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**COULD THE BANK OF RUSSIA
IMPLEMENT STRATEGIC
INDICATORS TO IMPROVE ITS
EFFECTIVENESS?**

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COULD THE BANK OF RUSSIA IMPLEMENT STRATEGIC INDICATORS TO IMPROVE ITS EFFECTIVENESS?

This research explores the utility of using strategic indicators to track the performance of the Bank of Russia. This approach is used in international practice and has demonstrated its positive effect. Nowadays, the Bank of Russia has introduced one key indicator, the size of inflation, which has proven to be highly effective in terms of policy implications. This article argues that this approach could be extended to other strategic areas like banking regulation, financial regulation, and oversight of the national payment system, and offers ideas on improving the approach for a given target purpose. Second, the article demonstrates the potential utility of such an extension by focusing on financial stability. An empirical model of banking stability is developed based on factors originating in both the external and internal environment of the Bank of Russia. The results of the model suggest that a number of factors contribute to stability, which in turn suggests that the strategic indicators approach can play a useful role in this area.

Key words: Bank of Russia, effectiveness, strategic indicators, performance management, banking stability

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Introduction

This research examines prospects for strategic indicators implementation in central banking. Central Banks play a crucial role in supporting financial stability. At the same time, they often fail to carry out their operations in the right way partly because large areas of central banks' activity are different for each particular central bank (Heikensten, 2003). Control in central banking is significant for decreasing the negative impact of financial contagion (Castiglionesi, 2007). That is why several international standards, like the Principles for financial market infrastructure (BIS, 2012), have been introduced. These standards accumulate the international experience on financial regulation and transform it into principles. These principles are used to assess the relevance of national financial regulation. At the same time, the existing standards do not provide a full instruction to performance evaluation by central banks. In order to meet this challenge each central bank should introduce its own national regulation rules. In Russia, the evaluation is done by the Internal Auditing Department in the process of preparation of the Annual report. The Bank of Russia is focused on several significant areas, including support of financial stability (Gosudarstvennaya Duma, 2002). In pursuit of this goal the Bank of Russia uses various instruments in the sphere of banking regulation, monetary policy etc. At the same time, there is no approach to how to evaluate the overall effectiveness of the tools in use and improve the work of departments in charge. Nowadays, the creation of necessary methodology could improve the Bank of Russia's governance and increase its effectiveness through the introduction of an efficiency evaluation system.

To solve this task it is possible to use the strategic indicators approach that is widely used in international practice. Strategic indicators have been implemented in the United States and some European countries. The implementation of strategic indicators is aimed at achieving a result (Breul, 2006). If a government wants to draw attention to a significant national problem, it should use a strategic indicator to meet the existing challenge. In international practice, there are central banks that

have introduced the strategic indicators approach (Board of Governance of the Federal Reserve System, 2015).

In Russia, only one strategic indicator – the inflation target of 4 % (Bank of Russia, 2016) – has been introduced. The implementation of that indicator has helped to coordinate the monetary instruments for targeting purpose achievement. The implementation of similar strategic indicators could help improving coordination of the Bank of Russia instruments in various areas. This research gives an answer to one question: can the implementation of strategic indicators help improve the Bank of Russia activity. What approaches could be used to ensure practical implementation of strategic indicators? How to evaluate the overall practical effectiveness of instruments in use? It should be mentioned that it is significant to draw attention to the parameters of central banks' policy tools. So the suggested approach should decrease the negative effect from their dramatic change.

This research article is structured in the following way: Section 2 contains a review of literature on evaluation of central bank effectiveness. Section 3 describes the empirical strategy and data of the econometric model. The conclusions are drawn in Section 4.

2. Literature review

The Principles for financial market infrastructures introduce recommendations to Central Banks on questions of regulation, supervision and oversight (BIS, 2012). The document lays down the general principles of meeting various economic challenges through interaction with various finance institutes. The efficient activity of the Central Bank can support financial infrastructure development. At the same time, BIS offers no specialized recommendations or methodology for improving and evaluating the Central Bank's efficiency and effectiveness. Complexity and large institutional difference prevent the creation of a single international standard. Some documents draw attention to one area of central banking: such as governance and financial stability (Ingves, 2011). But they

also summarize the high level of difference in the operational activity of central banks. First of all, the Central Bank has a combination of objectives and soft budget constraints (Blix, Daltung, & Heikensten, 2003) , which are different for a particular central bank. This difference raises the costs of working out a generalized standard of central bank activity.

Second, the Central Bank's functioning depends on the internal environment in a country where the Central Bank is located (Hasan & Mester, 2008). That is why the Central Bank needs to pursue its own national policy in various areas by using a particular approach. Central Banks apply various international practices, which they often adapt to national standards. For example, BIS standards contain some general principles of functioning of the payment system while each particular Central Bank adapts its standard to the national practice (Bank of Russia, 2016). Several Central Banks, including those in post-Soviet states (the Central Bank of the Republic of Azerbaijan, 2011), have introduced strategic plans.

It should be noted that strategic planning is an international practice used to exercise control over the Central Bank activity. For example, U.S. reports often consist of three main parts devoted to three main areas of central bank activity: monetary policy, banking regulation and the provision of financial services (FED, 1997). The early plans (table 1) described the goal and the main objective aimed at achieving this goal. Furthermore, they included performance measures that helped to evaluate the goal achievement. The last time FED did not include performance indicators in its Strategic Plan and Annual Performance Report (FED 2015).

Table 1. The Main Parts of FED Results Act Planning document in 1997-2002

Goal	Objective 1	Discussion	Performance measure
Pursue monetary policy designed to achieve maximum sustainable long-term growth; price stability fosters that goal	Continue to perform high quality analysis of macroeconomic and financial developments and develop accurate forecasts for making appropriate policy decisions	The description of FED position on this objective	-
Promote a safe, sound, competitive, and assessable banking system	Provide comprehensive and effective supervision of U.S. banks	The description of FED position on this objective	Percentage of financial institution examinations completed as required by statute

Source: done by authors under (FED, 1997)

The last report does not cover specific indicators. However, it does contain a detailed description of realized activity that could be described as quality performance indicators (FED, 2017). European central banks also use strategic planning in their practice (Central Bank of Ireland, 2016). The implementation of the following strategic plans helps to determine the responsibilities of central banks. The Bank of Russia could also do with some strategic planning. In practical terms, it means that the Bank of Russia should add a process approach, which can find a practical application, to its practical activity (Rudko-Selevanov, Lapina, & Unak, 2014).

The implementation of strategic indicators means a choice of highly-organized purposes. The Bank of Russia can use the provisions of the existing Russian law (Gosudarstvenaya Duma, 2002) for defining these strategic purposes, which are aimed at:

- protecting and ensuring the stability of the ruble;
- developing the Russian banking system;
- supporting stability and developing the national payment system;

- developing the Russian financial market;
- supporting the stability of the financial market.

At the second stage each department should re-direct its activity at achieving a particular strategic purpose (table 2). It should also determine what strategic purpose it could achieve through its activity. After that the department in charge should also define the main general purposes in the area of its responsibility. Their achievement could eventually lead to the achievement of strategic purposes. Strategic purposes could certainly be achieved through practical activities. General purposes are for long-term prospects. That is why in order to be able to exercise the up-to-date control any Central Bank needs to set its annual objectives.

The central bank structure can have a significant impact on policy achievements. It could produce a negative impact on achieving the policy tasks (Hasan & Mester, 2008). Therefore, the responsibilities should be clearly defined while the suggested approach will help to reduce the negative effect. It should be noted that it is extremely difficult to achieve strategic purposes, which are designed to further develop and define the responsibilities of the Bank of Russia in practical terms.

The General Purpose can be defined on the basis of the national law and internal memorandums of departments. In our example, the National Payment System Department is responsible for *supporting stability and developing the national payment system*. For the purpose of launching the necessary activity the National Payment System Department could define *the organization and support of the smooth functioning of the payment system* as its purpose (Bank of Russia, 2012). The next step to be taken by the National Payment System Department is to suggest the main objectives (activities) that should be achieved during the year. This approach correlates with the FED strategic plan (FED, 2017).

In our case these objectives could be:

- 1) To prepare a report on the national payment system oversight;
- 2) To prepare national regulation on the smooth functioning of the payment system etc.

The National Payment System Department should also suggest possible indicators for evaluation. The Department in charge at the Bank of Russia should choose the most suitable indicator to evaluate how the suggested objective has been achieved.

Table 2. Possible design on strategic indicators implementation at the Bank of Russia

Strategic purpose	Structural Department that is responsible for strategic task	General Purpose	Objectives	Possible indicators	Implemented indicators	Target for indicator	Formalized task in term of indicator
Supporting stability and development of the national payment system	National Payment System Department	The organization and support of the smooth functioning of payment system	1.1.To prepare report on the national payment system oversight (Bank of Russia, 2016)	Preparation of report (1.0)	Preparation of report (1.0)	1	To prepare report on the national payment system oversight
			1.2.To prepare national regulation on the smooth functioning of payment system	To create new regulation on smooth functioning (1.0) To make amendments to 3 documents	Number of amendments (1,2,3)	3	To prepare 3 amendments to the national regulation on the smooth functioning of payment system
....

Source: done by authors

In practical terms, this function is performed by the Financial Technology, Projects and Process Management Department (Bank of Russia, 2017). It also is dedicated to evaluate the target achievement and the effectiveness of the National Payment System Department. At the last stage the department is also supposed to implement the suggested indicator in the determined objective (formalized task in terms of indicator). This formalized task should be fixed in official documents such as a strategic plan, for example. The following approach is also used in the U.S. practice (Beasley, Branson, & Hancock, 2010). As a result, the Bank of Russia will get a real opportunity to prepare a Strategic plan that could improve the effectiveness of its work and make its operations more transparent. The implemented strategic indicator will help to assess the level of objective achievement and evaluate the effectiveness of each structural division responsible for achieving the strategic purpose.

Finally, it should be noted that the Bank of Russia faces a huge challenge of assessing the co-integration of its activities. Some researchers assess the correlation between the used instruments and their influence on each area of central bank activity. For example, how monetary policy tools could affect the banking supervision (Ioannidou, 2005)? As it was mentioned earlier, the Bank of Russia chooses the inflation rate of 4 % as a target. The Bank of Russia has several instruments at its disposal. They include the key rate regulation, collateral requirements introduction, limits on the monetary policy instruments, mandatory reserves, etc (Bank of Russia, 2016). At the same time, it is necessary to understand that the number of banks could also affect the inflation rate because they create a demand for the Central Bank's liquidity (Shubik & Tsomocos, 2002). They have a demand for liquidity, and so the bank regulation in that sphere could affect the target achievement.

Secondly, it is necessary to create a clear methodology of how to organize the strategic plan achievement. Strategic purposes should be achieved. That is why it is necessary to fit the parameters of the Bank of Russia instruments into the key rate for example. The general mechanism has not been formalized nowadays.

To meet this challenge it is necessary to introduce a two-step modeling approach. The Bank of Russia should set the target as the first step. This target could be represented as an index that consists of several variables. The target could be taken from the strategic plan. After that the Bank of Russia needs to introduce an econometric model to assess the influence of internal activity on the target achievement. The central bank activity also depends on internal and external environment, which should also be assessed (ISO, 2009). After that the model should be included in the Bank of Russia external policy tools oriented at external environment. Thus, the dependent variables in the model are the internal parameters for the Bank of Russia tools while the external variables reflect macroeconomic tendencies.

In order to test these ideas it is necessary to create an econometric model to assess the target on financial stability purpose. To simplify the task like a strategic purpose it is possible to choose the banking stability indicator. The suggested model represents the achievement of financial stability purpose. In practice, the monetary policy, the payment system and other objectives should also be taken into account. Now it is difficult to carry them out due to the data lack. According to international experience, financial stability could be analyzed from the point of view of banking stability (Bank of England, 2016). Central Banks often use macroeconomic parameters to examine banking stability. In practice, economists often estimate the financial stability of a particular bank. For that purpose some researchers use CAMELS indicators that are based on financial indicators of banks (Cole; Gunter, 1998). The further development in this area has demonstrated that macroeconomic environment and banking sector trends should be taken into consideration (Demyanyk & Hasan, 2010). At the same time, little research has been done to study the role of the Central Bank in supporting financial stability. These ideas should be tested by using a particular model.

3. Data description & Empirical strategy

The elaborated econometric model examines the Bank of Russia activity in terms of supporting financial stability. It represents the reduced form of strategic

modeling. In fact, this approach should be developed for all the main Bank of Russia strategic purposes. The necessary data covers the period from 01.02.2008 to 01.12.2016. The data has been collected from the official Bank of Russia website (Bank of Russia, 2017). The time limit can be attributed to the lack of structural data. At the same time, it is possible to expand that period by using official data books (Bank of Russia, 2017). In fact, it is extremely difficult to do that. To analyze the effectiveness of the Bank of Russia policy an econometric model, which includes three types of variables, has been constructed.

The dependent variable (LOSE_LICENSE) is a continuous variable, which measures the stability of the Russian banking sector. It represents the amount of banks losing a license in a particular month. If many banks lose their licenses it would mean a fall in supporting financial stability. Therefore, my econometric model includes only one strategic purpose - financial stability. Other strategic purposes should be examined widely in practice (Mester, 2003).

In our example the Bank of Russia regulates the banking system stability. So there are three groups of factors that influence the financial stability: the external and internal environment factors that determine that banking stability. The third group of factors is the Bank of Russia instruments. In the area of banking system it is possible to get the case of strategic default. In case the penalty for default is small, bank could decide to make a strategic default. So the interaction could move into inefficient distribution (Shubik & Tsomocos, 2002)). Thus the Bank of Russia, through it's instrument helps to achieve better result². It could introduce rules for banking system to escape the strategic default case. So the Bank of Russia variables were combined into a single group. The external environment variables are not directly connected with the banking sector, but influence it's tendencies. The internal variables represent the institutional feature of banking sector. Thus, our example includes three groups of the following variables:

The *external environment variable* that estimates the middle month exchange rate for the dollar (MIDDLE_MONTH_EXC), which represents the

²² More about strategic bankruptcy and strategic game you could read in (Levando, 2012)

external environment. This external environment, which is out of the Bank of Russia control, could dramatically affect the banking sector stability. In practice the external environment could be increased by adding GDP, FDI flows, etc (Betz; Oprica; Peltonen; Sarlin, 2014). The middle month exchange rate for the dollar has been chosen because of the high influence of currency price on the Russian banking sector (Pozdishev, 2015).

The *internal environment variable* that estimates the Russian banking sector efficiency. This efficiency is calculated as the size of bad debt in the Russian banking sector (PROSROCHKA). The bad debt increase is supposed to increase the banking sector financial instability (Banco de Espana, 2013). Other internal variables, like the leverage size (LEVERAGE), for example, could also be examined. The leverage size is determined as equity to total assets. The Bank for International Settlements has introduced a new indicator known as the leverage size (BIS, 2014). It is significant for controlling the stability of the banking system. A high leverage size indicates an increase in the stability of banks. The leverage ratio could be examined as a significant instrument of monetary policy. It could also regulate the collateral cycle that can cause a crisis (Geanakoplos, 2009). Thus, the leverage ratio inclusion supports the implementation of leverage ratio in banking regulation indicators.

The Bank of Russia tools policy implications influence the estimation of the Bank of Russia effectiveness. In our model these variables include the amount of mandatory reserves for other liabilities of credit institutions and natural persons (legal entities) in the currency of the Russian Federation (AVER_NORM_RU) and liabilities in foreign currency (AVER_NORM_IN). The indicator is taken as the average for credit institutions and natural persons. The mandatory reserves, according to article 35 (Bank of Russia, 2002), are considered to be a significant monetary policy instrument. Thus, they can dramatically affect the level of bankruptcies in the Russian banking sector.

KEY_RATE_TARGET – is the key rate in the period of inflation targeting. This mixed variable has been chosen because inflation targeting has a greater

impact on the economy. Thus, the key rate without inflation targeting is less effective. Furthermore, it was chosen because the Central Bank has a trade-off between managing banking stability and supporting inflation targeting (Sokolova, 2015). It helps to analyze how monetary policy responsibilities affect the central bank's role as a bank supervisor (Ioannidou, 2005). The suggested variables help to estimate the influence of monetary policy instruments on the banking stability purpose achievement.

It should be noted that the concept of external and internal environment is taken from (ISO, 2009). In fact, every Central Bank should personally define what factors should be included in the external and internal environment groups. If an ISO approach is to be used, the external environment factors are factors, which exist outside an object of research. These factors are macroeconomic trends etc. The internal environment variables are the factors that assess the level of internal development such as, for example, the existence of risk-management, the average level of education between employees etc. Because of the focus on the banking system stability, it was decided to stick to the previous classification of internal and external variables. But that could be changed in practical use. *The Bank of Russia tools policy* implications influence the evaluation of the Bank of Russia effectiveness.

Table 3 shows summary statistics for the sample. The average size of banks that lose licenses is about 5. But the maximum amount is equal to 17, so we could summarize the existence of a real break in the banking system stability. This proves our ideas on factor determination of variables that influences the banking financial stability. The constructed data is sufficiently robust. There are no statistical outliers. Thus, the following data could be used for further analyses.

Table 3. Description statistic for independent variables.

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
LOSE_LICENSE	5.277778	5.000000	17.00000	0.000000	3.601229	0.645199	2.996726
LEVERAGE	0.118787	0.113753	0.156159	0.093951	0.016170	0.595609	2.251930
AVER_NORM_IN	4.159722	4.750000	7.000000	0.500000	1.453106	-0.970251	3.480006
AVER_NORM_RUB	3.877315	4.250000	7.000000	0.500000	1.278185	-1.093194	3.969519
PROSROCHKA	1459.863	1242.631	3273.525	215.9259	814.6421	0.852892	2.842752
MIDDLE_MONTH_EXC	38.40398	31.49000	77.22000	23.35000	14.60638	1.251941	3.031856
KEY_RATE_TARGET	4.222222	0.000000	17.00000	0.000000	5.112900	0.665085	2.034195

Source: done by author

To analyze the suggested model³ the Ordinary least Squares approach (table 4) has been used. The represented model is time series. The suggested model includes about 108 observations, which is enough for the following number of observations.

Table 4. The econometric model on banking system stability

Variables	Coefficient	Std. Error	Prob
Dependent variable	LOSE_LICENSE		
MIDDLE_MONTH_EXC	-0.00488	0.045187	0.9211
KEY_RATE_TARGET	-0.103212	0.117504	0.3818
AVER_NORM_IN	3.738622	1.127811	0.0013
AVER_NORM_RU	-4.450010	1.192043	0.0003
PROSROCHKA	0.002080	0.000730	0.0053
LEVERAGE	-34.47962	19.72999	0.0836
C	8.647470	3.009597	0.0050
R-squared	0.484145	Prob(F-statistic)	0.000000
Adjusted R-squared	0.453500	Included observations	108

Source: done by author

The constructed econometric model is robust enough. The Johansen Co-integration Test has demonstrated its existence. The represented variables determine about 45.35 % of the license losing process. The further development should see an increase in the number of variables in each of the three categories, including external and internal variables. The Central Bank should also expand the amount of available internal instruments. Unfortunately, the external environment on middle-month exchange rate is insignificant. The Key Rate does not affect the amount of banks that lose license as well. We have got the following results only

³ $LOSE_LICENSE = C(1)*MIDDLE_MONTH_EXC + C(2)*PROSROCHKA + C(3)*AVER_NORM_IN + C(4)*AVER_NORM_RU + C(5)*KEY_RATE_TARGET + C(6)*LEVERAGE + C(7)$

in single period of time. The better results could be achieved via implementing a time lag in the following variables (Betz; Oprica; Peltonen; Sarlin, 2014). However, it is not the main purpose of our work. We believe that we could describe the variables that have the positive influence on the financial stability.

Positive effects on financial stability:

These effects show that an increase in the leverage size leads to greater financial stability. The result is correlated with the theory of leverage cycle (Geanokoplos, 2009). The operations of banks are much more collateralized, thus they propose greater stability. The following effects could also be achieved by increasing the average normative ruble. So, one Bank of Russia tool has a positive impact on the strategic purpose. The increase in the national mandatory reserves leads to financial stability. This could be connected with the decrease in the structural liquidity size (Rule, 2015). As a result, it decreases the amount of speculations with Russian liquidity.

The result on leverage significance is important for international regulation. After the global crisis, new approaches to commercial banks regulation were developed. To meet the international needs the Bank for International Settlements has created a special document on leverage ratio (BIS, 2014). But the effectiveness of this indicator is a discussion point. Our results demonstrate the significance of this parameter for the Russian banking system. Through regulation and the target size of leverage the Bank of Russia could increase the stability of the banking system.

Negative effects on financial stability:

An increased bad debt (PROSROCHKA) can decrease financial stability. An increase in the average normative foreign exchange leads to breakings in financial stability. So it is necessary to understand the cause of this effect. The result on bad debt is understandable. Its increase demonstrates negative fluctuations in the national economy. The result on foreign mandatory reserves is also understandable. Initially, this instrument was used to pursue a monetary policy. Therefore, it is

oriented on achieving price stability (Bank of Russia, 2016). But our result demonstrates that it counters with the purpose of supporting financial stability. These results prove our idea that contradictions exist in central banking. To regulate them it is necessary to create a general econometric model for the functioning of central banks.

After bringing the full econometric model in line with the general purpose, the Bank of Russia could fix the predicted size of the external variable (bad debt) and introduce minimum changes to the average normative ruble to achieve the target on financial stability. The same kind of operation could be done with all the other variables that have a negative effect. After that it is possible to create a single model to evaluate the financial stability purpose achievement.

As a result, the Bank of Russia gets an opportunity to achieve the target purposes by using the above-mentioned econometric model. But a sharp change in one parameter of the Bank of Russia tools could decrease its effectiveness and create shocks similar to the dramatic increase of the key rate in 2014 (RBK, 2014), for example. The question is if the Bank of Russia can achieve the necessary purpose without shocks. I suggest that it can, if all the possible instruments are co-integrated for the purpose of achieving the target. As a result, the Bank of Russia could change the parameters for several instruments without causing shocks. At this stage, it is possible to use Matcab to introduce minimal changes in the parameters of external tools (solve optimization task). For example, to achieve financial stability it is possible to make a big change in the key rate or several changes in the mandatory reserves. So when the Bank of Russia gets the necessary coefficients it will be able to solve an optimization task minimally by making minimal changes to the Bank of Russia policy parameters.

The main challenge this work is going to face is how to fit the normative regulation of central banks into the econometric model. The FED strategic plans include the description of the possible changes in law regulation, expected reports etc. This regulation is significant, because it sets the boundaries for banking activity. But these boundaries are hard to be implemented.

4. Conclusion

This research proves the idea that the tools used by the Bank of Russia may be contradictory. The model demonstrates the negative effect of foreign currency mandatory reserves on the banking stability. Thus, the Bank of Russia should find the balance in case of changing the conditions of the represented monetary policy instrument (Bank of Russia, 2002). This balance should be found between monetary policy and financial stability purposes. The following results could possibly be found in all spheres of central banking. The represented results on econometric modeling demonstrates the significance of environment variables inclusion. Their existence improves the prediction power of the modeling result. The following result proves the ideas on macroeconomic variables inclusion suggested in the approaches on individual default prediction (Betz; Oprica; Peltonen; Sarlin, 2014). Generally, the following approach gives the reason for internal and external analyzes of environment. The Central Bank could fix the environmental variables and manage the parameters of their tools to achieve its purposes.

The research also suggests a practical approach to strategic indicators implementation in the Bank of Russia. According to international experience, a strategic plan helps to increase the effectiveness of central bank policies. Strategic planning is used by different central banks. It helps to make the central bank policy more transparent. To raise the efficiency of the Bank of Russia departments a two-step approach aimed at avoiding shocks from changes in the Bank of Russia policy parameters has been suggested. So it could help to achieve all the purposes of the Bank of Russia activity. Possibly, the ideas of this research could find some practical application. As a result, the Central Bank will have an opportunity to solve operational tasks connected with reports preparation and meetings' organization. Also, it would be able to coordinate different policy tools. As for international practice, the suggested approach is in process of development. So the research helps to answer how to create a connection between real operational tasks and different policy parameters.

The analysis limit is linked to the data lack. For the large model construction, it is necessary to use daily data information like overdraft size etc. The model based on daily data will provide the practical instrument on Central Bank effectiveness estimation. The application of the econometric modelling approach makes it possible to create a single econometric model for all central bank activities. At the same time, in practice the data lack makes it necessary to create a particular model for every strategic direction. This article is focused on supporting financial stability. The result correlates with the main research areas on the Central Bank role in supporting financial stability. Another research in this area should examine monetary policy, banking regulation and the payment system functioning. Every national Central Bank could use the suggested approach. Therefore, the results of this research could be used to create international standards of central bank functioning.

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