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**Article**

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## Challenges to the Implementation of a New Framework for Safeguarding Financial Stability

**Abstract:** There is probably no single economic concept that has attracted more attention and intrigued scientific and professional circles than financial stability. For over a decade now that have been efforts to establish the starting point in explaining this condition or characteristic of the financial system since some find that the key to defining financial stability lies in stability and others argue in favour of the opposite, instability. Unfortunately, no agreement has been reached on a universal definition that would be widely accepted at the international level. Consequently, this gave rise to open discussions on systemic risk, creating a framework for preserving financial stability, and the role of central banks in this process.

This article analyses the results achieved in the development of a theoretical concept of financial stability and its practical implementation. A consensus has been reached on the necessity of removing rigid barriers between macro and prudential policies and on the necessity of their coordinated actions. The primary objectives of monetary and fiscal stability have been shifted towards preserving financial stability. The isolated macroprudential principle rightfully got the epithet of an archaic approach. Coordinated micro and macroprudential policies have definitely prevailed and become reality in many countries, including Montenegro. Created institutional frameworks for safeguarding financial stability at all levels – national, Pan-European and global – represent a challenge for further comparative studies.

**Key words:** financial stability, systemic risk, framework for safeguarding financial stability, microprudential and macroprudential, central bank, monetary policy.

**JEL Classification:** E52 and E58

## 1. Introduction

The global financial crisis strongly shook the grounds of the international system in the period 2007 – 2008. Subsequently analyses of the crisis origins pointed, *inter alia*, to shortcomings in regulation and supervision and their focus to a single financial market segment, that is, the macroprudential level (banking system, insurance market or capital market). This approach abstracted the impact of macroeconomic environment on the functioning of the financial system, which in terms of globalization of financial markets and their connection with capital flows and extensive networks of global financial institutions “too big to fail” has resulted in an inadequate assessment of the risk profiles of supervised institutions which was greatly contributed by procyclicality of the generally accepted Basel II standards. The crisis flamed discussions on efficiency and effectiveness of taken measures and created policies, instruments, and mechanisms for the mitigation of its effects, as well as institutional frameworks for their implementation. Even the theoretical concept of financial stability that had been based on the theory of self-regulating market mechanism was brought into question. Opinions prevailed that pointed to the absence of individual activities and microprudential approach to solving problems in financial systems which, in view of globalization, have reached enormous proportions. A consensus was reached on the issue of a new framework for maintaining financial stability to be based on a strong connection between prudential policies and the monetary and fiscal policy. These changes are to be accompanied by macroprudential institutional arrangements on the global as well as the Pan European and national levels; a reform of the key international financial institutions; the establishment of new international capital and liquidity standards; regulation of systemically important financial institutions; improvement of crisis management; harmonisation of regulations regarding cross-border supervisory cooperation, and so on.

The global financial crisis impact and the subsequent public debt crisis in the euro area, as well as great uncertainties in international economic and financial flows have not bypassed Montenegro's financial system which had experienced strong growth in the pre-crisis period based on strong inflows of foreign capital that had spurred enormous growth of the prices of securities and real estate. This resulted in unsustainable situation that can be compared to a time bomb and unexpected consequences to which its activation leads. And this “explosion” of the price bubble led to a severe reality check. The capital market crashed and the banking sector entered a zone of several years of negative performance, thus paying a high price for the so-called soft landing policy. The real economy was caught in the liquidity spiral that became a dangerous threat to the smooth func-

tioning of the most vital and crucial segment of the financial system until then – the banking sector, and this resulted in a high amount of non-performing loans.

In addition, as most of Montenegro's foreign trade is with the EU Member States where parent banks of subsidiaries operating in Montenegro have their registered offices, the public debt crisis and, consequently, growing EU scepticism with regard to the survival of the euro and the monetary union had an additional negative impact on the Montenegrin economy thus slowing its recovery, dampening capital markets, and undermining the banking sector stability. The expected reaction of the banking sector to deteriorated macroeconomic conditions was a strong risk aversion accompanied by a restrictive lending policy aimed at deposit funding and accelerated deleveraging by external creditors. The response of the Government and financial regulators to the overall international and national trends observed through the macroeconomic prism of functioning of the financial and banking systems was the establishment of a new body responsible for macro-prudential supervision, standardization of responsibilities of the Central Bank of Montenegro for financial stability, and defining the preservation of financial stability as its primary objective, thus making it one of few countries that have explicitly declared this responsibility.

## 2. Financial stability concept

One of the first definitions of financial stability may have been derived from Mishkin's (1997) claim that "financial markets and institutions perform the essential function in an economy of channeling to those individuals or firms that have productive investment opportunities. If the financial system does not perform this role well, then the economy cannot operate efficiently and economic growth will be severely hampered." Mishkin believes that a crucial impediment to efficient functioning represents asymmetric information that lead to negative selection and moral hazard. Asymmetric information relates to the situation when one side does not have accurate information, which leads to wrong selection and/or, in case of a bank, the selection of a borrower prone to risk taking. The problem further deepens after signing the contract as this leads to moral hazard in the sense that the borrower is inclined to taking actions considered immoral from the lender's point of view. The term moral hazard originated in the insurance industry, and eventually began to be used in every situation where one person decides how much risk to take, while someone else must pay the costs if things go wrong (Krugman, 2010). Similarly, Schooner and Taylor (2010) rightly concluded that banking regulations are the main mechanism for limiting the moral hazard problem. They point to a network of financial security, such as de-

posit insurance schemes, as those creating moral hazard and that the best defense against this occurrence is regulation and supervision of the institutions which benefit most.

Later on in his works Mishkin (1999) argues that “financial instability occurs when shocks to the financial system interfere with information flows so that the financial system can no longer do its job of channeling funds to those with productive investment opportunities. If the financial instability is severe enough, it can lead to almost a complete breakdown in the functioning of financial markets, a situation that is then classified as a financial crisis.”

Schinasi (2003) points out that the concept of financial stability usually involves avoiding financial crises, while others include managing systemic financial risk. If systemic risk is managed reasonably well - including market participants through internal risk management (first line of defense) and authorities through supervision, market surveillance, and systemic risk management - then the systemic financial crisis is unlikely to happen.

Few years later, Schinasi (2006) defined financial stability as the situation where the financial system is capable of satisfactorily meeting three key functions simultaneously: “1) efficiently and smoothly facilitating the intertemporal allocation of resources from savers to investors and the allocation of economic resources generally; (2) forward-looking financial risks are being assessed and priced reasonably accurately and are being relatively; 3) the financial system is in such condition that it can comfortably if not smoothly absorb financial and real economic surprises and shocks.”

Schinasi gives a more general definition of financial stability where he does not specify the elements of the financial system but implies the situation where economic mechanisms for assessment, allocation and management of financial risks (credit risk, liquidity risk, counterparty risk, market risks, and so on), function in a satisfactory manner, contributing to the economic system performance.

Some analysts derive financial stability from its opposite – financial instability. Thus Crockett (1997) defines financial stability as the absence of financial instability, “a situation in which economic performance is potentially impaired by fluctuations in the prices of financial assets or in the ability of financial intermediaries to meet their contractual obligations.” Here we make reference to Trichet (2011) who believes that decision makers must be able to assess the point where financial instability reaches systemic proportions.

De Bandt, Hartmann and Peydro (2009) identify three ways in which financial instability can spread to systemic proportions: financial system contagion, then imbalances that build up over time and resolve abruptly, and severe negative aggregate shocks that cause the collapse of a intermediaries and markets simultaneously. What makes financial systems prone to these forms of systemic risk are externalities and assymetric information coupled with other imperfections of financial systems such as: illiquid assets, maturity mismatches between assets and liabilities and leverage, debt relative to capital, short-term funding, and so on that should be viewed as being interconnected (Trichet, 2011).

Obvious multitude of various interpretations of the financial stability concept encouraged Smaga (2013) to analyze definitions given by 27 authors that had dealt with this issue and he identified six prevailing components:

- resilience to shocks (14 authors);
- performing basic functions by the financial system (19 authors);
- efficient allocation of resources - financial intermediation (13 authors);
- interlinkages between elements comprising financial system (7 authors);
- impact on the real economy (14 authors), and
- asset price misalignments (9 authors).

Table 1 confirms the thesis that the concept of financial stability is very broad and complex because it includes all parts of the financial system: infrastructure, institutions and markets, their interconnection and conditionality. Therefore, the concept of financial stability is usually connected to smooth functioning of the key elements that make up the financial system. Thus, central banks have not lagged behind theorists when it comes to creativity in defining financial stability.

**Table 1: Comparison of financial stability definitions in the literature**

| Author/Feature                        | Resilience to shocks | Performing basic functions by the financial system | Efficient allocation of resources (financial intermediation) | Interlinkages between elements comprising financial system | Impact on the real economy | Asset price misalignments |
|---------------------------------------|----------------------|--|--|--|----------------------------|---------------------------|
| A. Crockett (1997)                    |                      |  |  | X  | X                          | X                         |
| F. Mishkin (1997)                     | X                    |  | X  |  |                            |                           |
| J. Lager (1999)                       | X                    |  |  |  | X                          |                           |
| W. F. Duisenberg (2001)               |                      | X  |  | X  |                            |                           |
| R. W. Ferguson (2002)                 |                      | X  |  |  | X                          | X                         |
| T. Padoa-Schioppa (2002)              | X                    | X  | X  |  |                            |                           |
| M. Kiedrowska and P. Marszatek (2002) |                      |  | X  |  | X                          |                           |
| N. Wellink (2002)                     | X                    | X  | X  |  | X                          | X                         |
| M. Foot (2003)                        |                      |  |  | X  | X                          | X                         |
| J. Chant (2003)                       |                      |  |  | X  | X                          |                           |
| O. Issing (2003)                      |                      | X  | X  |  |                            |                           |
| Large (2003)                          | X                    |  |  | X  |                            | X                         |
| J. G. Schinasi (2005)                 | X                    | X  | X  |  | X                          |                           |
| A. Weber (2008)                       |                      | X  | X  |  | X                          |                           |
| A. Matysek-Jedrych (2008)             |                      | X  |  |  | X                          | X                         |
| A. M. Jurkowska-Zeidler (2008)        |                      | X  |  | X  |                            |                           |
| L. Papademos (2009)                   | X                    | X  | X  | X  |                            |                           |
| K. Jajuga (2009)                      | X                    | X  |  |  |                            |                           |
| L.E.O. Svensson (2010)                |                      | X  | X  |  |                            |                           |
| M. Capiga (2010)                      | X                    | X  |  |  |                            |                           |
| J. Kolesnik (2011)                    | X                    | X  | X  |  | X                          | X                         |
| A. Stawinski (2011)                   |                      | X  |  |  | X                          |                           |
| W. Rogowski and C. Mesjasz (2012)     | X                    |  |  |  | X                          |                           |
| A. Houben (et al.2012)                | X                    | X  | X  |  |                            |                           |
| A. Alinska (2012)                     |                      | X  | X  |  |                            | X                         |
| H. Zukowska (2012)                    | X                    | X  | X  |  |                            | X                         |
| P. Smaga (2013)                       | X                    | X  |  |  | X                          |                           |
| Frequency                             | 14                   | 19   | 13   | 7  | 14                         | 9                         |

Source: Smaga, P., 2013, Assessing Involvement of Central Banks in Financial Stability.

The European Central Bank (ECB) defines financial stability as “a condition in which the financial system – comprising financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.”<sup>1</sup> Additionally, the ECB defines financial stability as the ability of the financial system to: (1) efficiently and smoothly transfer resources from savers to investors; (1) be able to assess and price financial risks reasonably accurately and manage them relatively well; (3) be in such a condition that it can comfortably absorb financial and real economic surprises and shocks.

The aforesaid indicates that if one or more conditions have not been met, the financial system is disturbed and this leads to instability.

The research carried out by Smaga (2013) shows that six of 27 EU Member States (as at 30 June 2012) did not have a definition of financial stability. The author indicates that most of their central banks had their own definition, but there were exceptions such as the Central Bank of Cyprus that accepted the ECB’s definition of financial stability, whereas Banco de Portugal accepted A. Crockett’s definition.

Table 2 clearly shows that the EU central banks’ definitions mostly include the resilience to shocks and performing basic functions by the financial system (16 banks), followed by efficient allocation of resources (15 banks), and interlinkages between elements comprising the financial system (12 banks).

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<sup>1</sup> <http://www.ecb.int/pub/fsr/html/index.en.html>



**Table 2: Comparison of financial stability definitions adopted by central banks in the EU 27**

| Author/Feature                | Resilience to shocks | Performing basic functions by the financial system | Efficient allocation of resources (financial intermediation) | Interlinkages between elements comprising financial system | Impact on the real economy | Asset price misalignments |
|-------------------------------|----------------------|--|--|--|----------------------------|---------------------------|
| Oesterreichische Nationalbank | X                    | X  | X  | X  |                            |                           |
| National Bank of Belgium      |                      | X  | X  |  | X                          |                           |
| Central Bank of Cyprus        | X                    |  | X  | X  |                            |                           |
| Czech National Bank           | X                    |  |  |  | X                          |                           |
| Danmarks Nationalbank         |                      | X  |  | X  |                            |                           |
| Eesti Pank                    |                      |  | X  | X  |                            |                           |
| Banque de France              | X                    |  |  | X  |                            | X                         |
| Bank of Greece                | X                    | X  | X  | X  |                            |                           |
| Banco de España               |                      | X  | X  |  |                            |                           |
| De Nederlandsche Bank         | X                    | X  | X  |  | X                          |                           |
| Bank of Lithuania             | X                    |  | X  | X  |                            |                           |
| Central Bank of Malta         | X                    | X  | X  | X  | X                          |                           |
| Bundesbank                    | X                    | X  | X  |  |                            |                           |
| National Bank of Poland       | X                    | X  | X  |  | X                          |                           |
| Banco de Portugal             | X                    | X  |  | X  |                            | X                         |
| National Bank of Romania      | X                    | X  | X  |  |                            |                           |
| National Bank of Slovakia     | X                    | X  |  | X  |                            |                           |
| Bank of Slovenia              | X                    | X  |  | X  |                            |                           |
| Sveriges Riksbank             | X                    | X  | X  |  |                            |                           |
| Magyar Nemzeti Bank           | X                    | X  | X  | X  |                            |                           |
| Bank of England               |                      | X  | X  |  |                            |                           |
| Frequency                     | 16                   | 16   | 15   | 12   | 5                          | 2                         |

As at 30 June 2012

Source: Smaga, P., 2013, Assessing Involvement of Central Banks in Financial Stability.

As financial stability can be achieved at the expense of economic efficiency, the question is what is the socially acceptable price, that is, the cost that taxpayers are willing to pay in order for the financial system to function smoothly. The IMF study (2009) showed that the total cost of the crisis recovery of the financial sector of developed countries at the expense of central banks and governments until May 2009 reached an average amount of 5.8% of GDP in 2008 and/or 3.7%

of GDP in the G20 countries, 6.3% of GDP in the EU G20 countries, and 0.3% of GDP in developing countries. Therefore, establishing a balance between achieving economic and financial efficiency on one hand, and economic and financial stability on the other hand remains an expert challenge. To that end, „Now we have learned” that financial markets are not self-stabilising under certain conditions, or that they do not self-stabilise at any socially acceptable cost”...The answer is not to repress financial markets. Rather, it is to recognise that markets need rules, constraints and careful monitoring so that market failures are less frequent and less costly. And that the rules, constraints and monitoring exercises need a macroprudential approach – that is, one that tries to capture not only individual risks but system-wide risks.” (Caruana, 2010)

### 3. Sources of risk to financial stability

Potential risks and threats to the stability of the financial system may be endogenous (internal) or exogenous (external) (Schinasi, 2006). Endogenous risks arise from the financial system operations and the probability of their occurrence can be largely affected by supervisory and regulatory actions, and in the case of their materialization, by the crisis management. The most numerous risks link to the financial system institutions, including: credit risk, market risk, liquidity risk, operational, legal, reputational risks - leading to capital adequacy risk. Risk can arise in one institution and transfer to another (e.g. collapse of one bank can trigger a crisis of confidence in the system and withdrawal of deposits from other banks), and it is possible that risk also appears in a number of institutions that have similar exposures (e.g. investing in the subprime mortgage market products). Risks arising from the market include: counterparty risk, variations in the prices of assets, contagion risk, and the like. Risks arising from the infrastructure of the financial system are related to the clearing and settlement in payment and securities systems, infrastructure vulnerability (legal, regulatory, accounting, supervisory), and the like. Unlike endogenous risks, exogenous risks that are subject to influence of other policies can hardly be affected since they include macroeconomic disruptions and risk events such as natural disasters, political events, and the like.

However, it is not enough just to identify risks that represent a potential threat to financial stability. It is necessary to estimate which risk is of systemic character at the macro level or when financial instability can become systemic. Any risk of any intensity cannot induce instability of the financial system. Therefore, the focus of this study is on the risk of a systemic character i.e. systemic financial risk. Also, it is important to analyse the events which represent the triggers for

the occurrence of systemic financial risk. These risk events that have a systemic character are sudden and unexpected, or with the probability of occurrence that increases over time, in the absence of adequate policy responses.

The answer to the question why the financial systems are so vulnerable and sensitive to the occurrence of a systemic risk, De Bandt and Hartmann (2000) found in three interrelated features of financial systems, and these features are the following: 1) structure of the bank, 2) interconnection between financial institutions through direct exposure and settlement systems, and 3) intensity of information from financial contracts and related problems of credibility. In conditions of growing uncertainty, or when the credibility of financial contracts is jeopardized, market expectations can change essential or “individual rationality” in a short period of time and decisions on investments or disinvestments, which may lead to a systemic risk.

## **4. Systemic risk: concept, dimensions and forms**

### **4.1. Systemic risk concept**

In the pre-crisis period, according to many leading economists and analysts, systemic risk was underestimated. Attention was predominantly focused on improving supervision and regulation of individual institutions in certain segments of the financial system. Financial supervision had only microprudential character, focusing on the risks of individual financial intermediaries and markets. Systemic dimension of risks, their relationship and growing was completely neglected. The collapse of major financial institutions (such as Lehman Brothers in September 2008), which at that moment had top external ratings that confirmed the quality of their balance sheet positions, risk management capability, and credibility pointed to systemic vulnerabilities that were underrated. Key documents underlying the international standards for risk management and calculation of the size and structure of required capital and the framework for effective supervision of banks and other credit institutions proved to have been too insufficient and ineffective because they had failed to take into account the mutual influence and connection of financial institutions at international and global level. Systemic risk became the nightmare first in the United States and then Europe. The consequences of inadequate management and underestimation of this risk were measured by billions of US dollars and euros. The strongest economies of the world were shaken, and due to the connection and entanglement of financial flows, the stability of a large number of far smaller economies was undermined. Uncom-

promising commitment of developed countries' governments to help financial giants who belonged to the group of privileged "too big to fail" institutions by capital injections confirmed that the problem would not be easy to solve. The banks have received money to issue non-voting shares or debt securities which they were not able to repurchase later. A kind of debt crisis occurred, which later morphed into a fiscal debt crisis that shook strongly individual countries and member states on the EU periphery. Its existence was brought into question, especially the existence of the monetary union, as the single monetary policy was supported by harmonized fiscal policies of the EU member states.

The professional public opened many questions related to systemic risk, its definition, the possibility of its quantification and regulation, which were followed up by a debate on whether we need disunited or centralized supervision of participants at the financial markets, which institution should play a leading role in this process, and the like.

Starting point for the definition of systemic risk according to De Bandt and Hartmann (2000) is to define the system event that, in the narrow sense, occurs by spreading bad news about the financial institution or its failure or collapse of the financial market, transferring negative effects on other institutions or markets, leading to their failure or collapse. A single systemic event affects only a single institution or a single market in the second-round effects (shaded area in Table 3) while widespread systemic events affect a number of institutions or markets in the second-round effects. This event can be initiated by either an idiosyncratic shock tied to the institution that can be solved by diversification or by a limited systematic shock that covers all market risks and cannot be diversified but only mitigated. These are shocks that represent two theoretical extremes between which there are numerous types of transitional shocks such as sectoral, regional, and the like. According to the authors, the mechanisms of spreading the initial shock represent the key element of a systemic event in the narrow sense, that is, the core of the systemic risk concept. Transmission of shocks is a natural part of the self-stabilizing adaptation of the market system to the new equilibrium. In addition to a widespread systematic shock, a systemic crisis may also cause a shock in the narrow sense.

**Table 3: Systemic events in the financial system**

| Type of initial shock           | Single systemic events<br>(affect only one institution or<br>one market in the second round effect) |  | Wide systemic events<br>(affect many institutions or markets in the<br>second round effect) |  |
|---------------------------------|---|--|---|--|
|                                 | Weak<br>(no failure or crash)   | Strong (failure of one<br>institution or crash of<br>one market) | Weak<br>(no failure or<br>crash)  | Strong (failures of<br>many institutions<br>or crashes of many<br>markets) |
| Narrow shock that<br>propagates |   |  |   |  |
| - Idiosyncratic shock           | ✓   | ✓ contagion  | ✓   | ✓ Contagion leading<br>to a systemic crisis                                |
| - Limited systematic<br>shock   | ✓   | ✓ contagion  | ✓   | ✓ Contagion leading<br>to a systemic crisis                                |
| Wide systematic shock           |   |  | ✓   | ✓ systemic crisis  |

Note: ✓ means that the combination of events defined by the cell is a systemic event. The shaded area describes cases of systemic events in the narrow sense. Systemic events in the broad sense also include the cells with ✓ in the last row.

Source: De Bandt, O. and Hartmann, P., 2000, Systemic risk: A survey.

There is no single definition of systemic risk that, in general, may occur in the economy and financial system. Therefore, some authors make a distinction between the concept of systemic risk and systemic financial risk. It is a common perception of relating a systemic risk to the occurrence of an event of systemic importance, which can be stimulated by the emergence of an external shock or shock within the financial system and its spreading. In the Report of the Group 10 (2001), systemic financial risk is defined as the risk that an event will cause a loss of economic value or confidence and contribute to increasing of uncertainty in a substantial part of the financial system that is serious enough to lead to substantial adverse effects on the real economy. The IMF, FSB and BIS for G20 (2009) define systemic risk as the risk of financial services' disorders that is caused by deterioration of the whole or parts of the financial system and has the potential to cause serious negative consequences for the real economy. The European Central Bank (2009) defines systemic financial risk as a widespread risk undermining the stability of the financial system to the point where the economic growth and well-being are substantially materially affected.

## 4.2. Systemic risk dimensions

Systemic risk has two dimensions: intersectoral and temporal. Intersectoral dimension arises from the financial system structure and the interconnectedness

and exposure to financial institutions. As the structure of the financial system becomes more complex, the probability of systemic risk potentially increases. A higher degree of interconnectedness of financial institutions means a large number of mutual financial transactions carrying a risk of default and contagion. Default by one systemically important financial institution to another or to other financial institutions is an endogenous shock generated by the financial system, transferred via network to other financial institutions generating the emergence of systemic risk. In addition, due to the high exposure of financial institutions to a single market (for example: real estate or capital market), the exogenous shock of the price bubble bursting can also generate systemic risk. Therefore, intersectoral dimension of systemic risk carries the risk of default and contagion, which may take a systemic character with all the negative consequences for the real economy and the general level of prosperity. Suppression of these risks is based on the design and implementation of micro and macroprudential instruments.

Temporal dimension of systemic risk carries a risk of procyclicality inherent in the movement of economic cycles and financial system, which indicates the crucial problem of defining countercyclical action. Namely, the ascending stage of the real economy encourages the development and rise of the financial sector, increasing the value of assets and the creation of new products that retroactively contribute to the increase in asset prices. Embracing this state leads to a weakening of preventive supervisory action, loosening the criteria of business policy and reliance on the sufficiency of minimum standards for the risk management. Risks are being underestimated, and the likelihood of their materialization increases over time. The final epilogue is commonly known – it leads to the collapse of many financial institutions and systemic crises.

When it comes to the Montenegrin financial system, we can conclude that the temporal dimension of systemic risk has fully materialized. Similarly, the intersectoral dimension of systemic risk has come to the fore by its transfer via international capital flows and institutional connections, and not originally within the Montenegrin financial system. Namely, as foreign banks in Montenegro cover 90% of the banking market, the strong links between the EU parent banks (from Hungary, Slovenia, France and Austria) and their subsidiaries in Montenegro are the key channels of exposure to risks. Specific materialization of this risk was through the process of deleveraging subsidiaries to parent banks, which totalled over 600 million euros in the period 2007-2012.

Naturally, these two dimensions of systemic risk are interrelated, encourage one another and cannot be viewed in isolation. In the rising stage of the financial cycle, followed by the lending expansion and inflation of asset prices, exposure of

banks to the same sectors is increasing (as it was the case in Montenegro related to the exposure to the real estate sector). Meeting the rising demand encourages banks to borrow in order to ensure the continuity of liquid funds' investments. As all banks behave in the same way, following the herd behaviour, their concentration of exposure is the same, which makes them vulnerable to the same types of risks affecting the assets and liabilities positions. Systemic risk has been created. Temporal dimension of the systemic risk encourages procyclicality against which banks must have defence mechanisms in the form of an adequate level of capital. It indicates the degree of solvency of financial institutions. Intersectoral dimension of systemic risk is related to mutual financing of financial institutions through the money and capital markets and indicates their liquidity. Both theory and practice have confirmed that the growing problems in providing the necessary level of liquidity lead to insolvency.

### 4.3. Three forms of systemic risk

The ECB's Financial Stability Review (2009) states that systemic risk can have three main forms: contagion risk, risk of macro shocks caused by the simultaneous problems and the risk of solving the imbalances that have grown over time. A similar opinion is shared by Trichet (2011), indicating that the contagion, growing of financial instability over time and aggregate shocks are three most prevailing ways for the financial instability to reach the systemic dimension, as well as some of the inherent characteristics of the financial systems that make them particularly inclined to the above forms of systemic risk.

Stability of individual financial institutions is not a guarantee of financial stability. It is necessary to consider network of their interconnectivity which represents perfect channel for the transfer of contagion risk. Haldane (2009) concluded that if the institution is a part of the financial network, it bears the risk of the network, in case when it cannot effectively defend or protect itself. However, whether negative shocks will spread or be absorbed within the financial network depends on the phase of the financial cycle.

Dijkman (2010) has recorded two types of channels of contagion: real and information. Real channel represent a direct attack by the shock affected institutions (market or infrastructure) on other institutions through direct relation (as the existing gross exposure or financial flows through the payment system). It is the idiosyncratic problem, that is, the problem within a single institution, which eventually spreads to other institutions because of the intersectoral dimension

of the systemic risk. The most often cited example is the failure of one bank that leads to the collapse of other banks due to mutual exposure or lack of awareness of depositors of other banks who start to withdraw their deposits from healthy banks. Interbank contagion may occur due to asymmetric information that leads to negative selections which, ultimately, leads to cessation of lending and the money market crisis. A good example of the contagion risk occurs in payment systems for net settlement and deferred net settlement (so-called clearing or DNS) which is performed several times a day. It can cause a domino effect if one or more clients or banks cannot execute payments, which can be transferred to other participants in the chain who expected the inflow of funds. Delays in payments in gross settlement systems in which the payment is executed in real time (the so-called RTGS) are rare because the payments are realized only if there are funds in the account at the time of processing the payment order. Otherwise, the RTGS system rejects the order as unexecuted. Spread of contagion through the information channels is very difficult to predict. Frait and Komark (2011) have defined the information contagion as a sudden and sometimes unexpected change in the behaviour of economic intermediators, which may take the form of herd behaviour (when different investment categories are grouped into the same category of risk), information cascades (when agents choose the same action regardless of their private information), or sudden reassessment of the economic ground.

Dijkman constructed the contagion matrix which includes three key segments of the financial system - institutions, markets, infrastructure and channels of their connection with a view to identifying the channel of contagion and assess systemic risk (Table 4).



Table 4: The Contagion Matrix

|                |                | Contagion to  |   |  |
|----------------|----------------|---|---|--|
|                |                | Institutions  | Markets   | Infrastructure   |
| Contagion from | Institutions   | <ul style="list-style-type: none"> <li>- <i>Credit risk exposures</i> refer to the risk of loss due to a debtor's nonpayment of a loan or other line of credit.</li> <li>- Difficulties in branches or subsidiaries may spread to the group level (or vice versa) through <i>shareholder links</i>.</li> <li>- <i>Contingent credit lines</i> are helpful insurance instruments against liquidity distress. They may, however, work as a contagion channel as the guarantor partakes in the resolution of liquidity difficulties of the affected institutions.</li> <li>- In countries without a prefunded <i>deposit insurance fund</i>, the remaining banks pay for the costs of invoking the insurance.</li> <li>- Larger banks often provide smaller financial institutions with <i>access to key financial infrastructure</i>, which may be disrupted in case of severe difficulties at the level of the access provider.</li> </ul> | <ul style="list-style-type: none"> <li>- Financial institutions, including nonbank institutions such as hedge funds, can play an important role as <i>market makers for derivatives</i>, which serve as key hedging instruments for managing interest rate and exchange rate risk.</li> <li>- The bankruptcy of a large <i>underwriter of Credit Default Swaps (CDSs)</i> may not only dislocate the CDS market, but may also cause CDS contracts to become void.</li> <li>- Troubled financial institutions may seek to generate liquidity by liquidating assets at <i>fire sale</i> prices. Through mark-to-market valuation of the trading portfolio, this can cause other financial institutions to incur serious investment losses.</li> </ul> | <ul style="list-style-type: none"> <li>- In absence of safeguards such as real time gross settlement, delivery versus payment and payment versus payment, failure of an important financial institution can cause <i>operational disturbances</i> in financial infrastructure, with possibly broader systemic repercussions.</li> </ul>  |
|                | Markets        | <ul style="list-style-type: none"> <li>- Adverse price developments in financial markets may cause <i>investment losses</i>, mainly in the trading and available-for-sale portfolio.</li> <li>- Deteriorating financial conditions may be associated with losses through the <i>revenue channel</i> (for example, through reduced profitability of proprietary trading or lower fee income).</li> <li>- Due to increasing reliance on wholesale funding, disturbances in interbank markets may have a serious impact on banks' <i>funding and liquidity management</i>.</li> </ul>  | <ul style="list-style-type: none"> <li>- A sudden loss of confidence in one market may limit the willingness of intermediaries to trade through the <i>information channel</i>, thus reducing overall market liquidity and affecting the price-formation process. It may also lead to an overall reappraisal of risk-return assessments (as in the form of a flight to quality).</li> </ul>   | <ul style="list-style-type: none"> <li>- Adverse financial market developments can cause a fall in collateral values, which can trigger <i>margin calls</i>. The trader will have to pledge additional collateral, or close out the position by selling the securities (long) or buying them back (short). The broker may also sell the securities or other assets. If this happens on a large scale, financial asset prices may come under pressure.</li> </ul> |
|                | Infrastructure | <ul style="list-style-type: none"> <li>- Disturbances in financial infrastructure may cause <i>delays in incoming and outgoing payments</i>, complicating liquidity management.</li> </ul>  | <ul style="list-style-type: none"> <li>- Operational disturbances in market supporting infrastructure (such as <i>trading platforms and clearing and settlement systems</i>) can affect market turnover and distort price formation.</li> </ul>   | <ul style="list-style-type: none"> <li>- Through <i>supporting services, technical links and connected ICT systems</i>, disruptions in critically important systems can spread.</li> </ul>   |

Source: Dijkman, M., 2010, A Framework for Assessing Systemic Risk, p.10.

As modern financial systems can be viewed through the prism of network analysis with a defined set of nodes - financial conglomerates and markets, and direct and indirect relationships that exist between them, Frait and Komark (2011) concluded that after the global financial crisis, in addition to the paradigm “too big to fail,” a new paradigm “too interconnected to fail” was born. The network theory enables the analysis of the system resistance to contagion risk and identification of the main contagion “triggers” and channels (ECB, 2010a).

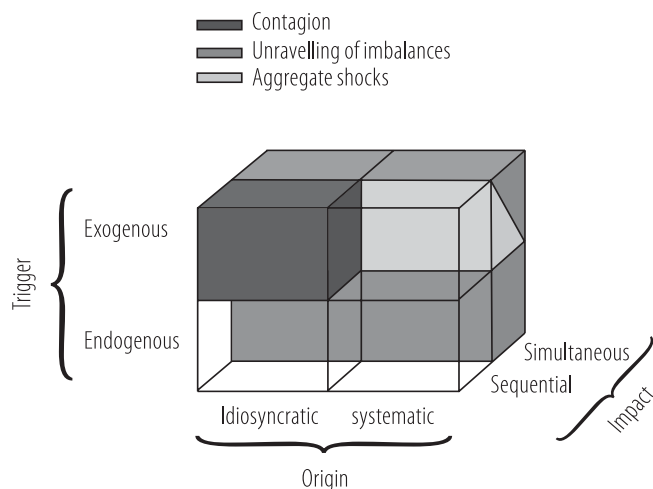
Another form of systemic risk refers to widespread macroeconomic shock that also adversely affects financial intermediaries and/or markets. A typical example of such a shock is a decline of the economic cycle, which leads to the materialization of credit risk in banks’ balance sheets, which is manifested in the write-off of loans, sale of non-performing loan portfolios, and the like. It is possible that a macroeconomic shock reflects on the position of liabilities, i.e. banks’ deposits. Macroeconomic shocks and contagion can also interact because banks, weakened by the aggregate shocks, are more vulnerable to contagion.

The third form of systemic risk refers to the accumulation of widespread imbalances in the financial systems over time, as in the period of credit expansion. The most common cite in the literature is that the imbalance growth is a result of: the principle of herd behaviour that leads to similar or almost identical exposure structures of financial market participants i.e. assuming the same risks; low interest rates which encourage excessive borrowing and risk-taking, leading to an increase in the value of collateral that retroactively encourages borrowing; increase in the value of the sum of insured deposits that may encourage a moral hazard and excessive risk-taking in banks. Similar effects could arise from public bailouts (capital injections) and of last resort lending.

Three forms of systemic risk are colourfully displayed in the “systemic risk cube,” according to: causes or “triggers” of their appearance, nature of their origin and nature of the causes that trigger the release of system events and their impact.<sup>2</sup>

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<sup>2</sup> Three forms of systemic risk and “cube” based on Trichet, JC, “Systemic risk”, Clare Distinguished Lecture in Economics and Public Policy, Cambridge University, December 2009, and the ECB, “The concept of systemic risk”, Financial Stability Review, December 2009

**Figure 1: Systemic risk cube**

Source: ECB, 2010b, Macroprudential policy objectives and tools, Financial Stability Review, June.

The ECB's Financial Stability Review (2010b) states that the three types of systemic risk are the result of market imperfections such as: asymmetric information, externalities, public nature of system stability, the incompleteness of the market, and the like. It further concludes that imperfections lead to greater vulnerability of the financial system in comparison to other sectors of the economy due to: (i) the intensity of information and temporal nature of financial contracts, (ii) the structure of the balance sheets of financial intermediaries (often indicates high indebtedness and maturity mismatch), and (iii) high degree of interconnect- edness of the total financial activities.

Addressing the issue of systemic risk, in all its complexity, will require coordina- tion of policies - monetary, fiscal, macro and microprudential - at the national and international level, with the inclusion of other important measures related to market discipline, transparency, governance, incentives, market integrity, con- sumer protection and the like (Caruana, 2010). We can add that a great progress has been achieved in the theory of systemic risk, regardless of the fact that unity in its definition has not been achieved yet, although there is a common percep- tion of its binding to the occurrence of an event of systemic importance, which can be stimulated by the emergence of an external shock or shock within the financial system.

## 5. New framework for financial stability safeguarding

Only a strong framework for the financial stability management based on effective regulation and supervision of the financial system can be a barrier to the systemic disorder or collapse of major financial institutions of systemic importance. Failure to identify the impact of operations of these institutions, in terms of coherence and entanglement of international capital flows, both on global stability and national stability but focusing only on the supervision of an individual financial institution aimed at identifying of its vulnerabilities and impact only on one segment of the financial system (banking sector, capital market or insurance), has proved disastrous. Costs of the recent crisis are measured in hundreds of billions of US dollars, and these costs are covered by the states through capital injections, preventing the collapse of the financial system.

Namely, during the period of expansion, the financial market participants take higher levels of risk and increase their exposure, while in the downward phase of the economic cycle and recession they express risk aversion. Given that the market participants do not operate in isolation, uncontrolled taking of risks by individual institutions has a negative impact on the remaining parts of the system, leading to a systemic risk. Therefore, the focus of prudential regulation and supervision must be transferred from the micro level, the level of individual financial institutions and individual risks to the macro level or the level of financial systems and systemic risk. According to Borio (2003), systemic risk limitation is the immediate objective of the macroprudential approach, aimed at avoiding transfer of crisis costs to the expense of taxpayers and GDP reduction. On the other hand, microprudential approach aims at limiting the threat from individual institutions and protecting the interests of depositors and other creditors. Certainly, macro and microprudential approach to regulation and supervision are not conflicted. On the contrary, these are complementary approaches, contributing to the balance between efficiency and stability of the system.

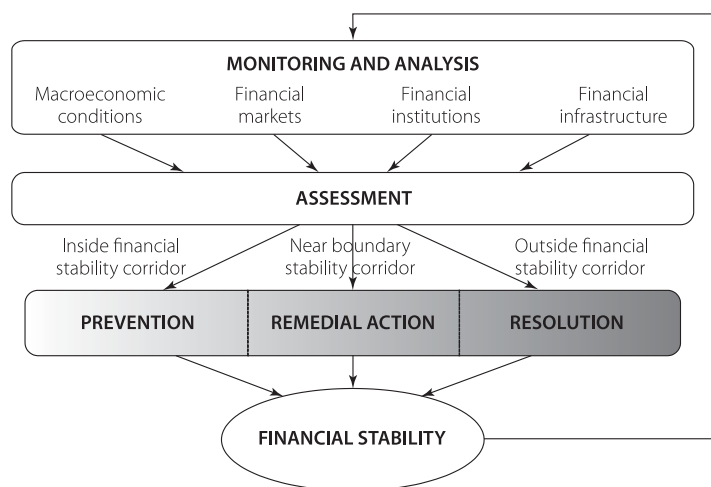
**Table 5: The macro and microprudential perspectives compared**

|   | Macroprudential                            | Microprudential   |
|---|--|---|
| Proximate objective                                   | limit financial system-wide distress       | limit distress of individual institutions               |
| Ultimate objective                                    | avoid output (GDP) costs                   | consumer (investor/depositor) protection                |
| Model of risk   | (in part) endogenous                       | exogenous   |
| Correlations and common exposures across institutions | important                                  | irrelevant  |
| Calibration of prudential controls                    | in terms of system-wide distress; top-down | in terms of risks of individual institutions; bottom-up |

Source: Borio, C., 2003, Towards a macroprudential framework for financial supervision and regulation?

From a theoretical point of view, the framework for safeguarding financial stability should allow the identification of system vulnerabilities and potential risks and threats, preventive and timely regulatory and supervisory activities. If these actions do not provide satisfactory results because the financial instability has become a serious threat, then the crisis management is introduced.

**Figure 2: Framework for financial stability safeguarding**



Source: Schinassy, J., 2006, Safeguarding Financial Stability.

Monitoring financial stability is done through a comprehensive analysis of key indicators of the macroeconomic environment and all segments of the financial system, which represents the purpose of the systemic approach. This means that it is not enough just to identify the strengths and weaknesses of each of these areas and draw conclusions about the stability of the system as a result of a simple summing up. On the basis of assessment of the macroeconomic environment, financial markets, institutions and financial infrastructure, it is necessary to assess their overall impact on financial stability and identify potential threats to stability. Established diagnosis of financial stability will affect the extent of the measures to be taken. In addition to the usual preventive supervisory and regulatory supervisory activities that are carried out on a regular basis, in case of detected threats to financial stability, corrective actions aimed at eliminating the risk or reducing them to a minimum are undertaken. The final option, in case of failure, is the crisis management which is based on taking radical solutions after a crisis outbreak.

The fact that the time ran over the prevailing concept of financial stability from the pre-crisis period became more than obvious to the professional public during the crisis years. The theory of self-regulatory mechanism that underpins the functioning of the financial system has proved to be unsustainable, and explicitly confirmed in practice the system would not be able to return to a state of balance that without state intervention.

Schinas and Truman (2010) analysed the pre-crisis financial stability framework, which they view as a line of defence against international systemic risks whose sources are the following: global financial institutions (so-called SIFIs), global markets, unregulated financial activities of institutional investors and omissions and errors of economic and financial stability policies (Table 6).

**Table 6: Pre-crisis framework for safeguarding global financial stability**

| Lines of defense                          | Sources of cross-border systemic risk                                       |  |  |   |
|---|---|--|--|---|
|   | Global financial institutions   | Global markets   | Unregulated financial activities                                     | Economic and financial-stability policy mistakes  |
| <b>Market discipline and transparency</b> | Partial   | Primarily  | Exclusively  | Committee structures; peer pressure; lack of clarity and transparency   |
| <b>Financial regulation</b>               | National orientation with international cooperation on capital requirements | No formal regulation   | No regulation  | No explicit framework and ineffective coordination and cooperation  |
| <b>Microprudential supervision</b>        | National orientation with cooperation on best practices via Basel process   | Not applicable   | No supervision   | International cooperation proved inadequate to supervise systemically important financial Institutions                                      |
| <b>Macroprudential supervision</b>        | If systemically important   | National market surveillance; IMF multilateral surveillance; FSF vulnerabilities discussions | Some via surveillance of national markets and financial institutions | National authorities and international cooperation failed to adjust macroeconomic and supervisory policies in advance of systemic pressures |
| <b>Crises management and resolution</b>   | National legislation and orientation  | National orientation with some central bank cooperation and coordination                     | No framework   | No framework and ineffective cooperation and coordination   |

Source: Schinasi, G.J. and Truman, E.M., 2010, Reform of the global financial architecture.

The authors decomposed the pre-crisis framework for safeguarding financial stability in five lines of defence, as follows: 1) market discipline and transparency, 2) financial regulation, 3) microprudential supervision, 4) macro-prudential su-

pervision, and (5) crisis management and problem solving. In general, the following gaps in the defence lines being the components of the framework for the global financial stability safeguarding in the crisis period have been detected: shortcomings in the work of supervision, inadequate regulatory framework that encouraged procyclicality of the financial system, inadequate supervisory and regulatory treatment of SIFIs (financial conglomerates, banking groups, and the like), lack of supervision and regulation of financial activities related to trade with the new financial instruments (OTC derivatives and the like), inadequate risk management systems in financial institutions, etc.

Therefore, Hannoun (2010) came to the correct conclusion that achieving micro-prudential goal of preventing the spread of disorder of individual financial institutions should be based on a new concept that needs to reconcile the autonomy of prudential, monetary and fiscal policy goals.

**Table 7: Existing and new paradigms for financial stability**

| Existing paradigm   | New paradigm   |
|---|--|
| Monetary policy focused narrowly on price inflation                         | Monetary policy focused on price inflation, but leaning against financial imbalances |
| Microprudential policy focused on individual banks                          | Microprudential policy married with macroprudential focus on systemic risk           |
| Reliance on internal risk management, self-regulation and market discipline | Higher bank capital, better governance, and expanded perimeter of regulation         |
| Fiscal policy does not incorporate financial stability concerns             | Countercyclical fiscal policy (fiscal buffers)                                       |
| Domestic focus  | More global coordination   |

Source: Hannoun, H., 2010, Towards a global financial stability framework.

The contribution of the abovementioned policies to the financial stability can only be achieved through a coordinated countercyclical action in periods of ups and downs of economic cycles, given that none of these policies has succeeded in ensuring independent macroeconomic stability because they did not include financial stability as an additional objective. The arguments that support this statement are numerous. Namely, neither the monetary policy with a controlled inflation rate before the crisis nor microprudential policy of stability of individual financial institutions was sufficient to guarantee financial stability.

As it can be seen in Table 8, in addition to the primary objective, policies are contributing to the achievement of the financial stability objectives. Financial stability can be achieved only with the mutual complementarity of policy objectives.

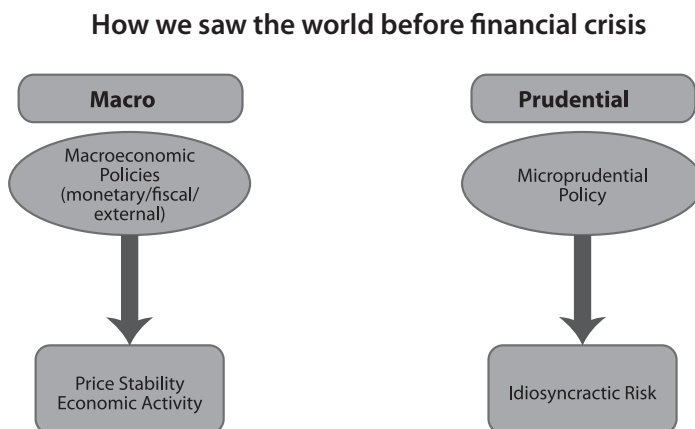
**Table 8: Policy areas and contributions to global financial stability**

| Policy area   | Primary objective                                   | Financial stability objective  |
|---------------|---|--|
| Prudential    | Limit distress of individual financial institutions | Address systemic risk (cross section, over time)                         |
| Monetary      | Stabilise prices                                    | Lean against boom-bust cycles in credit and asset prices                 |
| Exchange rate | Stabilise exchange rate                             | Reduce capital flow volatility   |
| Fiscal        | Manage demand countercyclically                     | Maintain fiscal buffers that allow a response to financial system stress |

Source: Hannoun, H., 2010, Towards a global financial stability framework.

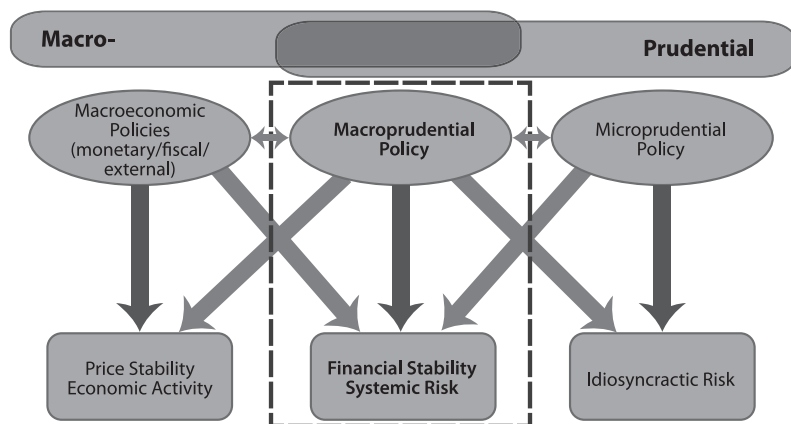
Based on the abovementioned, we can conclude that a new integral concept of macroeconomic and prudential policies, that launched the financial stability as the supreme common goal of these policies, is globally accepted. A new theoretical concept of the framework for financial stability safeguarding is based on complementarity not only of macroeconomic and prudential policies, but also on the need to strengthen the “macroprudential orientation of regulatory and supervisory framework” (Crockett, 2000) and “complementary macro and microprudential approach” (Borio, 2003)

A very impressive view of the two predominant financial stability concepts, in terms of the relationship of key policies and their objectives, is given in the following figure:

**Figure 3: Policies and Objectives**



### How we see the world now



Source: IMF, 2013, The interaction of monetary and macroprudential policies.

As the implementation of these policy objectives requires instruments, a number of instruments have been developed and in the after-crisis period, which, in addition to the primary objectives of policies, contribute to the realization of the complementary goal - to preserve the stability of the financial system. Hannoun (2010) managed to unify and systematize the instruments of prudential, monetary and fiscal policies in relation to their primary and secondary goals.

**Table 9: How we build a global financial stability framework: objectives (in bold) and tools**

| Prudential policy   |   | Monetary policy                 |  | Fiscal policy                            |  |
|---|---|---------------------------------|--|--|--|
| <b>Limit distress of individual banks (microprudential)</b> | <b>Limit system-wide distress (macroprudential)</b> | <b>Maintain price stability</b> | <b>Lean against booms</b>                                | <b>Manage aggregate demand</b>           | <b>Build fiscal buffers in good times</b>                  |
| Quality/quantity of capital                                 | Countercyclical capital charge                      | Policy rate                     | Increase policy rate                                     | Taxes                                    | Reduce debt levels   |
| Leverage ratio  | Forward-looking provisioning                        | Standard repos                  | Raise reserve requirements                               | Automatic stabilisers                    | Introduce taxes/levies on financial sector                 |
| Liquidity standards   | Systemic capital charge                             | Collateral policies             | Mop up liquidity (central bank bills, exceptional repos) | Countercyclical (discretionary) approach | <b>Provide financial sector support in times of stress</b> |
| Counterparty credit risk                                    | Leverage ratio                                      | Interest on reserves            | <b>Provide support on downside</b>                       |  | Capital injections   |
| Limits to bank activities (e.g. prop trading)               | LTV caps  | Policy corridors                | Decrease policy rate                                     |  | Deposit and debt guarantees                                |
| Strengthened risk management                                | Robust infrastructure (CCP)                         |                                 | Lower reserve requirements                               |  | Bank rescue packages                                       |
|   |   |                                 | Inject liquidity   |  | Discretionary stimulus                                     |
|   |   |                                 | Quantitative and credit easing                           |  |  |
|   |   |                                 | Emergency liquidity assistance                           |  |  |
|   |   |                                 | <b>Exit strategies</b>                                   |  |  |
|   |   |                                 | <b>FX reserve buffers</b>                                |  |  |

Source: Hannoun, H., 2010, Towards a global financial stability framework.

## 6. The role of central banks in safeguarding financial stability

Schinasi (2003) reminds us of the view expressed by Paul Volcker back in 1984 when he was the Chairman of the Board of Governors of the U.S. Federal Reserve System. He stated that the Federal Reserve System was primarily the insurer of financial stability and unhindered functioning of financial and payment systems and that these are prerequisites for, and complementary to, the central banks' responsibility for conducting monetary policy. Volcker draws the reasons why there is a natural role of the central banks in financial stability: 1) the central bank is the only provider of the legal means of payment and immediate liquidity, the so-called finality of payments in setting up clearances, payments, and settlement systems; 2) the central bank ensures smooth functioning of the national payment system; and 3) the banking system is the transmission through which monetary policy has its effect on the real economy.

Goodhart (2010) points out that the central bank's role changed after the crisis, even though it should maintain its fundamental responsibility for achieving price stability through determining the level of short-term interest rates. The author rightfully begs the question of whether central banks will become responsible for maintaining financial stability and, if not, what will be their relationship with systemic regulator due to the fact that there is a traditional focus of stabilisation on the ability of the central banks to create liquidity. Goodhart believes that the act of creating interest rates also manages liquidity and financial stability. Also, when it comes to maintaining financial stability, the central bank cannot be independent but must cooperate with the government, which is confirmed by the numerous instruments of crisis management that were used after the global financial crisis. "Liquidity management is integral to the management of systemic stability and the essential core of the operation and *raison d'être* of a central bank", concludes Goodhart. Since this paper was published in November 2010, the time confirmed that the central banks in many countries have taken the function of financial stability guardian. Therefore, Kozarić and Fabris (2012) rightfully conclude that the greater the focus of central banks on financial stability as their primary objective, the greater the changes in the process of supervision and regulation of the banking system which will become increasingly closer to central banks.

Also, the EU regulation stipulates that "the national central banks should have a leading role in macro-prudential oversight because of their expertise and their existing responsibilities in the area of financial stability."<sup>3</sup> In 2011, based on the

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<sup>3</sup> Recital 24 of Regulation EU No 1092/2010.

specificity of structures of national financial systems and their supervisory arrangements that can have different forms, the European Systemic Risk Board (ESRB) adopted a set of five recommendations (A-E) which represent the best practice in terms of establishing the framework for maintaining financial stability, i.e. macro-prudential mandates of national authorities. The EU Member States were recommended the following:

- a. The ultimate objective of macro-prudential policy is to safeguard the stability of the financial system as a whole, including strengthening the resilience of the financial system and decreasing the build-up of systemic risks, thereby ensuring a sustainable contribution of the financial sector to economic growth. It is necessary to ensure that macro-prudential policies can be pursued at national level upon the initiative of the national macroprudential authority, or as a follow-up to recommendations or warnings from the ESRB.
- b. Institutional arrangements for conducting macroprudential policy can be in the form of a single institution or a board composed of the representatives of macroprudential supervisors and the central bank. The central bank should play a leading role in the macroprudential policy. The mandate of the macroprudential authority also includes cross-border cooperation and exchange of information, in particular cooperation with the ESRB on the actions taken to address systemic risks;
- c. The recommendation refers to tasks, powers and instruments that should be available to the macroprudential authority. These include minimum standards for identification, monitoring and assessing risks to financial stability and implementing policies to achieve its objective by preventing and mitigating these risks. National macroprudential authorities should have the power to require and obtain all national data and information relevant for the exercise of its tasks, including information from micro-prudential supervisors. This recommendation entrusts national macro-prudential authorities with the power to designate and/or develop the surveillance approaches for identifying, in coordination or together with the micro-prudential supervisors, the financial institutions and structures that are systemically relevant for the respective Member State;
- d. The recommendation refers to transparency and accountability of the macro-prudential authorities to the national parliament as well as to ensuring of legal protection for the macroprudential authority and its staff when they act in good faith.
- e. The recommendation refers to the minimum of operational, organisational and financial independence of national macroprudential authorities from political bodies and from financial industry (ESRB, 2011).

Division of authority between the ECB and national supervisors was performed under the Single Supervisory Mechanism by means of clearly defined criteria used for estimating the bank size, placing it under the direct supervision of the ECB or the national supervisor. All banks whose assets exceed 30 billion euros, or the ratio of its total assets to the GDP of the Member State of establishment exceeds 20 % (unless the total value of its assets is below 5 billion euros, or it is among three leading banks in the national markets; banks that requested direct financial support from the European Stability Mechanism and complex banks that are included in cross boarder operations will fall under the authority of the ECB. Verhelst (2013) estimates that about 150 out of 6,000 banks will be under direct supervision of the ECB, which makes about 80% of total banking assets, while according to the ECB's estimates from November 2013, about 130 banks which make 85% of the assets of the banking system in the euro area will be under its direct supervision (ECB, 2013). Verhelst further states that it is estimated that the banks of minor importance that do not meet the five mentioned criteria and are under the authority of the national supervisors cover 98% of the total number of banks in the euro area or one fifth of the banking assets. The above shows that the national supervisors will have a very important role in the SSM.

## **7. The role of the Central Bank of Montenegro in safeguarding financial stability**

The crisis has highlighted the need to redefine the objectives and functions of the Central Bank of Montenegro and the need to create new instruments with a view to enhancing and preserving the stability of the banking system, and thus the stability of the financial system of Montenegro with regard to its dominant bankcentricity, which would ensure necessary component of macroprudential approach.

Article 143 of the Constitution of Montenegro defines the Central Bank of Montenegro as “an independent organisation responsible for monetary and financial stability and banking system operations.” Detailed elaboration of this Article was carried out in the Central Bank of Montenegro Law, adopted in July, 2010. To wit, the law closely regulates the status, objectives, functions, operations and organisation of the Central Bank, while ensuring the independence in accordance with the standards of the EU *acquis*, including:

- a. functional independence – the law defines the tasks and obligations of the Central Bank, of which we highlight the following: (i) overseeing the maintenance of stability of the financial system as a whole; (ii) defining

- and using monetary policy instruments (reserve requirements, liquidity loans and last resort lending); (iii) managing international reserves; (iv) prudential supervision of banks; (v) maintaining and promoting a sound and safe payment system (Article 14 of the CBCG Law);
- b. institutional independence – members of its bodies and employees in the Central Bank shall be independent in performance of their functions and their activities and may not receive or seek any instruction from the government or other bodies and organisations or any other entities (Article 7 of the CBCG Law);
  - c. financial independence – the Central Bank shall have its own sources of income and independently plan its income and expenses for every business year in accordance with IFRS (Articles 66 and 67 of the CBCG Law);
  - d. personal independence – The Central Bank shall be governed by the Council of the Central Bank which shall consist of seven members, out of which three will be from the Bank (the Governor and two Vice-Governors) and four external members appointed by the Parliament of Montenegro (Articles 44-46 of the CBCG Law). The Central Bank shall be managed by the Governor, appointed by the Parliament, upon the proposal of the President of Montenegro (Article 50 of the CBCG Law);

From the definition of the main objective of the Central Bank, by which it shall foster and maintain the financial system stability, including fostering and maintaining a sound banking system and safe and efficient payment systems, comes the main function of the Central Bank – overseeing the maintenance of stability of the financial system as a whole and passing pertinent regulations and measures. In addition to this, the secondary objective of the Central Bank stipulates that it shall contribute to achieving and maintaining price stability. This sequence of objectives stems from the orientation to take the euro as the legal tender, which is the reason why it was not possible to define price stability as the main objective of the Central Bank, as in case of the EMU and the EU Member States. By means of the aforesaid provisions, the Central Bank undertook a pioneering role when it comes to normative definition of the objective and institutional responsibility for maintaining financial stability.

Back in 2008, the Central Bank implemented regulatory framework in the area of prudential regulatory requests which is based on Basel II, i.e. implementation of the standardised approach for calculation of capital requirements for loan and market risks, and simple and standardised approach for operational risk. Full harmonisation of the regulatory framework with Basel II and EU Directives, especially in the area of implementation of internal and advanced models for calculation of the required capital for key risks to which banks are exposed and

the introduction of new capital and liquidity indicators from Basel III will be achieved until the accession of Montenegro to the European Union.

In 2010, a set of laws was adopted to include, in addition to the CBCG Law, the Financial Stability Council Law, Law Amending the Banking Law, Law Amending the Law on Bank Bankruptcy and Liquidation, and Deposit Protection Law, which put at the Central Bank disposal a set of instruments to act in case of financial crisis, thus strengthening the safety net for preserving financial stability of Montenegro. The following key solutions were adopted:

- Normative conditions were created for the establishment of the Financial Stability Council, a body responsible for macroprudential oversight of the financial system. The Council is responsible for monitoring, identifying, preventing and mitigating potential financial risks in the financial system of Montenegro as a whole, aimed at ensuring financial stability and avoiding influences of factors that could cause wider financial crisis (Article 8 of the Financial Stability Council Law). Board members of the Council are the Governor of CBCG, the Minister of Finance, the President of the Council of the Insurance Supervision Agency and the President of the Securities and Exchange Commission. The Council is chaired by the Governor of CBCG, which logically stems from constitutional responsibility of the Central Bank for maintaining financial stability. Bearing in mind the pronounced bankcentricity of the Montenegrin financial system, the focus of preventive actions on preserving financial stability naturally falls under the authority of the Central Bank as a regulator and supervisor of the banking system. In March 2012, the Council adopted the Plan for management of the financial crisis at the level of overall financial system (National Contingency Plan), with the basis for development of a special regulation – Lex Specialis aimed at implementing activities and solutions set forth in this plan. The National Contingency Plan is based on individual plans of all three supervisors and the Ministry of Finance, whose role is of paramount importance in the financial crisis conditions. This status of the Ministry of Finance stems from the fact that when it comes to a euroised economy, the Central Bank cannot fulfil the function of the lender of last resort in the required capacity for one simple reason – it does not issue money;
- Normative preconditions were created for the Central Bank's activities as the lender of last resort, as well as for the implementation of open market operations and approval of short-term liquidity loans;
- Harmonisations were made in the area of acquisition of qualified holding in banks and corporative management with relevant EU directives;
- Measures for corrective actions towards banks were amended and tight-

- ened in order to improve preventive actions and crisis prevention;
- Conditions for introduction of interim administration were prescribed and greater powers were given to the interim administrator, aimed at bank recovery;
- New mechanisms for recovery of banks were introduced: sale of the existing shareholders' shares to investors with an obligation of recapitalisation, as well as a possibility to transfer assets and liabilities to another bank;
- Revoking of licences was prescribed as a condition for the opening of bankruptcy or liquidation proceedings against a bank;
- Since 1 January 2013, the amount of guaranteed deposits was increased to 50,000 euros, which greatly harmonises the insurance scheme with the European standards.

Starting from its macroprudential responsibility for preserving and fostering financial stability, in addition to increasing the number of available instruments for preventive and crisis actions, the Central Bank adopted the Contingency Plan, intensified supervisory inspection activities and cross-border cooperation. One of the lessons learned during the crisis is that efficient *home-host* cooperation represents an important mechanism for preserving financial stability. Based on signed bilateral MoUs, the Central Bank supervisors actively participate in the activities of supervisory colleges in the organisation of *home* supervisors of systemically important internationally active financial groups whose subsidiaries operate in Montenegro – OTP, HYPO, ERSTE and NLB, which ensure timely exchange of information of essential importance for preserving financial stability.

## 8. Conclusion

Seven years after the onset of the global financial crisis we can say that there are still discussions about financial stability and systemic risk, as well as the efficiency of institutional frameworks for safeguarding financial stability. However, the efforts and achievements at all levels – national, regional and global indicate a high level of social awareness and responsibility in terms of this subject, which confirms the thesis about financial stability as a global good. The identified differences in defining the concept of financial stability and systemic risk consequently imply differences in creating a framework for safeguarding financial stability. By analysing numerous definitions made by economic theorists as well central banks and international financial institutions, we can conclude that the prevailing notion is that financial stability is a state in which the financial system is resilient to risks and all elements of the financial system perform their functions without any disturbances and interruptions. A large progress has been made in



the area of systemic risk theory, regardless of the fact that there is no uniform definition, although there is a common perception of linking it to the occurrence of a systemically important event that can be spurred by the emergence of an external shock or shocks within the financial system. Two dimensions to the systemic risk became clear: cross-sectional and time dimension, which hold the risk of default and contagion, i.e. risk of procyclicality inherent to economic cycles and financial systems trending, which contributed to the creation of numerous macroprudential instruments for limiting systemic risk.

The practice has proved that stability of individual financial institutions does not warrant financial stability, but what is required is an efficient framework for its safeguarding which will rest on a new concept of financial stability based on complementarity of macroeconomic and prudential policies, complementarity of macro and microprudential approach, and the need to strengthen macroprudential orientation of regulatory and supervisory frameworks. The new concept of financial stability caused a revolutionary breakthrough in the history of central banking in terms of shifting the undisputed objective of preserving price stability towards preserving financial stability. The crisis confirmed that the fulfilment of objectives of individual policies – monetary, fiscal or prudential – does not guarantee financial stability. The aforementioned points to the necessity of synergy between key players and decision makers that affect the achievement of this objective, these being central banks, other financial system regulators and supervisors, and government. Therefore, preserving financial stability is seen as an integral part of stimulating and preserving macroeconomic and monetary stability and achieving sustainable growth, which has necessitated fundamental reforms in the regulatory framework and supervisory practice.

The practice in many countries, including Montenegro, confirmed the key role of the central bank when it comes to safeguarding financial stability. The Central Bank of Montenegro has taken the pioneering role in normative defining of the objective and institutional responsibility for preserving financial stability. Regardless of the limited capacities for conducting monetary policy in a euroised economy, the Central Bank of Montenegro has expanded its manoeuvrability in the post-crisis period by means of new normative solutions for preventive and regular actions as well as for actions in crisis times. It can be expected that the process of further harmonisation with the EU acquis in the area of financial services, with a particular emphasis on the implementation of the CRD IV package and the Bank Recovery and Resolution Directive (BRRD), as well as with the expected indirect effects from the performance of the Single Supervisory Mechanism with the key role of the ECB in the supervision of financial institutions of systemic importance, will strengthen Montenegro's network for safeguarding financial stability.



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