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IMPACT OF STRUCTURAL CHANGES IN DEPOSIT OPERATIONS OF CREDIT INSTITUTIONS ON INFLATION

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Abstract

The current state of the Russian economy undergoes further structural changes in all fields; it is characterized by the considerable deterioration in macroeconomic indicators and inflation growth. At the same time, the ratio between consumption and accumulation, financial and real economy sectors changes. The value of financial security of economic entities, the choice of ruble or currency mutual settlements and deposits increases. The bank model of development of the financial markets and financial and credit institutions demands research of tools, methods and trends, where the formation of resources of commercial banks has undoubtedly paramount value. Therefore, we will consider dynamics and structure of deposit operations of credit institutions in the article and reveal the extent of impact of structural changes on inflationary processes.

Keywords: Inflation, Structural Changes, Degree of Reliability of Data, Type of Dependence, Credit Institutions, Deposit Operations, Ruble and Currency Deposit

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INTRODUCTION

The macroeconomic stability is largely determined by structural changes and the development of the banking sector and the credit market. The activities of credit institutions require continuous improvement of deposit operations, including determined by their structure by types and maturity. The formation of the deposit base on a structural basis uses a variety of tools and resources to raise funds that support the potential of a commercial bank to carry out active operations at the operational level, as well as to respond quickly to the clients' financial needs.

To increase the lending capacity, the commercial banks need to step up their policy of deposit operations. To do this, they need to expand the list of deposits, maintain a level of diversification and balance with assets by maturity, volumes and interest rates, provides an opportunity to raise financial resources from other sources. To effectively attract clients for cooperation with a commercial bank, a program can be developed to pay the interest on outstanding deposits forward to offset inflationary losses [1].

Any commercial bank has a deposit policy and tries to improve it, where it takes into account its specificity, competitive factors from other commercial banks, as well as the inflation processes in country's economy and the needs of individuals and legal entities for their services [2].

The problem of investment activity of commercial banks is the most relevant to modern Russia, which is in transition stage of the economy [3].

DATA AND METHODOLOGY

Methodology of the study is based on theoretical developments of foreign and domestic academic economists on the researched topic. It includes a set of general methods of scientific research – induction, deduction; general science – synthesis and analysis, statistical, mathematical, evolutionary, sociological; specific scientific – balance, calculated and constructive, regulatory and resource, variant, monographic, graphic, factor economic analysis, econometric, correlation and regression.

RESULTS AND DISCUSSION

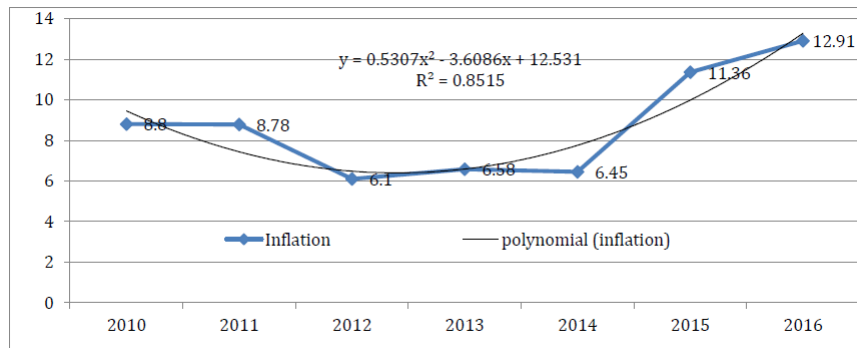
The practice of use of deposit transactions by commercial banks is recognized as a tool that is aimed at reducing inflation and business activity, which is the objective of the state monetary policy. The sharp increase in the key rate means that commercial banks have limited access to external funding, Russian banks have to borrow from the Bank of Russia, which enhances the effect of the used tool.

It should be noted that assets and liquidity decrease in commercial banks. This is due to a decrease in the purchasing power of money, as well as to the sharp decline in banks' resource base, caused by the reduction in savings of the population and economic entities, which are stored in accounts in commercial banks and are the main way to reduce the level of losses from inflation, against the backdrop of inflation.

We will quantitatively study the figures and identify the closeness of relationships, applying correlation and regression analysis using Microsoft Excel program. The regression model is aimed at identifying the degree of impact of the structure of deposit operations in credit institutions on inflation (y) for the period 2009-2015. We will include in the model the variables (x) based on the structure of deposit operations as the most significant by the share in the ruble and foreign currency deposits.

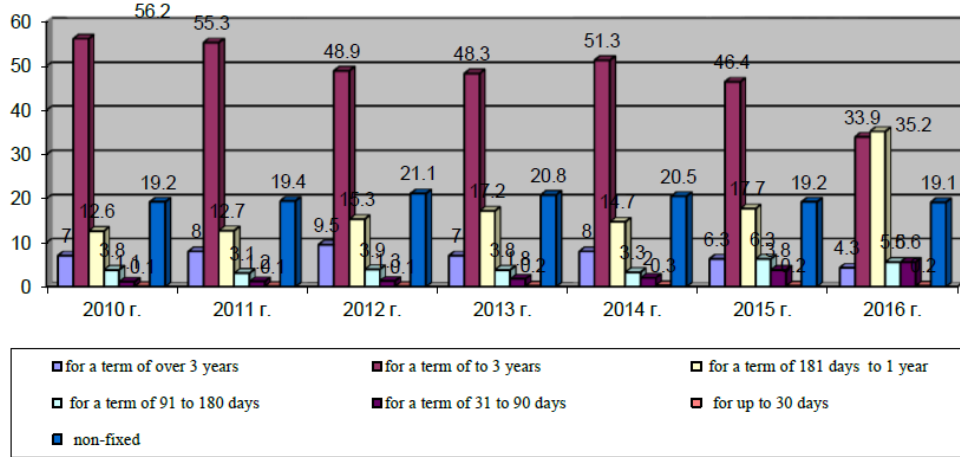
With the help of a graphic image (Figure 1), we will visually represent the statistics of inflation in the Russian Federation, identify the relationship and the degree of reliability of the data R^2 .

Figure 1: Polynomial dependence of the change in inflation over 2010-2016.



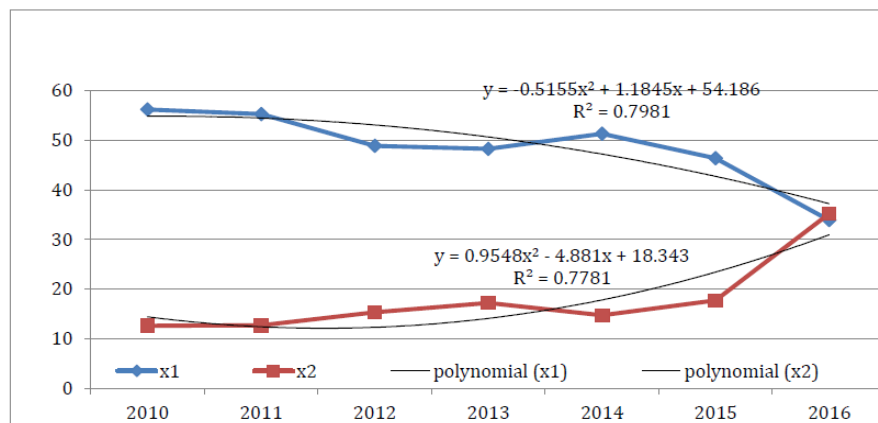
As is known, the deposit operations are carried out both in the domestic and foreign currency. However, dependence on foreign capital markets maintained in recent years both in the area of strengthening internal resource base and the area of expansion of demand for banking services. This impacts the satisfaction of Russian economic agents' demand for high quality banking services provided by credit institutions (Figure 2).

Figure 2: Structure of deposit operations of credit institutions in rubles as of 01.01.2010-2016.



The structure by terms in rubles shows that the largest share is taken by the deposits of 1 to 3 years and 181 days to 1 year – 68.8% as of 01.01.2010 and 69.1% as of 01.01.2016, respectively. There is a trend of sharp reduction of deposits for a term of 1 to 3 years during the analyzed period by 60.4% and the increase for a term of 181 days to 1 year. We will include these indicators as dependent variables for a term of 1 to 3 years (x_1), for a term of 181 days to 1 year (x_2) in the regression model [4]. Let us identify the functional relationship between the indicators and represent it by a diagram (Figure 3).

Figure 3: Dynamics of polynomial relation between the changes in deposits in rubles for a term of 1 to 3 years and 181 days to 1 year.

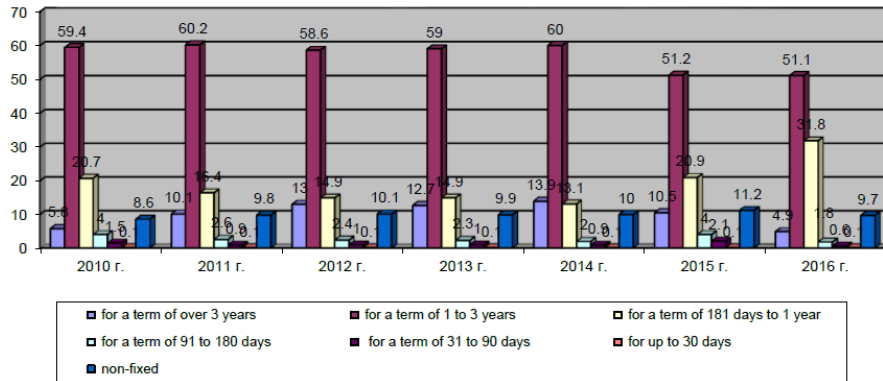


The structure of deposits of citizens depending on the terms of investment shows the investment preferences of investors and their expectations [5].

The financial instrument for the population is the accumulation of funds in foreign currency, while for businesses it is lately operations in rubles and accumulating mutual debts.

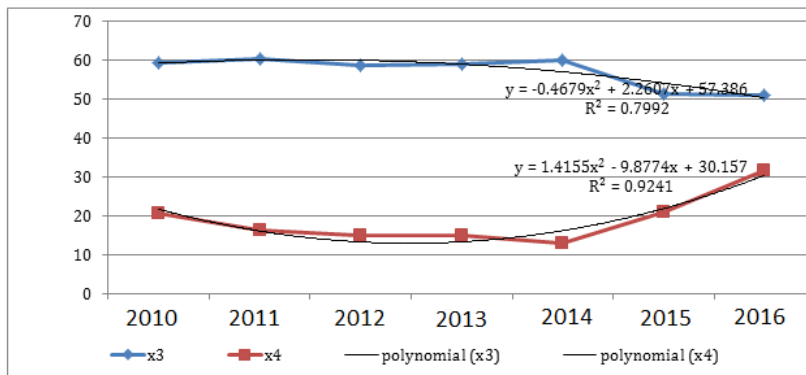
Let's study the structure of the foreign exchange deposit transactions and dynamic series of indicators, identify trends, dependency, and the reliability of data, and represent it by a diagram (Figures 4 and 5).

Figure 4: Structure of deposit operations of credit institutions in foreign currency as of 01.01.2010-2016.



The structure in foreign currency also shows that the main share of 82.9% is taken by the deposits for a term of 1 to 3 years (x_3) and for a term of 181 days to 1 year (x_4), as of 01.01.2016 year. [6]. At the same time, the trend of structural changes is similar to ruble deposits. Let's visualize the dynamics of change in the structure of basic fixed-term deposits, identify the functional dependence of data and determine the degree of reliability of the data (Figure 5).

Figure 5: Dynamics of polynomial relation between the changes in deposits in foreign currency for a term of 1 to 3 years and 181 days to 1 year as of 01.01.2010-2016.



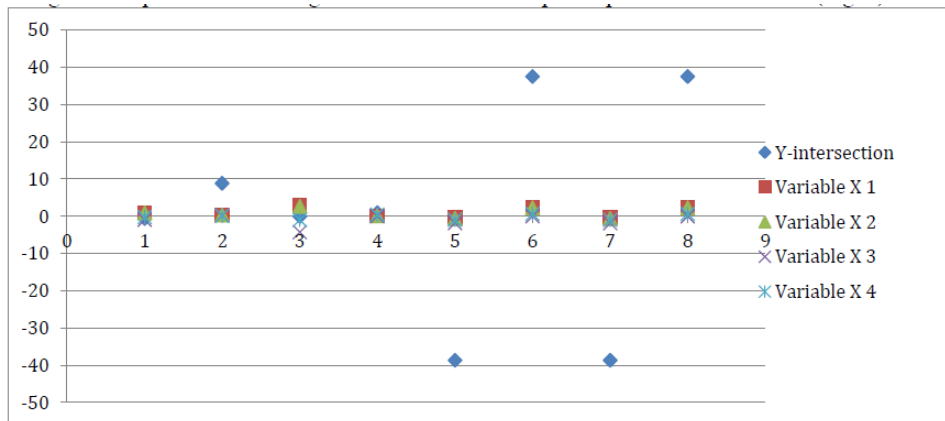
On the basis of the data presented, it can be argued that the curves confirm the assumptions of an unstable state of the economy and reorientation of foreign currency deposits to a shorter term of 181 days to 1 year. The source of this trend can be primarily sanctions against the Russian Federation, downturn in the financial markets, decline in oil prices, deterioration of international relations, political or macroeconomic instability.

Russian banks have recorded growth in demand for foreign currency deposits over four years, as the trend is observed from 2010 to 2014 due to the short deposits in dollars and euros [7]. In 2015, there is a marked decrease in the acquisition of deposits in foreign currency, due to the fact that while the interest on foreign currency deposits is much lower than on ruble deposits, accounts in dollars or euros guarantee that savings will not become cheaper.

This requires staff with the highest qualification in many areas: legislation, skills in investment work, property management [8].

Let's build a multiple regression model and visualize the closeness of the relationship and the degree of dependence of changes in the structure of deposit operations on inflation (Figure 6).

Figure 6: Closeness of the relationship between deposits in rubles, foreign currency and inflation.



There is very strong relationship at the intersection of inflation, currency and ruble deposits in points 2, 6, 8. This proves that the deposits in rubles and foreign currency for a term of 181 days to 1 year and a term of 1 to 3 years have a significant impact on inflation. This is also confirmed by the main results of the regression statistics, presented graphically (Table 1).

Variables (x_1), (x_2) demonstrated positive value. (x_3), (x_4) have negative value. With regard to the impact of inflation, the obtained results can be described with the opposite effect, since we are trying not to raise inflation, but lower it. These calculations have once again confirmed the importance of and reliance on foreign currency deposit

transactions.

Table 1: Results of regression statistics.

| Indicators | Values | Variables | t-statistics |
|----------------------|---------------|-------------------------|---------------------|
| Multivariate R | 0.993773439 | Y-intersection | -0.062551466 |
| R-square | 0.987585649 | Variable X ₁ | 3.155247757 |
| Normalized R- square | 0.962756946 | Variable X ₂ | 2.699332278 |
| Standard error | 0.505286139 | Variable X ₃ | -4.264637933 |
| Observations | 7 | Variable X ₄ | -0.910023087 |

Ubiquitous calculation has opened up new opportunities for the banking business. If the main income comes in rubles, it makes sense to open a deposit in the bank for a short period in the domestic currency. A desire to invest in the foreign currency deposit will require exchange operations that entail additional costs on the bank's spread or commission. Such a transaction is recommended only if the bank offers fairly high interest rates on foreign currency deposits, and funds will be placed for a long period.

SUMMARY AND CONCLUSION

The profitability of bank deposits is influenced by a term of the fund's investment, amount of interest due, function of capitalization and a number of other parameters. However, due to the instability of the domestic economy and the frequent price changes in the financial market, the choice of currency assets in which investment will be made also plays a greater role in determining the profitability of banking investment. The key parameters of foreign currency investment in deposits are as follows:

- Level of quotations at the opening of a deposit account
- Indicators of the exchange rate on the date of completion of the deposit agreement
- Probability of exchange transactions and their frequency
- Internal bank currency conversion rate
- Interest rate on foreign currency deposits

These parameters determine the profitability of foreign currency deposits. But other than that, you need to keep in mind the deposit maturity – some currencies are more stable and suitable for long-term investment. However, even a rapid rate growth may not be very profitable indicator of bank deposits – reduced interest rates is a reason for this. The more stable the currency, the lower the interest rates. For example, the highest interest rate is that of the national domestic currency. Ruble has the highest rates. But the yield growth is offset by inflationary processes in the country. The profitability is also minimized as a result of the fall of the ruble against other foreign currencies.

There is a close relationship here between the levels of quotes, value of the rates of return and investment term. In the attempts to get the maximum benefit from their investment, some investors open short-term deposits with investments in rubles at high rates. Those who prefer stability and saving rather than earning rightly invest in foreign currencies. Moreover, the most favorable option in the context of minimizing risks is stable currencies. Particular attention is paid to the system of individual deposit insurance [9]. With long-term investment, the investor gets quite a decent income by maintaining high interest rates and quotes.

As an organizational solution, we offer credit institutions a specialized bank that will combine loans with most uncertain outcomes (risks) in a portfolio [10]. These factors are aimed at limiting the activities of commercial banks in the process of unwinding of the inflationary process. All of the said above explains the participation of commercial banks in the inflationary process, as it helps the banking system create money, and therefore, enables banks to multiply the money supply.

EMPIRICAL RESULTS

An in-depth study of the impact of the structure of deposits of commercial banks on the level of inflation revealed their multidirectional impact. Quantitative changes of the level of inflation are in direct dependence on the deposits in foreign currency and reverse dependence on ruble deposits. In addition, the revealed close relationship is described by a high proportion of data reliability. Thus, the results of solving the multiple regression models have confirmed that the current situation is not a crisis state of the economy, and it can be characterized as unstable. Commercial banks rely on the financial resources of the public and large companies. Reducing dependence on external factors and external resources and balanced foreign economic policy significantly impact the structure of deposit operations, reflect the risk of the emergence of crisis phenomena in the banking sector and impact the reduction of inflation.

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