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## **BANKS' SHORT-TERM LIQUIDITY COVERAGE RATIO (LCR) AND ITS IMPACT ON THE BANKING LIQUIDITY MANAGEMENT**

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### **НОРМАТИВ КОРОТКОСТРОКОВОЇ ЛІКВІДНОСТІ БАНКІВ (LCR) ТА ЙОГО ВПЛИВ НА УПРАВЛІННЯ БАНКІВСЬКОЮ ЛІКВІДНІСТЮ**

*The article is devoted to the study of the LCR short-term liquidity coverage ratio effectiveness in the Ukrainian banks' activity. The economic crisis of 2014-2016 showed the vulnerability of the Ukrainian banking sector to liquidity shocks. In order to improve the liquidity level of Ukrainian banks, the National Bank of Ukraine (NBU) introduced a new LCR liquidity standard, which is recommended by Basel III. The article also justifies the shortcomings of the liquidity standard, which were mandatory for the calculation by 2018. The nature and the calculation features of the new LCR liquidity coverage ratio are described.*

*The main advantages of the LCR liquidity coverage ratio for Ukrainian banks are systematized, among them: 1) the higher degree of results reliability - since the ratio takes into account future cash outflows and income, its value provides a liquidity reserve in times of economic shocks; 2) standardization of Ukraine's banking regulation norms according to international requirements – the LCR liquidity coverage ratio implementation will bring banking regulation in Ukraine closer to world standards, as this ratio is used in 45 countries of the world; 3) optimizing of banks' liabilities structure – the LCR liquidity coverage ratio improves bank's liability structure by reducing unstable sources of financing;*

4) optimizing of banks' assets structure – the LCR liquidity coverage ratio not only takes into account the volume, but also the quality of the bank's liquid assets, which makes the bank's assets structure more reliable; 5) activation of the government securities secondary market - as a result of increasing requirements for the volume and quality of liquid assets, the volume of trading operations between banks on government securities will also increase; 6) liquidity planning application - after the LCR liquidity coverage ratio introduction, the need for the banking liquidity effective management increases significantly.

The article deals with the basic statistics of the liquidity indicators of the Ukrainian banking sector, including values of the LCR short-term liquidity coverage ratio in 2019-2020. The level of the Ukrainian banking sector profitability for the same period was also assessed.

Стаття присвячена дослідженню ефективності впровадження в діяльність українських банків нормативу короткострокової ліквідності LCR. Вивчено передумови і необхідність зміни нормативів короткострокової ліквідності, які були обов'язковими для розрахунку банками до 2018 р. Охарактеризовано сутність та особливості розрахунку нового нормативу ліквідності LCR.

Систематизовано основні переваги запровадження коефіцієнта LCR для українських банків, серед яких: 1) високий ступінь достовірності результатів, в основі якого лежить новий метод розрахунку показника, що враховує не статистичні, а прогнозовані майбутні відтоки та надходження грошових коштів банку на основі змодельованих економічних шоків; 2) стандартизація українських нормативів згідно міжнародних вимог, забезпечується завдяки поступовому використанню в українському банківському регулюванні новітніх світових рекомендацій щодо управління банківською ліквідністю, в тому числі Базеля III; 3) оптимізація структури банківських зобов'язань, пов'язана із забезпеченням вимог щодо достатнього рівня нормативу LCR за рахунок зменшення нестабільних джерел фінансування у банківському пасиві; 4) оптимізація структури банківських активів, що також є складовою дотримання вимог по коефіцієнту LCR і полягає у формуванні банком достатньої величини високоліквідних коштів; 5) активізація вторинного ринку державних цінних паперів, що є наслідком підвищення вимог до обсягу та якості ліквідних активів банків; 6) застосування планування ліквідності, що впливає з потреби в ефективному управлінні банківською ліквідністю.

В статті опрацьовано основні статистичні дані 15 найбільших українських банків за нормативом короткострокової ліквідності LCR в 2019-2020 рр. І показано, що за досліджуваній період українські банківські установи повністю виконували вимоги НБУ щодо рівня LCR. Також здійснено оцінку рівня прибутковості українського банківського сектору за аналогічний період, з метою підтвердження відсутності негативного впливу нових вимог по банківській ліквідності на прибутковість банківського сектору.

**Keywords:** liquidity; banks' short-term liquidity coverage ratio; liquidity management; prudential supervision.

**Ключові слова:** ліквідність; норматив короткострокової ліквідності банку; управління ліквідністю; пруденційний нагляд.

**Problem definition and its relationship with important scientific and practical tasks.** The economic crisis of 2014-2016 showed the pain points and problems of Ukraine's banking system. Last economic crisis has provided a strong impetus for the NBU to implement more stringent requirements for domestic banks. The transformational changes that have taken place in the banking sector over the past few years have contributed to the rehabilitation and strengthening of the Ukrainian banking institutions. New requirements for the size and structure of bank capital, risk management, and liquidity requirements have profoundly increased. It became apparent that the existing economic liquidity standards didn't provide timely and objective information on the real level of banks' liquidity. Most banks that left the market in 2014-2016 were faced with a severe liquidity crisis that they could not effectively overcome. In order to prevent future systemic liquidity crises, the NBU introduced a short-term liquidity coverage ratio (LCR) for banks. As this standard was introduced only in 2018, a comprehensive and thorough examination of its effectiveness and impact on the Ukrainian banking system liquidity resumption is extremely important and relevant.

**Analysis of recent research and publications.** Although the short-term liquidity coverage ratio (LCR) has been gradually introduced in the banking sector starting 2018, scientific research in this area remains very low. The information on this banking standard is broadly covered mainly by the NBU itself. However, in academia, this topic has been not very relevant yet. But still it's worth noting some experience of Ukrainian financiers in the study of banking liquidity management. Among the scientists we should mention are Aksenova L., Musayeva E. [3], Kosova A. [4], Lapishko M. [5], Pavlyuk O. [6], Kaan A., Pykhnovska T. [9].

**Setting objectives.** The main purpose of the article is a thorough and comprehensive study of new short-term liquidity coverage ratio (LCR) effectiveness for Ukraine's banking system.

**The main material researches.** World banking experts started to deal with banking liquidity problem after the economic crisis of 2007-2008. At that time, new standards for banking liquidity, primarily the LCR ratio, were developed and recommended for use under Basel III. Several years of successful experience in applying the LCR liquidity coverage ratio in other European countries has enabled the NBU to adapt the new ratio to the peculiarities of the Ukrainian financial system and to put it into use in early 2019.

As defined by the NBU, the short-term liquidity coverage ratio (LCR) is a liquidity ratio that sets the minimum required liquidity level to cover the expected net cash outflow for 30 calendar days, taking into account the stress scenario (hereinafter referred to as the expected net cash outflow) [1, 2].

The LCR ratio is a prudential oversight tool designed to capture negative changes in the bank's short-term liquidity even before the destructive changes in the bank's financial position start, as it based on the stress testing results of the bank's negative economic situations.

The main drawback of the previous standards  $H_4$  and  $H_6$  (removed from mandatory calculation since September 2019) was, in fact, their inability to adequately assess the banks need for liquid funds in crisis shock conditions. These standards only recorded the bank's liquidity status at a specific balance sheet date, but did not provide any information about real liquidity threats [8].

In contrast, the LCR ratio enables both banks and the NBU not only to deal with the liquidity crisis effects, but to prevent their occurrence by means of preventive measures. The LCR ratio as well as the  $H_4$  standard is calculated within one month, but takes into account future outflows and cash inflows of the bank. And since, as already stated, the basis for this ratio requirements formation are not usual and normal, but stressful conditions of the bank, in order to meet the LCR ratio sufficiency requirements, banks are obligated to generate sufficient liquidity reserve.

The advantages of the LCR ratio implementation are:

1. *The higher degree of results reliability* - since the LCR ratio doesn't take into account the statistical, but the projected future outflows and cash inflows of the bank based on simulated economic shocks, the value of this ratio not only provides a high level of short-term liquidity in the current conditions of the bank functioning, but also forms the liquidity stock in the event of possible fluctuations in the economy.
2. *Standardization of Ukraine's banking regulation norms according to international requirements* - the LCR ratio is used in 45 countries around the world and is officially recommended by Basel III. The introduction of this standard brings Ukraine's banking regulation closer to world standards, as well as allows foreign analysts to study and evaluate financial information of the Ukrainian banking sector.
3. *Optimizing of banks' liabilities structure* - one of the main requirement for ensuring regulatory compliance of the LCR ratio is to improve the bank's liabilities structure by reducing volatile sources of financing. First and foremost, it's about reducing the weight of demand deposits and increasing the proportion of long-term investments. Demand deposits have the highest level of outflows during economic shocks, so reducing their weight will help firstly reduce the bank's liabilities risks. In addition, it's expected to focus on individuals deposits, since they have lower level of outflows comparing to the outflows of legal entities. Such optimization of the clients' funds structure is a necessary measure in order to improve and ensure a high level of the Ukrainian banks liquidity.
4. *Optimizing of banks' assets structure* - another important component to meet the requirements for the LCR ratio is for the bank to form a sufficient amount of highly liquid funds. Besides, the importance of this requirement has increased significantly compared to the old liquidity standards requirements. Unlike the previous standards, the LCR ratio takes into account not only the volume but also the quality of the bank's liquid assets, which makes the structure of the bank's assets more reliable and efficient in terms of liquidity.
5. *Activation of the government securities secondary market* - as a result of increasing requirements for the volume and quality of liquid assets, the volume of trading transactions between banks for government securities, which are included in the list of authorized liquid assets for the LCR ratio calculation, will also increase. The main disadvantage for banking sector is that due to the underdeveloped securities market in Ukraine, the choice of liquid assets in the form of securities is quite limited. However, of course, the active development of this segment of the economy will occur soon and may become a catalyst for qualitative changes in Ukraine's securities market in general.
6. *Liquidity planning application* - after the LCR ratio introduction, the need for effective banking liquidity management is increasing noticeably. As banks' liquidity requirements become much more complex, it requires banks to include liquidity planning in their overall business planning. Such changes are conditioned by the need for a thorough and detailed analysis of the volumes and structure of the bank's assets and liabilities in order to comply with the NBU established requirements. And since the LCR ratio needs to be calculated on a daily basis, the amount of information that bank's analysts need to process and take into account will increase

significantly. These makes bank liquidity management one of the main tasks of banking management in general.

As can be seen from Table 1, Ukrainian banks have no problems meeting the NBU's requirements to ensure the LCR ratio value at 100%. Although 100% ratio level was only gradually introduced, banks have been able to provide much higher LCR level since the beginning of 2019. In addition, it should be noted that during the period under review, all banks significantly improved their LCR values, and that can indicate that structure of assets and liabilities of Ukrainian banks was effectively optimized.

Therefore, as of 01.04.2020, the top five banks by the LCR ratio are: JSC "Ukreximbank", JSC "Ukrsibbank", JSC "ING Bank", JSC "Alfa Bank", JSC "Raiffeisen Bank Aval" (tabl.1). Also, we can see that during the first quarter of 2020 the short-term liquidity of the largest Ukrainian banks did not deteriorate, which is a signal of the banking system stability during the coronavirus pandemic and economic crisis.

Table 1

**Values of the LCR ratio of the 15 largest Ukraine's banks for Q<sub>1</sub> 2019 – Q<sub>1</sub> 2020\***

№	Name of the bank	The ration value as of 01.04.2019, %	The ration value as of 01.07.2019, %	The ration value as of 01.10.2019., %	The ration value as of 01.01.2020, %	The ration value as of 01.04.2020, %
1	Privat Bank	234,15	182,16	208,92	268,26	284,99
2	Oschad Bank	228,10	301,03	311,3	295,98	267,80
3	Raiffeisen Bank Aval	150,5	130,72	192,82	197,66	306,12
4	Ukrsibbank	399,55	305,72	311,78	328,82	420,64
5	OTP Bank	150,49	132,93	171,04	175,07	231,81
6	ProCredit Bank	142,89	119,59	170,11	209,09	234,03
7	KredoBank	95,01	102,68	108,46	110,59	125,51
8	Credit Agricole Bank	146,31	140,43	159,15	177,46	235,43
9	PUMB	176,79	195,92	168,79	185,02	240,14
10	Ukrgasbank	183,32	197,60	222,01	143,77	224,01
11	Ukreximbank	813,12	286,24	521,91	839,04	761,97
12	Alfa Bank	250,19	342,78	347,95	254,51	346,41
13	Citibank	319,57	283,54	249,88	259,71	263,74
14	ING Bank	411,91	398,28	431,54	328,51	352,66
15	Tascombank	581,23	283,05	284,56	237,20	175,02

\*- generated by the authors according to the data [10]

Such excess liquidity in Ukraine's banking sector is primarily related to the economy recovery in 2019 after the crisis and, first, to the Ukrainian banking sector active development.

However, there is a risk that the rapid growth of Ukraine's banking sector will not be long-lasting and banks will then have to face some difficulties in balancing their assets and liabilities in order to provide the required level of liquidity.

Table 2

**Value of net profit of the 15 largest Ukraine's banks for 2018-2019\***

№	Name of the bank	The value of net profit as of 01.01.2019, mln.hrn.	The value of net profit as of 01.01.2020, mln.hrn.
1	Privat Bank	111668,2	32600
2	Oschad Bank	131,8	277
3	Raiffeisen Bank Aval	5087,9	4750
4	Ukrsibbank	2657,9	2580
5	OTP Bank	1974,3	2540
6	ProCredit Bank	662,5	696
7	KredoBank	520,3	538
8	Credit Agricole Bank	1462,7	1730
9	PUMB	2037,5	2620
10	Ukrgasbank	766,1	1300
11	Ukreximbank	958,5	1000
12	Alfa Bank	1258,3	1590
13	Citibank	1414,6	2210
14	ING Bank	510,9	710
15	Tascombank	429,3	458

\*- generated by the authors according to the data [10]

In the run-up to the LCR ratio introduction, banking experts expressed concern that meeting this standard requirements would adversely affect Ukraine's banking system profitability. Because, first, to generate a high level of highly liquid assets, banks would have to sacrifice more profitable assets. And, second, the formation of less risky and more resistant to the outflow of the attracted funds' portfolio, would lead to a fight for deposits between banks, which, in turn, can affect the growth of bank expenses [8].

Howsoever, data for 2018-2019 on the 15 largest Ukraine's banks indicate that the LCR ratio introduction not only did not worsen the banking sector's profitability, but on the contrary, the banking sector showed high performance and sustainable development (tabl.2). As we can see, only three banks in 2019 worsened their profitability compared to 2018, namely JSC "Privat Bank", JSC "Raiffeisen Bank Aval" and JSC "Ukrsibbank". Although these are some of the largest banks in Ukraine, there are no negative trends in the banking sector in general.

**The results of this study and further research in this area.** The NBU's improvements in banking regulation have not yet been completed. The introduction of long-term liquidity standard (NSFR) is announced this year, which should replace the current H<sub>5</sub> standard. Other measures are also foreseen regarding the introduction of additional capital buffers and more thorough banking risk management. All these measures are intended to strengthen and protect Ukraine's banking system. Crisis phenomena as such are not quite negative, they are an inevitable consequence of the economy cyclical nature and that is why can help to reveal the shortcomings and inconsistencies in the financial system. The NBU has taken into account the lessons of the recent economic crisis and is actively working to implement truly effective and efficient banking sector protection tools. Therefore, as the transformation processes of Ukraine's banking sector are not yet in the final stages, the need for further research in this area is extremely important.

A new challenge in the face of economic instability linked to the global pandemic of the coronavirus will show whether Ukraine's banking system is ready to withstand negative economic shocks, primarily in the context of bank liquidity. And whether the liquidity stock formed by banks in the first place with the help of the LCR ratio be effective in ensuring Ukraine's banking system stability.

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