

Economic Theory

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**THE THEORETICAL PROBLEM
OF THE RELATIONSHIP BETWEEN
MONETARY POLICY
AND FINANCIAL STABILITY**

Abstract

The research of theoretical problems of the relationship between monetary policy and financial instability in the context of the major areas of macroeconomic theory is implemented. It is found out that monetary policy not always can predictably affect the real and financial sectors because of the availability complex and nonlinear relationships between them.

Key words:

Monetary policy, financial instability, price stability, interest rates, money supply, inflation targeting, the business cycle, speculations.

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Problem statement. For a long period of time in the development of monetary theory the problem of the relationship between monetary policy and financial stability has been the object of careful scientific analysis. Discussions about the relationship between financial stability and monetary policy were initiated in 1930's by representatives of the Keynesian and Austrian schools. Austrian school connects financial instability with ineffective monetary policy as a result of uncontrolled money supply which leads to lower interest rates in certain periods and to cyclical fluctuations. According to the Keynesians, financial instability is an obligate result of adjustment of financial wealth value to expected real output.

Critical comments of M. Friedman concerning ignoring of the financial sector and the problems of financial instability in analytical models of Keynesians impacted on changing of perceptions of post Keynesian about the structure of monetary processes, on their recognition of the financial sector as an independent element in the system of money multiplier on the level of business activity and credit expansion from demand of economic agents. It was recognized that any financial stress leads to a reduction in business activity, and functions of money supply may cause financial shocks, especially dangerous at the availability of debt speculations.

The problems of financial stability achievement were paid insufficient attention in the 1990's. Monetary theory focused on inflation targeting, in which the main task of the central bank was price stability as best way to achieve financial stability. Only new institutional theory of finance focused on the specifics of the functioning of the financial sector, believing that it can cause cyclic fluctuations in the economy, including due to asymmetric information. With the beginning of the global financial crisis a number of researchers expressed the view that inflation targeting system been aimed to create an environment of low and stable inflation, creates an atmosphere of security and stability and encourages financial instability. For this reason there is a need in the generalization of theoretical approaches to the relationship between monetary policy and financial instability.

Analysis of recent researches and publications. The theme of this article refers to the problem, which is not enough clarified in economic researches. The main attention to the study of the relationship between monetary policy and financial instability is paid in scientific works of foreign researches which represent specific areas of macroeconomic theory.

The goal and tasks of the research. The goal of this research is to study the evolution of views of representatives of the major areas of macroeconomic theory concerning the relationship between monetary policy and financial instability in order to promote the development of effective measures to overcome the negative effects of financial crises.

The main material. The problem of the relationship between monetary policy and financial stability is the object of great scientific analysis for a long time. Conditionally it can be divided into several components: how monetary policy affects the general tendency to maintain financial stability; how the central bank should ensure financial stability and whether it should have the responsibility for this; what should be the line of conduct of the central bank when the financial stability is staggered.

Over a long period of monetary theory development answers to these questions were quite different that should be associated with differences in theoretical positions, epistemological basis of analysis and historical experience, which were like an empirical pattern of certain macro-theoretical arguments. Thus, B. Smith leads a discussion between the banking school and the quantity theory representatives about the etymology of the relationship between money creation model and financial stability. Representatives of the banking school conclude that the system of private banking issue can lead to serious destabilization in the credit and commodity prices. Representatives of the quantity theory deny this, stating that there is no control system over the behavior of bank-expansionists at the collective level. Over-issue payment of one bank leads to over-issue of the whole system because of the competition system among banking institutions. Thus, centralization of the emission activity in the form of implementation of the functioning of the central bank and the gold standard will ensure the adverse effects of financial crises (Smith, 1996).

Crisis of 1888 in England demonstrated the unique ability of central banks to act as lender of the last instance. Since the payment power of their bills was impacted by imperative status, and gold standard restriction for paper emissions could be temporarily canceled, it turned the central bank into an institution with absolute liquidity.

Using the principle of absolute liquidity for the settlement of financial panic and restore confidence in the financial institutions is associated with the name U. Beigot. He suggested and theoretically described how the use of unlimited access to the credit of the central bank can compensate the lack of liquidity in the financial market, to confer financial institutions with solvency and to overcome the financial collapse in such way. Because the central bank creates an official liquidity and its billing signs have legal status, then its ability to increase the money supply any time is not limited, except of the monetary gold stock, demand for which can be limited by the time constraints concerning fractional notes. Restore confidence in the financial markets will allow the central bank to return to

the previous mode by reducing its balance sheet and reduce pressure on gold reserves.

The banking crisis in 1907 in the USA has also demonstrated the need for reforms that would ensure price stability; cash supply elasticity and confidence in the financial system. Emission activity centralization in the light of the need for currency reforms and European experience looked like a sufficient argument in favor of the fact that Federal Reserve System was created 1913. The specificity of its organizational structure and formal model of property reflect that the financial tasks of the Federal Reserve System under its plan assumptions are no less priority than the macro tasks. It means under the target setting to ensure flexible currency functioning was understood to ensure the financial stability of the banking system of the liberal scheme of regulation (Meulendyke, 1989).

In the interwar period debate on the relationship between financial stability and monetary policy were intensified, the reason was, firstly, asymmetric functioning of the international gold standard system in the context of different countries, it brings distortions in capital flows and interest rates, and, secondly, basic seeing of the role of monetary policy in macroeconomic processes began to disintegrate into Keynesian and Austrian camps in the 1930's under the influence of discussions between John Maynard Keynes and F. Hayek about the Great Depression. Thus, according to John Keynes, monetary policy does not generate financial instability by itself. He believes that the collapse of the financial system of 1929–1933 is not directly associated with monetary reasons, but it is regarded as a natural phenomenon of adjustment of the financial wealth value to expected output volumes. Speaking about the main sources of financial instability, J. Keynes drew attention to the behavior of economic agents, noting the presence of the animal spirit, which is not only the manifestation of competition, but also reflects a more aggressive desire of wealth, which has irrational roots (Keynes, 1993). According to the point of view of F. Hayek, the problem of financial instability is in the plane of ineffective monetary policy and of the market economy, where different sectors have different capital structure for the duration. According to the Austrian school, the biggest problem in this scheme is uncontrolled money supply, which leads to an underestimation of the interest rates in certain periods, thereby encouraging cyclical fluctuations.

Even before the «General Theory ...» in 1936, the monetary aspects of financial instability were demonstrated by I. Fisher in so-called theory of debt deflation. Its content is the fact that the downward changes in the price level lead to a sharp increase in debt and as a result of this both liquidity and solvency sharply fall in the economy. This means that changes in monetary policy in the economy with a developed financial sector lead to changes in the welfare of economic agents transmitted throughout the economy. Inflation / deflation fluctuating also should be connected with business cycles, the origin of which is provided by the financial sector (Fisher, 1993).

A more radical is a view of John Keynes at aggregate demand and the ability of central influence on his level in order to stabilize the economy with more spectacular formalization of his approach by J. Hicks in the IS-LM model laid the basic framework of macroeconomic theory, in which the financial sector and the problem of financial instability fell outside the analytical models (Hicks and Keynes, 1937). The very logic of the IS-LM model indicates that there are in the economy only real and monetary shocks to which the economy adjusts through interest rates and volumes. This model allows the existence of liquidity trap and the fact that investments and savings are balanced by interest rates, and variables are real, but not nominal.

However, in the light of the global financial crisis according to the point of view of W. White a return to the debate between John Keynes and F. Hayek is actual. W. White considers it appropriate to make some conclusions about this discussion. Firstly, macroeconomics should take into account complicated and nonlinear relationships between the real and financial sector and the fact that monetary policy is not always predictable effects on them. Secondly, the Keynesian analysis is the short-term horizon. Focus on stabilizing nominal GDP and employment does not preclude the introduction of additional distortions into economy in the form of debt crises. Austrian type of analysis is long term and requires consideration of dynamic update of the economy, in the structure of which the financial sector plays an important role, even if it brings an endogenous instability into economy. Thirdly, cyclical fluctuations are caused not only by deviations from the equilibrium aggregate demand trajectory issue, but also by financial sector. Fluctuations in the value of assets, the credit cycle, and a cycle of debt formation in the private sector are even more important than macroeconomic policy framework conditions limited by the choice between alternatives of unemployment and inflation. Fourthly, the economy inherent in a certain level of instability, and therefore adaptation to the shock is painful, but necessary procedure that provides the recovery of more effective allocation of resources, compared to the one that has been formed before the crisis and corrupted by the influence of low interest rates, credit expansion and leverage (White, 2012a; White, 2012b).

It should be recognized that the Keynesian tradition of neglecting the financial sector has been criticized even by M. Friedman. It was the development of the financial sector that Keynesian approach cannot be accepted as a reliable guide to practical macroeconomic policy, as the growing importance of financial intermediation significantly complicates the model of the economy and, what is the most important, makes it more uncertain for developers of economic policy. The alternative as «money rules» must compensate excessive activism of macro-policy implementation and what is the most important, avoid interest rate fluctuations (Friedman, 1999a; Friedman, 1999b).

Setting out from the orthodox Keynesian macro model also was implemented in the writings of some post-Keynesian. The question about endogenous

and exogenous money was intended to clearly demonstrate that the credit expansion is not generated on the side of the money supply and the demand side of the economic agents. By other words, not deposits create loans, as it was provided by a simple model of financial intermediation has been adopted by the monetary theory of money supply, but loans create deposits. The change of idea about the framework of monetary processes by postkeynsians tradition is directly linked to the fact that financial intermediation becomes to be an object of analysis. The financial sector is an independent element in the money supply system and the money multiplier process depends on the stage of the business cycle the economy is. Also, the model of endogenous money showed that money supply adapts to the level of business activity.

It is the presence of the financial sector that makes money endogenous but not exogenous (Kaldor, 1970; Kaldor and Trevithick, 1981; Moore, 1989; Kindleberger, 1996).

There is in a model of endogenous money any financial stress leads to a decrease in the money supply and thus to restriction of business activity. However, the credit expansion and rising asset values as a manifestation of excessive money supply are not considered in the context of the potential destabilizing consequences on the economy and financial system. We can make this conclusion taking into account the assertion of N. Kaldor that the available money supply in the economy with credit money is a reflection of the amount of nominal payment facilities that economic agents want to have at present time (Kaldor and Trevithick, 1981). This statement clearly runs counter to the fact that central bank can influence changes in the money supply and monetary fluctuations can cause financial shocks, as it was predicted by the model of Brunner-Meltzer.

This gap was filled by Ch. Kindleberger and H. Minsky. Speculative component, according to Ch. Kindleberger, is in any financial crisis, and especially dangerous such crisis is because speculations are made in debt (Kindleberger, 1996). H. Minsky put forward the hypothesis «financial fragility», based on the fact that economic agents can choose one from three options for financing their business activities: hedge, speculative and Ponzi-financing. Each type of financing will have different consequences for financial stability. Financial stress is always preceded by increasing the share of speculative and Ponzi-financing in real and financial sectors (Minsky, 1982). Both Kindleberger and Minsky noted that the factor of liquidity and interest rates are very important for the deployment of the financial crisis. Each of them acknowledged that such activities of central banks as liquidity and interest rates should be linked to the shocks of financial instability.

Development of mainstream of monetary theory in the 1990s showed a pronounced loss of the problem of financial instability from the research. Ineffective monetary policy which cannot provide price stability and not trusted central bank, generate financial destabilization through the channels of increase of inter-

est rates, fluctuations in the national currency, capital flight and speculations. Such an approach was based on a set of empirical facts on hyperinflation crises in Latin America, reverses of the dollar as a result of asymmetric policy tightening in the USA, Europe and Japan in the 1985–1987, the crisis of the European Monetary System in 1991–1992. Clear linkage between general macroeconomic instability and monetary policy, which is realized in an environment of conflict, became the leading methodology of research in monetary theory.

A number of economists, in particular B. Bernanke and F. Mishkin, proposed the compromise concept of inflation targeting, which integrated elements of the theory of rational expectations and neo-Keynesian understanding of the necessity of building of economic policy based on the principles of stabilization deviation of GDP from the potential value (Bernanke and Mishkin, 1997). In their understanding flexibility permits the reaction to shocks which reject actual GDP from its potential significance. The main practical principles of inflation targeting are: the main task of the central bank is to ensure price stability, which refers to fluctuations in the consumer price index within 2–2.5%; the target of the central bank is clearly specified as announcement of the inflation value, support of which it will take such that is consistent with price stability or achievement of the set target; achievement of the set inflation target does not provide the exploration of an intermediate target of monetary policy, as the links between them can be crooked, to have an unstable character and, what is the most important, to give the statistical error; instead of an intermediate target there is used internal inflation forecast of the central bank that may or may not be announced depending on the mode of transparency; interest rates vary depending on changes in domestic inflation forecast in the short term, that allows the performance of monetary policy with a focus on expected inflation, rather than actual; instrumental variable policy is chosen according to the principle of transparency and connection density due to forecasts changes of inflation expectations and as this role better meets the interest rates, then they automatically become to be a key element of the given monetary regime (Persson and Tabellini, 1993; Svensson, 1997).

Consistent realization of the inflation targeting policy involves reducing of variation in GDP and weakening of general cyclical economic activity (Fischer, 1995). Empirical research of countries' experience of transition to inflation targeting also indicate that the growth of reaction to variation in inflation does not affect significantly the increase in employment and real output. The main reasons are trust and transparency to this monetary regime (Cecchetti and Ehrman, 1999; Hu, 2003).

Some alternative to the above direction were so-called new institutional theory of finance, which are designed to demonstrate how specific of the financial sector functioning can identify cyclical fluctuations in the economy. The main focus here is made on the fact that: financial markets generate a number imperfections, which are different from the traditional Keynesian rigidities in prices and

wages, so demand shocks may also be generated in the financial system; financial intermediaries and borrowers are not homogeneous, it means that market segmentation has significant importance for explaining aggregate fluctuations of financial indicators, particularly credit; there is a separate bank channel of monetary transmission that is not confined to the channel of interest rates; traditional macroeconomic money market need to be replaced by the credit market.

One of the first attempts to show that interest rates do not always play a key role in achievement of macroeconomic equilibrium mediated by money market is the model of credit rationing by J. Stiglitz. It shows that banks face the problem of asymmetric information and try to divide all possible amounts of money intended for lending into certain proportions between borrowers with different degrees of solvency and reliability. Interest rates on loans are not always able to determine the equilibrium value of the loan, since, for example, increased rates encourage reverse selection and moral hazard, but reduced rates encourage quality of the loan portfolio. Therefore, it is much more profitable for banks to change the proportion of loans in terms of borrowers with different risk structures than manipulate by interest rates. An important conclusion of this model is that banks change the structure of credit rationing according to changes of their own financial position, financial condition of borrowers, aggregate trends in the market, determined by the phase of the business cycle and so on. Change of the credit volumes follows changes in the structure to different groups of borrowers, which automatically determines the fluctuations in business activity. The central bank is not always able to influence the reduction of fluctuations of the business cycle, when the rationing of credit is an endogenous process (Stiglitz and Weiss, 1981; Stiglitz et al., 2003).

If the model of credit rationing reflects quantitative mechanisms of aggregate fluctuations of the financial parameters, then the model of financial accelerator continues the tradition of the impact of price leverage on the behavior of economic agents in the process of credit market functioning. Its basic content is the fact that interest rates are not the determining factor of achievement an equilibrium in the credit market, so is not always a motive power of aggregate demand in the economy. Credit process consists of an additional set of elements that determine the behavior of borrowers and lenders, namely, the financial condition of banks, the financial condition of borrowers, collateral value, the value of the commission, the cost of insurance. In other words, the credit process implies not only an availability of interest rates and credit standards – additional requirements that make it possible to obtain a loan for a given level of interest rates. Consequently, financial accelerator is cumulative amount of additional costs associated with the credit process. The availability of financial accelerator means that the central bank's ability to directly influence the business cycle is substantially limited if monetary policy is implemented exclusively through interest rates.

The models of credit rationing and financial accelerator significantly change the imagination about the financial sector and its allocation efficiency.

Identifying the availability of imperfections in the functioning of financial intermediaries, these models are limited to those that they are viewed as additional sources of cyclical fluctuations, but not as a precondition for financial instability. They help to explain the sharp post-crisis contraction of credit. Another specificity of these models is that they are elaborated in the context of development of so-called «Consensus II» in macroeconomic theory, basic theoretical components of which are: price stability is recognized as an essential condition for overall macroeconomic stability and allocation efficiency of the economy; the loss of disinflation in traditional Keynesian are manifestly overstated and monetary policy is able to influence the level of inflation, which requires an appropriate institutional solutions that would guarantee the independence of the central bank; economic dynamics is determined by stochastic shocks of productivity and growth waves are associated with investments in innovation; economic agents are rational inter-temporal optimizers and build their expectations according to the expectations of the future; stabilization policy will be effective only if compliance with price stability is not subjected by compromise; the central bank, changing interest rates according to changes in inflation expectations derived from the behavior of GDP-gap is able to minimize cyclical fluctuations; the effectiveness of monetary policy is based on depth understanding of the structure of the economy, resulting in a decision by central banks, which take into account a complex set of economic variables that signal about changes in future trends, is better than realization the policy based on mechanical rule (Goodfriend and King, 1997; Clarida et al., 1999; Woodford, 2003; Goodfriend, 2007).

The transformation of the financial system, caused by globalization processes also raised an interest to the question, which should be the monetary policy in light of the fact that central banks operate in a totally different financial environment than it was in the early 1990's. The expansion of asset value, the problem of control over global money supply and complicated forms of leverage creation of globally significant institutions have put the issue of financial stability is much higher than before (BIS, 2003).

Thus, the Asian crisis, the LTCM crisis in 1998, the collapse of the new economy bubble and consequent recession actualized the question about the relationship between monetary policy and financial stability of both the theoretical and institutional perspective. The problem of financial stability began to be considered from the point of view, should changes in value of assets be included in the function of the reaction. Raising the question in this way itself demonstrated that, at least theoretically, to influence significant changes in asset values for inflation and GDP-gap were permitted. Recognizing that financial stress can worsen the results of monetary policy had not left the uniqueness about whether such a reaction to stress was optimal. In this case, there are three approaches.

The first or «hypothesis of Schwartz». According to A. Schwartz, achieving price stability is the best way to ensure financial stability. Any information about the state of the financial system is somehow included into the inflation forecast,

so there is no need yet somehow additionally react to assets changes (Schwartz, 1995). A. Schwartz argues that throughout history of the central banks reaction on inflation of asset prices were inconsistent and unpredictable. This led to significant disturbances in the money supply, which had destabilizing character for the whole economy (Schwartz, 2002). Second. Financial turmoil and crisis and also allocation deformations during expansion of asset markets are a fundamental threat to macroeconomic stability. The central bank should respond to asset market shocks and such reactions should have systematic and symmetrical character. Third. The central bank should not explicitly respond to fluctuations in the value of assets, as it leads to serious destabilization of the financial market and worsens the results in real output. So, B. Bernanke and M. Woodford state that the optimal policy does not require explicit response to asset prices (Bernanke and Woodford, 1997). B. Bernanke and M. Gertler argue that the inclusion of asset prices into the function of reaction will reject monetary policy from the optimal and bring additional fluctuations in inflation and GDP (Bernanke and Gertler, 1999).

Despite skepticism about the need for provident response to financial shocks in theoretical macro model of new Keynesian there were formed the practical answer to the problem, dubbed the «rule of Greenspan» in the community of central banks. Federal Reserve System under the leadership of Greenspan aggressively lowered interest rates at the time of liquidity crisis and the collapse of asset market, then gradually restored them to their previous level. Similar scheme is seen in reactions to the collapse of the American stock market in 1987, the fund LTCM crisis in 1998, the market crash of the new economy in 2000, events in New York in September 2001. From theoretical considerations «Greenspan's rule» means that the central bank should not react to the bubble at the moment it is blowing. That is, according to Greenspan, the central banks get an easy and convenient way of response to fluctuations in the assets value: not to interfere until the financial stress does not lead to a deterioration of market liquidity in the system level, then aggressive supply of an official liquidity in conjunction with reduced rates restores confidence in the market and normalizes the functioning of financial intermediation (Goodfriend, 2007; BIS Papers, 2003).

To start to the global financial crisis in 2007 the debate about the role of the monetary policy in ensuring the financial stability were even more polarized.

C. Borio, E. Filardo and W. White and others suggested quite radical alternative to the established views on the relationship between monetary policy and financial instability. The main content of their position can be summarized as follows. The environment of low and stable inflation does not encourage financial stability, as it was predicted by most traditional macroeconomic approaches, but rather leads to financial instability. Low inflation and minimized fluctuations in the business cycle create an atmosphere of security and stability, encouraging lower interest rates. Behavior of financial intermediaries is changed after rates reducing. In general, this means that falling rates encourages risk behavior or financial

institutions are encouraged to compete not with interest rates, but by attitudes to the risk (Borio and White, 2004; Borio et al., 2003). This behavior can influence the accumulation of vulnerability and worsen the liquidity and solvency of financial institutions in the event of shocks.

Another important point is that the system of inflation targeting is not intended for cases of prices falling, or when deflation is caused by positive shocks of productivity. It means that the central bank maintaining price stability and facing with a deflationary shock, try to correct the price dynamics up through lower interest rates and liquidity expansion. In this way the favorable conditions for the occurrence of negative effects in the behavior of financial intermediation are created. The growing phase of the credit cycle is easily converted into a credit boom. Expansion of the liquidity leads to a rapid increase in the value of assets, the trajectory of which develops into imbalances, pulling leverage increase in the real sector and households. Within the specified approach it is emphasized that aggregate changes in credit volumes are stimulated not by increase in the value of assets, but credit expansion leads to inflation of assets. The scale of growth of the assets value indicates not so much on the fundamental nature of the equilibrium imbalances, but that money supply of leading central banks was excessive from the point of view of the long term (Borio and Lowe, 2004; Borio and Filardo, 2004).

It is no coincidence that after the global financial crisis, this group of economists advocated for a revision of «Greenspan's rules» concerning laissez-faire in stirring up bubbles. This means that the so-called «consensus II» found itself in the field of hard criticism. If the central bank in the early stages does not interfere in the process of accumulation of financial imbalances, then all the financial system begins to encourage their reproduction until they reach the so-called Minsky's points, followed by the financial crisis.

Post-crisis intelligence confirmed that attitude to the risk has been significantly underestimated in the traditional macroeconomic theory. Emphasis the attitude to the risk in a separate channel of monetary transmission is called for better reflect of the totality of connected links between the decisions of the central bank and economic variables, the movement of which is increasingly hidden behavioral rather than fundamental factors (Maddaloni and Peydro, 2010; Gambacorta, 2009; Nicolo et al., 2010; Altundas et al., 2010).

Summary of theoretical approaches to the relationship between monetary policy and financial instability are presented in Table. 1.

Conclusions. Discussions around the optimal post-crisis regime, and its connection with the problem of financial stability demonstrated preservation of traditional conflict. The new Keynesians led by O. Blanchard made a statement that the efficiency of monetary policy is reduced in the case of low interest rates as a result of low and stable inflation and their further decline, then perhaps slightly higher inflation rate would be more optimal as it means also more high rates, reducing of which due to stabilization goal will not reach zero (Blanchard et al., 2010).

Table 1

**Monetary policy and financial instability in the context
of the major areas of macroeconomic theory**

| | The role of price stability used in financial stability | Nature of financial instability | Financial factor cyclical fluctuations | The value of financial imbalances for optimal monetary policy | Meaning attitude to risk transmission mechanisms | Rationality economic agent |
|----------------------------|---|---------------------------------|--|---|--|----------------------------|
| Austrian approach | Important, but not sufficient | Endogenous | Essential | Big | Significant | Supported |
| Dzh. M. Keynes | Not principled | Endogenous | Essential | Big | Significant | Not supported |
| Keynesian | Not principled | Exogenous (real shocks) | Immaterial | Big | Absent | Not supported |
| Post-Keynesian | Not principled | Endogenous | Essential | Significant | Significant | Not supported |
| Monetarism | Key | Exogenous (money supply shocks) | Immaterial | Significant | Moderate | Supported |
| Neoclassical theory | Key | Exogenous (all kinds of shocks) | Immaterial | Slight | Insignificant | Supported |
| New Keynesian (mainstream) | Key | Exogenous (all kinds of shocks) | Immaterial | Slight | Insignificant | Partially supported |
| Modern heterodox approach | Important, but not sufficient | Endogenous | Essential | Big | key | Partially supported |

Supporters of the German tradition, expression of which is O. Issing, noted that the cause of the financial collapse and the problems of close to zero rates should not be found in the level of inflation, but the reason is that quantitative view on monetary policy was rejected in the spread of inflation targeting. Excessive money supply due to various structural circumstances may be not expressed in acceleration of inflation, but it may encourage credit growth and overheating of the assets market. The struggle with the consequences of the financial crisis is more complicated than inflation stabilization with the help of hard and convincing measures (Issing, 2011).

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