. It is well-known that at the level of one national economy, the risks are divided into systemic (it cannot be diversified) and non-systemic (it can be diversified). However, global economic crisis has affirmed yet another, global risk.

Global risks can be divided into: (1) chronic risks, (2) risks conditioned by events, and (3) risks that need to be monitored. Chronic risks essentially endanger economic development and lead to social and political instabilities. Global risks conditioned by events are precisely related to specific events and have a limited period of action. Risks that need to be followed currently do not have a significant impact, but their evolution is such that they could have significant effect.

Direct goal of macro prudential approach to regulation and supervision is to limit the risks of international financial problems, its final goal is to avoid or constrain those costs that generate real sector (e.g. gain, loss).

Practical goals of macro prudential policy are: 1. Strengthening the resistance of financial system against economic falls and other dangerous aggregate shocks and 2. Active constraint of causing (mitigating) financial risks, by direct orientation on financial imbalances [13].

Accomplishment of macro prudential goals implies efficient macro prudential analysis that should identify tendencies in economy and financial system that have implications on financial, as well as macroeconomic stability, as well as to identify measures that can be undertaken to mitigate the risk.

Analysis of trends usually includes the increase of loans for the economy, liquidity through market ability, assets prices, securitization, as well as different institutions (hedge funds, for example) that can create systemic risk etc.

Direct signs of macro-prudential approach are: 1) to limit the risk of global financial problems; 2) level of diversification or risk concentration, not in individual institutions, (micro-prudential approach), 3) treating overall risk depending on common behaviour of institutions [14].

Macro prudential policy uses a wide spectrum of instruments for resolution and mitigation of financial systemic risk, including the instruments that are used for accomplishing other economic goals. Stress on development and adaptation of macro prudential instruments to the existing macro prudential tools, with the aim of strengthening prudential standards and limiting the activities that can cause the increase of systemic risk.

Efficient application of macro prudential policy implies unnecessary institutional settings and international coordination, with a clear mandate, responsibility and transparency. In finding institutional setting, it is important to solve two key problems, of which financial stability providing depends: 1) problem refers to difficulties of defining operational content, having in mind different ways of expressing and different sources, which are rather difficult to identify and even harder to predict, and 2) problem is even when risk source is identified, it is very difficult to prove it.

Macro prudential approach requires harmonization of goals, knowledge and experience and control over various instruments. Crucial for accomplishment of this goal is close cooperation between Central Banks within macro prudential regulation and supervision not only in national, but also in international plan.

IV. ROLE OF THE NATIONAL BANK OF SERBIA IN CONDITIONS OF GLOBAL FINANCIAL CRISIS

National Bank of Serbian and commercial banks make up a banking system that is main external source of financing, both for companies from real economy and the consumption of population.

Banking system plays major role in traditional economic flows, but there are serious findings that warn about the fact that precisely main characteristics of banking system simultaneously also lead to periodic instability in the market, which is confirmed by current, global financial crisis, which has caused collapse of some of the biggest financial institutions and decreased risks which globalized financial system was faced with. Global financial and economic crisis which has led to enormous loss of social welfare in many countries hasn't avoided our real sector and banking system. By timely and coordinated measures, Government of the Republic of Serbia and NBS catastrophic consequences for Serbian economy are avoided, unlike other countries of the world, both developed and developing ones, and primarily the countries from the region.

Certainly, contribution in mitigating the consequences of global crises has also been given by reformed banking sector, i.e. where foreign banks were allowed the approach for the restructuring of devastated national banking system, unlike the countries of Central, Eastern and South-eastern Europe, where international banking groups have become dominant factors in banking sector.

Entrance of foreign banks on the market of Serbia and region has its good sides, primarily in the sense of improving the quality of management in banks and increase of offer of different financial products in the market, and on the other hand, Serbian economy is thus directly exposed to big risks to which it wasn't directly exposed before. In this case, we primarily refer to mechanisms of network risk and possibilities for the crisis that occurred in one part of the world to be transferred to the region. This is precisely what happened during big global financial crisis that has begun in the middle of 2008 and hasn't finished yet. Crisis has firstly appeared in financial sector of Serbian economy and through the crisis of interbanking confidence and liquidity. Although banking sector in Serbia, due to big capital adequacy that was imposed by National Bank of Serbia, hasn't entered deep long-term crisis, the crisis has still been largely transferred onto the real sector, primarily due to significantly more strict credit terms.

NBS, through transmission mechanism of monetary policy (interest rates channel, exchange rate channel, assets price, banking crediting and balance channel), affects macroeconomic aggregates such as aggregate demand, production and prices. Identification of transmission channels provides us to determine the most efficient set of instruments of monetary policy and selection of the beginning of their application. Current and expected monetary policy influences money market and financial market. Changes in those markets further influence the market of goods and services and, in the end, aggregate demand, production and prices. Finally, economic activity and inflation have a feedback effect on monetary policy.

Global economic crisis and ways of overcoming it had a direct impact (through restrictive monetary policy and fiscal pressure) and indirect (through the growth of regulatory risk) on decline of economy's performances.

All measures in leading monetary, fiscal and structural policies need to be adapted to development of proinvestment mentality based on three groups of investments: 1) firstly, investments in strategic branches. It is about network technologies with a high degree of exchangeability of its output, such as energetics and telecommunications; 2) group of investments are the investments in agriculture and selective parts of food industry. Financing these investments should be provided from public, private and combines sources and 3) type of investments represent investments in infrastructure.

Monetary policy, in addition to price control, needs to be led by fulfilling other goals that affect sustainable development. Monetary policy that provides growth of economic activities provides fiscal policy to be stimulative with a balanced budget. Central Bank should be autonomous, but not entirely independent and uninterested for the epilogues of its measures that upset financial sector, real sector and public sector.

However, in conditions of global financial crisis, there is an essential difference in monetary policy of highly developed countries, primarily USA, where the crisis has begun and monetary policy in Serbia. Unlike the USA, National Bank of Serbia has conducted restrictive monetary policy in the previous period that implies high reference rate and sterilization of liquidity access. With such exchange rate of monetary policy, National Bank has carried out prudential and administrative measures (high mandatory reserve on foreign savings and borrowing of banks abroad, limiting the ratio of gross placement to population and capital, limiting the borrowing of population) and it has carried out more strict control of commercial banks (establishment of credit bureau, reduction of exposure to foreign exchange risk).

Owing to the increased level of restrictiveness of monetary policy in the country, as well as numerous measures of prudential character, credit activity of banks, especially towards the population is delayed for some time now. Banks have stopped to use foreign sources of funds as dominant source of financing and they have oriented themselves on collecting domestic savings. In order to avoid setting aside foreign exchange mandatory reserve, banks have directed clients to foreign borrowing.

According to official statistics, Serbian economy has formally come out of recession in the third quarter of 2010, since positive growth was achieved in two successive quarters. Annual rate of growth in 2010 is +1,5%, in 2011. +2%. However, growth in 2010 still isn't enough to make up for the decline from recession 2009 of - 4%, and especially not strong enough to annul the transitional deficit of about 1/3 GDP and about 3/5

industrial production in relation to pre-transition 1989 and for Serbia to begin reaching for the EU.

Characteristics that have marked Serbia economy in 2011 are unstable recovery from previous financial crisis and economic crisis and appearance of risk under the impact of new wave of crisis and significantly slower growth in developed countries, caused by growth of fiscal and financial uncertainty in euro zone. Lower external demand is followed by a slow recovery of domestic demand due to reduction of employment and earnings and reduced possibilities of borrowing of the economy and population. Having in mind the deterioration of macroeconomic performances of our big trading partners (primarily Italy, Germany, Bosnia and Herzegovina, Romania) and small chances for recovery of domestic demand, estimation of growth of Serbian GDP for 2012 is revised downwards to about 1,5% [16].

Share of the export of goods from Serbia in global export is still negligibly small and it is far beyond desired participation of at least 50%. In 2011, to the markets of seven countries (Germany, Italy, Romania, B&H, Montenegro, Macedonia and Russian Federation), 59% of overall export of Serbia was placed [17].

Foreign direct investments in 2011 are about 2.2 billion USD and according to data of World Investment Report, in 2010 Serbia was the best in region with an FDI inflow in the amount of 1.3 billion USD [18].

According to competitiveness, Serbia is at 95th place among 142 ranked countries, i.e. for one position only it is placed better than last year when 139 countries were on the list [19].

According to the last available Questionnaire about labour from April of the current year, unemployment rate has reached 22,2%, and it is one of the highest in Europe. According to the data of National Employment Service, structure of registered unemployed people is rather unfavourable, having in mind that 63% of them look for a job for more than 12 months, which classifies them into long-term unemployed [20].

Measures that Government and NBS were undertaking, for solving illiquidity, in previous period haven't led to solving this problem, because they were dominantly aimed at solving the consequences, and not on eliminating the source. Illiquidity of economy is a long-term systemic problem which was only deepened by crisis.

1) Average time for charging liabilities is increased and in August 2011 it was 132 days. In order to compare, according to Eurostat's report from 2010, average deadline for payment in Serbia amounted 128 days, while in Germany, for instance, it was 18 days, in France 24 days, and in Croatia 34 days.

2) Share of problematic loans with delays longer than 90 days in overall approved loans in September 2011 was 18.8% for about 0.2% points more in relation to June 2011. In September, share of problematic loans granted to economy in total loans approved to economy was

24.4% which is for about 0.7 percentage points more than in the end of June.

3) Total internal debts are unknown. They are indirectly estimated on the basis of data of the debts of public sector (without public companies) towards the economy, that they are about 4.5 billion dinars, while public companies owe economic subjects about 30 billion dinars. On the other hand, economy and population owe public companies about 120 billion dinars. According to the data of the Ministry of Finance, 11 public enterprises claim 78.5 billion dinars from the economy, and owe about 15.4 billion dinars.

4) According to the data of NBS, on 31st September 2011, 62.234 economic entities were blocked with the total amount of blockade of about 182 billion dinars and nearly 94.800 employees. Number of blocked economic entities was less for about 5.800 in the end of September 2011 in relation to the same period last year, while total amount of blockade was reduced for about 119 billion dinars. Estimations are that 6.225 legal entities, under the condition that their accounts stay blocked until the end of the year, will fulfil the conditions for automatically going into bankruptcy at the beginning of 2012. It is necessary to define a suggestion for solving the problem of insolvent enterprises within the measures for solving illiquidity.

Constantly present problem in Serbian economy is high inflation, one of the highest in Europe. In 2011, inflation has reached a level of 14.7% at annual level after the growth until April, and then it started to reduce to 8.1% in November, but it is still far away from target framework of macroeconomic policy (3-6%).

Credit activity towards non-banking sector (including cross-border loans) records real growth, i.e. newly granted loans are still higher than discharging the loans. In 2011, at the suggestion of National Bank of Serbia, the Law on protecting the users of financial services is adopted. The aim of adopting this Law is protection of citizens in financial transactions, reaching the standards of European Union in this field and further strengthening of confidence in financial system of a country.

NBS is faced with complex problems, such as: permanent inflationary incentives and pressures, pressures on foreign exchange rate of domestic currency, presence and effects of two-currency system, liquidity of global financial system that was made more difficult, general stagnation and especially, depression of real sector. That was, among the rest, one of the reasons for NBS TO conclude a programme of cooperation with a Representative of European Central Bank and Head of EU delegation in Serbia. The mentioned programme includes 11 fields of cooperation and those are: supervision of financial sector; harmonization of regulations; liberalization of capital flows; foreign exchange reserves management; monetary operations; protection of financial services users; European

integrations; economic analysis and research; statistics; payment system; financial stability.

Programme is an opportunity to solve the problems through cooperation and using the experience of European Central Bank and more than twenty Central Banks of European countries. It is necessary to stress that, in monetary categories, during current financial-economic crisis, experience (empirical) has come into the first plan, which is not doubted even by professional theoreticians. Crisis has shown that when it comes to Central Banks, they cannot remain at one goal only (price stability). In its "business activity", the least that they need to include is conjunctural policy, with all its complexity, and other people's experiences need to be used maximally.

V.CONCLUSION

For successful monetary policy management, important factor is financial stability, having in mind that Central Bank shouldn't neglect its primary goal, which is responsibility for preserving price stability. Measures for strengthening resistance of financial system will increase the efficiency of Central Bank in leading monetary policy in direction of protecting the economy from financial disturbances. Macro-prudential measures will increase the resistance and elasticity of financial system and simultaneously contribute to the efficiency of monetary policy in reducing the impact of financial difficulties on the side of loan supply.

Present financial crisis has shown that price stability is not sufficient for the protection of financial stability, but it is certainly necessary. Owing to the persistence of Central Bank in carrying out price stability, vulnerability of financial system is significantly reduced, which was reflected on easier resolution of financial imbalances and risk scope. Supervision and regulatory reforms should develop and create comprehensive scope of stability, where the identification and risk assessment would be translated on the actions of macro prudential instruments, with the aim of mitigating and neutralizing potential sources and systematic risks.

NBS via transmission mechanism of monetary policy (channel of interest rates, exchange rate, asset prices, bank lending and balance channel) influences macroeconomic aggregates such as aggregate demand, production and prices. However, in conditions of global financial crisis, there is an essential difference in monetary policy of highly developed countries, primary USA, where the crisis has occurred and monetary policy in Serbia. Unlike the USA, National Bank of Serbia in previous period has carried out restrictive monetary policy that implies high referential rate and sterilization of liquidity excess.

REFERENCES

- [1] Oxford Dictionary of Finance and Banking”, Oxford University Press, Oxford, 2005, стр. 357.
- [2] J. Stiglitz et al (2010): The Stiglitz Report: Reforming the International Monetary and Financial Systems in the Wake of the Global Crisis, The New Press, New York
- [3] O. Blanchard, G. Dell’Arcia and P. Mauro (2010): Rethinking macroeconomic policy, IMF Staff Position Note, February 12, 2010
- [4] Report of the Financial Stability Board to G20 Lead Overview of Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability, 18 June 2010
- [5] Timothy Koch / Scott MacDonald, Bank Management, 2003, стр. 484.
- [6] Caruana, J., Systemic risk: how to deal with it? BIS, 12 February 2010
- [7] Giovanni Carosio, Central Banking after the Crisis: Responsibilities, Strategies, Instruments OeNB – 38th Economic Conference Session 3 – 1 June, 2010
- [8] Regulation of the European parliament and of the council on Community macro prudential oversight of the financial system and establishing a European Systemic Risk Board, 2009
- [9] Report submitted by the Committee on the Global Financial System, Macroprudential instruments and frameworks: a stocktaking of issues and experiences CGFS Papers No 38 May 2010.
- [10] Gerlach, S., Giovannini, A., Tille C., Are the golden years of central banking over, 2009.
- [11] Caruana, J., Systemic risk: how to deal with it? BIS, 12 February 2010
- [12] Остојић, С., Осигурање и управљање ризицима, Дата статус, Београд, 2007, стр. 53.
- [13] The role of macroprudential policy, Bank of England 2009
- [14] Borio, C., Implementing a macroprudential framework: Blending boldness and realism Bank for International Settlements July 2010
- [15] НБС, Текућа макроекономска кретања – новембар 2011, др Дејан Шошкић, презентација, Београд, 14. новембар, 2011. <http://www.nbs.rs/internet/cirilica/index.html>
- [16] РЗС, Саопштења о спољној трговини, <http://webzrzs.stat.gov.rs/WebSite/>
- [17] 2011 UNCTAD, World Investment Report 2011, <http://www.unctad-docs.org/files/UNCTAD-WIR2011-Fullen.pdf>, p. 187.
- [18] The Global Competitiveness Report 2011–2012, World Economic Forum Geneva, Switzerland 2011. p.15.
- [19] ФРЕН, Квартални монитор двоброј 25-26, април-септембар 2011, стр. 19.