

Unbalanced Liquidity Management Evaluation of the Russian Banking Sector

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Abstract: The monetary policy content both in the world and in Russia is changing. The past five years confirm that banking systems are experiencing unprecedented influence of both external and internal macroeconomic factors.

Autonomous factors in the banking sector liquidity formation are factors that are not related to the Central Bank operations for its management. However, at present, there are no studies related to the study of the autonomous factors influence on the banking sector liquidity.

This article presents a model that fills this gap. We use this model to answer a number of theoretical questions: how is the influence of autonomous factors on the banking sector liquidity carried out and in what stages of development are their manifestations stronger?

The calculated model is able to test hypotheses that are informally discussed in political and academic circles. Based on the objectivity of the model, one can estimate the reliability of each of the hypotheses put forward in this study.

For calculating the model, time series were used for each day for the period 2013-2016, taken at the site of the Central Bank of Russia.

On the basis of the panel regressions device it is shown that among the autonomous factors of liquidity formation the largest impact on the Russian banking sector liquidity is made by the change in balances on the accounts of the enlarged government with the Bank of Russia.

The conducted research will allow the Central Bank to forecast the banking sector demand in liquid funds, taking into account the autonomous factors influence.

Keywords: Liquidity, factors, liquidity surplus.

I. INTRODUCTION

In the economic literature, an important place is given to the problem of assessing liquidity management generally, including bank liquidity. In recent years, the events of the Russian money market have shown that the Russian banking system is in a stage of increased uncertainty and volatility. Lack of liquidity can cause a lot of consequences - slowing down the pace of lending, interruptions in settlements, leaving the market for small and medium-sized organizations involved in lending.

Autonomous factors are one of the key concepts for researchers and employees of central banks involved in the implementation of monetary policy, including the bank liquidity management. However, modern studies that allow studying the monetary policy on the part of liquidity management are not available and so far no article has been published, the subject of which would be the study of the autonomous factors influence on the banking sector liquidity.

This study examines the banking sector liquidity management on the basis of an assessment of the autonomous factors influence on the surplus / deficit of liquidity with the use of a mass of information requiring analysis and processing, which will allow further research in this area on a fundamentally new level than in previous studies.

Before turning to the discussion the problem of assessing the banking sector liquidity management, let us turn to the definitions of autonomous factors that are given by economists. Foreign economists (bis Economic Papers Claudio EV Borio, No. 47 1997), based on the experience of European banks, argue that "liquidity management implies certain compensation for autonomous (net) sources of reserves (liquidity), which are treated as changes in other items of the central bank's balance sheet. Although they differ slightly from country to country, these sources primarily include currency interventions, an increase in net lending to the government, changes in other asset categories such as float or capital and reserves (except for those arising from revaluation effects) and cash shortages in circulation. It can be said about the existence of an autonomous excess (deficit) if autonomous factors lead to a net increase (withdrawal) of liquidity" (Borio 1997).

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According to Bindseil Ulr. (ECB: Oxford: University Press, 2004. 2), such autonomous factors as net float, banknotes, foreign assets (including gold), liabilities to the government, and others are classified as activities or services of the central bank that are not determined by the ongoing the central bank for liquidity management, or its counterparties. Since operations related to autonomous factors are carried out using the same means of payment, namely the money of the central bank, they have the effect of providing and withdrawing liquidity, as well as a result of operations related to monetary policy (Bindseil 2004).

In various ECB materials, "... autonomous liquidity factors determine the supply of bank reserves, which are called autonomous because they are beyond the control of the central bank and its counterparties" (ECB: Working paper, 2002. May 142. P. 7) (Miguel 2002), "The autonomous liquidity factors denote all items in the Eurosystem balance sheet that are not monetary instruments nominated in euros" (ECB: Monthly Bulletin, 2008. January, p. 89); "Autonomous liquidity factors are those items in the consolidated balance sheet of the Eurosystem that, along with monetary policy operations, provide or withdraw liquidity and thereby influence current accounts that credit institutions have for interacting with the Eurosystem, mainly for the purpose of meeting minimum reserve requirements" (ECB: Monthly Bulletin, 2012. April, P. 9).

In the Russian economic science and practice the concept of autonomous factors came much later - at the beginning of the XXI century. At present, a number of Russian economists in studies pay considerable attention to autonomous factors, but only in the context of individual problems that they are considering. The author V. Morgunov describes the composition of autonomous factors in the work, and for the analysis of the Bank of Russia credit policy recommends such a format of the Central Bank balance, which should show the components of funds in the accounts of the extended government and other autonomous liquidity factors (Morgunov 2015). A number of researchers (Solntsev *et al.* 2017) consider autonomous factors in assessing the impact of the credit cycle on the formation of a structural liquidity surplus in the banking sector. In the following work, the author considered "the concept of autonomous factors, which reflects the specific features of a number of functions of the central bank as an institution with a special status, the side effect of which is the change in the volume of aggregate bank reserves" (Zalunina 2014).

In this study, the concept of autonomous factors is taken as recorded in the document (The main directions of the single state monetary policy for 2017 and the period 2018 and 2019)"... Factors forming the liquidity of the banking sector, which are not related to the Bank of Russia's operations in its management and management of the overnight rate of the money market. Includes a change in the amount of cash in circulation, changes in the funds of the expanded government on accounts with the Bank of Russia, regulation of mandatory reserves, as well as Bank of Russia operations in the domestic foreign exchange market ...".

To test the hypotheses put forward, based on an assessment of the links between bank liquidity and autonomous factors, consider the concept of liquidity in the banking sector. For further research, the definition in the documents of the Bank of Russia is adopted: "Banking sector liquidity is the balances of credit institutions' correspondent accounts in the central bank used by them for carrying out banking activities, including settlements and payments" (www.cbr.ru).

The problem of assessing the banking sector liquidity management in modern conditions is not fully studied, which significantly increases the prospects for this direction for further scientific research.

The purpose of this study is to analyze the state and dynamics of the Russian banking sector liquidity, determine the nature of the direct impact of autonomous factors on the surplus / liquidity deficit and formulate directions for assessing the Russian banking sector liquidity management.

To achieve this goal, it is necessary to analyze:

- dynamics of the number of operating credit institutions in the Russian Federation in 2012-2017.
- dynamics of the volume of deposits and loans of individuals and legal entities in 2007-2017;
- dynamics of volumes and interest rates on the inter-bank credit market of Russia;
- dynamics of the Russian banking sector liquidity for the period 2014-2018;
- calculate the correlation equation between the liquidity of the banking sector and autonomous factors.

As a result of the study, it was possible to detect the influence of five autonomous factors. For each factor in the interval, the areas of positive and negative influence on the banking sector liquidity are allocated.

II. RESEARCH HYPOTHESES

Hypothesis 1 - Suppose that the autonomous factors influence on the liquidity surplus / deficit is negative: the growth of the structural surplus / decrease in the liquidity deficit, i.e. there is the emergence of unbalanced liquidity.

Hypothesis 2 - Suppose that the influence of autonomous factors on the liquidity surplus / deficit is positive. Then the Bank of Russia can increase its influence on the banking sector liquidity, if it uses a method, the possibility of which in an expert discussion is practically not discussed.

The idea: to assess the autonomous factors influence, in a certain phase of the Russian banking sector development on the banking sector liquidity.

III. Research methodology

The proposed methodology provides for two stages:

1. Analysis of the generalized indicators dynamics showing the banking sector development trend in order to reveal the dynamics of the structural banking sector liquidity deficit / surplus at different stages of development;
2. The second stage involves the use of the economic-mathematical model of the search for the dependence of the banking sector liquidity and autonomous factors.

IV. DESCRIPTION OF THE EMPIRICAL DATA AND RESULTS OF THE STUDY

Thus, Table 1 presents data on the dynamics of the credit institutions quantity in the Russian Federation, on the basis of which a pronounced trend is shown to reduce the credit institutions quantity, which is the result of a consistent policy of the regulator. It should be noted that from 2013 to September 1, 2017, licenses were withdrawn from 346 banks in Russia. In early 2008, there were more than 1100 banks in Russia, and as of September 1, 2017, there were only 561 banks (Figure 1).

Table 2 presents data on the dynamics of relative indicators describing the most important aspects of the domestic banking sector development. Uneven dynamics is the result of the country's socio-economic difficulties. Especially the failure is noticeable, followed with a certain lag after the famous events of 2014. But nevertheless, the banking sector assets have entered the expansion zone, and this trend will continue with a very high probability.

The trend for increasing the share of the Bank of Russia in the obligations of banks was set as far back as in 2011. The increased share of the regulator's funds in funding the banking system was conditioned by the Bank of Russia desire to maintain a comfortable level of liquidity of banks in conditions of lagging growth in deposits.

The sharp increase in the key rate to 17% in December 2014 actually deprived the banks of the ability to attract short-term funding in sufficient volume in the interbank market, forcing them subsequently to reorient to attract short-term deposits. As a result, traditionally more profitable long-term deposits have become significantly cheaper than deposits for up to 1

Table 1: Dynamics of the number of operating credit institutions in the Russian Federation in 2012-2017 yy.

Indicator	2012	2013	2014	2015	2016	2017
The credit organizations are registered by the Bank of Russia or on the basis of its decision by the authorized registering authority, total	1094	1071	1049	1021	975	923
including: banks	1027	999	976	947	908	867
non-banking credit organizations	67	72	73	74	67	56
Credit organizations authorized to conduct banking operations	956	923	834	733	623	561
including: banks	897	859	783	681	575	517
non-banking credit organizations	59	64	51	52	48	44

Source: <http://www.cbr.ru/analytics/bank>

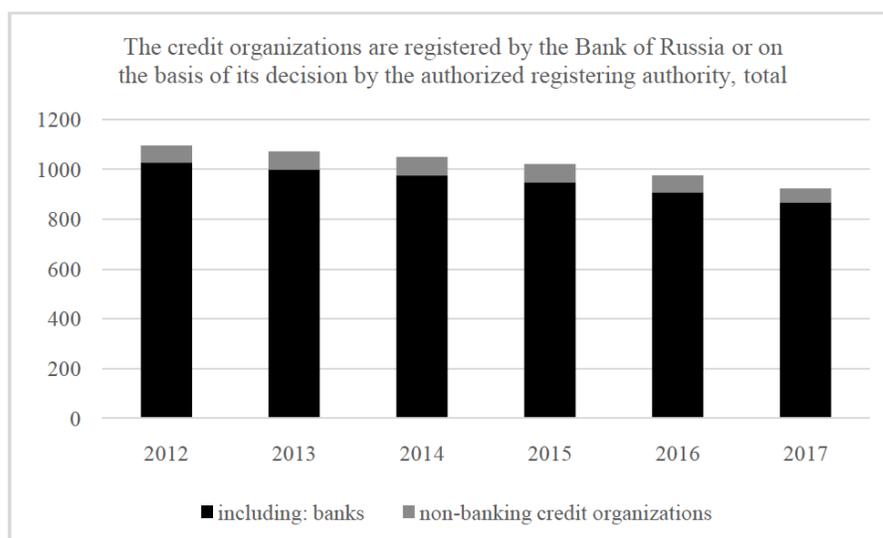


Figure 1:

Table 2: The Growth Rate of the Banking Sector (% Per Year)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Assets	44,1	39,2	5,0	14,9	23,1	18,9	16,0	35,2	6,9	-3,5	6,4
Capital	57,8	42,7	21,2	2,4	10,8	16,6	15,6	12,2	13,6	4,2	0,1
Loans and other disbursed funds provided to non-financial organizations	51,5	34,3	0,3	12,1	26,0	12,7	12,7	31,3	12,7	-9,5	0,2
Credits and other funds provided to individuals	57,8	35,2	-11,0	14,3	35,9	39,4	28,7	13,8	-5,7	1,1	12,7
Deposits of individuals	35,4	14,5	26,7	31,2	20,9	20,0	19,0	9,4	25,2	4,2	7,4
Deposits and funds on accounts of non-financial organizations (other than credit institutions)	51,3	26,6	10,3	15,0	22,7	14,0	16,0	38,6	15,6	-10,1	2,1

Source: http://www.cbr.ru/analytics/bank_system

year, which further increased the outflow of funds from this segment. Throughout 2011-2014. The Russian banking system was in a state of growing liquidity deficit.

In general, we can say that the banking sector resources, based on the contributions of individuals continue to grow. Although in the long term it is likely that this process will slow down, including due to the deterioration in the price situation in the market caused by the gradual reduction of the key rate for potential investors by the regulator. This trend conceals the danger of even more widespread practices of changing the liquidity of the banking sector. Obviously, this also can not be ignored in determining the prospects for the formation of liquidity.

Taking into account that the Bank of Russia carries out the forecast of autonomous factors of liquidity formation proceeding from the premise that an effective redistribution of funds between banks having excess liquidity and experiencing a need for additional liquidity takes place in the inter-bank lending market, we will conduct an analysis of the inter-bank lending market (Table 3).

The aggregate portfolio of provided interbank loans in 2015 increased by 24.9% and by 34.4% in 2014. At the same time, the volume of interbank loans extended to resident banks increased by 33.2%, and non-resident banks by 14.8%. The volume of interbank loans attracted from non-resident banks decreased by 19.8% in 2015, and by 2016 of net borrowers (the

Table 3: Volume of Provided Interbank Loans for 2008-2016 Period

Date	Loans, received commercial banks from Bank of Russia		Loans, received from another commercial banks	
	Mlrd.roubles	% (liabilities)	Mlrd.roubles	% (liabilities)
01.01.2008	34	0,2	2807,4	13,9
01.01.2009	3370,4	12	3639,6	13
01.01.2010	1423,1	4,8	3117,3	10,6
01.01.2011	325,7	1	3754,9	11,1
01.01.2012	1212,1	2,9	4560,2	11
01.01.2013	2690,9	5,4	4738,4	9,6
01.01.2014	4439,1	7,7	4806	8,4
01.01.2015	9287	12	6594,2	8,5
01.01.2016	5363,3	6,5	7091	8,5

Source: http://www.cbr.ru/analytics/bank_system

volume of net obligations to non-resident banks as of January 1, 2015 was 155 billion roubles), Russian banks became net-creditors (the volume of net claims to non-resident banks as of 01.01.2016 amounted to 111 billion roubles).

As a result of measures reducing the liquidity deficit in 2015, the share of borrowing from the Bank of Russia declined (by 42.3%, to 5.4 trillion rubles), while the share of these funds in banks' liabilities decreased from 12.0 to 6.5%.

The volumes of provided and attracted interbank loans retain insignificant shares in the banking sector's assets and liabilities. In an unstable economic situation, counterparty banks experience difficulties in adequately assessing risks in mutual lending and refrain from conducting transactions.

As a result, this leads to the fact that the Bank of Russia becomes the main counterparty that provides and absorbs the banking sector liquidity. The limited access to the market for interbank lending to small and medium-sized banks, the concentration of conducted transactions among banks with state participation and subsidiaries of foreign credit institutions, and the virtually non-existent interregional interaction hinder the effective redistribution of financial resources and the money market development.

The structure of the borrowed funds has also changed. As a result of the reduction in the banking sector's demand for refinancing from the Bank of Russia, the volume of inter-bank lending has increased.

Moreover, the distribution of liquidity is uneven - more than 70% falls on the largest banks with state

participation, as a consequence, the interbank market during the crisis period is almost inaccessible to small banks.

In 2016, the structure of the market has changed both qualitatively and quantitatively. Following Bank of Russia measures aimed at solving the problem of a systemic liquidity deficit, commercial banks increased their activity in the interbank loans market and began to attract more funds from other commercial banks, which may indicate that the share of the least financially stable lending institutions has been eliminated. And the remaining banks are gradually adapting to the existing conditions and are not so much in need of support from the Bank of Russia.

Proceeding from the above it follows that the Bank of Russia liquidity objective is:

- to forecast the banking sector demand correctly;
- to establish the interest corridor boundaries in such a way that the rate on the interbank market does not exceed the upper limit or that the rate on the interbank market does not drop limits of the lower boundary.

So that the central bank does not take the excess position of the net borrower, absorbing money through operations of constant action at too high a rate.

The analysis made it possible to reveal that there is a clear dependence of the banking sector, the population, and organizations on external financing, which is related to domestic political stability.

Let's consider the liquidity dynamics for the period 2014-2018 (Table 4).

Table 4: Dynamics of Structural Deficit / Surplus of the Banking Sector Liquidity for 2014-2018 Period

Date	Structural deficit / surplus of the banking sector liquidity	
	In billion rubles	in% to the previous year
01.01.2014	1 270,0	
01.01.2015	1 215,5	0,957
01.01.2016	1 594,0	1,311
09.01.2017	736,1	0,462
09.01.2018	-2 638,6	
07.05.2018	-3 489,6	

Source: <https://www.rbc.ru/finances/12/05/2016/573305969a79476df9c45f5e>.

The presented data characterize the level of structural deficit / liquidity surplus, which is the difference between the indebtedness for refinancing operations and the Bank of Russia's absorption operations.

The banking sector's liquidity deficit is a condition of the banking sector, characterized by the existence of a stable need for credit institutions to attract liquidity through transactions with the Bank of Russia. The reverse situation - the existence of a stable need for credit institutions to place funds in the Bank of Russia - is a structural surplus of liquidity.

Liquidity analysis shows that the liquidity deficit in 2014 is part of the trend of the systemic deficit, which arose in late 2011 - early 2012. Low growth rates of the Russian economy in 2013 had a negative impact on the dynamics of lending to large businesses. At the same time, there was significant braking in the unsecured segment of retail lending, and the amount of overdue loans on individuals from individual retail banks increased more than doubled in 2013 - early 2014, which adversely affected the profitability of most leading retail banks.

Another factor of instability for the market in early 2014 was the threat of expansion of economic sanctions by Western Europe and the US against Russian companies, banks and certain sectors of the economy.

Additional pressure on the system was created by large state-owned banks, which it was more profitable to direct excess liquidity not to the interbank market, but to sell their own retail projects. While the interbank market was almost closed to small banks, they were forced to maintain an excessive "pillow" of liquidity.

The dynamics of liquidity in late 2015, early 2016 indicates an increasing liquidity surplus. In this

situation, commercial banks preferred to keep money on deposits in the Central Bank, where the rate is higher, rather than buying bonds of companies. At the same time, because of the excess liquidity in the market there is a fall in rates. Under the circumstances, the accumulated money from banks did not enter the real economy and did not contribute to its growth.

The reason for the rouble liquidity's surplus in the banking sector, according to the authors, is related to the federal budget deficit, which the Finance Ministry financed from the Reserve Fund. "In 2015-2016, the Federal Treasury and the constituent entities of the Russian Federation more actively placed funds for deposits, which became one of the sources of liquidity inflow in the beginning of the calendar year", - is presented in materials prepared by the Association of Regional Banks "Russia"¹. In particular, the decrease in balances on the accounts of the enlarged government in the Central Bank added to the banking sector liquidity in the amount of almost 3.1 trillion roubles in 2015, about another trillion banking sector received due to foreign exchange interventions of the Central Bank and reduction of cash in circulation. In 2015, there was no surplus in this volume, because banks used them to pay off debts to depositors. To ensure the smooth operation of the money market and the banking sector as a whole, maintaining the trust of its participants to each other, the Bank of Russia takes special measures to address possible temporary liquidity problems with credit institutions. To this end, in 2017, the Bank of Russia introduced a special instrument - an emergency liquidity support mechanism for credit institutions. The Bank of Russia will apply this mechanism in exceptional cases to banks experiencing temporary liquidity problems, taking into account their

¹http://www.asros.ru/ru/about/work_docs

financial stability, as well as systemic significance. This mechanism can be used only if the bank has no other sources of raising funds, including those on monetary policy instruments. The Bank of Russia makes funds provision's decisions individually. At the same time, the Bank of Russia does not undertake to provide liquidity within the framework of this program to any credit institution that has applied. A prerequisite for the provision of funds is the availability of a plan to address the liquidity problems that have arisen (exit strategies) during the term of the funds provision and a positive assessment of the Bank of Russia's ability to resolve these problems. The presence of this mechanism will allow the Bank of Russia, if necessary, to support a financially stable bank and prevent the development of negative trends in the money and financial markets as a whole, ensuring the smooth operation of the transmission mechanism of monetary policy (Bank of Russia on November 10, 2017).

Consequently, we can conclude in addition to external economic factors, the precondition for a sharp liquidity deficit for the analyzed period was a change in currency in circulation at the end of 2014, when, due to the sharp devaluation of the rouble, part of the money resources of the population and organizations was directed to the implementation of current operations for the consumption of goods and services (Bank of Russia on November 10, 2017).

V. DATA AND VARIABLE CONSTRUCTION

Taking into account the received conclusion and that currency in circulation refers to the autonomous factors of liquidity formation that is not dependent on the Bank of Russia activity. This study attempts to determine the impact of changes in currency in circulation (outside the Bank of Russia), changes in balances on the accounts of the extended the government in the Bank of Russia and other transactions, the movement of funds under the state internal debt, the change in the banks' debts on deposits of the Federal Treasury, the intervention of the Bank of Russia on internal foreign exchange market and operations for the purchase of monetary gold; required reserves regulation of credit institutions in the Bank of Russia on the unbalanced liquidity.

In this paper we consider monetary funds of credit institutions on correspondent accounts with the Bank of Russia. The study focuses on the relationship between gross correspondent accounts and debt on secured loans of the Bank of Russia from 31 to 90 days, change

in currency in circulation (outside the Bank of Russia), changes in balances on the extended government accounts with the Bank of Russia and other transactions, net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange market) (in local currency). We assesses daily data between 2013 and 2016. The resulting data set consists of 3765 observations, which of 4 factors – 3012 observations. In order to show the elasticity of the dependent with respect to dependent variables we use the relationship.

$$CORR = f(Debt, CENC, GOV, Net)$$

$$\log CORR_t = \beta_0 + \beta_1 Debt_t + \beta_2 CRNC_t + \beta_3 GOV_t + \beta_4 Net_t + \mu_t$$

Where: $\log CORR_t$ is correspondent accounts with the Bank of Russia

$Debt_t$ = is debt from 31 to 90 days

$CRNC_t$ = is currency in circulation

GOV_t = is government accounts

Net_t = is net volume liquidity operations

β_0 = is the intercept

$\beta_1, \beta_2, \beta_3, \beta_4$ – are coefficients of explanatory variables

μ_t = is the error term

The data for study was obtained from national central bank statistics. Before running the regression equation the following tests were carried out: stationarity, multicollinearity using the correlation matrix, autocorrelation.

The results of correlation tests are depicted by a correlation matrix Table 5:

The correlation matrix presented in Table 5 indicates a positive relationship between monetary funds of credit institutions on correspondent accounts with the Bank of Russia and change in currency in circulation (outside the Bank of Russia). monetary funds of credit institutions on correspondent accounts with the Bank of Russia are negatively related to debt on secured loans of the Bank of Russia from 31 to 90 days, changes in balances on the extended government accounts with the Bank of Russia and other transactions, net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange

Table 5: Correlation Matrixes

	Monetary funds of credit institutions on correspondent accounts with the Bank of Russia (billion roubles)	Debt on secured loans of the Bank of Russia from 31 to 90 days (billion roubles.)	Change in currency in circulation (outside the Bank of Russia)	Changes in balances on the extended government accounts with the Bank of Russia and other transactions	Net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange market)
Monetary funds of credit institutions on correspondent accounts with the Bank of Russia (billion roubles)	1				
Debt on secured loans of the Bank of Russia from 31 to 90 days (billion roubles.)	-0,517980283	1			
Change in currency in circulation (outside the Bank of Russia)	0,040241738	0,064312404	1		
Changes in balances on the extended government accounts with the Bank of Russia and other transactions	-0,090322383	0,001669329	-0,26576	1	
Net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange market)	-0,159491714	-0,05582145	-0,1284	-0,46933825	1

market). All correlations among the dependant and other variables were found to be less than 0.6; implying the absence of multicollinearity.

R-squared 0,353062; Adjusted R-squared 0,594190.

Model specified:

$$\log CORR = 1585,8524 - 0,2669Debt_t - 0,3902CRNC_t - 0,9067GOV_t + 0,9245Net_t + \mu_t$$

VI. RESULTS INTERPRETATION

The below Table 6 shows the result of regression analysis.

The coefficient of determination (R^2) of 0,353062 means that 35,3062% of the variation of monetary funds of credit institutions on correspondent accounts with the Bank of Russia is being explained by the independent variables in the model. There is not strong relationship between savings and the independent variables. The standard error is 253,7629. It is shown

there are another factors, which influence the liquidity formation process.

The regression coefficient for debt on secured loans of the Bank of Russia from 31 to 90 days is -0,2669. It indicates an increase in the ratio by 1% leads to a decrease in monetary funds of credit institutions on correspondent accounts with the Bank of Russia by 0,2669 units.

The regression coefficient for change in currency in circulation (outside the Bank of Russia) is -0,3902. It indicates an increase in the ratio by 1% leads to a decrease in monetary funds of credit institutions on correspondent accounts with the Bank of Russia by 0,3902 units.

The regression coefficient for change in balances on the extended government accounts with the Bank of Russia and other transactions is -0,9067 units. It indicates an increase in the ratio by 1% leads to a decrease in monetary funds of credit institutions on correspondent accounts with the Bank of Russia by 0,9067 units.

Table 6: Summary of Regression Analysis

	Coefficient	Std error	T-statistic	P-value
C	1585,8524	15,65	101,36	0,00
debt on secured loans of the Bank of Russia from 31 to 90 days (Debt)	-0,2669	0,01	-18,56	0,00
change in currency in circulation (outside the Bank of Russia) (CRNC)	-0,3902	0,32	-1,23	0,22
change in balances on the extended government accounts with the Bank of Russia and other transactions (GOV)	-0,9067	0,13	-6,80	0,00
net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange market) (Net)	-0,9245	0,12	-7,99	0,00

The regression coefficient for net volume of Bank of Russia operations for the provision and absorption of liquidity (excl. transactions in the domestic foreign exchange market) is -0,9245 units. It indicates an increase in the ratio by 1% leads to a decrease in monetary funds of credit institutions on correspondent accounts with the Bank of Russia by 0,9245 units.

VII. CONCLUSION

At the moment the Russian banking system consist is rapidly growing. The bulk of registered banks consists of medium and small banks in comparison with such giants as VTB and Sberbank. Applicable to the whole banking sector, the authors note the segmentation of the interbank lending market and dependence on foreign funds, as evidenced by the situation that emerged after the introduction of economic sanctions by Western Europe and the United States against Russian companies and banks in 2014.

In assessing the banking sector liquidity management, this paper found a direct impact of autonomous factors on the banking sector liquidity.

Arguments in the regression model are autonomous factors, and the function is the liquidity of the banking sector. This allows not only to approximate the structure of the model of financial liquidity flows to meet the needs of the economy, but also take into account the interbank market.

One of the main factors affecting the formation of liquidity is the change in budget balances on the accounts of the enlarged government, and the amount of budget funds is largely dependent on energy prices. In addition, the expenditure of budget funds during the year is very uneven.

The authors propose to focus on the redistribution of liquidity between market participants through bank lending.

The use of the model requires the creation of a mechanism of selective action, and not hampering the solution of the tasks of economic development.

Of particular interest are the search for a form of balanced liquidity in the banking sector for the optimal development of the Russian economy.

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