

# “Banking security of Ukraine: current state and ways to improve”

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# BANKING SECURITY OF UKRAINE: CURRENT STATE AND WAYS TO IMPROVE

## Abstract

Ukrainian banking institutions conduct their activity under the influence of various risks, which create critical situations for them. In this context, banks should pay more attention to their own security. The article analyzes the theoretical approaches to the concept of "banking security", examines the level of banking security as a component of the financial and economic security of the state, and determines the ways to improve it. Banking security was analyzed based on the data of the National Bank of Ukraine and other banks that are part of the banking system of the country.

The current state of the banking system shows a decrease in the security since 2014 to the "danger zone". This is facilitated by a great number of problem loans and foreign capital in the authorized capital of banks; the predominance of short-term lending over long-term one; continued unprofitableness and low liquidity of bank assets. Banking security was the guarantor of achieving financial security of the state. Therefore, the article outlines directions for improving the operation of banking institutions and the banking system as a whole, which will allow to improve banking security in the short term. This is, first of all, the legislative consolidation of the creditor rights protection, the expansion of the lending process, including in foreign currency, with the predominance of long-term loans, the banks' work in the direction of increasing their assets profitability, optimizing administrative costs, developing and using the latest information technology to ensure the effective operation and information security of banks.

**Keywords** banking system, banking security, problem loans, liquidity, profitability, concentration

**JEL Classification** E50, E60

## INTRODUCTION

The banking system is one of the important components of a modern market economy. Due to their uniqueness, banks are often the engine of economic growth in the country. According to Baranovskyi, the uniqueness of the banks lies in the fact that they are monetary and credit institutions simultaneously (including the central bank and other deposit institutes), financial intermediaries (including insurance companies, pension and investment funds) and intermediaries of the securities market (including professional participants). They are also leading players on foreign exchange markets and in international settlements (Baranovskyi, 2014, p. 21).

Under the growing openness of the state economies and their consistent integration into the world economy, ensuring the banking system security is a prerequisite for the normal functioning of the country's economy, an important area for guaranteeing economic stability. This is due to the influence of both the external environment, which today is characterized by deepening of the financial crisis, and internal environment, in particular, the strengthening of competition and

consolidation of banking business. The influence of the internal environment leads to the threats that impede the implementing strategic directions for the development of banks in terms of their profitability and risk minimization.

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## 1. LITERATURE REVIEW

The particular attention to the banking sector security is due to the special place and role of banks in the financial system of the state. Baranovskyi (2014), Bryhinets (2016), Zubok (n.d.), Zachosova (2016), Kovalenko (2013), Soloviov (2011), and others analyzed the issues of functioning and stabilization of domestic banking institutions.

In domestic legislation, banking security is determined in the Decree of the Ministry of Economic Development and Trade of Ukraine No. 1277 dated October 29, 2013, which contains Methodological Recommendations for calculating the level of economic security in Ukraine. According to this document, banking security is an integral part of financial security and defines “the level of financial stability of the banking institutions of the country, which enables to ensure the efficient functioning of the banking system in the country and protect it against external and internal destabilizing factors, regardless of the conditions for its functioning” (Ministry of Economic Development and Trade of Ukraine, n.d.).

Many Ukrainian scientists have researched and analyzed the types of security in the banking sector. These are “banking security”, “the security of a single bank”, “banking safety”, “banking system security”, “financial security of banking activities (bank)”, and “banking security of the state”. Here are some of them.

Bryhinets proposes to consider banking security as a state, under which the conditions for the efficient and effective functioning of the banking system, increase in profit and directing its functioning to increase the level of socio-economic development of the state are provided. Under the above-mentioned conditions, banking activity is as much as possible protected against all destructive acts and the financial situation that may arise both inside and outside the banking system of the state (Bryhinets, 2016, p. 138).

Almost all areas of banking activity will directly depend on the effective organization of banking security. According to Zubok, banking security can be defined as a sustainable life, which ensures the realization of the bank purpose and its main interests, protection against internal and external destabilizing factors irrespective of the conditions for functioning; ability to timely and adequately respond to all negative manifestations of the internal and external environment of the bank; ability to withstand various impacts on the value, activity and image of the bank, to create effective protection against internal and external threats (Zubok, n.d.). Kovalenko specifies that the security of bank activities in relation to profit is a state of protection of the bank itself and its clients against possible losses, and offers the conceptual framework for shaping the security of banking activities (Kovalenko, 2013).

Experts consider the security of a single bank as a state of a banking institution, characterized by a balance and resistance to the external and internal threats, its ability to achieve the goal and generate sufficient amount of financial resources to ensure sustainable development (Poberezhnyy, Dodashev, & Plastun, 2010). Zachosova concretizes achieving sustainable development, noting that such a state of an institution will facilitate the attraction of new financial and material revenues from different bank activities (credit, deposit, currency, settlement/cash transactions, securities transactions, etc.) (Zachosova, 2016).

Soloviov uses the term “banking security of the country” as a state of the banking system of the country, which provides stable lending to the real economy, high availability and efficient use of credit facilities of banking institutions, and the independence of bank capital from non-resident participants (Soloviov, 2011, p. 80). Banking security not only provides a mechanism for safe and efficient cross-sectoral and inter-regional redistribution of monetary capital, but also is a key element of settlement and payment mechanisms in the country (Baranovskyi, 2014, p. 21).

The purpose of the article is to determine the level of Ukrainian banking security as a structural component of financial security and give recommendations as to improving it in order to ensure financial and economic security of Ukraine.

## 2. METHODS

Fundamental provisions of financial and banking science make the theoretical and methodological basis of the article. To achieve this goal, methods of analysis and synthesis were used to disclose the concept of “banking security”; comparative analysis – to study the factors influencing banking security; systematic approach – for a comprehensive assessment of the banking security in Ukraine; expert assessments – to determine the level of individual components of banking security; economic and mathematical modeling – to calculate the integral index of banking security; concretization and analogy – to formulate conclusions and suggestions on improving the banking security of the state.

When writing the article, the legislative acts, standards, specifications and guidelines concerning the regulation of banking activities, methodological and statistical data of the National Bank of Ukraine and individual banks were used.

## 3. RESULTS

To study the status of banking security in Ukraine, the Methodological Recommendations for calculating the economic security in Ukraine (Decree of the Ministry of Economic Development and Trade of Ukraine dated October 29, 2013) (Ministry of Economic Development and Trade of Ukraine, n.d.) suggest using the following indicators of banking security:

- the share of arrears on loans in the total amount of loans granted by banks to residents of Ukraine;
- bank loans and foreign currency deposits ratio;
- share of foreign capital in the authorized capital of banks;

- the ratio of long-term (over one year) loans and deposits;
- return on assets;
- the ratio of liquid assets to short-term liabilities;
- the share of assets of the five largest banks in the aggregate assets of the banking system.

Let us analyze banking security of Ukraine for 2010–2017, using the National Bank of Ukraine data for the specified period.

Practice shows that any bank, regardless of the economic situation in the country, faces the timely repayment or non-repayment of generally granted loans. Banks ranked the debt on a financial loan, according to which there exists more than 360 day-delayed repayment of part of a debt, as bad debt. However, the Decree of State Fiscal Service (SFS) of Ukraine dated February 8, 2017 revoked this rule. Now, if the debt exists only on the principal of the loan, and is absent on the accrued interest, only the debt on principal of the loan is recognized for the purposes of taxation (State Fiscal Service, 2018).

In Ukrainian legislation, the concept of “non-performing assets/loans” is implemented, which is as close as possible to “non-performing exposures/loans” (NPE/NPL), according to which overdue debt redemption exceeds 90 days (30 days for debtor banks), or by which the counterparty is unable to fulfill obligations without collateral security (National Bank of Ukraine, 2017). According to the IMF recommendations, loans are considered ineffective if the payment of principal and interest on them is past due: 1) for three months (90 days) or more; 2) for less than 90 days, however, according to national supervision standards it is considered that servicing such a loan is “weak” or “unsatisfactory”. If the loan was classified as inactive, then it should remain in this category before cancellation or receipt of payments.

As of January 1, 2018, problem loans in the banking system of Ukraine amounted to 54.54%. The share of troubled assets of the banking system, taking into account off-balance sheet liabilities for the

same period, amounted to 28.33%. As of December 1, 2017, the following banks occupy the highest positions in the rating of banks with the highest percentage of non-performing loans: VTB with 95.3% of non-performing loans, PrivatBank (86.9%), Ukrsootsbank (81.84%), Prominvestbank (71.87%), Credit Dnipro Bank (64.40%), Oshchadbank (63.69%), Ukreximbank (60.39%), Sberbank (52.96%), Universalbank (52.38%), Marfin Bank (45.12%), etc. (Independent Association of Banks of Ukraine, 2018, February 16). Non-performing loans in the portfolios of banks providing loans to business entities amounted to 53.5%, and 56.0% to individuals. The situation in private banks is much better compared to public ones. Thus, the share of non-performing loans in private commercial banks was only 28%. The state-owned banks accounted for about 2/3 of the total non-performing loans.

The activation of lending is the main factor in reducing the share of non-performing loans. After the bounce in the first half of 2017, the share of non-performing loans declined in all groups of banks (except Privatbank) during the 2<sup>nd</sup> half-year. According to Vavryshchuk, the Director of the Department of Financial Stability of the NBU, banks have already formed adequate reserves to cover non-performing loans. Therefore, we do not expect additional negative influence on the capital of banks in the coming years. The level of coverage of non-performing loans is adequate and is about 85%, and this figure will increase as banks cross over to the 9<sup>th</sup> IFRS standard” (MinFin, 2018, February 21).

Also, to work actively with problem loans, GDP growth is needed, a change in the judiciary and an increase in the capitalization of banks, which will allow them to form reserves and write off debts.

In 2018, International Financial Reporting Standard No. 9 “Financial Instruments” (IFRS 9) will apply. It provides for the calculation of losses on loans according to the expected losses principle. While developing this standard, the main drawbacks of its predecessor, IAS 39, were taken into account, among which there exists calculation of provisions only due to impairment of assets, which constantly led to late and incomplete recognition of asset losses by banks. IFRS 9 provides for three stages of asset assessment: 1) when initially recognized to a significant increase in credit risk (ECL in the 12-month horizon are estimated); 2) after the significant growth in credit risk (ECL for the action time of the asset); 3) impairment (ECL for the action time of the asset) (FinanceUA, 2018). After the transition to a new standard, the volumes of assets formed by reserves will better correspond to actual credit risks.

Ratio of bank loans and foreign currency deposits for banking institutions can determine the dynamics of loans and deposits dollarization. Table 1 shows the dynamics of granting loans and deposits to residents, except for depository corporations, for 2010–2017 and the first quarter of 2018.

Lending makes up the bulk of active banking operations. As for foreign currency lending to

**Table 1.** Loans and deposits to residents, except for depository corporations, by currency

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018		
									January	February	March
Loans to residents (except depository corporations), UAH bln	732.8	801.8	815.1	910.8	1020.7	981.6	998.7	1016.7	1047.9	1032.9	1030.3
including in foreign currency, %	46.0	40.3	36.7	33.8	46.3	55.8	49.4	48.8	44.9	43.7	43.3
of which, for a term exceeding 5 years, %	48.8	44.3	37.0	32.5	30.7	26.0	28.6	32.8	31.7	32.0	31.7
Resident deposits (except depository corporations), UAH bln	416.7	491.8	572.3	670.0	675.1	716.7	793.5	898.8	884.9	885.0	884.0
including in foreign currency, %	42.6	43.0	44.0	37.0	45.9	45.3	46.3	459.1	45.3	43.7	43.1
of which, for a term exceeding 2 years, %	7.1	7.6	8.0	3.5	3.6	1.7	1.8	8.0	7.7	7.7	8.0
Ratio of bank loans and deposits in foreign currency, %	190.2	153.0	118.8	124.1	152.7	168.6	134.5	121.6	117.4	116.5	117.1



Ukrainian citizens, it has been banned since 2011. Legislation provides for an exception – the issuance of foreign currency loans to individuals for medical treatment or education abroad. However, the banks themselves do not offer such lending programs. Enterprises can obtain foreign currency loans from banks only if they have currency earnings. As a result, for the period 2015–2016, the total foreign currency loan portfolio of all banks decreased by USD 17.2 billion and amounted to only USD 21.3 billion. The lack of solvent borrowers was the main reason for the almost complete freeze of lending. From August 30, 2017, the National Bank of Ukraine allowed banks to issue loans in hryvnia against foreign currency security within the framework of another easing of anti-crisis restrictions on the foreign exchange market. In particular, the NBU expanded the list of cases when a business can repay foreign currency loans received by residents from non-residents on a pre-term basis. Also, restrictions were canceled on the maximum amount (USD 50 thousand (in equivalent) during one calendar month) of foreign currency transfers for authorized bank operations executed on the basis of the NBU individual licenses (National Bank of Ukraine, 2017, August 29).

However, during 2017 – Q1 2018, the revival of foreign currency lending did not occur. Table 1 indicates that the share of such loans in the total amount remained at 43–45%. Out of them, loans with a 5-year maturity in the first quarter of 2018 amounted to only 32% of total foreign currency loans. Current retail currency loan portfolio is the remainders of currency mortgages and currency auto loans. Lending rates are rather low – an average of 6.5–6.7% per annum versus 17.5–18% for national currency loans.

According to the NBU, given the 2017 results, the total deposit portfolio in the Ukrainian banking system grew by 13% or by UAH 102.8 billion and amounted to UAH 896.3 billion. The total amount of foreign currency deposits in the banking system of Ukraine as at March 31, 2018 amounted to UAH 381 billion, or 43.1% of the total deposits of residents, except depository corporations. Rates on foreign currency deposits are at the historical minimum – 2.4–2.6% in Q1 2018 (for comparison, the rates of national currency deposits for this period amounted to an average of 10.4–11.0%

per annum). The NBU explains this by the fact that financial institutions do not need currency nowadays. Banks are not ready to attract foreign currency deposits, since there is currently no demand for foreign currency loans (Kobushko & Kobushko, 2015). Nevertheless, Ukrainians now have no alternative to placing their money, except for bank accounts. A depositor is, first of all, an investor choosing between investing money in a banking sector and buying shares. However, there is no such alternative in Ukraine (National Bank of Ukraine, n.d.).

Since August 23, 2017, the NBU abolished the limit on the foreign currency withdrawal from deposit bank accounts by individuals. Individuals will be able to receive cash in foreign currency or bank metals from current and deposit accounts through cash and ATMs without any restrictions (before that, there was a limit, according to which one client could receive no more than 250 thousand UAH in the equivalent during the day). The NBU considers it possible to completely eliminate such a limitation, taking into account the significant improvement in foreign currency liquidity in the banking sector and the stabilization of the foreign exchange market. The share of foreign currency deposits held in banks for more than two years has increased to 8.0% at the end of Q1 2018.

Consequently, calculating the ratio of bank loans and deposits in foreign currency showed a decrease from 190.2 to 121.6% in Ukraine for 2010–2017. In Q1 2018, its value has further decreased to 116–117%, which indicates a certain revival of the monetary system of the country in the last year.

The share of foreign capital in the authorized capital of banks is the next indicator of economic security, defined by Methodological Recommendations for calculating the economic security in Ukraine.

According to the Decree dated December 29, 2017, the NBU identifies banks with a state interest (banks in which the state directly or indirectly owns more than 75% of the authorized capital of the bank), banks of foreign bank groups (banks whose control stocks are owned by foreign banks or foreign financial and banking groups), private equity banks (banks in which one or more private investors are among the ultimate owners of a significant holding

directly and/or indirectly owning at least 50% of the authorized capital of the bank) (National Bank of Ukraine, 2018).

At the end of 2017, the Ukrainian banking system included six state-owned banks, 57 banks with private Ukrainian capital, and 25 foreign banks. The concentration in the banking sector, that is, the share of net assets of the twenty largest banks, amounted to 91.1%. This indicates the acquisition of the Ukrainian market by state banks and banks with foreign capital.

Large foreign banking groups are among the most reliable on the Ukrainian market. For example, Ukrsibbank, Credit Agricole Bank, and Kredobank received the highest level of reliability in the 2018 rating. Pravex Bank and Raiffeisen Bank Aval demonstrated high reliability. However, even in this group of banks there are significant risks – most European institutions want to sell their Ukrainian assets.

During 2010–2017, there was a tendency to decrease the number of banks with foreign capital in the Ukrainian banking sector: as of January 1, 2010, their number was 51, then it was 38 in February 2017. The share of Ukrainian assets in total assets of BNP Paribas and Credit Agricole was very low: 0.06-0.07%. The total assets amounted to 1.5-2.1 trillion euro.

In 2017, the authorized capital of the Ukrainian banking sector increased by UAH 84 billion or by 20.4%, of them, in state-owned banks (including Privatbank) – by UAH 66.2 billion. The bulk of cash and cash equivalents is concentrated in the state-owned banks – UAH 42 billion, in banks with foreign capital – UAH 28 billion, and in Ukrainian ones – UAH 11 billion. At the same time, despite the significant difference in the market share, foreign banks almost caught up with the state sector at the level of funds in other banks (UAH 60 billion against UAH 77 billion), which suggests a disproportionately high level of balances on correspondent accounts in the “Westerners” (mainly in foreign currency in parent financial institutions), as well as their high role in the structure of the Ukrainian interbank market (Independent Association of Banks of Ukraine, 2018, January 25).

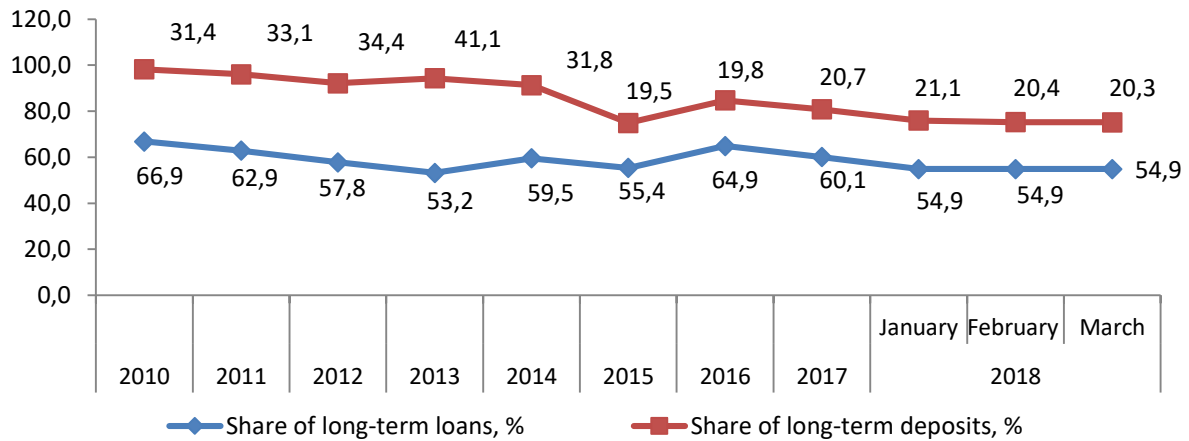
As of January 1, 2018, the share of foreign capital in the authorized capital of Ukrainian banks was 51%. According to the Methodological Recommendations for calculating the economic security, the optimal value of this indicator should be 20-25%. The value in the range of 26-30% is considered satisfactory, 31-35% is unsatisfactory, 36-40% is dangerous, and 41-60% is critical, which leads to the loss of state control over the banking system. Consequently, it can be observed that the share of foreign capital in Ukrainian banks is critical.

Nowadays, the NBU requires that the minimum statutory and regulatory capital of operating banks amounted to UAH 200 million. Since 2020, the bar should be raised to UAH 300 million. The National Bank also clarifies that the small bank capital adequacy is now substantially (more than twice) exceeding the normative value. In addition, according to the results of the diagnostics of the active operations quality, only four banks in the small group needed to be capitalized because of the poor quality of the loan portfolio. As of December 11, 2017, 42 banks had statutory capital of less than UAH 300 million.

Consequently, the bulk of the banking system risks today is concentrated in the group of state-owned and foreign-owned banks. According to Suhoniak, the Chairman of the Association of Ukrainian Banks, 30% presence of foreign capital in the banking system is the most economically advantageous for Ukraine (Suhoniak, n.d.).

Let us analyze the role of long-term loans and deposits in the development of the banking system and determine their impact on its security.

The development of the domestic economy requires full provision of financial resources for business entities. Credit resources of domestic banks and foreign investments and borrowings are the sources of support for economic entities. An analysis of the modern lending market has shown that short-term loans prevail. Banks do not invest in long-term programs for various reasons. Cost of money is one of them. The average maturity of a loan portfolio can be 11-12 months. This means that banks need reformatting their loan portfolios each year. Therefore, the share of long-term loans



**Figure 1.** Share of long-term loans and deposits in the Ukrainian banking system in 2010–2017 and Q1 2018, %

(over 1 year maturity) was gradually decreasing. It was 66.9% in 2010, then in 2017 it amounted to 60.1%. In the first quarter of 2018, this figure was 54.9% (Figure 1).

The cost of long-term national currency loans, according to the banks' reporting (without overdraft), fluctuated within a year in the range of 20-25% per annum. Short-term national currency loans fluctuated around the 15% per annum during the year, although at the end of 2017, their significant growth was recorded: they amounted to 23.2%, for the first time exceeding the level of rates on long-term loans (20.3%), testifying to the beginning of a reversal of the price trend towards higher inflationary and devaluation expectations of the population and business (as evidenced by the NBU data on the survey of corporations in terms of price expectations for 2018 – expectations deteriorated on the average) (Independent Association of Banks of Ukraine, 2018, January 25).

The convergence of rates of short-term and long-term loans indicates an increase in inflation and pressure on the hryvnia exchange rate, as well as the reaction of businesses and banks to raising the NBU discount rate to 14.5%.

Due to high interest rates, not all potential borrowers have access to loans. It should be noted that interest rates are determined by banks for each borrower individually. For example, in the agricultural sector, domestic currency loans were granted at 17.8% per annum, extractive indus-

try and quarry development – 20.7% per annum, transport – 14.1% per annum, processing industry – 14.0%, wholesale and retail – 14.4% per annum. That is, banks can provide preferences for lending to specific borrowers, counting upon their own lending capacity and taking into account the financial condition of the borrower (Institute for Social and Economic Research, 2017).

The situation with deposits is slightly different in the banking system of Ukraine. Banks do not want to open deposits for less than a year. If compared with the beginning of 2016, banks attracted money for half a year and, accordingly, increased interest rates. Now banks do not need money in the near future. At the moment, the average yield of deposits in UAH remains at 7-11% per annum. And they can grow only when banks issue deposits for one year or more.

Figure 1 shows that the share of long-term deposits in the period under study decreased from 31.4% to 20.3%. However, it should be noted that compared to 2015, this indicator has improved from 19.5% to 20.3%. With a large amount of liquidity, banks can continue to reduce lending and deposit rates due to high competition (Kobushko, 2012).

Thus, the calculation of the ratio of long-term (over 1 year) loans and deposits for 2010–2017 and the first quarter of 2018 has revealed significant fluctuations. If it was 3.75 times in 2010, then in 2013 – 1.76, and in 2016 – 4.13 times. In recent years, the indicator is at the level of 3.0-3.3.



**Table 2.** Profitability indices of Ukrainian banks

Indices	2010	2011	2012	2013	2014	2015	2016	2017	2018		
									January	February	March
Net profit (loss), UAH mln	-13,027	-7,708	4,899	1,436	-52,966	-66,660	-159,388	-26,472	1,691	3,998	8,849
Return on assets, %	-3.61	-1.38	-0.73	0.04	0.11	-3.99	-6.22	0.33	3.12	1.83	2.72

The next indicator of banking security is the level of return on assets of banks. Let us analyze this for 2010–2017.

Profitability is a relative indicator of economic efficiency, which reflects the level of efficient use of resources and capital of the bank. The bank's return on assets is calculated as the ratio of the bank's profit after tax at the reporting date to the average value of assets used by the bank for the relevant period and is expressed as a percentage. Table 2 presents indicators of profitability (unprofitability) of Ukrainian banks for the period of 2010–2017 and the first quarter of 2018.

Table 2 indicates that the banking sector received profit in 2012–2013 last time. In 2017, net bank losses amounted to UAH 26,472 million. In the first quarter of 2018, the following net profit was recorded: UAH 1,691 mln (January), UAH 3,998 mln (February), and UAH 8,849 mln (March).

According to 2017 results, the National Bank of Ukraine promulgated the financial results of the largest Ukrainian banks. Privatbank had the largest losses last year – UAH 22.97 billion, followed by Prominvestbank (UAH 7.67 billion) and VTB (UAH 4.1 billion). Ukrspotsbank and Forward having losses of UAH 3.1 billion and UAH 639 million, respectively, are also included in the top five “leaders” by losses. According to last year results, BTA Bank's losses amounted to UAH 563 mln, Credit Dnipro – 446 mln, Clearing House – 347 million UAH, Pravex-Bank – 110 million, and City Bank – UAH 84 million.

Raiffeisen Bank Aval was recognized as the most profitable bank with UAH 4.47 bln. Here is the ranking of profitable banks: UkrSibbank with a net profit of UAH 1,467 mln, Credit Agricole Bank – UAH 1,100 mln, City Bank – UAH 1,008 mln, Ukreximbank – UAH 929 mln, OTP Bank – UAH 918 mln, PUMB – UAH 786 mln,

Alfa-Bank – UAH 655 mln, Ukrgasbank – UAH 624 mln, Oschadbank – UAH 559 million, etc. (FinClub, 2018).

Analysis shows that the asset profitability of Ukrainian banks is lower than in other CIS countries, and in the countries of the Central and Eastern Europe. In this case, the profitability of assets is low in general. For 2010–2017, one can see volatility from –6.22% in 2016 to 3.12% in January 2018. The low asset profitability may be due to their excessive volume and high specific weight of “expendable assets” at a low share of profitable assets. Restructuring assets in favor of profitable ones can become a source of additional bank profits, even at their unchanged volume or its increase. For foreign banks, the profitability of assets is considered to be sufficient at the level of 1–3%. In 2017, banks with foreign capital were leaders among Ukrainian banks in terms of net assets. These are: Raiffeisen Bank Aval – 72,108 million UAH, UkrSibbank – 46,576.7 million UAH, and Credit Agricole Bank – 30,946.1 million UAH. It should be noted that for Raiffeisen Bank Aval, the return on equity was almost 41% at the end of the year. Among state banks, Oschadbank, Ukreximbank and Ukrgasbank show high reliability. Their net assets at the end of 2017 amounted to UAH 234,241 mln, UAH 171,011.3 mln and 69,274.3 mln UAH, respectively. According to the Ministry of Finance's strategy for state-owned banks, it is planned to ensure the return on capital of state-owned banks by more than 12% according to business plans by 2022.

The ratio of liquid assets to short-term liabilities of banks is the next indicator of the banking security provision. Table 3 presents liquid assets and key indicators of financial sustainability of Ukrainian banks for 2010–2017 and I quarter of 2018.

All funds in cash and on the correspondent act counts at the National Bank of Ukraine and other

**Table 3.** Liquid assets and key indicators of financial sustainability of Ukrainian banks

Indices	2010	2011	2012	2013	2014	2015	2016	2017	Q1 2018
Liquid assets, UAH mln	421,529.5	508,353	570,804.2	669,218.6	715,712.1	732,656	822,653.4	942,785	892,437.87
Ratio of liquid assets to short-term liabilities	91.19	94.73	90.28	89.11	86.14	92.87	92.09	98.37	92.87
Ratio of liquid assets to aggregate assets	18.84	18.65	22.15	20.63	26.4	33	48.53	53.94	52.42

banks, as well as assets that can be quickly converted into cash or cashless funds are considered as liquid assets. Table 3 indicates that in 2010–2017, there was a positive dynamics and the volume of bank liquid assets increased by UAH 521,255.4 mln (123.4%). In the first quarter of 2018, this indicator dropped by UAH 50,347.1 million (5.34%) compared with 2017.

The main indicators of financial sustainability characterizing the liquidity of depository corporations include:

- the ratio of liquid assets to aggregate assets, or the liquid assets index, which indicates the balance reduction that the banking sector can withstand before it will be forced to sell illiquid assets; and
- the ratio of liquid assets to short-term liabilities, which shows how much short-term liabilities can be covered by the sale of liquid assets in the event of a loss of access to financing.

While analyzing the dynamics of the liquid assets to short-term liabilities ratio over the same period, quite significant fluctuations can be noted from 86.14% (2014) to 98.37% (2017). In the first quarter of 2018, the indicator slightly decreased to 92.87%. This is clear, as the volume of liquid assets, as noted above, has been reduced, while short-term liabilities have increased on the contrary. In 2017, they amounted to UAH 958,363.73 mln, while in the first quarter of 2018 they were UAH 960,933.79 mln, that is 0.27% more.

BTA Bank (53.4%), Pravex Bank (30.8%), and Bank Vostok (15.2%) demonstrated the highest liquidity

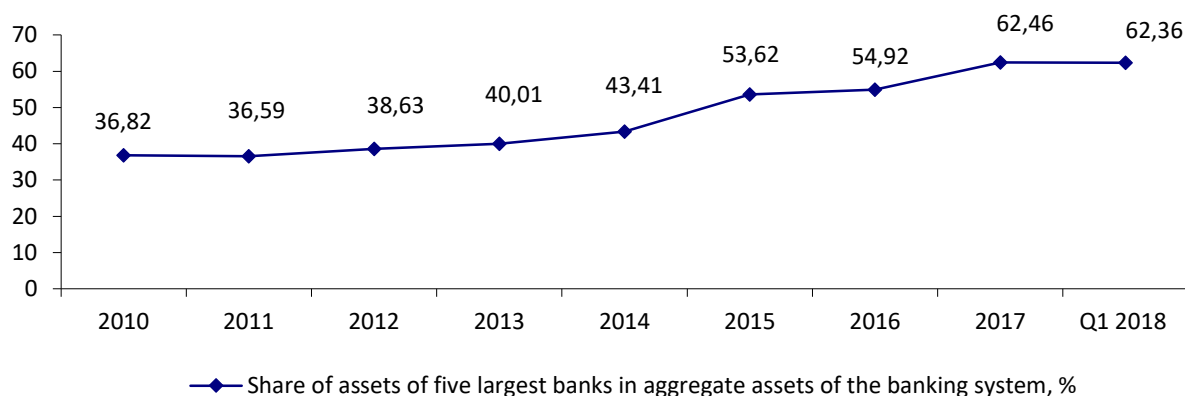
indicator in the first quarter of 2018. With respect to the leaders of Mind rating of viability of banks, Raiffeisen Bank Aval and UkrSibbank had the instant liquidity ratio of 15.0% and 11.3%, respectively, at a set rate of 20%. The indicator gives an idea of the extent to which banking institutions can meet demand for withdrawals in a short time, without having to face liquidity problems (Zaruba et al., 2018).

The dynamics of the liquid assets to total assets of banks ratio showed an increase by 186.3% in 2010–2017. In the first quarter of 2018, there was a certain decrease of the indicator by 2.8%. The indicator is used to meet expected and unforeseen cash demand.

Since March 1, 2018, the National Bank of Ukraine introduced a new standard for banks in Ukraine – the liquidity coverage ratio (LCR) (National Bank of Ukraine (2017, August 29). It will increase the banks resilience to short-term liquidity shocks and will help to bring banking regulation standards closer to European ones. According to EU norms, the LCR value for banks is set at 100%. The period required to reach this value by banks will be determined by the NBU based on the test calculation results.

The share of assets of the five largest banks in the aggregate assets of the banking system is the latest indicator proposed by the Methodological Recommendations for calculating the level of banking security.

Figure 2 shows that the share of the five largest banks in aggregate assets of the Ukrainian banking system has increased during 2010–2017. If in 2010 this indicator was 36.82%, then it was 62.46% in 2017. It remained at approximately the same level in Q1 2018. Five leaders always included



**Figure 2.** The share of top-5 banks in the aggregate assets of the Ukrainian banking system in 2010–2017 and Q1 2018

Privatbank and Oschadbank. In 2017, their shares in total assets were 26.2% and 15.8%, respectively. Ukreximbank and Raiffeisen Bank Aval appeared in the list during all years. In 2017, their shares of assets were 12 and 4.2%, respectively. Since 2015, Ukrgasbank appears in the list of the five largest banks' assets. Its share amounts to 4.3% in 2017.

Thus, the calculation of banking security indicators for the period 2010–2017 and I quarter of 2018 allowed to make Table 4 and, through estimating the values of indicators in accordance with the Methodological Recommendations for calculat-

ing the economic security (Ministry of Economic Development and Trade of Ukraine, n.d.), to calculate the integral index of banking security.

It is proved that a high level of banking security is a guarantee of financial security and economic sustainability of the state. The calculated integral index of banking security revealed its unsatisfactory level during 2010–2013 and the dangerous one – during 2014–2017. At the end of 2017 – the beginning of 2018, there were slight positive developments, which allowed bringing the bank's security to 42%.

**Table 4.** The integral index of banking security of Ukraine for 2010–2017 and Q1 2018

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	Q1 2018
Share of overdue debt in bank credit portfolio, %	9.4	11.2	9.6	8.9	7.7	13.5	22.1	28.3	27.4
Ratio of foreign currency loans and foreign currency deposits, %	190.2	153.0	118.8	124.1	152.7	168.6	134.5	121.6	117
Share of foreign capital in the authorized capital of banks, %	35.8	40.6	41.9	39.5	34	32.5	56	51	54.3
Ratio of long-term (over one year) loans and deposits, times	3.75	3.10	2.37	1.76	2.83	3.89	4.13	3.28	3.12
Return on assets, %	-3.61	-1.38	-0.73	0.04	0.11	-3.99	-6.22	0.33	2.56
Ratio of liquid assets to short-term liabilities, %	91.19	94.73	90.28	89.11	86.14	92.87	92.09	98.37	92.87
Proportion of assets of five largest banks in aggregate assets of the banking system, %	36.82	36.59	38.63	40.01	43.41	53.62	54.92	62.46	62.36
Integral index of banking security	0.56	0.62	0.57	0.59	0.51	0.38	0.33	0.42	0.42

## CONCLUSION

In order to improve the situation in the banking sector of Ukraine in the short term, the following conclusions and recommendations can be proposed.

1. A significant proportion of troubled assets is concentrated in state-owned banks. Hence, there are expenses from the state budget for the capitalization of banks and financing of payments by the Deposit Guarantee Fund. In such a situation, banks cannot increase their lending activity and attract investments. Also, in addition to direct spending from the budget on additional capitalization of state-owned banks, the lack of credit resources for the real sector has a negative effect on the economy. Restoration of lending, particularly for enterprises of the real sector of the economy, will increase the banking sector profitability and attract investment. Lowering rates on loans is possible only if the amount of credit risk is reduced. To this end, it is necessary to fix rights of creditors and to define measures for their protection.
2. An important problem for the Ukrainian banking sector is its long-term unprofitability. To attract new money, it is necessary to restore foreign currency lending with minimal risks. Restructuring of assets in favor of profitable ones can also be a source of additional bank profits. Optimization of administrative and other expenses, improvement of corporate management, use of the latest technologies and experience of foreign banks will help improve bank performance.
3. The predominance of short-term lending increases the risk of liquidity and does not contribute to long-term lending. The introduction and implementation of the LCR standard by banks is designed to help reduce short liabilities and improve the ability of banks to withstand the possible risks of a sharp outflow of clients' funds.
4. The concentration of capital at the level of 60% in the top-5 banks indicates a significant reduction in the number of banks in the system. This happened due to the banking sector capitalization, mainly foreign and state banks, as well as the Privatbank nationalization. The reduction process may continue, but its scale will be much smaller. Some small banks may be closed due to lack of capitalization (the norm of the authorized capital of UAH 300 million is only postponed until July 11, 2020), some of the frozen banks are self-liquidating, others will cooperate. From a positive point of view, it can expand the banking services network for customers, update software and hardware solutions, increase the level of information security of banks.

According to the weighting factor, the bank security is 0.1723 (Ministry of Economic Development and Trade of Ukraine, n.d.) of financial security. Therefore, the next step is to determine the current level of financial security in Ukraine and to develop proposals as to its strengthening.

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