

IMPACT ASSESSMENT TOOLS OF MONETARY POLICY NATIONAL BANKS ON THE PARAMETERS OF THE INVESTMENT ACTIVITY OF THE BANKING SECTOR

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Abstract: *Based on the analysis of financial parameters of the economy and the monetary authorities investigate the state of the monetary sphere in Ukraine and abroad. Directions influence monetization opportunities for the formation of the investment potential of the banking sector. We consider monetary regulation by the government and the Central Bank by the following set of tools: changing reserve requirements, changes in the refinancing rate. Settles a special role in the investment activity in the banking sector, the Central Bank, the carrying out of control and regulatory function.*

Keywords: *refinancing rate, the banking sector, the required reserves, the money supply, the units multiplier*

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1. INTRODUCTION

In order to make a strategic decision- in the context of monetary policy it is necessary to assess the significance of the impact of individual methods and tools on the dynamics of investment in order to predict the possible consequences of the use of various instruments regulating the money supply. One such tool is the discount rate – monetary instrument by which the regulator sets the benchmark for commercial banks involved and the cost of any financial resources.

2. IMPACT TOOLS OF MONETARY POLICY NBU OPTIONS INVESTMENT ACTIVITY OF COMMERCIAL BANKS

Important stabilizing role to maintain liquidity in the banking system plays refinancing. A bank by adjusting the level of refinancing rates affects the value of the monetary base. In the case of higher demand for credit and risk "overheating" economy (National Bank of Ukraine) NBU 's policy "expensive money", the refinancing rate is increasing. The increase in the discount rate reduces the demand for commercial banks for loans provided through the "discount window" and reduces the amount on reserve accounts of commercial banks in the Bank (monetary base). Changes in the monetary base lead to corresponding changes in money supply enhancing the effect of the money multiplier. Due to the rising cost of credit the demand for investment is reduced, slowing growth and inflation, increasing unemployment. If downturn in economic activity, stagnation of the NBU, in contrast, has a policy of "cheap money", lowering the refinancing rate, thereby expanding the amount of lending by stimulating investment and growth. In this case, the risk of rising prices increases. As the volume of loans obtained through the "discount window" is currently low, the refinancing rate rather takes the role

of an indicator as to future intentions NBU monetary policy, indirectly affecting the level of market interest rates ("signal effect"). Change of the refinancing may not be an effective instrument of monetary policy, because, firstly, the volume of refinancing is not fully controlled by the NBU, and secondly, the application of the mechanism is rather cumbersome and the consequences are not always predictable. Fig. 1 shows the dynamics of changes in the interest rate for refinancing with respect to the relative change in the money supply.

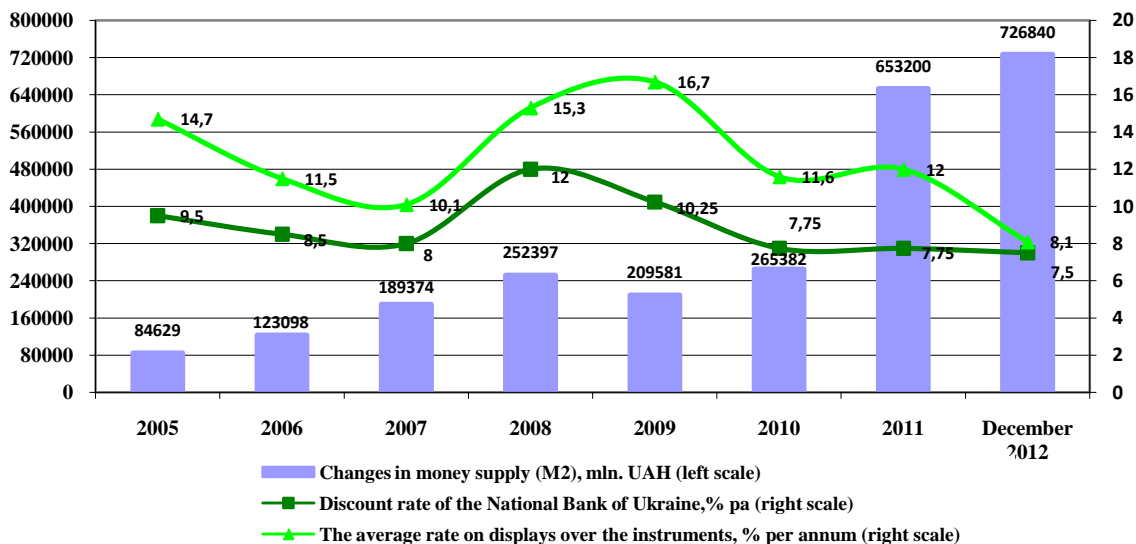


Figure 1. Dynamics of changes in the refinancing rate in relation to the relative change in the money supply Compiled by the author based on [1]

Fig. 2 shows the dynamics of changes in the refinancing rate and weighted average interest rates on corporate loans.

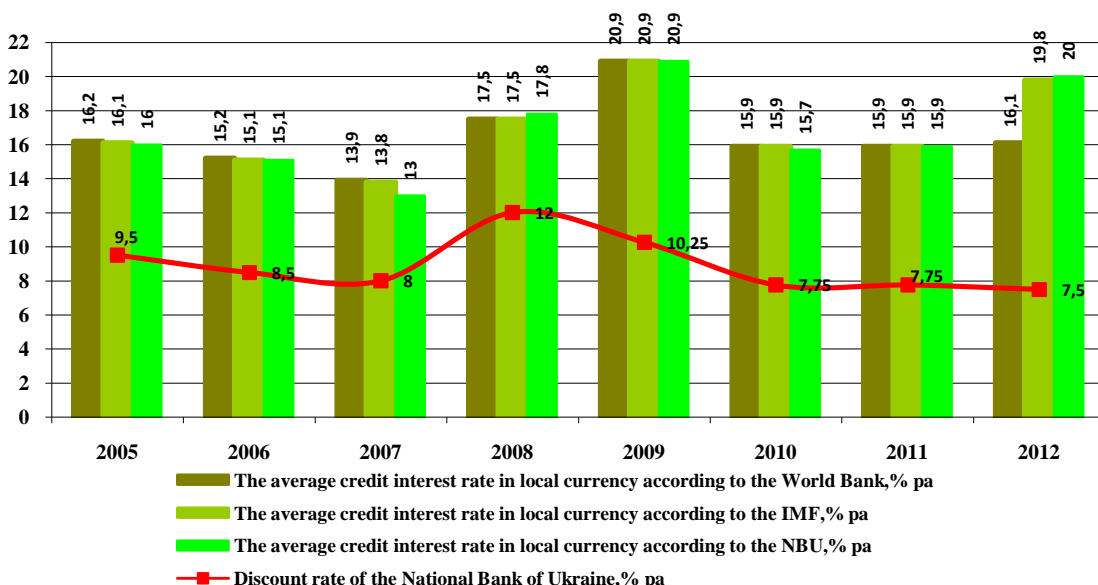


Figure 2. Dynamics of changes in interest rates and refinance weighted average interest rate on loans to legal entities 2005, 2012, % pa Compiled by the author based on [2-6]

The discount rate is the lowest among the Bank and the interest rate is the basic indicator of valuation of cash. The interest rate can adjust to the level of prices in the economy. The chain, which justifies the process, is as follows. A high discount rate leads to a reluctance of commercial banks to loan from the Bank at high interest. This reduces the level of bank reserves and hence their capacity for lending to businesses. The amount of money in circulation is significantly reduced, thus decreasing the overall level of prices. Low NBU discount rate encourages banks to obtain cheap credit. The amount of money in circulation increases, while increasing the price. If present indicated graphically you get a declining function (Fig. 3).

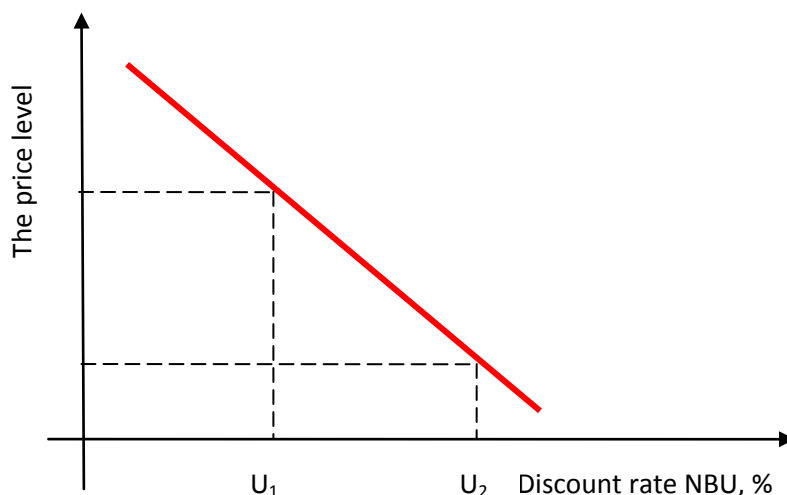


Figure 3. The dependence of prices in the economy of the NBU discount rate

As shown in Fig. 3, a greater level of interest rate corresponds to a lower price level. NBU rate is varying within the U_1 and U_2 (in practice usually 1-12 %) which can change the money supply and, as a result, prices in the economy, and thus result in inflation (deflation) in some of the "target" (goals). Targeting inflation – monetary policy to ensure a certain level of price increases, is a common approach to regulating the money supply through monetary measures – integrated management of interest rate, exchange rate, money supply.

IMF makes loans on terms of state power appropriate monetary policy. The fact that a high level of monetization of the economy, not only does not cause the inflation, but it can provide a low level. For example, an attempt of the financial power of China in 2004 to reduce the level of monetization of the economy (from 160% to 157% of GDP) led to an increase in inflation of 1% to 4%. However, the availability of credit in local currency provided a steady growth of Chinese economy.

Analyze whether this process occurs in real life. Indeed, interest rates are included in the consumer price. Try to visually direct function (see Fig. 3) to its limits. Orient the discount rate to infinity. Apply the formula "value" with the inclusion of interest rate and introduce the function graphically. Obviously, the guiding rate to infinity, the cost of goods should also strive to infinity. And, accordingly, the guiding rate to zero or negative value to decrease. That is the form the "price-rate" should take (Fig. 4).

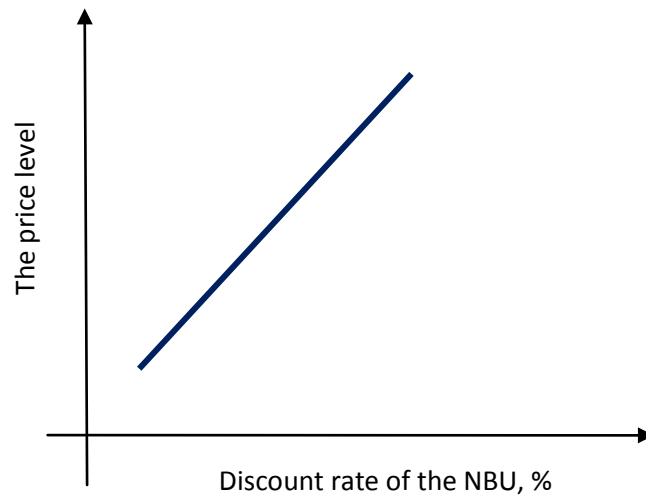


Figure 4. The dependence of prices in the economy of the NBU discount rate

The question arises whether it is possible and the situation in real life? Because the interest rate cannot be less than zero, the behavior of this function near zero indicates not appropriate. But you can imagine the existence of negative interest rates. For example, an entity which in such unusual situations got underpaid for the loan – can reduce the selling price by at least the amount of the negative rate. Hypothesis - presence of negative inflation rate. Minimum level of prices must meet the minimum discount rate. For example, the discount rate of the Central Bank in the early '90s reaching its maximum value (in April 1994 – 210 %). Compared to conventional – 1-10 %, it can be considered infinite. Indeed an entity never takes a loan with a guaranteed impossibility of return. This is probably the only short-term speculation. Instead, and inflation over a long period amounted to hundreds of percent. Consumer Price Index and average discount rate in Ukraine in 2001, 2012 is shown in Fig. 5.

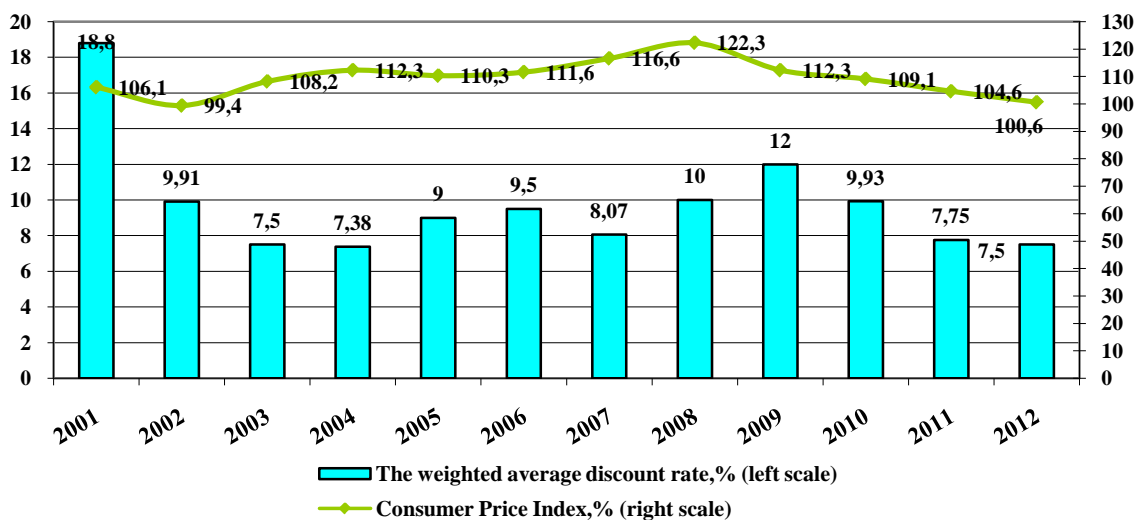


Figure 5. Value index of consumer prices and the weighted average discount rate of the National Bank, 2001, 2012, %
Compiled by the author based on [7-8]

Fig. 6 shows the dependence of average interest rates on loans and deposits of refinancing.

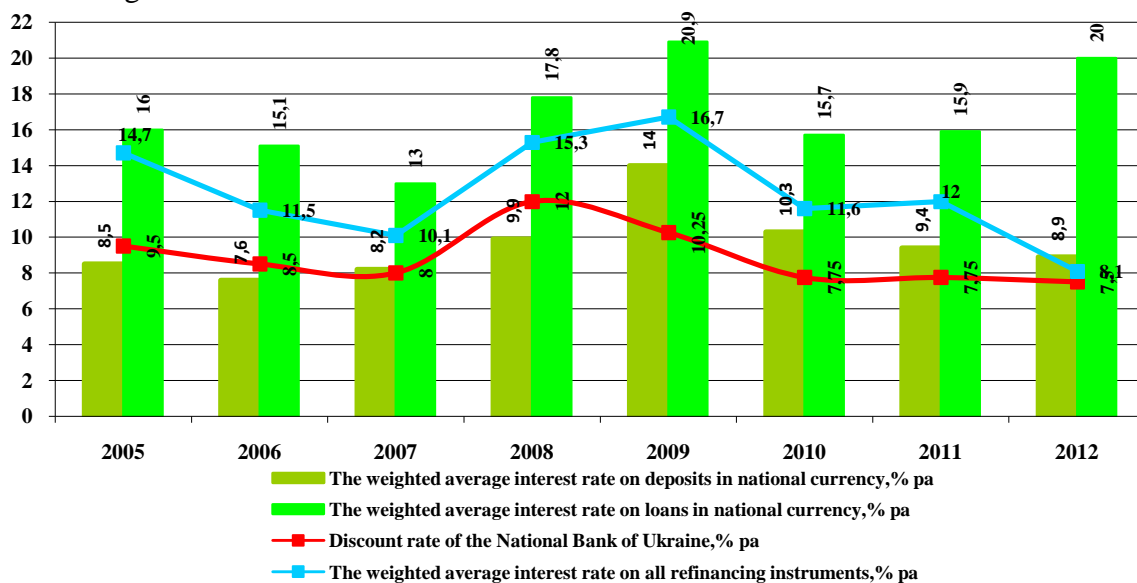


Figure 6. The dependence of the average interest rates on loans and deposits from interest rate refinance, % pa
Compiled by the author based on [3-8]

It should be noted that the total deposits in 2011 increased by 17.6% – to 486.8 UAH billion. Corporate deposits increased by 26.3% – to 179.4 UAH billion, retail deposits by 13.1% – to 307.4 UAH billion. The total loans in 2011 increased by 9.6% – to 793.2 UAH billion. Fig. 7 shows the dependence of the net inflow of direct investments from inflation (CPI).

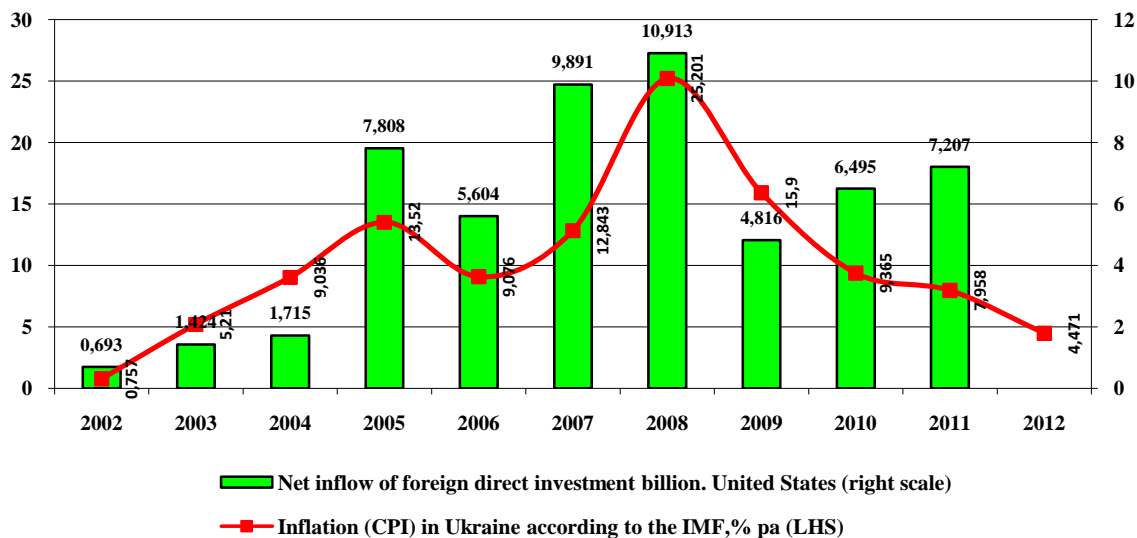


Figure 7. The dependence of the net inflow of direct investments from inflation (CPI) 2002, 2012
Compiled by the author based on [9-10]

Consider another situation. The Federal Reserve (Fed) to influence the U.S. economy uses two types of interest rates. The interest rate on federal funds – the interest rate at which banks are free to place funds held in accounts at the Fed and other banks for overnight. The Fed controls the interest rate on federal funds through operations with government securities. Discount rate can be regarded as interest rate at which the Fed provides loans to maintain liquidity.

Banks are required to keep a portion of the funds raised from the public accounts FRS as required reserves. If for some reason the bank did not have enough money, he can borrow some excess reserves to another bank. This is the sale of federal funds. Percentage, under which one bank lends to another, is set by the bank. Why should the bank carry out the decisions of the Fed and lend at 0.25 %? In fact, it should not. Fed Decision belongs to the so-called target rate which is determined by the level that is necessary to regulate the market. Real interest rate at which banks trade with each other, called to consider the effective interest rate. The task of the U.S. Federal Reserve is to adjust the effective (real) interest rate to the target. In Fig. 8 there is the model of the U.S. Federal Reserve to influence financial system.

U.S. Federal Reserve decides the issue by buying (selling) of securities, increasing (decreasing) the number of reserves in the banking system. If excess reserves are increasing, the number of actors lends their increases, the rate falls and the Fed achieves its goal. By increasing the excess reserves, the Fed stimulates the supply of money, which leads to lower rates. This percentage, at which the Fed lends to banks (loans are secured by securities). In fact, the bank has a choice, take a loan from another bank or go to the Fed. However, since the discount rate is slightly higher for this method is rarely resorted to lending banks, and plays a key role for the federal funds rate. The cost of money in the interbank lending market affects the overall level of credit interest rates in the economy. If banks can get cheap money, they lend at lower interest rates. Surplus to create the U.S. Federal Reserve, are directed into the economy, thus increasing the money supply. Since 2008 the Fed has created huge excess reserves. The value of the bank multiplier dropped to record levels.

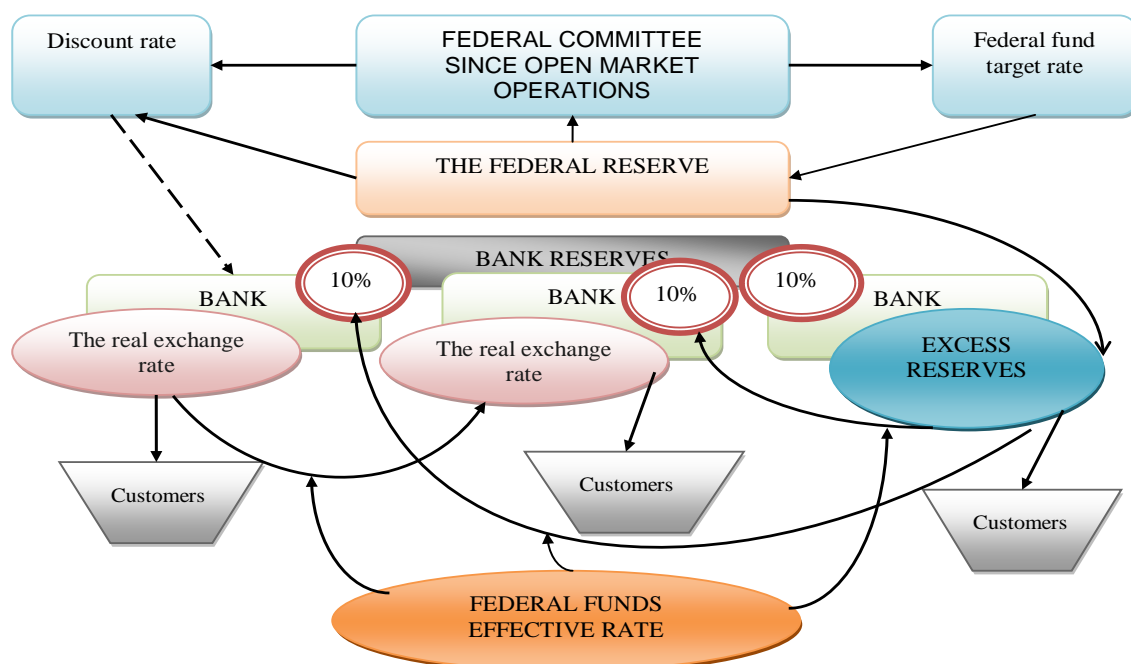


Figure 8. Model impact of the U.S. Federal Reserve's financial system
Compiled by the author based on [11]

This means that the accumulated excess reserves of Fed depository but do not lend to the real sector, while the target for the federal funds rate is zero. Most of these excess reserves are borrowed in origin, and therefore, raising the target for the federal funds rate, the Fed can remove these provisions from the market and prevent high inflation.

Consider another example. In the period 2001 to 2006 Japan's central bank has a policy of zero interest rate in an effort to combat state with negative inflation and anaemic growth in business activity. Since 2008 target of the Central Bank of Japan discount rate on overnight loans to commercial banks amounted to 0.1%. At the end of 2008 Japan's central bank discount rate changed twice – from 0.5% to 0.1% (Fig. 9).

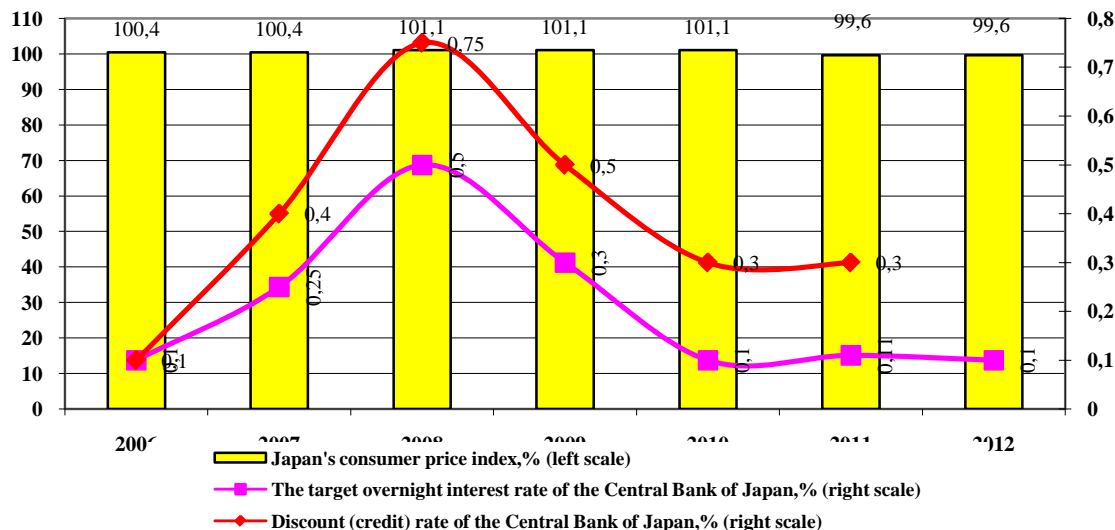


Figure 9. Value index of consumer prices, discount and overnight interest rates of the Central Bank of Japan during 2001, 2012, %
Compiled by the author based on [12-14]

In 2012 discount rate of the Central Bank of Japan was at 0.0-0.1 %. The target interest rate for overnight loans – the average level of interest sought by the Central Bank of Japan money market deposits. Japan's central bank influences the level of rates by operations with government securities. Discount rate – is the interest rate at which the Central Bank of Japan provides loans to banks to support their liquidity. In 2012 Central Bank of Japan eased monetary policy by increasing the purchase of government bonds by 10 trillion yen (123.8 billion U.S.) in order to reach a new inflation target of 1% for the economy out of deflation. On the other hand, the Bank of Japan cut 5 trillion yen amount of funds allocated for operations with fixed interest rate [15].

So, the prices have increased substantially to raise the discount rate. But Japan's central bank lowers the rate to zero. As you can see, the level of interest rates is shown in Fig. 3. Striving for more (less) boundary behavior tool "prices– rate", it changes significantly (see Fig. 4). Presented in graphical form (Fig. 10).

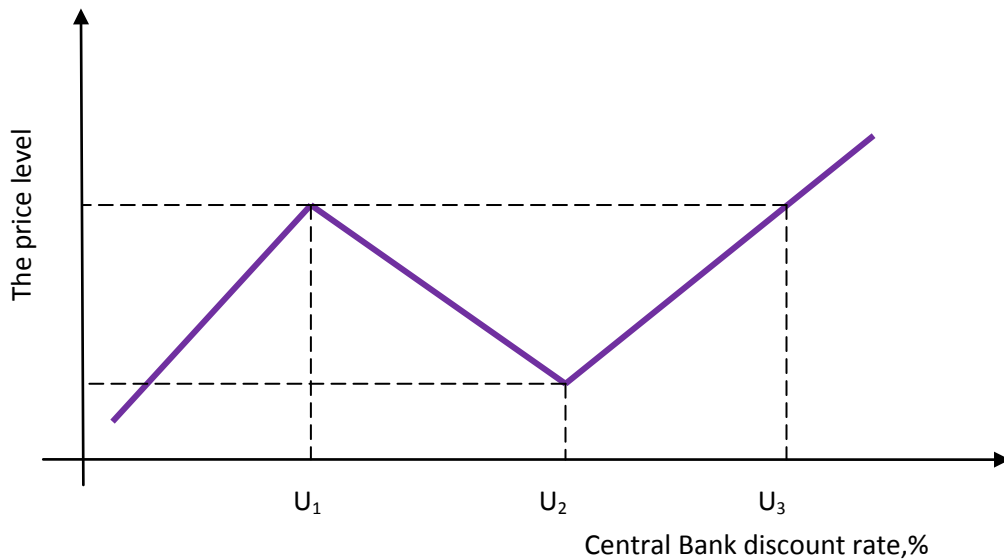


Figure 10. The dependence of prices in the economy of the discount rate of the Central Bank

Analysis of Fig. 10 showed that the economic approach from across the infinity of variations describes only a small part of the possible values of U_1 to U_2 . Everything else that goes beyond its limits, the science does not describe. Apply methodological approach as opposed to a virtual financial approach implements a similar character functions (Fig. 11).

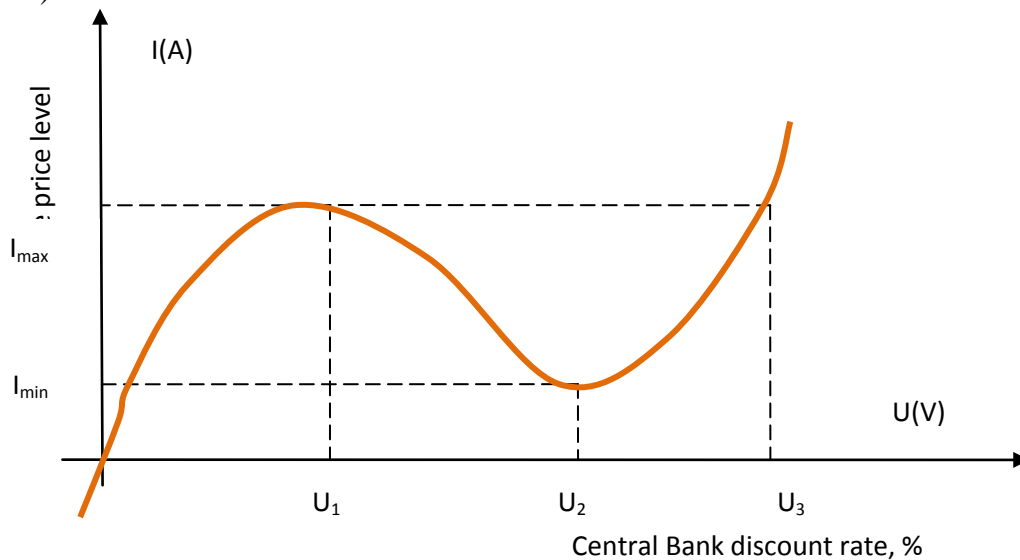


Figure 11. The dependence of prices in the economy of the discount rate of the Central Bank

The proposed methodological approach acts like an electronic device – a tunnel diode. It is interesting that in a narrow range of direct voltage from U_1 to U_2 it has a negative differential resistance. In other words, increasing the voltage applied to it, the current that goes through it is not growing and declining. The effect of negative resistance is used to amplify or generate vibrations. The question is what causes a negative resistance in the money supply? What is this uncharacteristic "price gap" in the range of the level of rates from U_1 to U_2 , which appears to function and, therefore, should be smooth from start to finish (to infinity).

There is a so-called effect of banking (credit, money) multiplier. Engaging at U_1 , and since virtually limited to increase the monetary base, it really increases the payments in the economy. And the effect on the economy similar reduction rate of the Central Bank. In this case (this snippet functions) implemented inverse process, where the increasing rate of the Central Bank reduces rather than increases prices in the economy. The hypothesis that the decline in prices (the scope of the negative differential resistance) is the money multiplier leads to many conclusions. This "gap" graphics may appear only in a two-tier banking system, where there is a potential barrier between the Central bank in real sector of the economy. This barrier is often a system of commercial banks.

Thus, the money multiplier cannot act (multiply) the monetary base at zero or near-zero value of central bank rates (below threshold). For commercial banks of the second level it is not necessary, because why to attract money from the economy to deposits if they can always borrow from the Central Bank at low interest. Therefore, interest on deposits is low and interest to investors. Besides, what good commercial banks to pay a large percentage of deposits if there is another, more attractive source of funding, while a low percentage. What would have lowered interest rates of the Central Bank – this will give an opportunity to put in place the money multiplier, multiplier because the ring is "terminated".

However, the multiplier cannot normally operate and high interest rates. Profits will not get the real sector that refuses to take out loans at high interest rates due to the impossibility of return. Similarly, commercial banks do not make loans due to concerns about their return entities. Real economic activity is slowing down, and with it the money multiplier. And in the first and in the latter case the second level of the banking system stops converting the accumulated savings (deposits) in new investments (loans). Circulation of money on direct participation of commercial banks stalled. Accumulation accumulates in the population, creating the conditions for overall financial instability. In the case of a one-tier banking system is possible to realize the process shown in Fig. 11 (without lots of negative resistance), because for tier banking system there is no difference between money involved in economics and money generated by the banking system itself. Household deposits for the existence of a one-tier banking system include the method of sterilization of money, not liabilities for the issuance of new loans. In pure form, it can be considered a planned economy.

Combining the first method to the second, try to explain why the economy is not considered possible scenarios beyond levels U_1 - U_2 . And trying to implement a process shown in Fig. 3, although in practice it still acts like mechanism shown in Fig. 11. The usual situation of self-destruction offset purchase "government securities", "toxic assets" (in the planned control mode). Outside the interval U_1 - U_2 , it does not exist. The banking system is effectively transformed into a one-tier system, where the change rate of the Central Bank broadcast through commercial banks (with additional interest) on the real sector. There are additional losses in the chain. As for the theoretical calculation of the U_1 - U_2 , the central bank can detect them only through empirical research and monitoring of the situation. Levels of U_1 - U_2 are not associated with the behavior of the Central Bank, not some static ideal interest rate of the Central Bank, not the desire of commercial banks to receive profits, and the environment in which they exist, because it sets environment parameters levels U_1 - U_2 .

The ideal environment for the operation of the money multiplier can be considered a developed economy with a lot of property that is not mortgaged. As the banking multiplier of all or most of the property faces the pledge. For inhibition of multiplication is not necessary that all the collateral was subject to lien. Sufficient magnitude can be considered a minor part of it. Central Bank to boost lending to low use rates and zero

requirements required obligatory reserves of commercial banks. However, the banks refuse to lend at close to zero percent, because in this case they do not get high profits and rapidly grow risks. Each borrower, getting a loan has to pay not only for themselves (interest on the loan for his mortgaged property), but also (in the form of high prices contractors) for the entity that took credit earlier (and included in its interest rates by their credit). Given the level of prices and personal income, the borrower expects the impossibility of repayment and loss of deposit. From a theoretical point of view, to exclude this situation it can occur if the economy has created a new property which is much faster than it includes mortgage interest in commercial banks. In practice this does not happen, and the excessive production leads to a fall in prices. There is deflation, which automatically brakes multiplier, thereby reducing the production activity. Entities are also not able to return the loan debt with a steep fall in prices.

If the property is pledged, it is possible multiplier reduced. Deep and intense "abyss" of negative differential resistance eventually turns into invisible gap (see Fig. 11). Using bulk no collateral, the credit activity of banks is reduced. The second level of the banking system degrades. Central Bank, according to the function (see Fig. 10), shall decide on lowering the interest rate, which should cause inflation. Therefore, the Central Bank lowers the rate to zero and thus finally lose their ability to keep the animation within the U1-U2, therefore, there is even more deflation. Value index of consumer prices, discount and target interest rate of the U.S. Federal Reserve during 2001, 2012 is shown in Fig. 12.

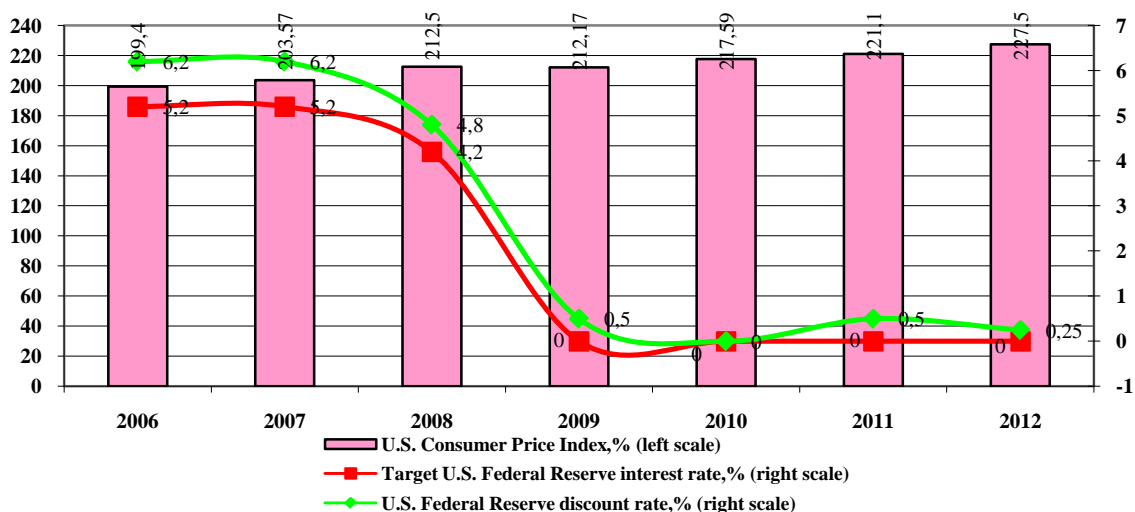


Figure 12. Value index of consumer prices, discount and target interest rate of the U.S. Federal Reserve during 2001, 2012 %
Compiled by the author based on [16-18]

From a theoretical point of view inflation crisis conditions could be obtained by raising interest rates significantly higher than U2. However, this automatically means of braking, while the multiplier does not start. The banking system is a unicameral de facto two-tier structure while maintaining de jure [19].

Another instrument for the change in the monetary base is open market operations – Operations Bank of purchase / sale of treasury bills and other securities (other than securities confirming the corporate rights) and liabilities determined by the Board of the NBU. This tool has a corresponding advantage. First, the operations are carried out on the initiative of the NBU, which can control their volume (as opposed to changes in the refinancing rate at which the volume of lending is not fully controlled by the NBU).

Second the flexibility and accuracy of the financial instrument to achieve the necessary changes in the monetary base. Third, open market operations quickly and easily reversed. Finally open market operations do not require lengthy administrative approvals and provide quick corrective influence on the dynamics of the money supply.

The NBU purchase of government securities increases the monetary base (the sum of reserves of the banking system), and thus the money supply. Sale transaction rather reduces the monetary base and reduces the amount of the money supply. If money glut situation, expanding the money supply and price increases and the Bank sells government securities. In this case, decreasing reserves of banks reduced lending opportunities and the amount of money in circulation, more expensive credit and falling prices. This, in turn, triggers the production stagnation and rising unemployment. The total value of shares sold in some countries as a percentage of GDP during 2002 to 2011 is shown in Fig. 13.

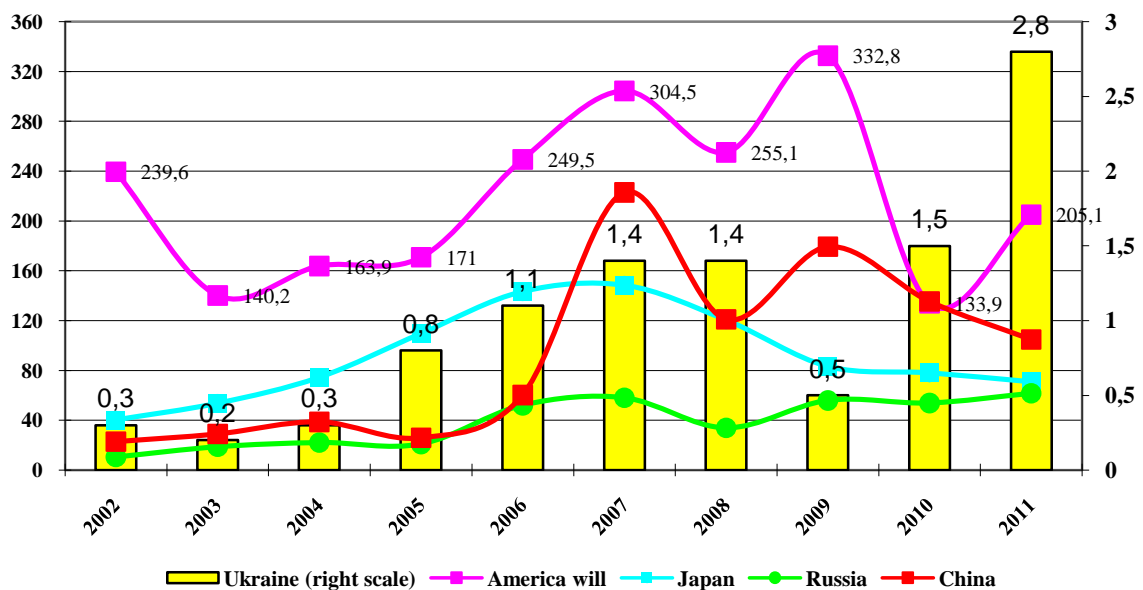


Figure 13. The total value of shares sold in selected countries, % of GDP
Compiled by the author based on [20]

At the "super cooling" conditions, lack of money in circulation and the growth rate of the NBU's policy of credit expansion – buying government securities and transferring funds to reserve accounts of commercial banks increased lending opportunities and the money supply to stimulate the growth of economic activity but can induce price increases. Open market operations can be divided into two types: dynamic – aimed at changing the volume of reserves and the monetary base, safety – aimed at weakening the influence exerted on the monetary base by other factors. In recent years, instead of direct transactions of purchase and sale of securities is increasingly used repurchase agreement (REPO). When purchasing securities NBU makes them mandatory redemption sellers after some time (not more than a week) at a fixed rate. The advantage of temporal data operations lies in their flexibility and softer the effect. Turnover rate of shares sold in certain countries during 2002 to 2011 is shown in Fig. 14.

High turnover rate indicates a low cost operation. Turnover ratio complements the ratio of sales to GDP, because the turnover ratio is related to the size of the market and sales relative to the economy. Small liquid market will have a high turnover ratio but a low share price sale. Full index of liquidity include trading costs and the time uncertainty of finding an analogue to the settlement agreements.

In February 2012 the National Bank of Ukraine had open market operations in government securities. The volume of government bonds purchased was (at par) 0.75 UAH billion (from the year accounted for almost 2.1 UAH billion). The sale of government bonds from the portfolio of the National Bank in February 2012 is not conducted. NBU has also purchases of government bonds through bilateral quoting whose volume was 0.7 UAH billion. Sale of government bonds through bilateral quotations was not carried out in February (from the year sold 1.3 UAH billion).

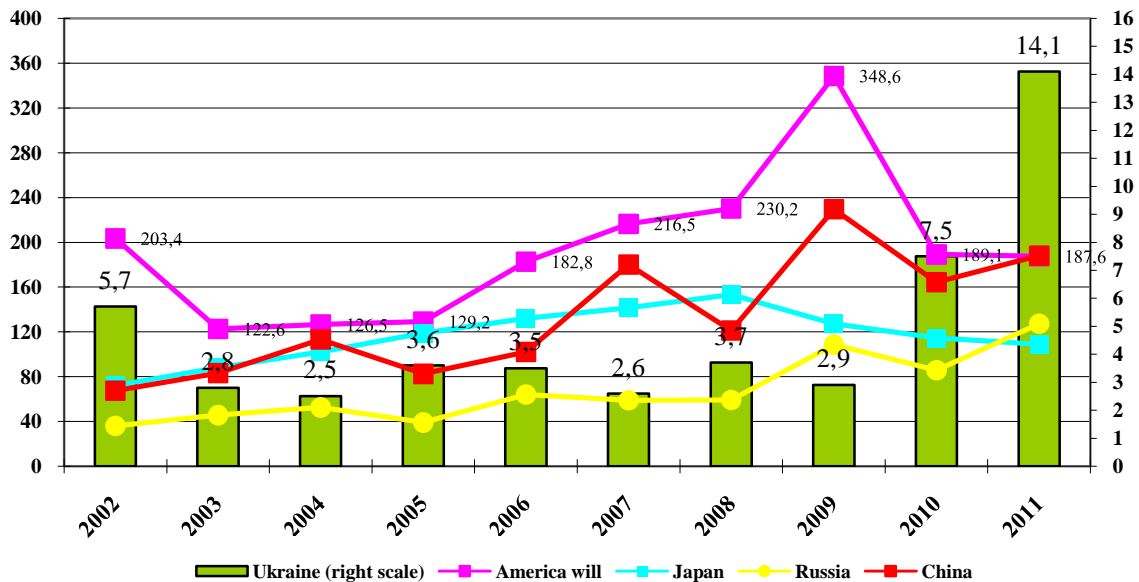


Figure 14. Turnover rate of shares sold in certain countries during 2002 to 2011, %
Compiled by the author based on [21]

Despite attempts to stabilize the situation in interest rates, the yield bonds are increasingly dependent not on targets of economic policy and the need to raise funds in the budget. Therefore, the private investment market government securities played most destabilizing role. Based on the results of the State budget received funds in the amount in national currency – 3.7 UAH billion, foreign currency – 277.7 million USA [22].

The weighted average yield, which in February brought the T-bills auctions with their initial public offering, was in national currency – 13.86% per annum in foreign currency – 9.27% per annum. Repayment and payment of interest on government bonds were made on time and in full, in February 2012 amounted to 6.8 UAH billion, including principal debt – 4.5 UAH billion, payment of interest – UAH 2.3 billion.

3. CONCLUSION

The main strategic directions of restoring credit and investment banks in the Ukrainian context of the impact on the economy offered: de-dollarization of the economy, the internal long-term financial resources, optimization of banks with foreign capital that focuses on lending to Ukrainian economy, strengthening the supervision of individual banks basis with a focus on relative rather than quantitative, containment of inflation and interest rates to minimize the formation of infrastructure of distressed assets, development and implementation long-term measures for gradual control of the country to set strategic objectives.

Falling profit margins, and hence commodity prices due to increased competition, not only leads to the stabilization of the economy, but also causes of the crisis of overproduction. This leads to the destruction of social and economic structures within which the accumulation of capital and the creation of new structures is carried. The purchasing power of currencies and their rates, relative to each other, does not depend on the amount of gold available to governments and central banks, and from actions taken by them. Today it's different "anti-crisis" measures, many of which include the issuance of new money in large quantities. Figuratively it can be said that the money secured judgment of politicians.

Improving the quality of banking products in terms of lending will focus consistent financial institutions to increase the attractiveness and accessibility of banking products to their customers. Banks should pay due attention to the reduction of unnecessary administrative and procedural costs. Lower costs will support a competitive interest rate (market) level. Clever minimization of documents for a loan and shortening the review of applications by banks with the use of automation and remote access will significantly change the situation in the field of interaction with customers of banks. Improving quality and expanding of banking and other financial services contribute to government and the NBU work to improve legislation on consumer credit, credit cooperatives and microfinance. Based on the experience of the Law of Ukraine "on the Organization Formation and Circulation of Credit Histories" appropriate measures for improvement of the credit bureau and the Central Catalogue of Credit Histories to improve the quality of credit are implement. NBU should continue the practice of placing in the media and on its website on the Internet material that clarifies the provision of banking services.

The necessity to address the reduction of state participation in the capital of the large Ukrainian financial institutions, supervision and regulation of the market of services of non-credit institutions, is providing the establishment and operation of innovative infrastructure facilities, development of the national payment system, positioning Ukrainian banks in international banking market. Implementation of these measures should ensure qualitative improvement of credit conditions of the real sector, progressive and sustainable development of the internal market and a solid foundation of balanced national economic growth.

We found that as a result of transformation processes of monetary policy in developed countries and increased fluctuations in world currencies, there were preconditions for the formation of new currency blocs and bilateral settlement mechanisms based on the use of local currency in international financial calculations, as well as the emergence of new international financial centers, including Ukraine (Kyiv). There is a real opportunity to increase the share of Ukrainian hryvnia in international payments, allowing you to start using the rate as a regional reserve currency and reduce currency risks for Ukraine and EU partners. In order to create favorable conditions for international payments using the rate of the Government and the National Bank of Ukraine are invited to consider changes to monetary, tax and customs laws and regulations in the settlement. To ensure the calculations in the created an international financial center requires the development and improvement of the national payment system, including by expanding the use of electronic banking fees and increased interest of banks to use this system. Creating an International Financial Center will integrate the Ukrainian banking sector in the global markets, will provide a comprehensive improvement of the existing system of regulation of the financial market.

To simplify procedures, measures are proposed which aim at ensuring favorable conditions for public offerings and for facilitating the registration of securities issuance.

The problem of accelerating procedures mergers and acquisitions related to the inability to make now joining limited liability company to joint stock companies, should be addressed at the legislative level.

In order to enhance competition in the banking sector, creation of the legal framework of antitrust regulation and the protection of competition in the banking products and services, further increasing the transparency of the banking sector, reducing the concentration by amalgamation and consolidation of medium and small banks, is required. The main trend of institutional development should remain functioning, where universal banks offer a wide range of products and services.

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