



Faculty of Economics, University of Niš, 17 October 2014

International Scientific Conference

**THE FINANCIAL AND REAL ECONOMY:
TOWARD SUSTAINABLE GROWTH**

**CRISIS CONCEPT OF COLLATERAL POLICY
OF THE CENTRAL BANK**

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***Abstract:** Since the beginning of the financial crisis in the summer of 2007, the central banks of developed countries have taken a number of measures to mitigate the negative effects of the crisis and repress tension prevailing in the money market. Being that, in the conditions of exhaustion of sources of liquidity, bank liquidity loans are the only remaining alternative, the conditions for this type of loan must be pre-defined. In accordance with so-called orthodox criteria of last resort function of central banks, central bank's liquidity loans must be approved by a higher interest rate, secure collateral, with short-term maturities and only to solvent institutions (banks). However, it is very difficult in the crisis environment to identify the nature of the problem which the institution is facing (whether it is a problem of liquidity or solvency problem), the function of lender of last resort usually gets arranged at preferential rather than stringent conditions of debt. Central banks in developed countries have, after the crisis, expanded the list of eligible collaterals to secure the loan in order to provide adequate liquidity support to vulnerable banks. The aim of the paper is to make a comparative analysis of the collateral policies of the central banks of developed countries in order to assess their success in providing liquidity support to vulnerable institutions and emphasize the need to define heterodox approach that will be adhered to by global financial institutions (International Monetary Fund, World Bank) in assessing the financial stability of the state. This would enable all, rather than just "core countries" that have a liquidity problem in the long run, which can turn into a solvency problem, to use the relaxed concept of "lender of last resort".*

***Keywords:** collateral policy, central bank, crisis, lender of last resort*

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UDC 336.711:338.124.4

1. Introduction

The current financial crisis has caused huge losses in the financial sector and the real economy, which resulted in the taking of urgent measures by the competent institutions to preserve the stability of the financial system. Central banks of the most developed countries (USA, UK and Europe) have provided additional liquidity not only for the bank but for many non-bank financial institutions, and in particular financial systems (USA) for the corporations of systemic importance, as well. In addition, the support to the liquidity of the institutions with threatened solvency was given under very favorable conditions, i.e. by charging low interest rates (just above zero) and with the acceptance of low-quality types of assets as collateral. Such policy of central banks was not conducted in accordance with the classical orthodox principles on which the function of last resort should be based.

As liquidity loan taken by the central bank is a credit investment secured by collateral, the collateral policy of the central bank represents an important segment of its anti-crisis policy. In this context, the aim of this paper is to use a comparative analysis of collateral policies of the central banks of developed countries to assess their level of success in providing liquidity support to vulnerable institutions, and to highlight the need to define a more relaxed concept of "lender of last resort" which would be available not only in the "core countries" but in all of them.

2. Central Bank as a Guarantor of Liquidity

During the last two decades, financial crises have become far more frequent than before. That awakened the awareness, both at the national and international level, of the need for the existence of appropriate systems and institutions whose role will be the prevention of systemic liquidity crises (preventive action), as well as combating the negative consequences of financial crises (reactive action). The specificity of the banking business is reflected in the fact that the bankruptcy of a bank has negative implications on other banks and thus on the overall financial stability and functioning of the payment operations. The existence of external effects of the banking sector, especially those with a negative connotation, required the construction of appropriate "security infrastructure" in financial intermediation in order to reduce bankruptcies of banks and their negative consequences for the insufficiently informed depositors. It is a concept that encompasses a variety of institutions, rules and procedures, while a consensus has still not been reached on the components it includes. Often, the following are mentioned as its components: the existence of adequate deposit insurance (implicit and explicit), supervision of banks, standards of solvency (capital adequacy), rules of entry into and exit from the system, rules and procedures governing the intervention in the banking sector, i.e. financial rehabilitation, bankruptcy and liquidation (Marinković, 2004).

In the crisis environment, the function of last resort of banks (*lender of last resort*, LOLR) stands out as an inevitable component of the security infrastructure. Although it is a component which, unlike the others, contains no elements of commitment, its importance is primary in the conditions of financial disturbances and general instability in the financial markets (Marinković, 2004).

Within the function of a lender of last resort, the central bank (hereinafter referred to as CB) helps the endangered bank by its credit support to recover the required level of

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liquidity, but only after it has exhausted previous sources of liquidity reserves (Krstić, 2003, p.49). In considering the question of the extent of credit support from the central bank, it is necessary to find the optimal solution because inexpensive and unlimited central bank support would, on the one hand, lead to a complete suppression of market methods of funding, while limited and costly support of the central bank, on the other hand, would cause instability of the financial system and the entire economy, assuming serious financial disturbances of a number of banks. In the opinion of Walter Bagehot (2008), in order to avoid a banking panic, central banks should approve short-term liquidity loans to illiquid but solvent institutions that have reliable collateral and are ready to pay a punitive (higher than the market) interest rate for this.

However, as the CB decision about providing credit support to specific institutions must be made as soon as possible in the conditions of crisis, it is very difficult to determine the nature of the problem with which the particular institution is faced. In this context, Goodhart (1999) and his supporters believe that, in the conditions of the interbank market failure, it is unnecessary to spend time determining the character of the problem the institution faces, because in these conditions, illiquid institution is insolvent at the same time, or at least there is a reasonable doubt about it. The history of banking crises has confirmed that the illiquidity of a bank is "just the tip of the iceberg under which insolvency lies" (Prga, 2002, p. 496). Therefore, the function of lender of last resort should also be provided for insolvent institutions, in the amount and at the time they need (Goodhart, 1999).

The presented positions, which are dominant in the theory, on the criteria on which the function of lender of last resort should be set, are mutually contradictory. In order to decide which attitude to choose, i.e. whether CB should act as a guarantor of liquidity of illiquid but solvent institutions, or of those that are both illiquid and insolvent, it is necessary to bear in mind the character of the financial system in which such support is provided (bank-oriented or market-oriented).

2.1 Central Bank as a Guarantor of Liquidity in the Banking- and market-oriented Financial Systems

In the economic practice, we distinguish two main mechanisms of supplying banks with the necessary quanta of money, namely: a) direct loans to banks by the CB (CB discount policy), and b) open market operations (Raonić, 2011, p. 97). Although the effect of the implementation of these instruments is the same - the impact on the functioning of the money market, their presence varies from country to country. In countries with underdeveloped financial markets discount operations are a key instrument of monetary policy, while their application is marginal in countries with developed financial markets (Krstić, 2003).

In *bank-oriented* financial systems where banks are the key financial institutions, the role of the central bank in ensuring financial stability is reduced to the function of the lender of last resort. In such circumstances, the question whether an institution is solvent or not will be a matter of secondary importance. Instead, the CB will consider whether to use discretionary policy and act as a guarantor of the liquidity of specific institution. The specificity of the intervention aimed at a particular institution makes this type of support clearly separated from the attitude of the creators of monetary policy. This type of support

exposes the central bank to a significant credit risk, because the affected institution has probably exhausted most of its high-quality assets, so parts of the assets of dubious quality generally occur as credit security. When considering whether the liquidity support provided to specific institution should be made public or not, the dual quality of the implications of such announcement should be taken into account. On one hand, the announcement of support provides a guarantee to the public that the financial system is safe, fostering trust among market participants. On the other hand, the liquidity support to a particular institution entails reputational risk, since the awareness that a bank used liquidity loan from the CB gives a bad name to such an institution. The key factor that determines the CB decision related to supporting a particular financial institution is certainly the ability of CB to put up with potential losses.

Taken at face value, it seems that the role of the central bank, in conditions of the banking panic, is strictly defined. However, as the indirect flow of financing (financing through financial intermediaries) is increasingly substituted by the direct flow of financing (financing through financial markets), liquidity problems become wider than the liquidity problems encountered by an individual financial institution. The current financial crisis has brought into focus the market illiquidity, which can not be solved by the policy of lending on good collateral exclusively to commercial banks. In such conditions, open market operations represent the main instrument for providing liquidity (Davis, 2009, p. 6). In order to provide liquidity support to vulnerable banks in the conditions of non-functioning of the interbank market, the FED has introduced a new instrument (*term auction facility*, TAF), which was identified with open market operations since it is based on the auction mechanism. Yet, unlike open market operations, TAF-type credit facilities provided the opportunity to a large number of institutions to obtain liquid funds by pledging various types of assets as loan guarantees (Lakić, 2010, p. 41).

In a market-oriented financial system, the central bank plays the role of an exclusive dealer of liquidity (*market maker of last resort*, MMLR). In such conditions, the CB covers a number of institutions with threatened liquidity, which means that its support to liquidity is intended not only for banks, but very often for investors in key credit markets, as well (Krstić and Jemović, 2009). In the situation of a general collapse of the financial market, instead of penal rate, a subsidized interest rate is charged, which will return to normal levels when the market stabilizes (Buiter, 2008). This system of support very often requires from the CB to accept less liquid debt securities of private sector as the credit security. Due to the needs of the market valuation of specific parts of the assets regardless of the interest rates on the interbank liquidity market, this form of liquidity support is difficult to be isolated from the course of monetary policy. In addition, the existence of uncertainty in rendering support is considered counterproductive, very often requiring public announcement of the intended activities.

As we can see the mechanisms and conditions under which CB functions as a guarantor of liquidity differ in the bank-oriented and market-oriented financial systems. Anyway, in the period of crisis, all central banks start with the relaxation of the conditions under which they carry out their function of the guarantor of liquidity, which raises the question whether it is necessary to establish a "more relaxed concept" of the function of lender of last resort that all the CBs will be able to use instead of deviating from orthodox principles in the conditions of crisis, and only when it comes to developed economies. As the liquidity loan taken at CB is a loan secured by adequate coverage, the collateral policy

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of CB played an important role as part of anti-crisis policy. In this sense, the paper will give an overview of the specifics of the collateral policy of CB in the period before and after the outbreak of the global financial and economic crisis, in order to provide recommendations for its further improvement.

3. Specific Features of Collateral CB Policy

Loan indebtedness at the CB is necessarily accompanied by pledging a quality type of assets, given that the liquidity loan beneficiaries are banks with already high level of credit indebtedness. For a part of the asset to be in the function of a collateral, it needs to be marketable, i.e. to be cashable in the market easily and without losses, thus minimizing the risk of loss in the event that the debtor is unable to meet credit obligations within the stipulated time (Krstić, 2003, p. 545). Debt instruments that are prescribed or guaranteed by financially sound entities are accepted as eligible collateral for a liquidity loan at the CB.

In accordance with the specific features of CB operating instruments, collateral policy of CB has an important role, especially in the cases of standard market operations (OMOs¹), standing liquidity facilities (SFs²), loans for liquidity within the function of lender of last resort (emergency liquidity assistance, ELA) and direct market operations (outright transactions).

3.1 Different Aspects of the Central Bank Collateral Policy in the Pre-crisis Period

The credit pledge (collateral) gives the creditor the debtor's private information about the risk of claims and indicates his commitment to the success of the financial business (Marinković, 2011, p. 128). In this sense, with the collateral, loans can also be obtained by those banks whose credit standing is assessed as marginal (Krstić, 2003, p. 545). Considering the nature of central banks as the institutions of public interest, it is in the interest of overall financial stability that CB maintains appropriate collateral policy whereby it is substantially protected against potential financial losses.

When conducting the collateral policy, central banks must keep in mind the basic factors that determine this policy, where the following factors are singled out as crucial: a) the specificity of operational instruments of CB; b) size and development of the financial market; c) the existence of legal restrictions; d) previous practice in pursuing the collateral policy (ECB, 2013a).

The specificity of operational instruments of CB: Basic precondition for the appearance of CB as a guarantor of liquidity is the existence of systemic insolvency. In such conditions, certain modifications in the collateral policy pursued by CB are needed in terms of expanding the list of eligible collaterals. In contrast to this, in systems where there is a steady surplus of funds there is no necessity for the function of liquidity guarantor, so the CB does not need to run an extensive collateral policy. In addition, the instruments that CB used in the implementation of monetary policy can also have a major impact on the

¹ Repo transactions and collateralized loans, most frequently organized at the initiative of CB in the form of an auction or bilateral transaction

² Credit facilities initiated by the concerned banks

collateral policy of CB. In this regard, in some systems, CB applies differentiated collateral policy (eg, Canada, India, Korea, Mexico, Singapore, United Kingdom, United States), where the narrower approach is used for open market operations, and the wider one for credit facilities; while in other systems, it applies a unique collateral policy for all operations. Narrower approach implies acceptance of only highly liquid forms of assets as collateral (government bonds, government agency securities and government mortgage bonds), and this form of liquidity support is reserved exclusively for the so-called primary dealers. Wider approach, however, includes a broader list of collaterals and counterparties.

Table 1: Selected aspects of collateral framework styles (As of end-July 2012)

| Country | Uniform or differentiated ³ | Narrow or wide ⁴ (in terms of issuer type) | Counterparty eligibility for lending operations facilities ⁵ |
|----------------|--|--|--|
| Australia | Uniform | Wide | Wide |
| Canada | Differentiated | Narrow for OMOs Wider for SF | OMOs are for Primary Dealers SF is for payment system participants |
| Eurosystem | Uniform | Wide | Wide (in terms of both type and number) |
| Japan | Uniform | Wide | Wide but varies with facility |
| United Kingdom | Differentiated | Varies with facility: "narrow" for RTGS, ST, OSF; "narrow" + "wider" for ILTR; "extended" for DWF, ECTR, FLS ⁶ | Varies with facility: banks only for liquidity insurance; some non-bank financial institutions can participate in short-term OMOs |
| United States | Differentiated | Narrow for OMOs Wide for SF | Primary Dealers only for OMOs Wide for SF |

Source: adapted according to: (ECB, 2013a)

Size and development of the financial market: CB collateral policy is to some extent determined by the availability of high-quality types of assets, as well. Namely, in economies with significant fiscal deficits that are mainly financed by issuing debt instruments, government bonds are used as collateral in operations conducted by the CB. In contrast to this, in economies with fiscal surpluses, CB accepts as loan security in its operations the securities of not only governmental, but also private entities, often

³ Uniform = some collateral eligibility for all lending (OMO and SF); differentiated = different collateral eligibility for different types of lending

⁴ Narrow = only one type of issuers, Wider = more than one type of issuers

⁵ Narrow = restricted to a selected few institutions, Wide = many counterparties

⁶ RTGS = Real time gross settlement; ST = short-term OMOs; OSF = Operational Standing Facility; ILTR = Indexed Long-Term Repo; DWF = Discount Window Facility; ECTR = Extended Collateral Term Repo; FLS = Funding for Lending Scheme.

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denominated in non-national currency. In addition to this passive role of CB collateral policy, where it adjusts to the scope and quality of available securities in the financial market, it can also have an active role when it is used in the promotion of the individual market segments. Namely, accepting the derivative securities (asset-backed securities) to secure the loan, collateral policy contributes to the development of this market segment.

Legal restrictions: Under the conditions of strict restrictions on the quality of assets that can have the function of loan collateral, CB has a clearly defined framework within which it may pursue collateral policy. Legal restrictions, as in the case of the Eurosystem, which proscribe direct purchase of government bonds, direct approval of loans to the public sector, as well as favoring public over private sector by the central bank, are aimed at conducting a more flexible and wider collateral policy, which is characteristic for both the function of liquidity guarantor and the function of monetary regulation. The FED, on the other hand, applies different collateral policies in the exercise of the functions of liquidity guarantor and monetary regulation. Since the function of lender of last resort is performed through the discount window, and the function of the implementation of monetary policy through open market operations, various regulatory bodies were constituted for their execution: the Board of Governors as the competent body for the first, and the Committee for Open Market Operations (Federal Open Market Committee, FOMC) as the competent body for the second function. By the federal law, discount window is "open" only for banks, except in specific circumstances when access is allowed also to systemically important non-bank financial institutions, where an extensive list of collaterals is accepted as the loan security. On the contrary, in the implementation of open market operations, collateral policy is very restrictive and allows only bonds whose issuers are the Central Government and federal agencies and bonds secured by a mortgage guaranteed by the federal agencies. A more extensive list of collaterals in the EU market is the consequence of the existence of pre-defined criteria that bonds must satisfy, and the ECB site contains a daily updated database of all the assets that meet the prescribed criteria (Cheun, et al., 2009, pp. 18 and 19). In contrast, the FED accepts only the bonds of predefined issuers as collateral (issuer-specific approach), uses a high degree of discretion in the selection of criteria and, finally, does not publish on a daily basis the list of eligible collaterals.

Previous practice in pursuing the collateral policy during earlier periods of crisis determines to a large extent the current and future choices of quality assets that will serve as a loan security (ECB, 2013a).

Abovementioned factors determine the collateral policy of CB in the regular course of business. However, in times of crisis collateral policy of CB has a significant role of anti-crisis instrument, and in this sense the relaxation of collateral policy is undertaken on various grounds. Changes that have occurred in the collateral policy of CB were created not only under the influence of the current financial crisis, but also due to the significant changes and development trends in the banking sector and in the financial system in general (including regulatory changes and changes in the market environment).

3.2 Changes in the Collateral Policy of CB After the Outbreak of the Crisis

After the outbreak of the crisis in mid-2007, central banks expanded the list of collaterals eligible for securing the loan in relation to the list valid in the regular business conditions in order to ensure a higher level of liquidity support to vulnerable institutions.

Alteration of the collateral policy of CB was carried out on various grounds, through: a) the acceptance of lower-quality assets as a forms of loan security; b) the lower requirements related to the rating of securities and the establishment of internal rating systems; c) reduction of the amount that is deducted from the value of collateral (*size of haircuts*); d) a shift from the individual collateral policy, where the loan is secured by specific types of assets (*earmarked collateral*) to the pooled collateral policy, where the loan is secured by a pool, i.e. a group of homogeneous assets (*pooled collateral*).

Table 2: Collateral policy of CB in the conditions of global financial crisis

| | Government bonds | | Private parts of assets | | | |
|----------------------------|--|---|-------------------------|--------------------------------|-----------------------------|-------------------|
| | <i>domestic currency public security</i> | <i>foreign currency public securities</i> | <i>corporate bond</i> | <i>asset backed securities</i> | <i>short-term bank debt</i> | <i>bank loans</i> |
| FED | eligible ⁷ | added ⁸ | added | added | added | added |
| OMO | eligible | eligible | eligible | eligible | eligible | eligible |
| Standing facilities | eligible | added | expanded ⁹ | eligible | expanded | eligible |
| ECB | eligible | expanded | added | added | not eligible ¹⁰ | not eligible |
| BOE | expanded | added | expanded | expanded | not eligible | expanded |

Source: (Vinals, 2010)

The table shows that some of CBs significantly expanded their lists of reliable collateral during the crisis (e.g. FED), while this tendency was less pronounced in the other CBs (ECB). The fact that the ECB was accepting a wider list of collateral as loan security before the crisis indicates its high flexibility. The same evaluation can not be given to the collateral policy of the FED, which, in the period before the crisis, accepted as a qualified loan security only the government bonds denominated in domestic currency. Given that after the outbreak of the crisis the FED approached a significant relaxation of its collateral policy by accepting less liquid types of assets as collateral, we may conclude that such collateral policy of the FED was merely the result of market pressures. This was confirmed with the first signs of improvements in the market functioning, when the FED returned to the collateral policy conducted in the period before the crisis. In contrast, the Central Bank of England (*Bank of England*, BOE) and the Central Bank of Japan (*Bank of Japan*, BOJ) have, even after a significant improvement in market conditions, maintained an expanded list of eligible collateral. In doing so, the Bank of Japan maintained an expanded list of collaterals only for the government but not for private bonds, while the Bank of England

⁷ The term "eligible" is used for the designation of the part of assets which, under normal operating conditions qualified as eligible, remains eligible during the crisis, while suffering no changes.

⁸ The term "added" is used for the designation of the part of assets which, otherwise ineligible in the regular course of business, becomes eligible during the crisis periods.

⁹ The term "expanded" is used to designate the part of assets which, normally eligible in the period before the crisis, remains eligible during the crisis period, but with its expansion during the crisis.

¹⁰ The term "not eligible" is used to designate the part of assets which did not become eligible loan security even during the crisis.

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suggested a much broader framework of collateral policy to ensure appropriate liquidity support to the banking sector.

Considering the data in Table 2, we may at the first sight come to the wrong conclusion about the greater efficiency of the FED in relation to the ECB in fulfilling the function of liquidity guarantor. However, analyzing it more closely, i.e. comparing the collateral policies in the period before and after the outbreak of the crisis, we conclude that the pronounced collateral policy relaxation of the FED is just a consequence of the current instability in the financial market due to the global financial crisis. In contrast to this, a more extensive list of collaterals, more flexible maturity of arrangements and a high level of coverage, are a permanent feature of the European Monetary System (ECB, 2013b).

National Bank of Serbia (NBS), as part of its regular instruments, provides the opportunity for commercial banks to use interest-free one day bridging loans to manage day-to-day liquidity needs. This is a collateralized relief granted at the request of the bank. The collateral for this type of loan, as well as for all monetary operations, consists of dinar securities of the NBS, the Republic of Serbia and the international financial institutions with the highest credit rating ("AAA" if the rating is performed by the Credit Agency *Standard & Poor's* or *Fitch IBCA*, or "Aaa" rating if it is performed by the Credit Agency *Moody's*). Liquidity loans approved in this manner can be used as: 1) daylight liquidity credit (intraday credit), that is, a loan which is repaid to the NBS the same working day, and on which the bank does not pay interest to the NBS; and 2) the overnight credit for maintaining liquidity (overnight credit), i.e. a loan which the bank has not returned to the NBS on the same working day, and on which it pays interest at a rate of the reference interest rate increased by 2.5 percentage points, which it is obliged to return by 11:00 a.m. on the following day (NBS, 2013).

The NBS also approves banks short-term liquidity loans against collateral of securities. In 2009 and 2010, these loans were granted as a measure of the financial support to stability. From January 1st 2011, as a measure for maintaining liquidity of banks, the NBS allows banks to participate in auctions that it organizes with the aim of obtaining loans in dinars with a maturity of up to one year against the collateral of securities denominated in dinars, without foreign currency clause, with minimum maturity of 90 days and issued by the NBS, the Republic of Serbia and an international financial institution and a development bank or a financial institution that is established by a foreign country and whose credit rating is assessed as the highest. In order to maintain financial stability, a bank may be granted a liquidity loan also on the basis of other collaterals which are assessed as acceptable, including the pledge of obligatory foreign currency reserve of the bank and the guarantee by the Republic of Serbia to the NBS related to the settlement of bank liabilities based on the loan for liquidity maintenance (NBS, 2012).

The current financial crisis has created a huge deficit of funds in the banking sector, which culminated in October 2008, when the banks were faced with huge shortage of liquidity. In such conditions, the NBS provided an opportunity for banks to borrow for the period of up to one year, with the acceptance of a broader list of collaterals as loan security. With the first signs of recovery of liquidity in the banking sector, namely from June 3rd 2008, the NBS has returned to standard terms of liquidity loan repayment, meaning that the bank can continue to use the loan for liquidity only "overnight", or, it must be returned no later than 11:00 a.m. on the next working day. Shortly after that, namely in March 2009, the NBS again returned to conservative collateral policy that accepts only

securities of the state and the NBS as collateral. Observing the behavior of the NBS in the role of lender of last resort, we conclude that, except for a short period, it performed this function in accordance with orthodox principles.

Due to the lack of requests of banks to use liquidity loans, the NBS made the decision, as of June 2014, to cease holding regular auctions for granting liquidity loans to banks against collateral of securities, until it becomes needed again.

Although the policy of "wider list of eligible collaterals, high level of coverage" proved to be a highly successful instrument in combating the negative effects of the crisis, it carries about the ever-present moral hazard and finally requests an intensive monitoring of potential risks. In addition, it should be noted that the illiquid forms of assets are used as loan security only in a situation when liquid forms of assets have been exhausted. As this is not the case in stable business conditions, when the need to guarantee the liquidity does not even exist, it is recommended that CB pursues a "wider" collateral policy in stable operating conditions, so that it would not significantly deviate from it in times of crisis (ECB, 2013b).

4. Conclusion

Instruments which the most developed central banks (ECB, FED, BOJ, BOE) have used as part of their anti-crisis policy, by their characteristics, deviate from the orthodox principles on which the function of lender of last resort should normally be based. Relaxation of criteria, however, had its justification, taking into account that it contributed to the CB to successfully carry out its function of liquidity guarantor. For this purpose, the function of lender of last resort is arranged in such a manner that, apart from banks, it covers numerous non-bank financial institutions, as well. Moreover, liquidity loans were also extended to institutions with deeply endangered solvency. Liquidity support was executed with charging low rather than punitive interest rates, and less liquid forms of assets were used as collateral. This raises the question whether some revision of orthodox principles underlying the function of the lender of last resort is needed in order to make it more suitable to the newly created market conditions. This would provide against the more relaxed concept of the function of lender of last resort to be used only by the "core countries", while strict orthodox principles in charge of the International Monetary Fund (IMF), the World Bank and the ECB would still apply to other countries.

At the same time, conceiving a more relaxed concept of the function of lender of last resort is not intended to provide maximum support to liquidity, which would include: the maximum scope of coverage (guaranteeing the liquidity of all financial institutions, not just banks); zero interest rate (the interest rate corridor set at zero level); unlimited volume of loans; acceptance of any form of asset for loan security and the absence of restrictions on the maturity of arrangements. On the contrary, the definition of a more relaxed concept of the lender-of-last-resort function would be aimed to secure more lenient criteria for borrowing at CB, which the vulnerable institutions in all countries could use if needed. Among other things, such a relaxed concept would involve definition of a wider collateral policy, applicable in the regular course of business, too, like the one applied in the Eurosystem.

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The justification of this attitude is found in the fact that institutions with liquidity problems use the credit support from CB only in the cases of exhaustion of all previous levels of liquidity reserves. Also, the usage of less liquid types of assets to secure a loan will not be needed in stable business conditions, but only in times of crisis. However, it should be noted that the period of crisis is not the only factor that requests changes in the collateral policy of CB. It is necessary to bear in mind also the factors that normally determine the collateral policy of CB: structural factor, institutional, legislative factor, level of market development, previous practice in conducting collateral policy and others, which have been subject to significant changes during the last decade. Finally, the current financial and economic crisis and the factors determining the collateral policy have created the need for its redefinition in the direction of its expansion and inclusion of a wider list of collaterals and counterparties.

References

1. Bagehot, W. (2008). *Lombard Street: A description of the money market*. NuVison.
2. Buiter, W. (2008). Central banks and financial crises. *Discussion paper, No. 619*.
3. European Central Bank. (2013a). *Central bank collateral frameworks and practices*.
4. European Central Bank. (2013b). *Collateral eligibility requirements: a comparative study across specific frameworks*.
5. Cheun, S., Koppen-Mertes, I., Weller, B. (2009). The collateral frameworks of The Eurosystem, The Federal Reserve System and The Bank of England and the Financial Market Turmoil. *Occasional Paper Series 107*.
6. Davis, P. (2009). The lender of last resort and liquidity provision: how much of a departure is the sub-prime crisis? *Economics and Finance Working Paper Series 09-09*.
7. Goodhart, C. (1999). Myths about the lender of last resort. *International Finance, No.2*, 339-360.
8. Krstić, B. (2003). *Bankarstvo*. Niš: Ekonomski fakultet.
9. Krstić, B., Jemović, M. (2009). The impact of global financial crisis on changing the central bank role in the market positioning of financial institutions. *Facta Universitatis Series: Economics and Organization, 6 (3)*, 221-236.
10. Lakić, S. (2010). Monetarno upravljanje i kontrola u uslovima neizvjesnosti i krize. *Montenegrin Journal of Economics, 11 (6)*, 35-47.
11. Marinković, S. (2004). Designing an incentive-compatible safety net in financial system in transition: the case of Serbia. *LSE/CsGG South East Europe Series Discussion Paper 35*.
12. Marinković, S. (2011). *Finansijska tržišta*. Niš: Ekonomski fakultet.
13. Narodna banka Srbije. (2012). *Odluka o uslovima odobravanja kredita za održavanje likvidnosti banaka*. Službeni glasnik RS, br. 31/2012 i 98/2012.
14. Narodna banka Srbije. (2013). *Odluka o uslovima i načinu odobravanja kredita za održavanje dnevne likvidnosti banaka na osnovu zaloge hartija od vrednosti*. Službeni glasnik RS, br. 34/2013.
15. Prga, I. (2002). Neki aspekti upravljanja bankovnim krizama. *Ekonomski pregled, No. 53*, 495-506.
16. Raonić, I. (2011). *Efikasnost monetarnog instrumentarijuma Narodne banke Srbije*. Beograd: Visoka škola strukovnih studija za računovodstvo i berzansko poslovanje.
17. Vinals, J. (2010). Central bank lessons from the Crisis.

KRIZNI KONCEPT POLITIKE KOLATERALA CENTRALNE BANKE

Rezime: Od početka finansijske krize u leto 2007 godine, centralne banke razvijenih zemalja preduzele su brojne mere kako bi ublažile negativne efekte krize i suzbile tenziju koja je vladala na novčanom tržištu. Kako su u uslovima iscrpljenja svih izvora likvidnosti banke krediti za likvidnost jedina preostala alternativa, to uslovi za ovaj vid kreditnog zaduženja moraju biti unapred definisani. U skladu sa takozvanim ortodoksnim kriterijumima funkcije poslednjeg utočišta banaka kredit centralne banke za likvidnost mora biti odobren uz višu kamatnu stopu, siguran kolateral, uz kratak rok dospeća i isključivo solventnim institucijama (bankama). Međutim, kako je u kriznom ambijentu, vrlo teško identifikovati karakter problema sa kojim se institucija suočava (da li se radi o problemu likvidnosti ili problemu solventnosti), funkcija poslednjeg utočišta najčešće biva aranžirana po preferencijalnim, umesto strogim uslovima zaduženja. Centralne banke razvijenih zemalja su, nakon izbijanja krize, proširile listu kolaterala podobnih za obezbeđenje kredita kako bi pružile adekvatnu podršku likvidnosti ugroženim bankama. Cilj rada je da komparativnom analizom politike kolaterala centralnih banaka razvijenih zemalja oceni stepen njihove uspešnosti u pružanju podrške likvidnosti ugroženim institucijama, i ukaže na potrebu definisanja heterodoksnog pristupa kojeg će se pridržavati globalne finansijske institucije (Međunarodni Monetarni Fond, Svetska banka) prilikom procene finansijske stabilnosti svih država. Time bi se omogućilo da sve zemlje koje imaju problem likvidnosti u dužem periodu, a koji može da preraste u problem solventnosti, mogu koristiti relaksiraniji koncept „poslednjeg utočišta banaka“, a ne samo „zemlje centra“.

Keywords: politika kolaterala, centralna banka, kriza, funkcija poslednjeg utočišta