Transformation of banking resources

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Abstract. *This article deals with the current issue – the transformation of banking resources. The role of the banking system in the functioning of the economy is shown. The need to consider the "golden rule" in the activity of banks is proved. This rule provides that the amount and timing of financial borrowing in the bank should be equal to the volume and timing of its obligations. Strengthening the financial base of banks is recommended for better banking functioning. For this purpose it is reasonable to introduce theoretical and professional work of bank managers towards the transformation of banking resources. Certain formulas used in the practice of French and Russian banks are presented. These formulas allow calculate the rates of short-term resources into the long-term ones. The scheme of banking resources transformation is related to relationship between conditionally permanent part of banking current liabilities, urgent deposits and indicators, obligatory payments, reserves, profits of banks. Particular attention is paid to the role and place of transformation processes of demand deposits. In particular, the views of scientists on the peculiarities of this banking operation are presented; positive and negative characteristics are revealed. The problem of banking resources transformation in their variable part of current liabilities is analyzed in detail. Some common problems in the transformation of banking resources in the banks of Ukraine are singled out. Influence of the processes of banking resources transformation on economic growth is analyzed. It is determined that banking resources are formed in open financial system, interact with securities markets, labor markets, resources, market of production. Supply and demand that determine the dynamics of economic growth are formed in view of the relations between the banking system and these markets. Mechanisms for balancing of supply and demand in consumer crediting of domestic products are graphically depicted. A procedure of taking concrete steps to improve the performance of banks – both Ukrainian and foreign – in the implementation process of banking resources transformation is offered. In developing these measures, feasibility of providing banking security is taken into account, as well as necessity for continuous monitoring of transformation processes that are influenced by adverse environmental factors, compliance with agreements under "Basel 3", and personnel completing of banks with qualified professionals.*

Keywords: *assets; bank resources; demand deposits; transformation; Ukraine.*

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Introduction

The peculiarities of banking resources transformation are presented in this article. The bank loan use analysis is done. Definitions of foreign and Ukrainian scientists on transformation of banking resources are presented. The influence of banking resources on economic growth is shown. Recommendations on the effective operation of banks are developed.

Theoretical approach

The global financial crisis has made significant adjustments in the functioning of national banking systems. Today it is a necessary to form significant reserves for banking security. National banking system is a guarantee for social and economic development, and therefore an important aspect of banking stability is the effective management of banking resources. Professionals working in the banking sector also share this opinion. The French economist Jean Matoukou (1994) expresses the thought that the banking institution is obliged to fulfill its debt obligations in full and in the due time; to pay the cash removed from the accounts through the office; to return deposits in agreed terms and to be responsible for possible extra-balance obligations.

American economists E. Reed, R. Cotter and E. Hill (1991) believe that the amount of cash and other liquid liabilities, as well as the possibility of rapid mobilization of funds from other assets should be sufficient for the timely redemption of government and finance commitment. This point of view is also shared by the German economist B. Buchwald (2002), who evaluates the liquidity of the bank using the term "Liguiditat"; accordingly, the assets should be easily convertible into cash for fast implementation of commitments and payments of the bank.

According to "the golden banking rule", the volume and timing of bank financial savings must be equal to the volume and timing of its obligations. However, such banking practice is rare. Maintaining a constant balance of assets and liabilities provides ensuring compliance of the "golden rule" with the practice.

In this context, the securitization of assets is of great importance. According to A. Nechaev (2009), the mechanism of securitization was first introduced over 30 years ago in the U.S. and completely revolutionized the banking and financial sectors. Today it is often called one of the main innovations of the twentieth century, which gave impetus to the development of financial markets. In this case, the current situation on the financial market shows us the other side of the drastic process of securitization. The increase of overdue loans and low liquidity have reduced the risk group of most securitized papers. Accordingly, a great negative revaluation of bank assets took place. As a result, banks specializing in investment operations suffered heavy losses and were devastated. In September 2008, one of the largest U.S. banks, Leman Brothers, bankrupted. Also in September 2008, U.S. authorities took control of Washington Mutual (WaMu), the third largest in assets U.S. bank. By results of the agreement, according to which the government acted as an intermediary, financial company JPMorgan acquired most of its business for $ 1.9 billion. The acquisition of WaMu transformed JPMorgan into the largest depositary institutions in the country of customer deposits a total of over $ 900 billion. The bankruptcy affected the British banks, too. The eighth-largest asset and the fifth largest mortgage portfolio bank Northern Rock, went bankrupt in early 2008 and was nationalized by the power. Unlike most banks that finance their business with clients' deposits, the business model of Northern Rock was built around mortgages. Most of the funds were received in the wholesale bank credit market selling the debts in the form of bonds. The demand for mortgage bonds (CDO) in the U.S. has led to problems in the financing of the bank.

As noted by Z. Gerasymchuk (2010), this case raises the issue of economic security banking, i.e. the condition for economic development and stability of the bank, guaranteed protection of its financial and material resources, the ability to adequately and economically respond to changes of internal and external situations. It should be noted that the particular importance of economic security in the system of bank security is conditioned by the desire of market entities to increase profits, intense competition, the diversity of interests within business banking market, market entities desire to increase profits, unstable economic situation and so on. Thus, the current terms of banking services and the level of influence of factors threatening

internal and external environment require of banking institutions to raise security measures.

A. Vovchak (2009) analyzes the problem of providing banking services in some countries and compares the corresponding situation with Ukraine, stating: "Accordingly, it is possible to conclude about significant difference in the level of providing banking services across the country. The relevance of this problem is compounded by the fact that, as the experience and statistics show, the better developed banking system in the region is, the better its business develops. Accordingly, economic processes are stimulated, which further leads to improved living standards. The economy of some regions is not supported by the banking system, which adversely affects the socio-economic processes taking place there. And the least developed banking infrastructure is in regions with low socio-economic development.

As the studies show, Ukraine has neither policy, nor clear strategy for regional development of the banking system. Moreover, there is no clear legal and regulatory framework of the functioning of regional banks. Therefore, there is a need to review the strategic goals and objectives of the banking system of Ukraine, its organizational structure and functional orientation on the way of joining the global and national regional processes. Among these tasks a special place should occupy regional banking system development, its goals and directions.

The essence of the process of regionalization is in the transfer of powers from the center to the regions. A vivid example of this process is the situation in the European Community. The most important focus of policy here is the institutional and economic support to the regions, there was even a slogan proclaimed: "From the union of countries, to the union of regions."

What place in the processes of regionalization in Ukraine does the banking system take and what are the dominant trends in its development? Having examined its organizational aspect, it can be argued that most Ukrainian banks position themselves as nationwide and carry out or intend to carry out its activities in several parts of the country. Regional banks are quite a few and they do not really affect the development of the whole economy and the regions where they are located. There is no segment of specialized

banks in Ukraine, which would be involved in implementation of similar types of services; cooperative banks are absent, either" (Vovchak, 2009, p. 23).

To strengthen the activities of banks, it is advisable to strengthen the capital base of banks, which is an efficient vector orientation of banks in the sector of resources transformation. Let's consider some views of scientists on the problem of transforming banking resources.

German scientist J. Stein (1991) notes "An important task is the transformation of banks ... terms. Since the majority of depositors prefer binding equity for the short term, and funding for investment in the economy mostly requires long terms, banks should ensure coordination between the different views on the timing of binding capital. The task of transforming banks is also adapting to different values to each other. It is based on the fact that a substantial number of small deposits opposed to a small number of large loans. Transforming risks, terms and values is the central function of banks in the economy." (1991, p. 7).

The transformation processes are quite reasonably justified by M. Savluk, A. Moroz and M. Puhovkina (2001), who have discovered that transformation depends on variations in quality characteristics of the cash flows that pass through banks. Changing quality means that the set of "short" money changes to "long" resources, and the set of minor deposits transforms into a significant amount of resources able to meet customer needs in necessary capital to make required investment. The essence of the transformation process is to stabilize the bank mobilized funds (Money and credit, 2001, p. 450).

E. Shirinska (1995) considers the problem of resources transformation not on the balance of some current accounts, but on current liabilities as a combination of the bank deposits. "The basis of the bank's funding base consists on attracted remedies which stability is one of the liquidity factors. By fixing terms, attracted resources are divided into two groups: managed resources and current liabilities. The first group includes term deposits attracted by banks and interbank loans. The second group includes the remains of the settlement, current accounts, correspondent

loro accounts, and payables. Each group of liabilities should match its type of assets in terms of size and location. So, managed liabilities form the basis for targeted, program loans and current liabilities are the basis for market operations with "short" money." (1995, p. 41).

Some authors distinguish between different types of transformation. Thus, M. Savluk, A. Moroz and M. Puhovkina (2001) indicate: "The transformation of capital means that mobilizing large amounts of small contributions, the banks are able to accumulate large masses of capital to implement large-scale projects." "Transforming the risk lies in the fact that banks whose activities are associated with high risk can reduce these risks to their investors and shareholders to a minimum by taking appropriate measures." "The space transformation means that banks can accumulate resources from many regions ... and send them to finance projects in one region ... Thereby, the geographical scope of money market expands..."(Money and credit, 2001, pp. 450–451).

Vozhzhov A. (2006) summarizes the views of scientists: "Transformation of banking resources is the process converting accumulated assets in a condition that meets the requirements for placing them in the assets, i.e. the process of converting the accumulated funds in the form required for their transformation into resources and bank capital. The processes of transformation are provided by a qualitative change of settings from the accumulated bank assets and bringing them into conformity with the requirements of lending, investment banking and maintaining the required liquidity. As a result, options of the entire set of the means being at its disposal are taken in accordance with the settings of all the profitable bank assets in each present moment."(2006, p. 35).

Deep analysis of the articles on issues of banking resources transformation has revealed different approaches of the scientists reflecting the economic relationships in a particular country, peculiarities of the banking system and the relationship "bank-client". According to A. Vozhzhov (2006, p. 21), transformation here refers to the set of methods and means of the combination of short-term deposits and loans when a significant part of the total volume forms a permanent, stable, or irreducible balance.

Let's consider some calculation methods of banking resources transformation made by the scientists from different countries.

Here are the examples of French banks practice given by P. Konyukhovsky and O. Lavrushin (2001):

$$K = \frac{R - S}{S} * 100\% \qquad (1)$$

with K as transformation ratio of short-term resources in long-term ones (used by French banks); R as short-term resources; S as short-term loans and capital investments (2001, p. 390; p. 30).

P. Konyukhovsky (2001) takes it in relation to the Russian banks in such a way:

$$K_T = 1 - \frac{\ddot{A}_{\tilde{N}}}{\hat{E}_{\tilde{N}}} \qquad (2)$$

with K_T as transformation ratio of short-term resources in long-term ones (offered for the calculation by Russian banks); $Д_{ОБ}$ as debit turnover on issued short-term loans and other short-term deposits (up to one year's term); $К_{ОБ}$ as the credit turnover of capital inflows on savings accounts (up to 1 year's term) (2001, p. 31).

Accordingly, the scientific community has developed a theoretical and methodological support with specific analytical apparatus essential for the transformation of banking resources.

Taking into account the views of scholars, it is possible to depict the processes of transformation of banking resources (Figure 1).

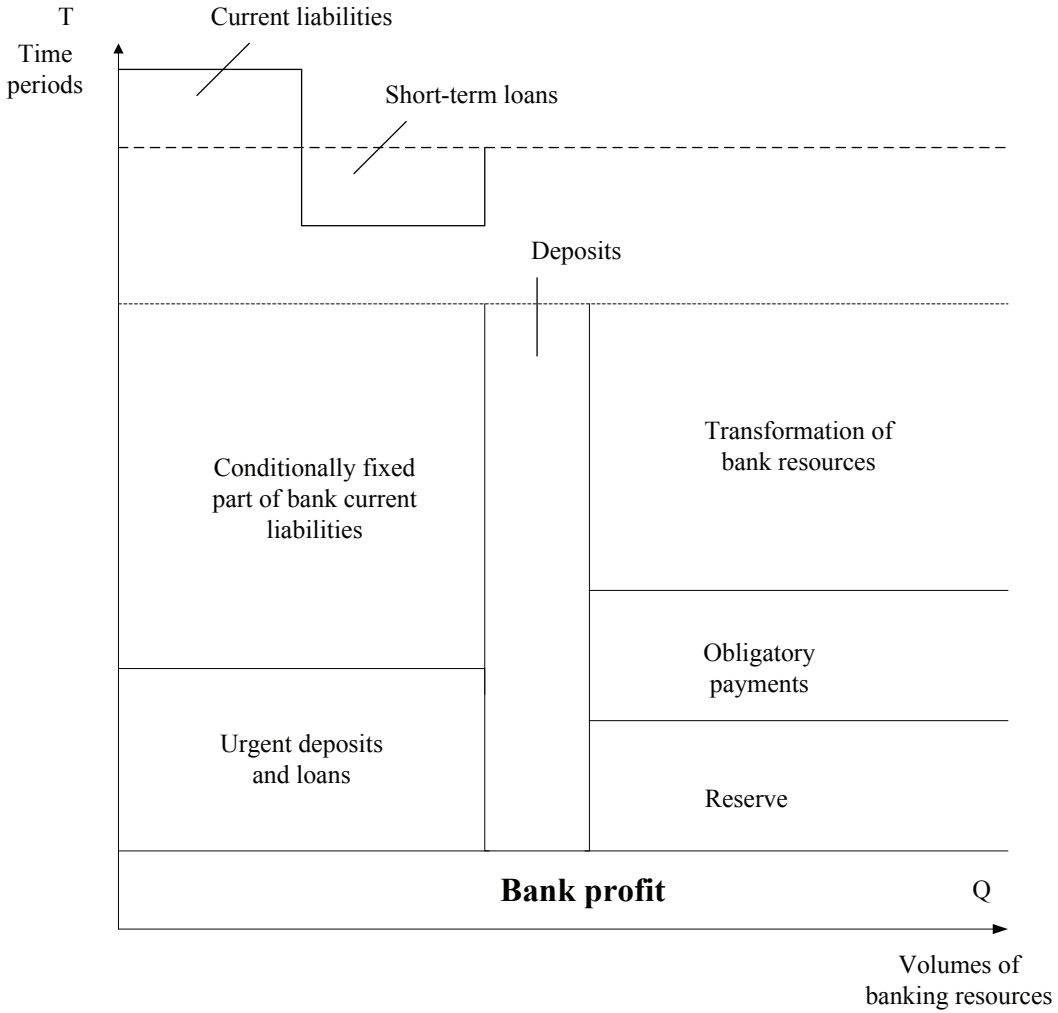


Figure 1. Transformation of banking resources

As this scheme shows, by the effective management of inclusion and using bank resources in the process of transformation, the efficiency of banks is achieved.

It is necessary to explain the transformation peculiarities of the individual components of bank resources. Let's start with the demand deposits. A. Vozhzhov (2006) mentions: "Bank provides essential work to build-up the volume of assets for individuals. Now in this section important role belongs to the introduction of "salary", "pension" and other card designs. With small amounts of residues for each of the accounts, together they form significant current liabilities. An important feature of current liabilities is that they are essentially the only cheap resource that allows you to receive significant interest margin." (2006, p. 70).

P. Rose (1995) states that "... demand deposits are the most volatile and least stipulated sources of funds provided by the bank, with the lowest potential terms ..." (2006, p. 361).

E. Zhukov (1997) says: "The availability of customer accounts balances is related to settling funds for passive accounts in commercial banks during the period of time which is almost impossible to establish at the moment of revenues to the account... Payments by request are basically volatile, which limits the scope of their usage by commercial banks. For this reason, account holders are paid low or no interest at all." (Banks and Banking, 1997, pp. 199-200).

O. Lavrushin (2000) has the opinion that the demand deposits are relatively cheap for the bank and "at the same time they are the least stable of the resources, banks need to have the higher operational reserve to maintain liquidity. Therefore, the best proportion of these funds in the bank's resources is up to 30-36%." (Banking, p. 361).

D. Oliynyk (2001) on the basis of empirical studies has come to definite conclusions on the possibility of placing demand deposits. "Exploring the dynamics of current accounts "on demand", we can conclude that the total balances in such accounts has surprisingly high level of relative stability. The obtained practical results of the study come in certain conflict with the theoretical assumptions which characterize this group of bank liabilities. Results of empirical studies ... have shown that during the calendar year a significant amount of balances "on demand" was not reduced below that level. This situation actually makes it possible to include a significant

portion of current accounts of bank clients to medium and long term credit. This means that the bank can afford to invest some part of balances "on demand" in the medium and long-term assets with no threat to its liquidity. The main objective of the bank manager in this case is to determine the optimal investment horizons, namely, what part of the balances "on demand" and for how long the bank can invest with minimal risk to its liquidity." (2001, p. 31).

Thus, many scientific assertions consider that demand deposits play an important role in the transformation of banking resources. These processes are mutually beneficial for both the bank and the client, as reported by A. Vozhzhov (2006): "Clients work with "reserve funds", their accounts regularly form balances which dynamics indicates vigorous client activity. These customers are highly desirable for the bank: they are actively engaged in calculations (by giving commission income) and form cheap bank resources."

Settling means on the account depends substantially on how skillfully and carefully the client manages its funds. A good customer makes sure that immediately after admission the funds are paid in accordance with his activity. This reduces his loan arrears, strengthens his reputation as a reliable partner and allows him to do business with less leverage. On this basis it is possible to expect that this type of customer balances will be minimal. However, research has shown that a number of factors prevent it: first, the customer is forced to generate some savings for payroll, transfers of tax payments and so on, and this leads to the accumulation of account balance. But the main factor is the inability to reset the client's current account with active credit turns on it during a business day. A customer transfers before the end of the operational time of the bank and means may come to his account even after that, till the end of business day. As a result, by the end of the day some balances are being formed even with the clients carefully handling their own means. The more the turnover on the current account and the higher the intensity (frequency) of revenues during the day are, the more the minimum balance is. The characteristic feature of the ordinary current account is its periodic resetting, the customers who work actively enough form their minimal balance even at high controllability account.

Thus, the reason of balance on the current account is the mismatch of revenue timing and its withdrawal from the account (account crediting and debiting) in the presence of constraints: preventing debit balance on current account and inability to account debiting by the customer at the end of the bank operation day as well as the need for the client to periodically accumulate funds on the account for obligatory payments. Balances on current accounts are formed as a result of the interaction of these factors and the dynamic balance revenues and outflows in the general limits imposed by peculiarities of current accounts, banking services and characteristics of the client's operations, including its desire to minimize the balance on current account at the end of each business day." (2006, pp. 76-78).

We shall explain the features of the banking resources transformation. Transformation of means by request automatically results in the allocation to the conventionally permanent part of current liabilities which gives rise to its self-stabilizing. But for the increase of this important component, the bank must constantly work to increase the number of clients on cash and settlement services, to increase the number of accounts for both private and corporate clients. Therefore, efforts of the bank management to improve T_{const} should be directed to attract and service new clients – legal entities and individuals, as well as to increase the number of correspondent banks that are active in loro accounts. Banks also have a direct interest in the prosperity and development of their clients, because the value of conditionally permanent part of current liabilities is directly proportional to the value of average balances in their current accounts.

Transformation of ultra-short unstable aggregate deposits in current liabilities with allocation of their conditionally permanent, irreducible part is the manifestation of "bank effect". Transformation of ultra-short and small funds that are accumulated in the long and extensive resources shows the essence of creative banking with setting and stabilizing of resources made of unstable credit means on demand. It is often assumed that the banking activity is speculative – buying funds at a low price, followed by higher reselling. This creates a somewhat negative attitude towards banking. Understanding the creative role of banks in establishing resources that meet the requirement of placing long assets should promote a positive attitude towards banking, awareness of the need for economic

development. The essence of the transformation process not only reveals the creative generating function of banks in the economic system, but also allows reasonable approach to assessing the deposit and resource risks in banking.

According to the theory of probability, the range dispersion of a random variable X_i with normal distribution is within $-\infty < X_i < +\infty$. In practice, the range of dispersion values is within well-defined range, which is $\pm 3\sigma$. However, the situation may change in the force majeure circumstances that should be considered in practice and will be discussed further. To calculate the probability of normally distributed random variable hitting on the plot, symmetrical about the center of dispersion (m), we shall draw consecutive sections of length σ. Since the normal curve is symmetrical, it is enough to draw these segments in one direction only. The graph in Fig. 3 shows the dependence of the probability (P) of hitting events in different intervals. Probability of hitting a random variable Xi in the interval ($t < Xi < t$-σ) is equal to 0.34, in the interval ($t - \sigma < Xi < t - 2\sigma$) is equal to 0.14, in the interval ($t - 2\sigma < Xi < t - Z\sigma$) is equal to 0.02. For normally distributed random variable the probability of hitting into the range $Z\sigma$ is the sum of three values of probability (0.34, 0.14 and 0.02), that is 0.5 or 50% (Fig. 2).

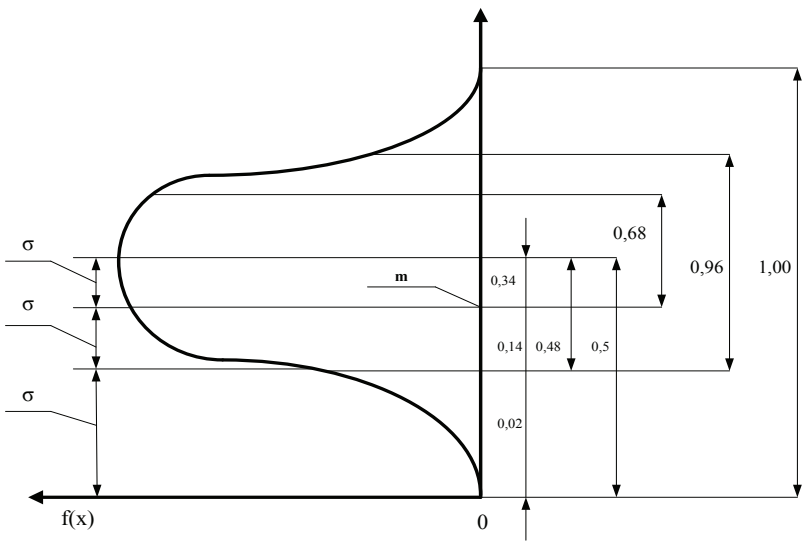


Figure 2. The probability hitting into the preset of random variable with normal distribution

The probability that a random variable falls outside the range – *3*σ, is very small and makes 0.0027. This means that under normal conditions, only 0.27% of the actual value of the conditionally permanent part of current liabilities $ТП_{const}$ will be less than the estimated value, corresponding to a range of deviation ± 3σ. Such events are considered to be unlikely and usually not taken into account in practice. However, according to the theory of probability, even the lowest probability of an event cannot be excluded. So, the minimum balance ($ТП_{const}$) is constant, but by the fact that probability of lowering the target still exists (especially in the emergencies), this component of current liabilities is legally called not constant, but the relatively-constant part (2006, pp. 113-115).

Another problem is the transformation of banking resources in their variable of current liabilities.

The effect of this transformation is determined by the additional interest margin received by the bank using the variable part of current liabilities as a sustainable resource and is based on a comparison of interest margin derived by the bank when placing liability on the part of the short-term interbank market and when placed in terms of urgent assets.

The value of the additional interest margin is defined as follows:

$$\Delta M = M_K - R_S \qquad (3)$$

with:

ΔM as extra interest margin, which determines the effect of transforming the variable portion of the current liabilities of the sustainable and managed resources;

$M_к$ as the value of the margin received by the bank after the transformation of the variable part of the current liabilities into the part of the sustainable and managed resources;

R_{SS} (Returns short-term sale) as income that the bank will receive when placing the total amount of the variable part of current liabilities in the interbank credit market (without using the mechanism of transformation).

When placing capitals in urgent assets, emergency funds and conditionally permanent part of current liabilities, all the variable of current liabilities

(ranging A-C) can be placed on short-term interbank lending market. Revenues from the placement of variable part of current liabilities are determined by income from short-term interbank loans:

$$R_{SS} = V_S \cdot I_S \cdot t \quad (4)$$

with: V_{SS} (Value short-term sale) as active volume of interbank transactions;

I_{SS} as the interest rate on short-term interbank loans;

t as the time period for which the calculation is performed.

The amount of resources in the range of A-B (ie, the entire range of scattering) is equal to the math expectation value of customer accounts balances, and the formula can be represented as follows:

$$R_{SS} = m \cdot I_S \cdot t \quad (5)$$

with m as the mathematical expectation (average value) of the flickering current liabilities.

Stabilization of liabilities in the range of A-K for the increase in immediate active operations will result in the periodic occurrence of temporary shortage of resources at the end of business day, requiring short-term borrowing in the short-term interbank market. At the same time reduced amount of active interbank transactions are now limited in the range of K-V. The value of the interest margin to be received by a commercial bank after transformation is defined as follows:

$$M_K = R_C^K - E_{SP} + R_S^K \quad (6)$$

with R_C^K (Returns from credit) as revenues from resource allocation of the variable part of current liabilities (range A-C) in urgent assets;

R_{SS}^K (Returns short-term sale) as revenues from the placement of the variable current liabilities (range K-V) in the interbank credit market;

E_{sp} (Expenses short-term purchase) as costs to attract short-term interbank loans (in the range A-K) to cover temporary deficit of resources.

Evaluation of effect from the use of variable part of current liabilities is shown in Figure 3.

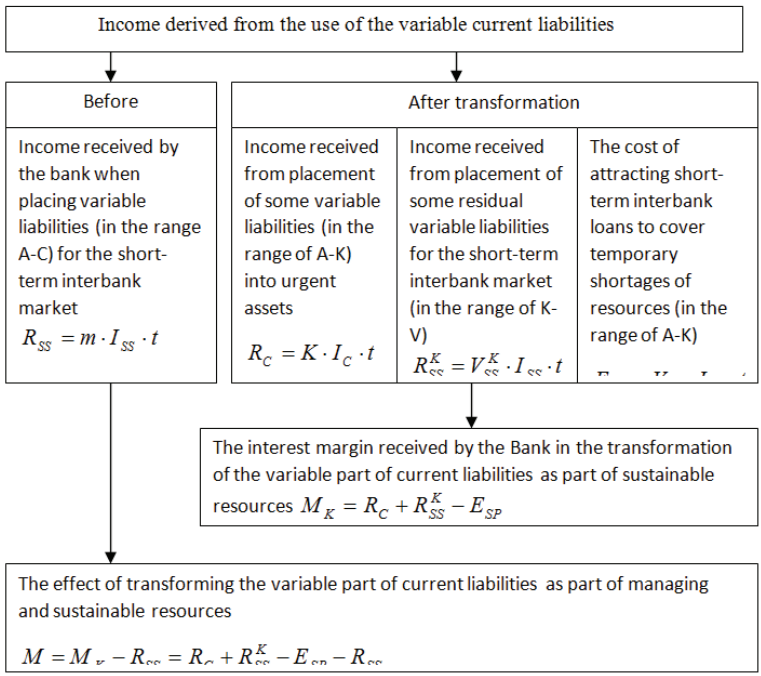


Figure 3. Evaluation of effect from the use of variable part of current liabilities for immediate active operations

The effect of altered transformation of the current liabilities into part of the sustainable resources defines revenue from urgent loans and investments, formed by the fact that the bank sends means into the most profitable active transactions that were previously placed in short-term interbank loans (2006, pp. 136-137).

The following shows how it is implemented in practice in Ukraine in 2013:

Analysis of the structure of loans to non-financial corporations within regions proved that most loans were received by trade, car repairs, household appliances and personal use – 219,325 million UAH (36% of all

loans granted), manufacturing – 120,265 million UAH (20% of all loans granted) and real estate, renting and business activities – 105,021 million UAH (17% of all loans granted). The worst situation is on crediting for education, health and social work, fishing and fish farming. Amounts of funds received by these industries are so scarce that they make up almost 0% of total loans granted (2014).

Particular characteristic of this situation typical for Ukraine in recent years is provided by Z. Gerasymchuk (2010).

The problem of regional economic development of priorities in the current banking system is being complicated. It is based on the stability of banks that is preventing the bankruptcy of banks, ensuring its safety for investors, when in the world practice investing is a financial transaction, an integral part of which is receiving interest income and, therefore, the adoption of a particular risk of no return on investment. That is why it is necessary to slightly change the focus strategy of the banking system of Ukraine and to make it support the economy of the country and its regions. The better the economy is functioning, the better the average of profitability will be, it will lead to the increase in average wages and will not trigger inflation, as this increase will be underpinned by an increase in the mass of commodities and, consequently, will lead to the enrichment of the population. This enrichment will stimulate an increase in the share of income that goes to savings and therefore will increase the deposit base of banks (2010, p. 10).

We will show how the processes of transformation of banking resources may affect economic growth by affecting the supply and demand (Figure 4) (Vozhzhov, 2006, p. 300).

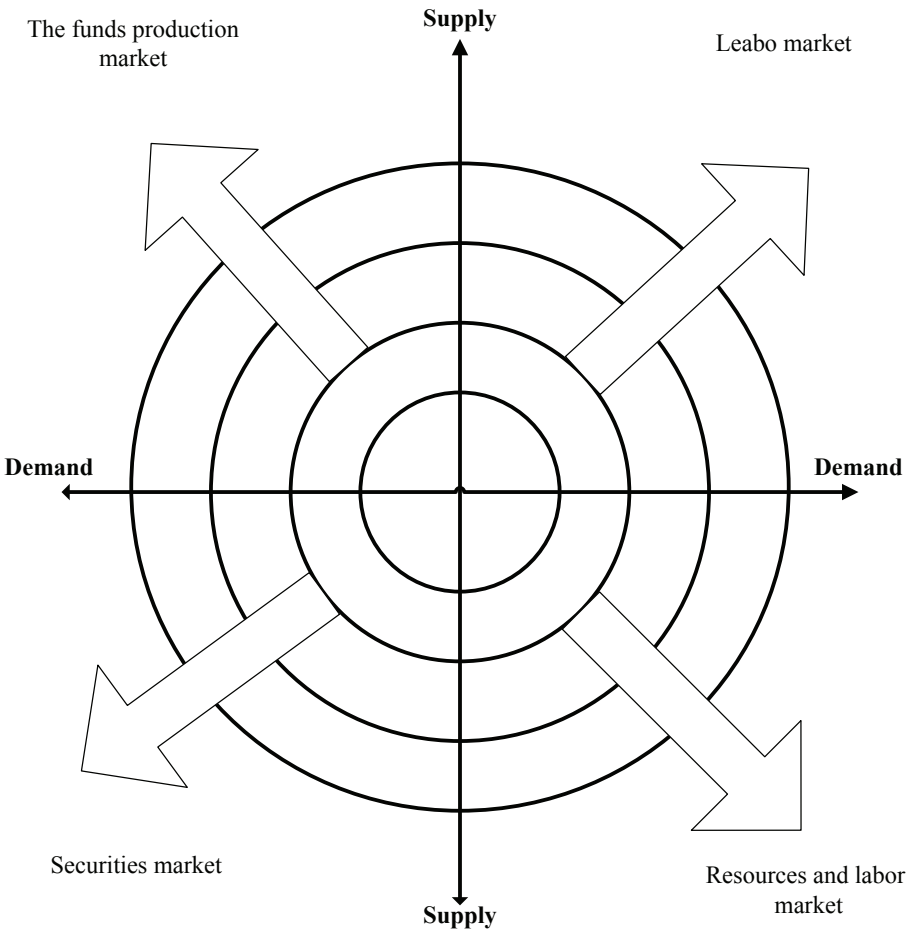


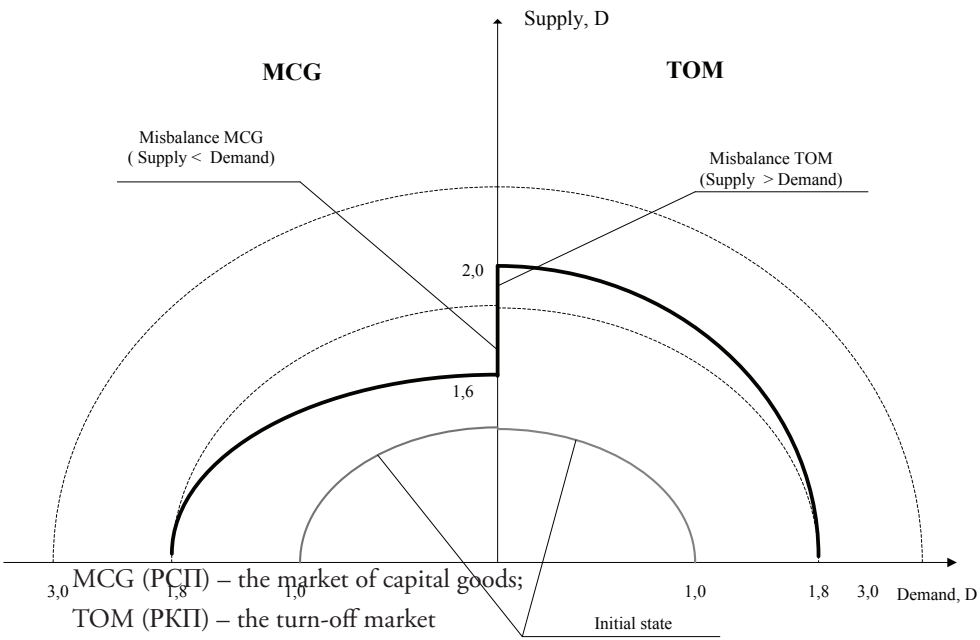
Figure 4. Economic growth with balanced supply and demand changes in the economic system market

This figure clearly shows the relationship between the most important markets of the financial system with the role of bank resources as a connector in these processes. This means that any problems in the banking system, particularly in the transformation of their resources, due to open markets affect economic growth through supply and demand.

Some situations in these relationships are caused as follows:

- The proportional balanced increase of supply and demand in the turn-off market;
- Misbalance of supply and demand on the market of production with the delay growth rates in relation to the turn-off market;
- Misbalance of supply and demand on the stock market with excess of demand over supply;
- Misbalance of supply and demand on the labor and resources market with excess of supply over demand.

One of such possible situations is shown in Figure 5 (2006, p. 291).



MCG (РСП) – the market of capital goods;
TOM (РКП) – the turn-off market

Figure 5. Misbalance of supply and demand in consumer crediting of domestic products

As follows from Fig. 5, the use results of credit issue for the expansion of consumer credit on the purchase of durable goods of domestic production will lead in this case to the deregulation of both the market of capital

goods and the turn-off market. In this case misbalance in MCG will be 0.2 D and in TOM – 0.2 D from the volume of emissions.

Conclusions and implications

This study, clarifying features of the functioning of the banking systems in individual countries and particularly in Ukraine, and analyzing transformation processes of banking resources, leads to the following conclusions. It is necessary to provide security for banking stability and dynamic development in any country of the world. The transformation of banking resources is a complex and variable process so the bank managers should constantly monitor the banking resources. Today both theoretical and practical methods to control the transformation of banking resources are designed and implemented which contributes to stable operation of banks, in particular using the Agreement "Basel 3."

Bank resources, formed in an open environment of financial system are movable, so it is essential to have qualified professionals in the management structure of the banks.

These recommendations will certainly contribute establishing efficient operation of banks.

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