CHANGES IN MONETARY POLICY AFTER THE CRISIS - TOWARDS PREVENTING BANKING SECTOR INSTABILITY

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Abstract

The instability of the banking sector has become the subject of wider scientific research during the global financial crisis. The financial crisis of the first decade of the twenty-first century began in the U.S. *subprime* mortgage market and quickly spread to the whole banking sector in the United States as well as in many countries of the global economy. Among five major American investment banks - Lehman Brothers went bankrupt, Bear Stearns and Merrill Lynch were taken over by other banks, and Goldman Sachs and Morgan Stanley were transformed into commercial banks, which were covered by the supervision and regulations of the central bank - the Federal Reserve System. The consequences of the global financial crisis also affected British banks, including The Royal Bank of Scotland, Lloyds Bank, Halifax, Abbey Bank, Barclays Bank and NBC Bank. In Iceland, during the global financial crisis which affected the Icelandic banking sector, three largest banks: Glitnir Bank, Landsbanki and Kauphting were nationalized, which means that the control was taken over by their government. It has caused, that reflections and scientific research on financial stability were replaced by the study of instability in particular in relation to the banking sector. The main aim of the study is to identify the general framework of the response system of central banks on the phenomenon of banking sector instability, in the context of preventing it in a long term. Current - the traditional system proved to be ineffective, because it did not prevent the spread of the factors that led to the destabilization of the banking market.

Keywords: Monetary Policy, Crisis, Banking Sector, Instability

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1. Identification of banking sector instability

In the previous economic theories emphasized that financial stability (Crockett, 1997; Lager, 1999; Foot, 2003; Padoa-Schioppa, 2002; Schinasi, 2004), identified with the equilibrium, is the natural state of the financial system. It was believed that the market mechanism, or appropriate government intervention will restore the stability of the financial system. However, with the growing number of crises in the global economy in the 80s and 90s. twentieth century [1], many economists has focused his research on the analysis of financial instability (table 1). Considerations on financial stability replaced searching for answer to the question what is the financial instability and what may cause destabilization of the financial system.

A characteristic feature of economists' considerations over financial instability is that they pay attention to the some kind of 'external shock' that disrupts the appropriate functioning of the financial system. However, each of the researchers refers these shocks to different areas. This indicates that the term of financial instability is broad and includes both the perturbations occurring throughout the financial system, as well as its particular segments. However, in economic theories, the instability of banking sector separately is considered and analyzed very rarely. Researchers mainly concentrate on the financial instability in general – when it comes to the whole system. The importance of the phenomenon of banking sector instability has been revealed during the global financial crisis, when banking sector was significantly affected by the global destabilization. This substantiates the need for in-depth studies of the banking sector instability and identification of the factors that may cause increasing risk of this phenomenon.

Table 1. Definitions of financial instability by various researcher

Researcher	Year of publication	Definition of financial instability
F. S. Mishkin (Mishkin 1999)	1999	Financial instability occurs when shocks to the financial system interfere with information flow so that the financial system can no longer do its job of channeling funds to those with productive investment opportunities.
E. Davis (Davis, 2001)	2001	Financial instability is a heightened risk of a financial crisis, which is associated with the collapse of the financial system, entailing inability to provide payments services or to allocate credit to productive investment opportunities.
R. Ferguson (Ferguson, 2003)	2003	Financial instability is a situation characterized by three basic criteria: some important set of financial asset prices seem to have diverged sharply from fundamentals, market functioning and credit availability, domestically and perhaps internationally, have been significantly distorted, aggregate spending deviates (or is likely to deviate) significantly, either above or below, from the economy's ability to produce.
J. Chant (Chant 2003)	2003	Financial instability are those conditions in financial markets that harm or threaten to harm an economy's performance through their impact on the working of the financial system.
W. Allen, G. Wood (Allen, Wood, 2006)	2006	Financial instability are episodes in which a large number of parties - households, companies or governments, experience financial crises which are not warranted by their previous behavior and where these crises collectively have seriously adverse macro-economic effects.

Source: Own work.

Perturbations in the banking sector or the problems of individual banking institutions do not always have to be considered as a threat to the stability of the whole banking market, if they are a single phenomenon and there is no contagion effect. Moreover, some of disturbances in the functioning of the banking sector do not have to be transformed into a crisis. However, intensification of factors disrupting its functioning can lead to instability of the banking sector and create a risk of instability of the financial system. In turn, instability in the long term may cause the outbreak of the banking crisis, which means total collapse of the sector. Although the phenomenon of banking sector instability is still not fully studied, there is a considerable number of publications dealing with escalating instability in the form of banking crises. They were repeatedly a main topic of the projects and analysis of institutions, which aim at maintaining the stability of the financial system, including International Monetary Fund [2], and many economists, such as: F. S. Mishkin [3], G. G. Kaufman [4], V. Sundarajan and T. J. T Baliňo [5], M. Iwanicz-Drozdowska (Iwanicz-Drozdowska, 2002), A. Sławiński (Sławiński, 2009) and A. Ostalecka (Ostalecka, 2009).

European Central Bank referring to the issue of banking sector instability indicates that the banking sector is unstable when it is not able to effectively allocate resources among the various sectors of the economy in a timely manner, properly assess and manage the risk or eliminate shocks. The results of the research of Polish economists: J. K. Solarz (Solarz, 2001) and R. Kokoszczyński (Kokoszczyński, 1994) also point out that an unstable banking system is unable to maintain financial liquidity, and individual banks are unable to cover the losses and risks - which inseparably accompany their activity - from the equity (Rogowski, Mesjasz, 2012). Thus, the banking system instability relates to the banking system as a whole, but also of its individual participants. For the National Bank of Poland, the instability - from the point of view of individual banks, is associated with a situation when they are not efficient and solvent, do not have an appropriate level of capital to absorb losses and are characterized by inadequate liquidity to conduct its operational activity continuously and without any help from the outside (National Bank of Poland, 2000).

In the literature, there are not one commonly used definition of the phenomenon of banking sector instability. Literature studies also indicate the small number of publications relating to the transformation of the modern banking sector from the point of view of this phenomenon. In the study assumes that the banking sector instability is the situation with the medium- and long-term liquidity problems of many banking institutions and a significant deterioration in their financial results, which precludes the appropriate functioning of the entire sector. The phenomenon of banking sector instability is also associated with excessive lending of banks, which in the situation of difficulties of settlement of liabilities by borrowers, involves the need to recapitalize or nationalize banking institutions. The symptom of instability is also an increase in accounts receivable at risk in the banking sector and the surplus of liabilities over the

market value of bank assets (Iwanicz-Drozdowska, 2002). Furthermore, the instability causes the loss of confidence to banking institutions (confidence crisis), and withdrawal of contributions by depositors, which may lead to bank run. Banking sector instability can not be identified with the instability of the financial system. The instability of the banking sector is in fact a special form of financial instability. During the global financial crisis, the instability of the banking market has become a cause of disturbance in the whole financial system.

Although, there are not carried out extensive research of the phenomenon of banking sector instability, it can be seen that the concept is not clear. In fact, the characteristics of banking sector instability have not been clearly formulated. However, the authors of papers in the field of financial instability indicate that the instability in relation to the banking sector and individual banks, is reflected by the following specific features:

- problems of liquidity and insolvency of banking institutions,
- deterioration in generated financial results,
- decreasing their profitability,
- insolvency in the medium term,
- increase in receivables at risk in the loan portfolio,
- decreasing of capital adequacy ratios,
- high-leverage activities,
- significant increase in the volume of lending in relation to the deposit activity,
- increase in systemic risk,
- confidence crisis in banking sector.

These are only the main features of the instability of the banking sector, which may be associated with the other dysfunctions, completely disturbing the proper functioning of the market.

The instability of the banking sector may take a various form from the point of view of different groups of stakeholders: bank's managers, shareholders (investors), depositors, borrowers, central bank, supervisory authority, government (scheme 1). They interpret banking sector instability in different ways.

Stakeholder	Definition
Unstable banking system from the viewpoint of bank's management	• negative assessment of the financial statements and indicators characterizing its activity, the level of profit, total assets and capital
Unstable banking system from the viewpoint of shareholders	• lack or low level of paid dividends, the decline in stock prices, deteriorating image of a bank and its competitiveness on the market
Unstable banking system from the viewpoint of depositors	• low credit rating of banks, lack of confidence to interest payments, guaranteed in the agreement and to return the invested deposit, and also the lack of possibility of early payment of invested funds
Unstable banking system from the viewpoint of borrowers	• irregularity in meeting financial needs, high requirements for potential borrowers in creditworthiness assessment
Unstable banking system from the viewpoint of central bank	• lack of maintaining by commercial banks the appropriate level of equity, established in law regulations, as well as failure to meet prudential standards, set out by applicable law, including the law established by central bank and its authorities
Unstable banking system from the viewpoint of supervision authority	• failure to meet the banks' capital requirements and to adapt to regulations, imposed by supervisors at the national and international scale
Unstable banking system from the viewpoint of government	• inefficiency in meeting companies' financial needs • contagion effect, which causes that dysfunction is transferred also to other segments of the financial system, which also reduces the efficiency of the whole economy

Scheme 1. Definitions of banking sector instability by various groups of bank's stakeholders.
Source: Own work

The phenomenon of banking sector instability is considered as a threat not only for banking institutions. It negatively impacts also on the whole economy, because (Fetisow, 2002):

- bankruptcy of one bank (especially large) or a problem of the whole system, affects the reduction of confidence to the banking system and impedes the transformation processes, implemented involving banking system, as well as the adversely impacts on the economy of the country and cooperating countries;
- unstable banking system inhibits investment processes in the economy and slows economic growth or leads to the recession;
- difficult financial situation of banks is transferred on the financial condition of others institutions;
- the collapse of banking system liquidity destabilizes the payment system of the country;
- instability of the banking system affects the supply (quantity and quality) of financial services.

This justifies the need to search for methods of restricting and preventing banking sector instability. Central banks as institutions which guarantee the stability of the banking sector through its instruments can impact on the conditions of functioning of banking market. Therefore, tools of modern central banks should be adapted to the specifics of the banking sector of the twenty-first century, as well as threats that may destabilize the functioning of the banking institutions.

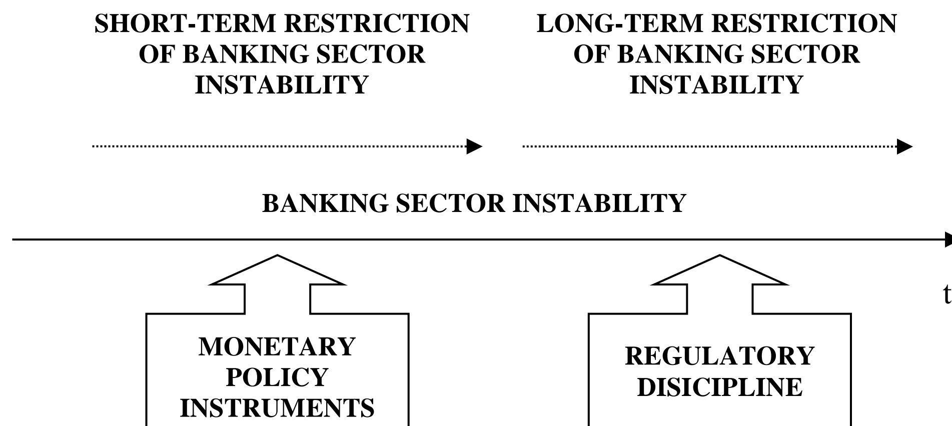
Main pillars of system of response of central banks on the banking sector instability

Changes in the way of achieving the objectives of monetary policy that have occurred in recent years, determine the evolution of the place and role of modern central banks, including the development of instruments through which they may impact on the conditions of the functioning of the banking sector. The main goal - a priority of central banks has become in fact maintaining financial stability in a long term (Pyka, 2010a; Szczepańska, 2008). So far, the monetary authorities have recognized financial stability as a public good, about which has to be take care regardless of monetary purposes (de facto responsibility) (Pyka, 2010b). The objective of maintaining financial stability of most central banks in the world was not written explicitly in the official legal document of functioning of central banks or in other law acts. In addition to Bank of England and Swiss National Bank, where was de jure responsibility for financial stability. Burdening monetary authority of an additional goal - financial stability, is now one of the most discussed topics.

Preliminary research of the monetary policy during the escalation of banking sector instability of XXI century indicates that the initiatives were late, as well as had an uncoordinated and random character (Pyka, 2010a). They were Implemented ad hoc, without clear and understandable rules. The monetary authorities focused on monitoring the consequences of the implemented instruments and on this basis, took further interventions. In fact, there were not developed common rules of conduct of central banks to the instability of the banking sector, both in terms of prevention of this phenomenon, as well as reducing the effects already identified instability in the short and long term. The significance of the research of counteracting banking sector instability due to the fact that early prevention of this phenomenon may be essential for the appropriate functioning of the banks, as well as other segments of the financial system and the real economy. During the global financial crisis, central banks have used available instruments to reduce the negative effects of instability. However, analyzing the effectiveness of the initiatives of the monetary authorities in the world, it is noted that the current response system should be modified. The traditional system of response of central banks on the banking sector instability includes only two aspects (scheme 2):

short-term restriction of banking sector instability - through standard and non-standard monetary policy instruments,

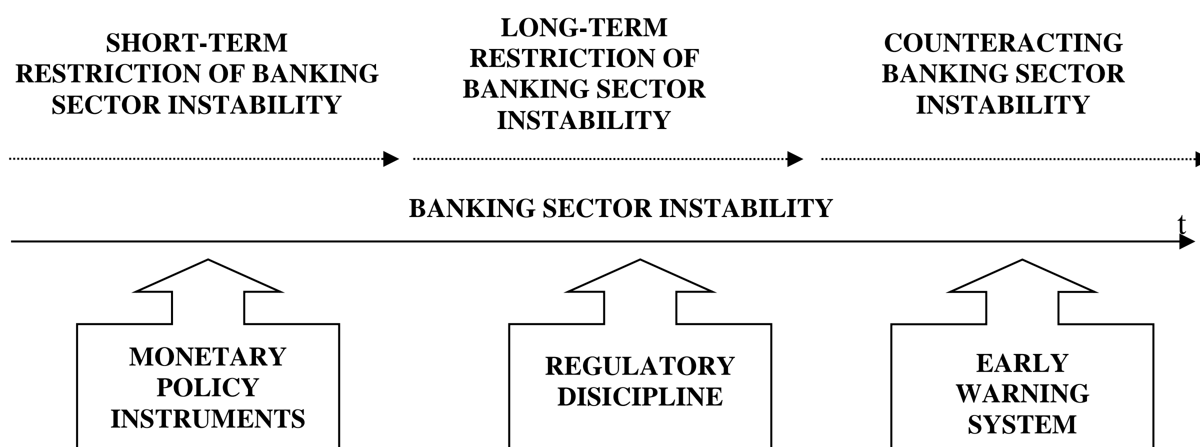
long-term restriction of banking sector instability - through instruments of regulatory discipline.



Scheme 2. Traditional system of response of central banks on the banking sector instability.
Source: Own work

Traditional system of response of the monetary authorities has focused only on two pillars, including restriction of consequences of identified instability in short and long term. However, the experience of the past three decades, and in particular the global financial crisis, show that this system was ineffective, because central banks could not early counteract instability of the banking market.

Challenge is therefore identifying the elements of the modern system of response of central banks on the banking sector instability. The potential responses of central banks on the instability and their effects are not subject to of scientific research. Construction of a coherent, multi-elements system of response in short and long term, as well as counteracting the problem of banking sector instability, represents a new approach to the objective of maintaining financial stability. Looking at the global financial crisis of the twenty-first century, it is concluded that the existing pillars of the traditional response system of central banks have been, are and will be used to reduce the negative effects of instability. They are the basic instruments of central banks used to stabilize the banking sector. However, with the increasing frequency and scale of periods of instability, it is appropriate to complement the traditional system, and at the same time central banks' tools, of the preventive aspect – early warning system, based on a mechanism for regular monitoring of the banking sector (scheme 3). The early warning system would allow central banks to prevent the causes of banking sector instability and particular banking institutions, as well as decrease the areas generating risk, so as not to lead to an instability.



Scheme 3. Modern system of response of central banks on the banking sector instability
Source: Own work

The modern system of response is a three-pillar set of instruments of central banks of a preventive nature, as well as limiting the effects of the potential instability. These pillars include three group of interventions:

- instruments to reduce the consequences of instability in a short term - standard and non-standard monetary policy tools,
- instruments to reduce the instability of the banking sector in a long term - the instruments of regulatory discipline,
- prevention instruments - aimed at counteracting instability.

Modern response system of central banks includes primarily methods of reducing the instability of the banking sector in a short term, such as standard and non-standard monetary policy instruments. They are traditional tools through which central banks can impact on the condition of individual banking institutions. The analysis of standard and non-standard (unconventional, extraordinary) monetary policy instruments in the context of reducing the instability of the banking sector during the global financial crisis is the subject of numerous scientific research around the world, so that this study does not devote them too much attention (IMF, 2013).

The second pillar of the response system takes into account the analysis of the significance of regulatory discipline instruments, supporting central banks in reducing instability in a long term. Regulatory discipline are initiatives, as well as regulatory and institutional standards of central banks, which aim at increasing the safety of the banking sector in a long term and preventing excessively risky activities of banks. Regulatory discipline is characterized by that (Jackowicz, 2007):

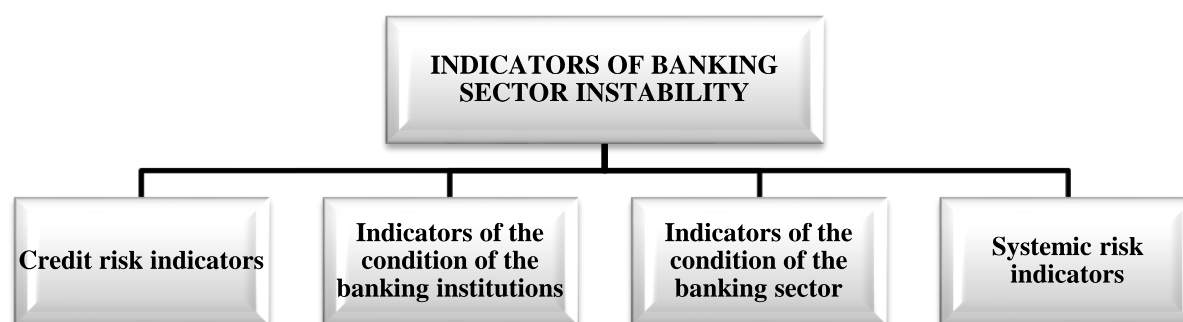
- is carried out by special financial supervisory authorities, central banks, deposit guarantee institutions,
- its methods and scope are defined in the legislation (licensing rules, prudential standards, financial law) (Pyka 2010a),
- monitoring is based on information that is publicly available or confidential, that banks are required to prepare,
- impact tools have an administrative nature.

Finally, the third pillar creates an early warning system, which is a set of indicators which will be a

source of information for central banks about the condition of the banking sector. This study indicates the proposals for indicators, from which some have an aggregate character (composite indicators), and a part - the individual (unitary) nature. These indicators take into account both the situation of the whole banking market, economic and financial condition of individual banks, as well as the size of the risk associated with the banking activity.

Among these indicators should be considered the following measures (scheme 4):

- credit risk indicators, such as aggregated indicators of Credit Default Swap, the Markit iTraxx indices;
- indicators of the condition of the banking institutions, based on data included in the financial statements of the individual entities, such as loans/deposits, capital adequacy ratios, banks' effectiveness indicators, financial leverage;
- indicators of the condition of the banking sector, such as LIBOR-OIS spread, financial condition indices;
- systemic risk indicators, such as the MSE or SRISK indicators.



Scheme 4. Selected indicators of banking sector instability
Source: Own work

These indicators refer to various aspects of the functioning of the banking sector, enabling accurate verification of the condition of the banking institutions and the whole banking sector. However, they require empirical verification from the point of view of their usefulness in the early warning system of central banks. This analysis is currently the subject of further, detailed research.

Summary

The global financial crisis has revealed the need to search for changes in the conduct of monetary policy. Until then, the central banks have focused on minimizing the possible perturbations of the banking sector. Current conditions of the banking market with a growing number of threats, increasing the risk of instability, require undertaking new methods or activities, which may be a form of predictors for central banks, warning against possible risk. The study presents a proposal of system of response of modern central banks, which would constitute a useful tool for monetary authorities to prevent and reduce the phenomenon of banking sector instability.

The three-pillar, coherent system of response on the banking sector instability of the global economy, will allow central banks to cope with the negative consequences of occurring instability, as well as counteracting this phenomenon by early warning system. The modern response system creates a new paradigm of central banking, in which the institutional and instrumental framework of monetary authorities go beyond the traditional understanding of the functions of central banks, strongly associated with prevention activities, as well as regulatory and supervisory initiatives.

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[1] According to G. Caprio and D. Klingebiel after 1980, there were 69 banking crises in developed and developing countries. Successive crises were characterized by more and more new features and the increasing scale and frequency of occurrence. This was due to the increasing interdependence of the global financial system (Caprio, Klingebiel, 2003).

[2] IMF defines banking crisis as actual and potential run on banks, or their bankruptcy, which cause the suspension by banking institutions settling liabilities or – to avoid it - require recapitalization them on a large scale by governments (IMF, 1998).

[3] Financial crisis is a situation, when there are serious distortions on the financial market, manifesting by a significant decline in asset prices and the bankruptcy of several financial and non-financial institutions (Mishkin, 1995).

[4] Banking crisis is a situation characterized by bank run, collapse of financial institutions or large government intervention and a significant undermining of the security of other institutions (Kaufman, 1999).

[5] According to V. Sundarajan and T J. T. Baliňo, financial crisis is a situation when market value of the assets of a large group of financial institutions is less than their liabilities, which leads to run or changes in their portfolios, the collapse of some financial institutions and government intervention (Sundarajan, Baliňo, 1991).