“Macroeconomic factors that influence the bank loans rate in international and Ukrainian practice”

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ARTICLE INFO	Sergiy Ivakhnenkov, Svitlana Hlushchenko and Kamilla Sverenko (2020). Macroeconomic factors that influence the bank loans rate in international and Ukrainian practice. *Economics of Development*, *19*(4), 35-47. doi:10.21511/ed.19(4).2020.04
DOI	http://dx.doi.org/10.21511/ed.19(4).2020.04
RELEASED ON	Wednesday, 31 March 2021
RECEIVED ON	Tuesday, 07 July 2020
ACCEPTED ON	Monday, 14 December 2020

JOURNAL	"Economics of Development"
ISSN PRINT	1683-1942
ISSN ONLINE	2304-6155
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	Simon Kuznets Kharkiv National University of Economics

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
16	10	0

BUSINESS PERSPECTIVES

Publisher

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

S. KUZNETS KHNUE

Founder

Simon Kuznets Kharkiv National University of Economics, Nauky avenue, 9-A, Kharkiv, 61166, Ukraine
http://www.hneu.edu.ua/

Received on: 07th of July, 2020
Accepted on: 14th of December, 2020
Published on: 31st of March, 2021

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MACROECONOMIC FACTORS THAT INFLUENCE THE BANK LOANS RATE IN INTERNATIONAL AND UKRAINIAN PRACTICE

Abstract

The goal of the paper is to disclose the links between the dynamics of macroeconomic indicators and the level of bank loan rates based on international and Ukrainian practice. On the basis of the previous analysis, the paper also aims to identify the key trends in the formation of loan prices in the long run and identify problematic issues related to bank loan rates.
The main characteristics of bank lending rates in Ukraine are: a) their high rates; b) sharp changes in the weighted average bank loan rates from year to year; c) higher loan rates for households compared to the cost of bank loans for businesses; d) higher bank loan rates for short- and medium-term loans versus long-term ones; e) lower rates on loans in foreign currency compared to the loans in hryvnia; and f) high share of non-performing loans to households and businesses in bank portfolios.
In the context of world and Ukrainian practice, the paper demonstrates the reverse effect between macroeconomic indicators such as GDP per capita, the ratio of loans to GDP, the ease of doing business index and bank loan rates. The article also demonstrates a direct relationship between the dynamics of inflation rate in the country, the dynamics of non-performing bank loans and their rates.

Keywords loan price, bank loan rate, dynamics of bank loan rates, bank loans, macroeconomic factors

JEL Classification C82, D53, G21

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МАКРОЕКОНОМІЧНІ ЧИННИКИ ВПЛИВУ НА БАНКІВСЬКУ КРЕДИТНУ СТАВКУ В МІЖНАРОДНІЙ ТА УКРАЇНСЬКІЙ ПРАКТИЦІ

Анотація

Стаття має на меті висвітлити зв'язок між динамікою показників макроекономічного розвитку країни та рівнем банківських кредитних ставок на основі міжнародної та української практики та, виходячи з цього, виділити ключові тенденції формування цін на банківські кредити в довгостроковій перспективі та визначити проблемні питання у цій сфері.
Основними характеристиками ставок банківського кредитування наразі в Україні є: а) їх високий рівень; б) різкі зміни середньозваженої банківської кредитної ставки з року в рік; в) вища вартість банківських кредитів для домогосподарств порівняно з вартістю кредитів для бізнесу; г) вища вартість коротко- та середньострокових банківських кредитів проти довгострокових; д) нижчі кредитні ставки за кредитами в іноземній валюті порівняно з гривневими кредитами, е) висока частка непрацюючих кредитів домогосподарств та бізнесу у банківських портфелях.
У контексті світової та української практики в статті розкрито зворотний ефект між такими макроекономічними показниками, як ВВП на душу населення, співвідношення позик до ВВП, індекс легкості ведення бізнесу та банківська кредитна ставка. Показано також прямий вплив між динамікою рівня інфляції в країні, динамікою обсягів непрацюючих банківських кредитів та їх вартістю.

Ключові слова ціна кредитів, банківська кредитна ставка, динаміка банківських кредитних ставок, банківські кредити, макроекономічні чинники

Класифікація JEL C82, D53, G21

INTRODUCTION

The distinctive features of the modern development of Ukrainian banks are the growing volumes of the banking business, increased competition and, at the same time, increased credit risks. All of that makes it difficult for banks to maintain financial stability and getting profits.

Pricing of banking products is a key element in determining the desired level of bank profitability. Moreover, interest rates on bank loans are a macroeconomic indicator and characterize the cost of borrowing for the real sector of the economy. A bank can vary prices in a wide range, using prices as an important tool of attracting customers and promoting services. Pricing is one of the most important aspects of the bank's marketing activities, as well as a control lever that allows you to generate the amount of the bank's profit.

Credit services are the main source of income for banks. In the context of pricing for credit services, banks develop a credit strategy and choose the method of estimating the interest rate on the loan. Identifying factors influencing the cost of bank loans, generalizing trends and directions of such influence in different countries and in Ukraine will facilitate the search for problematic areas that systematically restrain the rise or fall of interest rates on loans and hinder lending activity in the country. All this determines the relevance of the chosen research topic.

1. LITERATURE REVIEW

The theoretical and practical aspects of the banks functioning and pricing of banking services were described in the following works.

General issues of banks' activity are covered in the works of Dziubliuk et al. (2017), Hlushchenko (2015), Kovalenko (2016), Lutsiv (2018), Savluk and Moroz (2009), Mykhailyak and Mykhailyak (2018) and others.

The pricing issue in the banking sector is studied by such authors as: Kuznetsova; Zherdetskaya; Lepushinsky; Malakhova; Maslak and Kryklij; Mishchenko, Naumenkova; Ahrend; Catte, Price and others.

In their works are considered: the formation and development of the banking system of Ukraine with the allocation of a system of measures to improve risk management and corporate governance in banks (Mishchenko & Naumenkova, 2016); pricing of banking products, factors, methods and pricing mechanisms from a theoretical and methodological point of view (Maslak & Kryklij, 2010), (Ahrend, Catte & Price, 2006); management of the bank's loan portfolio, including determination of its profitability and methods of pricing on loans (Prymostka, 2012), (Kuznetsova & Zherdetskaya, 2016); the essence and types of interest rate policy of the bank at the macro- and micro- levels, the factors that determine it (Malakhova, 2015), (Lepushinsky, 2012), etc.

Researchers focus on the theory and methodology of pricing, or on the applied experience of a particular country (including Ukraine). At the same time, in our opinion, it is necessary to expand the scope of statistical analysis of the impact of various factors on the cost of bank loans to generalize the trends of such impact based on both international and Ukrainian practice.

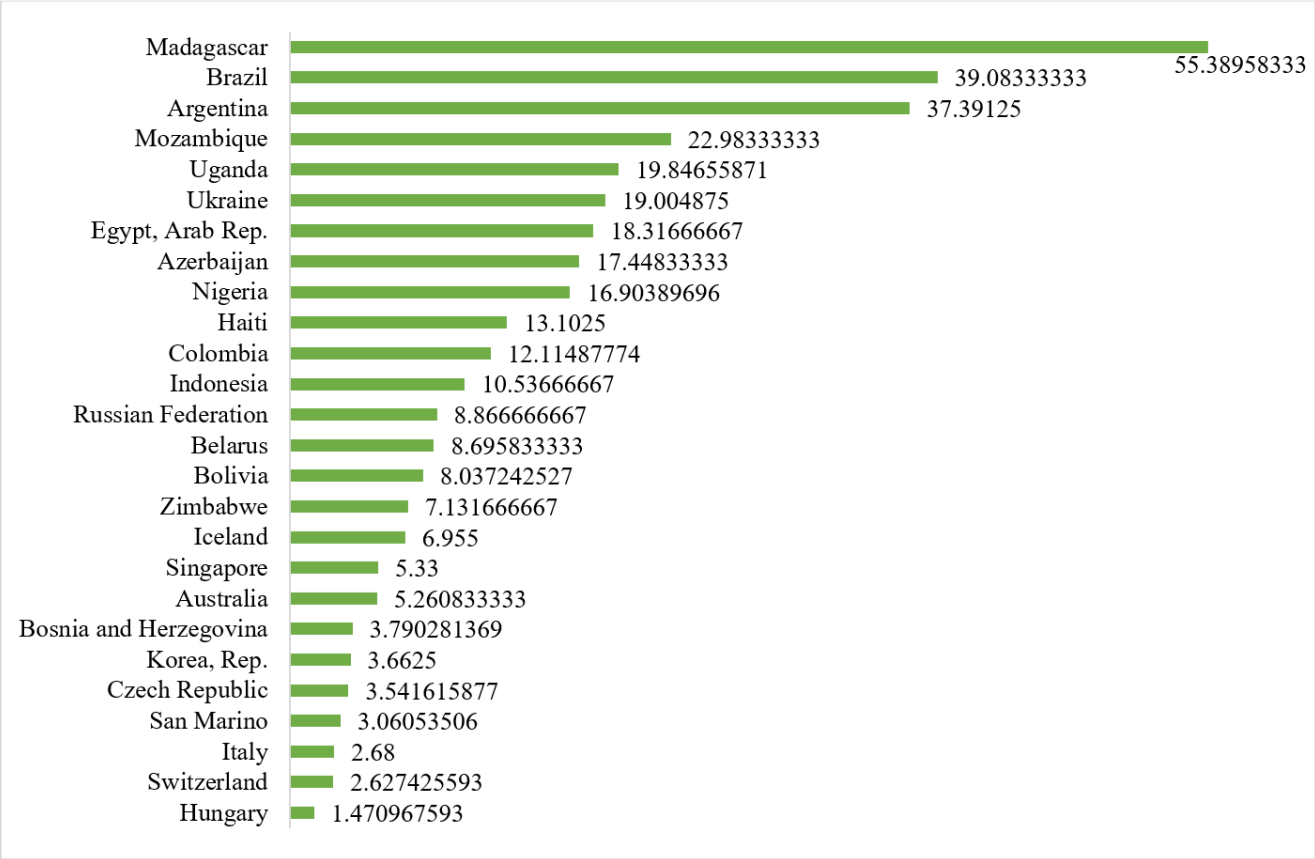
These reasons determine the relevance and the purpose of the article, which is to reveal the links between the dynamics of macroeconomic indicators and the level of bank lending rates in international and Ukrainian practice. This will help to identify the key trends in the formation of the price of loans in the long run and problematic issues that systematically restrain the growth or decline of interest rates on loans and hinder lending activity in Ukraine.

2. RESULTS

The bank loans rate can be considered as indicators of financial markets development in a particular country and in the particular region or globally. As a common rule, countries with low bank loans rates are more economically developed than countries with high bank loans rates.

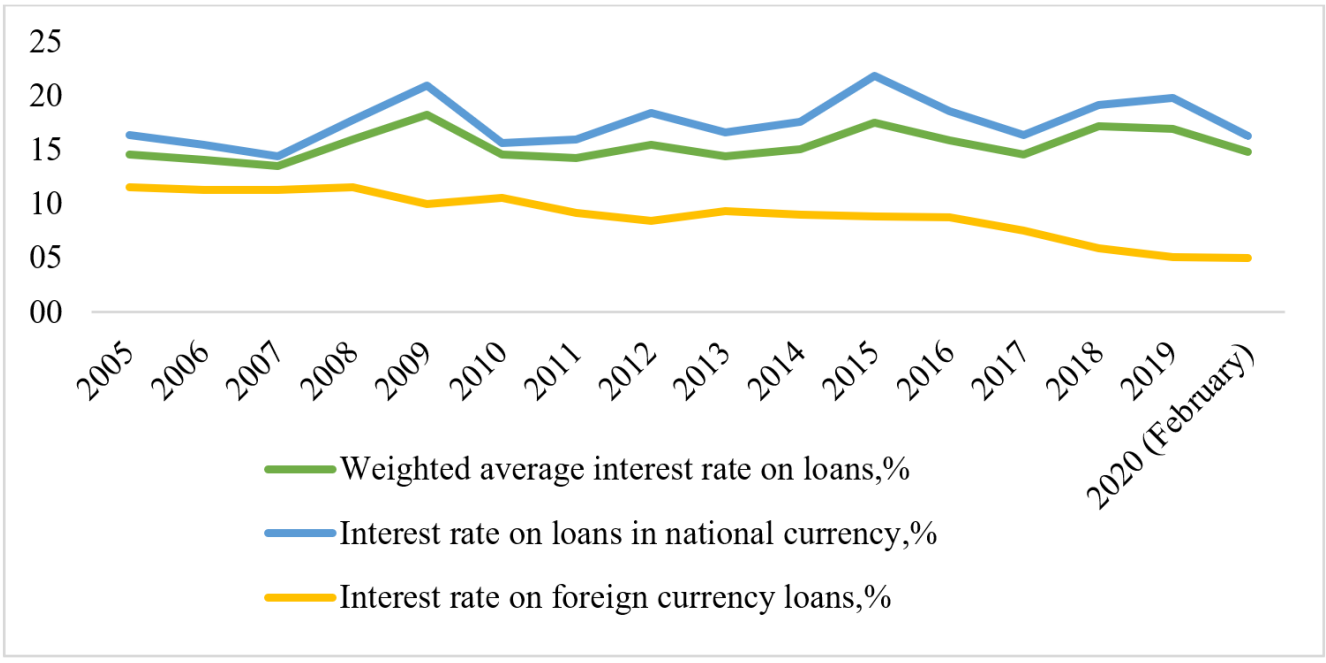
http://dx.doi.org/10.21511/ed.19(4).2020.04

Ukraine belongs to the group of countries with relatively high bank loans rates, along with Uganda, Egypt, Mozambique, and Azerbaijan. Countries such as Brazil (39%), Argentina (37%) and Madagascar (55%) have the highest bank loans rates in the world. Instead, the countries of Western Europe, such as Switzerland, Italy, Hungary and others have low bank loans rates (Figure 1).



Source: Based on the World Bank Group (n.d.).

Figure 1. Bank loans rates worldwide in 2018, %



Source: Based on the National Bank of Ukraine data (n.d.).

Figure 2. Dynamics of bank loans rates by currency for the period from 2005 to 2020, %

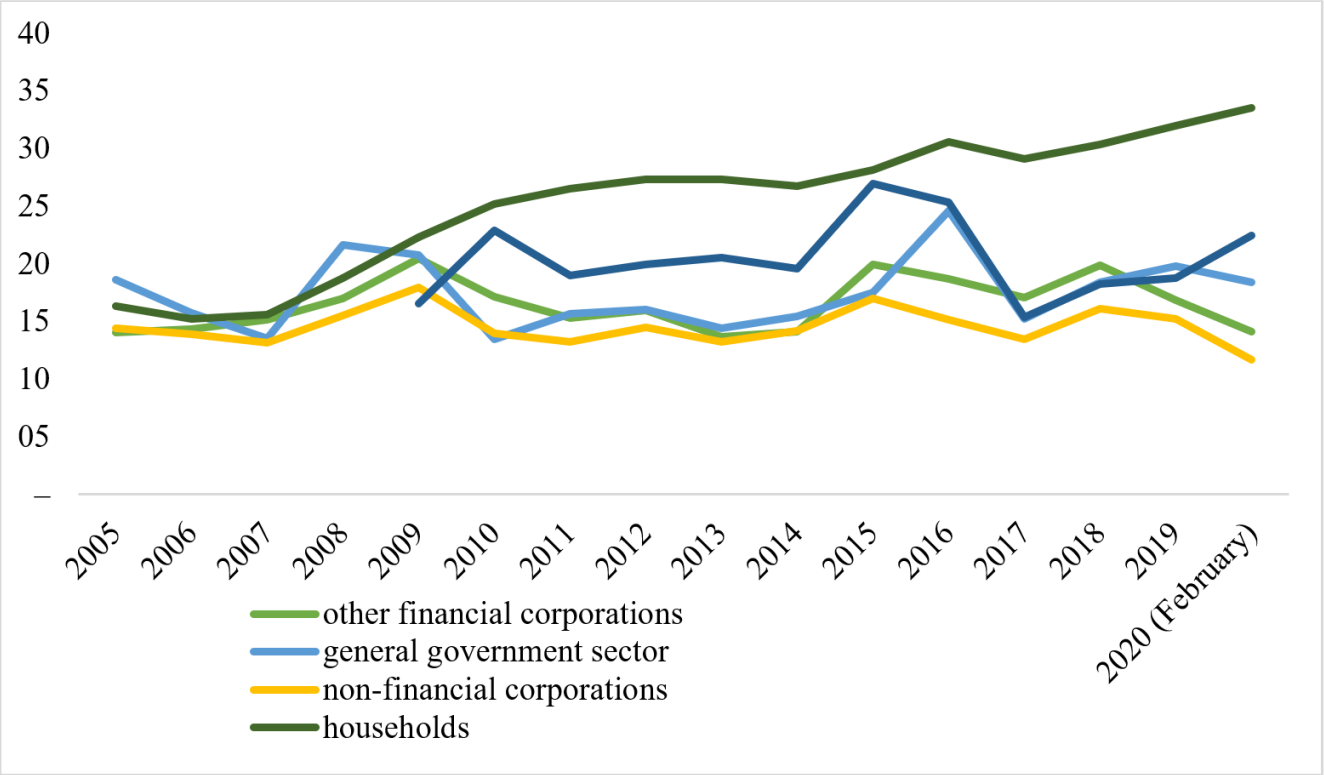
In Ukrainian practice, the weighted average bank loans rate changes quite sharply from year to year, depending on the period of development of the Ukrainian economy (see Figure 2). Moreover, the average weighted bank loans rate became relatively high during the crisis of 2008–2009 (18.3%) and the crisis of 2014 (17.5%).

Given the time fluctuations of bank loans rate and its dependence on the lending currency, it should be noted, that the dynamics of rates in national currency is significantly different compared to the dynamics of rates in foreign currency, usually US dollars (see Figure 2). In particular, there is a sustainable annual reduction in bank loans rates on foreign currency loans. Such tendency could have been caused due to several reasons:

- demand decline for foreign currency loans due to significant exchange rate fluctuations and devaluation of the hryvnia in 2008 and 2014;
- reduction of the foreign currency loans to individuals supply from the banks' side caused by the National Bank of Ukraine's (NBU) ban on such lending;
- reduction of the interest rate on foreign currency deposits.

Therefore, Figure 2 shows that the dynamics of the weighted average loans rate is similar to the dynamics of the loans rate in the national currency, which indicates that the lion's share of the loans is issued in the national currency. Each year the total loans contain fewer foreign currency loans in absolute terms. That is why the significant reduction in the loans rate on foreign currency loans has had a smaller impact on the weighted average loans rate throughout the banking system.

Exploring the loans rate dynamics by sectors of the economy (see Figure 3), it should be noted that the highest loans rate is offered by banking institutions to households – due to the high risk of insolvency of individual borrowers and the fact that banks (in the absence of collateral property) are forced to transform their potential risks into the form of additional interest (Prymostka, 2012). Instead, banks offer the lowest loans rates to the non-financial corporations' sector, namely to business entities operating in Ukraine.



Source: Based on the National Bank of Ukraine data (n.d.).

Figure 3. Bank loans rates by the economy sectors for the period from 2005 to 2020, %

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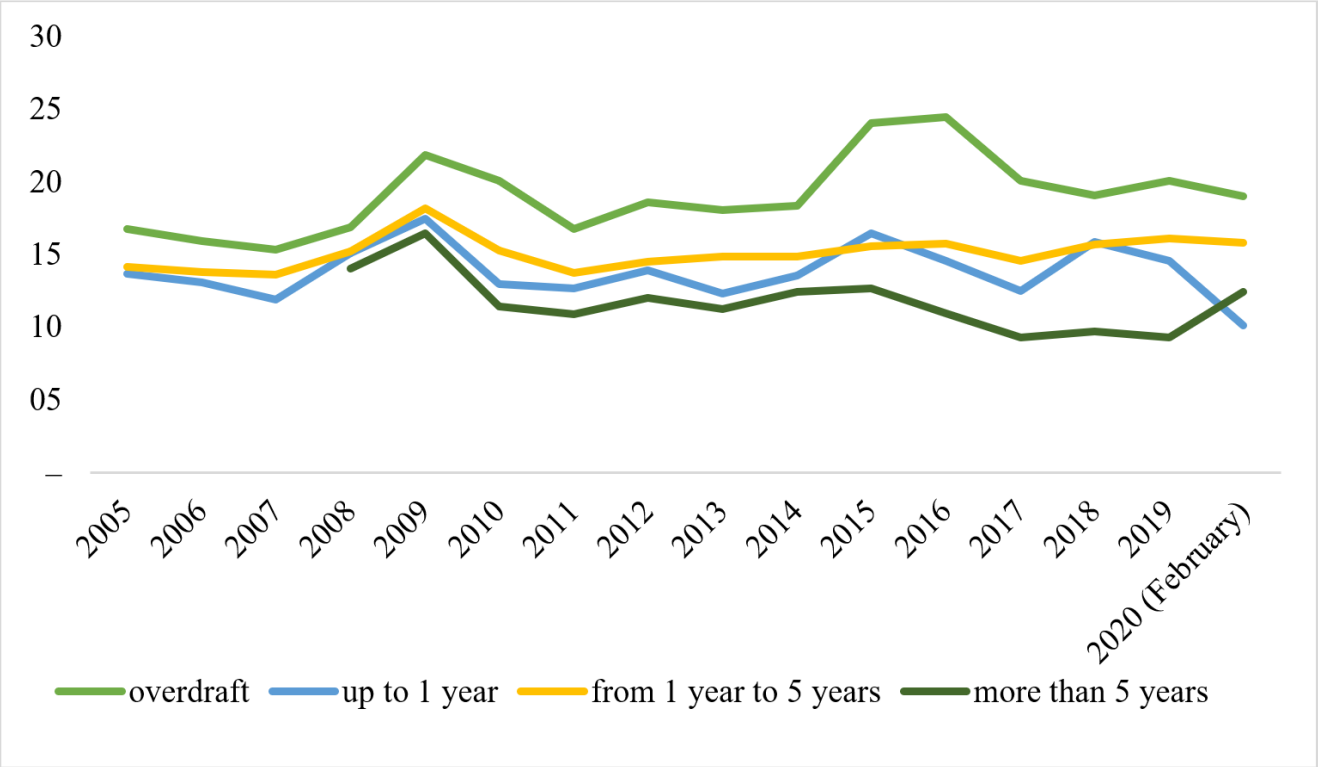
In the context of the loans rate dynamics by the loan maturity (see Figure 4) in Ukraine, the overdraft loans and loans from 1 to 5 years (except for certain time periods when the loan rate for loans up to 1 year exceeded the one for loans from 1 year to 5 years – in 2014-2015, 2018) have had the highest bank loans rates.

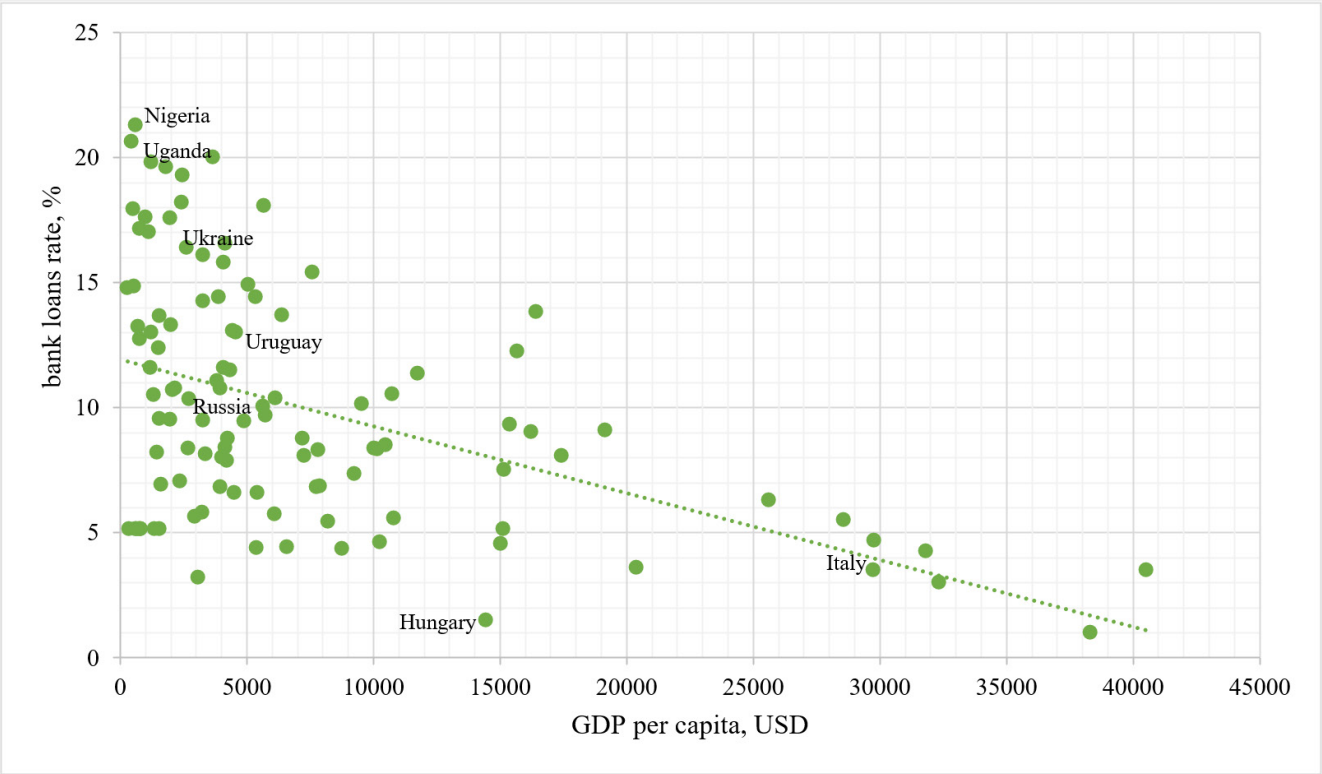


Source: Based on the National Bank of Ukraine data (n.d.).

Figure 4. Bank loans rates by maturity for the period from 2005 to 2020, %

Studying the individual characteristics of the level of bank loans rates in different countries, it should be noted that this indicator depends on many macroeconomic factors and institutional characteristics inherent for each country. However, if we consider the experience of many countries (122-127 countries in different phases of their development as of 2018) as a set of data, we can trace the patterns of price formation for bank loans for the future and identify problematic issues (that restrain the growth or decline of bank loans rates in Ukraine):

I. There is a relationship between the GDP per capita and bank loans rate (see Figure 5). The global trend indicates a negative correlation between the studied indicators. It means: the higher is the GDP per capita, the lower the loans rate is. This dependence is explained by a number of reasons. First, economically developed countries have a high level of capital accumulation, so, respectively, the marginal return on new investment is low, compared to developing countries (Kovalenko, 2016). Secondly, a high level of GDP per capita automatically carries information about the development of the financial system, social institutions of the country and so on.



Source: Based on the World Bank Group (n.d.).

Figure 5. Relationship between GDP per capita and bank loans rate (122-127 countries in different phases of their own development as of 2018)

The correlation coefficient between the proposed factors is -47.9%. But the final conclusions about the absence of relationship should not be made, because the graph shows a nonlinear connection. Instead, the correlation indicates a linear connection.

II. Figure 6 shows the correlations between the inflation and loans rate (according to the World Bank data on 127 countries). We observe a high density of the direct relationship between the analyzed factors – there are lower bank loans rates in countries with lower inflation.

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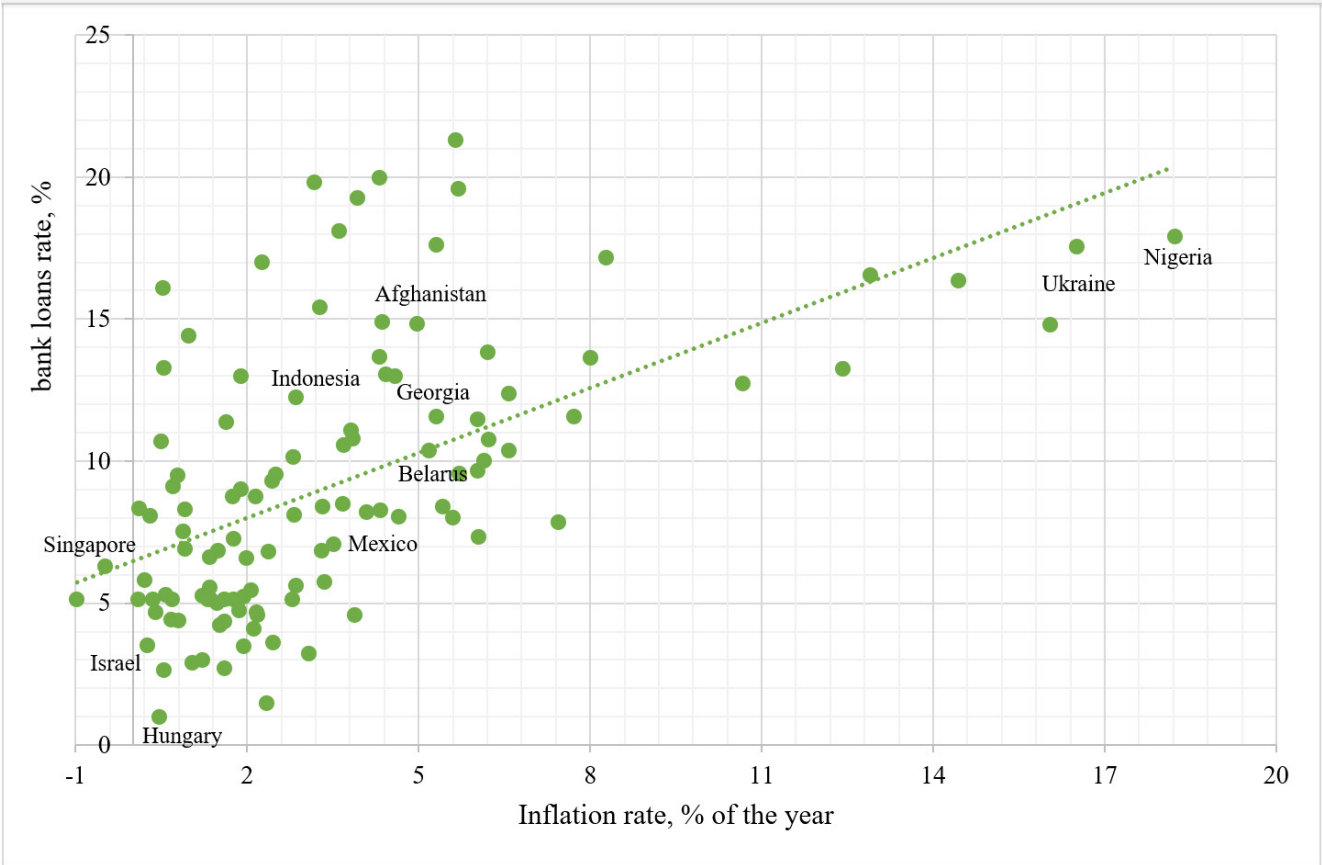
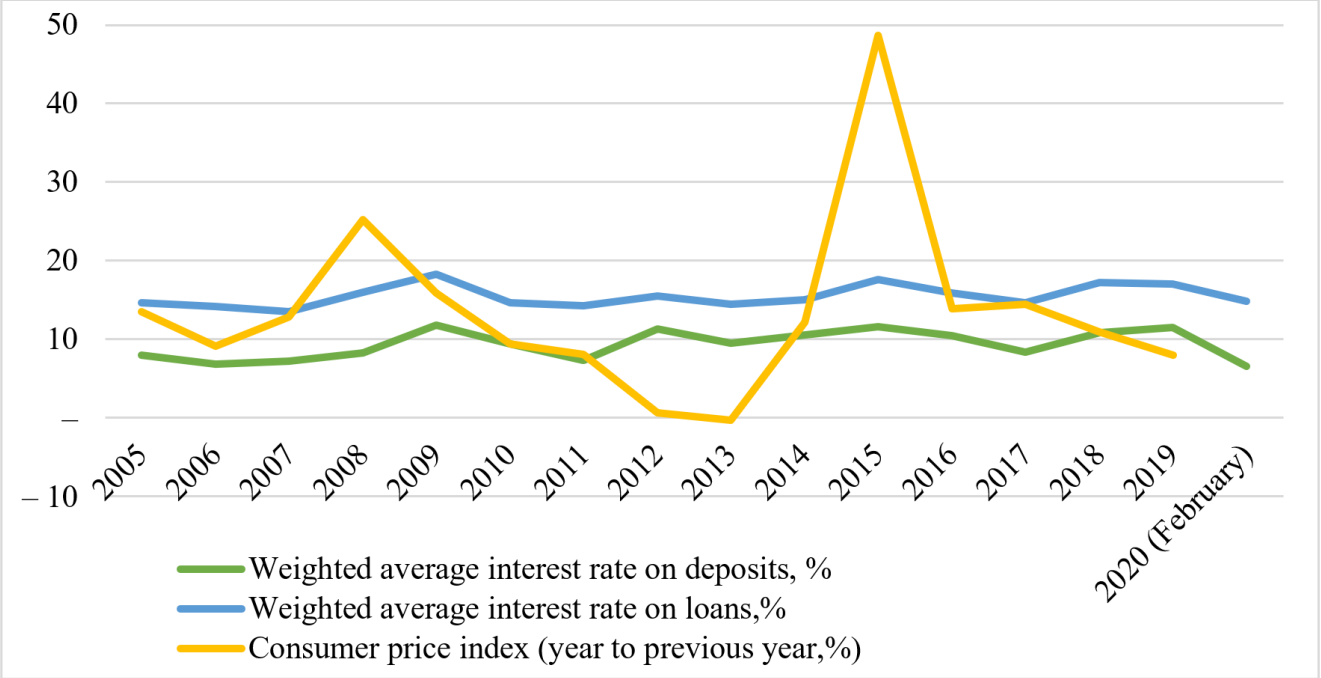


Source: Based on the World Bank Group (n.d.).

Figure 6. Relationship between the inflation rate and bank loans rate (122-127 countries in different phases of their development as of 2018)

This finding could be explained primarily due to the fact that inflation determines the value of money raised by banks as well as benchmarks for the desired level of banks' profitability in providing credit services. The correlation coefficient between the analyzed factors is 52.3%.

Ukraine itself belongs to the group of countries with high inflation and high bank loans rates. The dynamics of the relationship between inflation and bank loans rates in Ukraine in more details is shown in Figure 7.



Source: Based on the National Bank of Ukraine data (n.d.).

Figure 7. Dynamics of inflation bank loans and bank deposits rates in 2005–2020, %

After the implementation of the inflation targeting regime in Ukraine, inflation has become the main anchor of economic agents' expectations in Ukrainian business practice. Inflation also affects the decisions of commercial banks on the bank rates on credit services at the micro level when calculating the projected level of profitability. Figure 7 shows that the peak inflation rates took place in times of the 2008 and 2015 crises, and, at the same time, the price of loans was the highest. Now, due to the mitigation of inflationary pressures during 2018–2020, the NBU is easing monetary policy by lowering the discount rate, which will be transformed into lower loans rates. Ensuring price stability through the NBU's inflation targeting policy will continue to form the preconditions for the possibility of reducing the price of credit resources in Ukraine.

III. Another indicator of financial sector development is the ratio of total loans to GDP (Kuznetsova & Zherdetskaya, 2016; Lepushinsky, 2012). The study of the correlation between the ratio of loans to GDP and loans rates in 122 countries (see Figure 8) shows the inverse relationship between these indicators: the higher the level of creditworthiness of the economy, the lower the bank loans rates.

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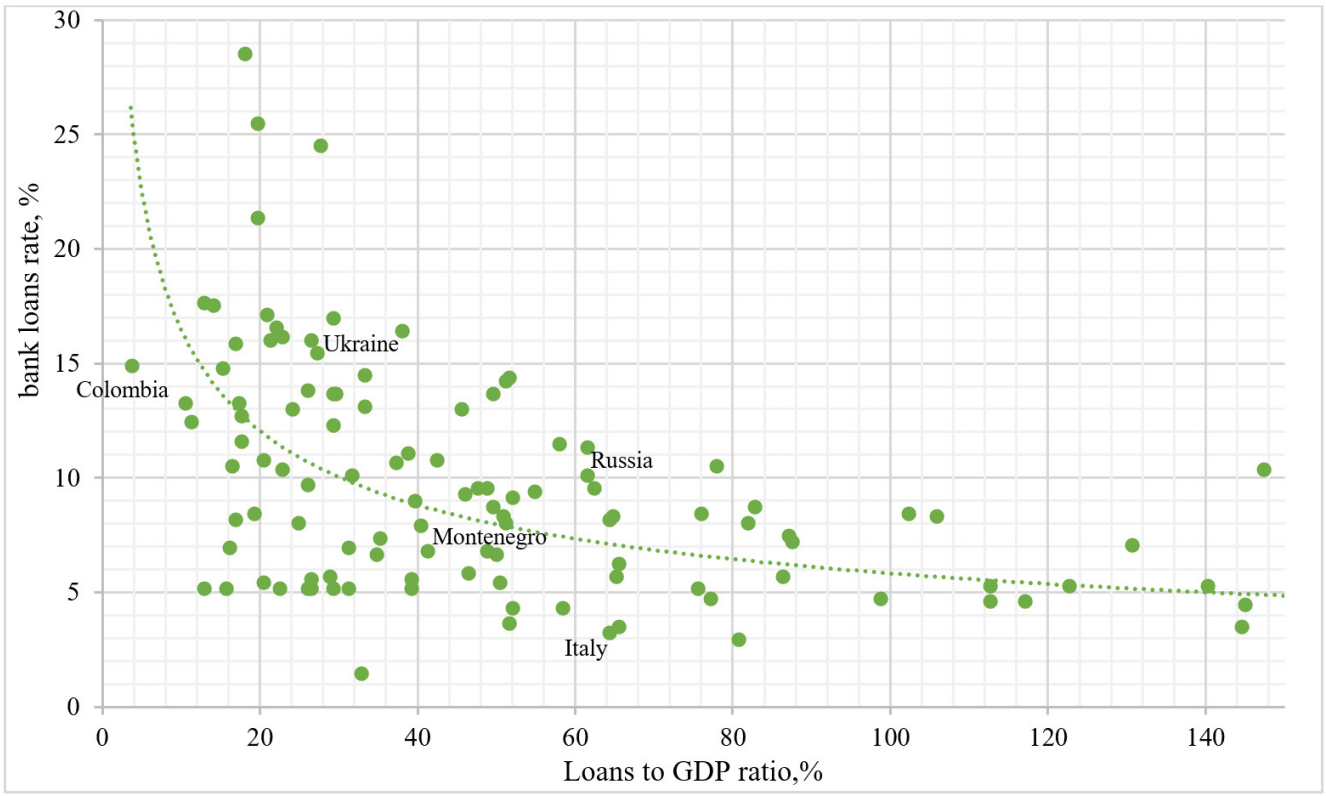


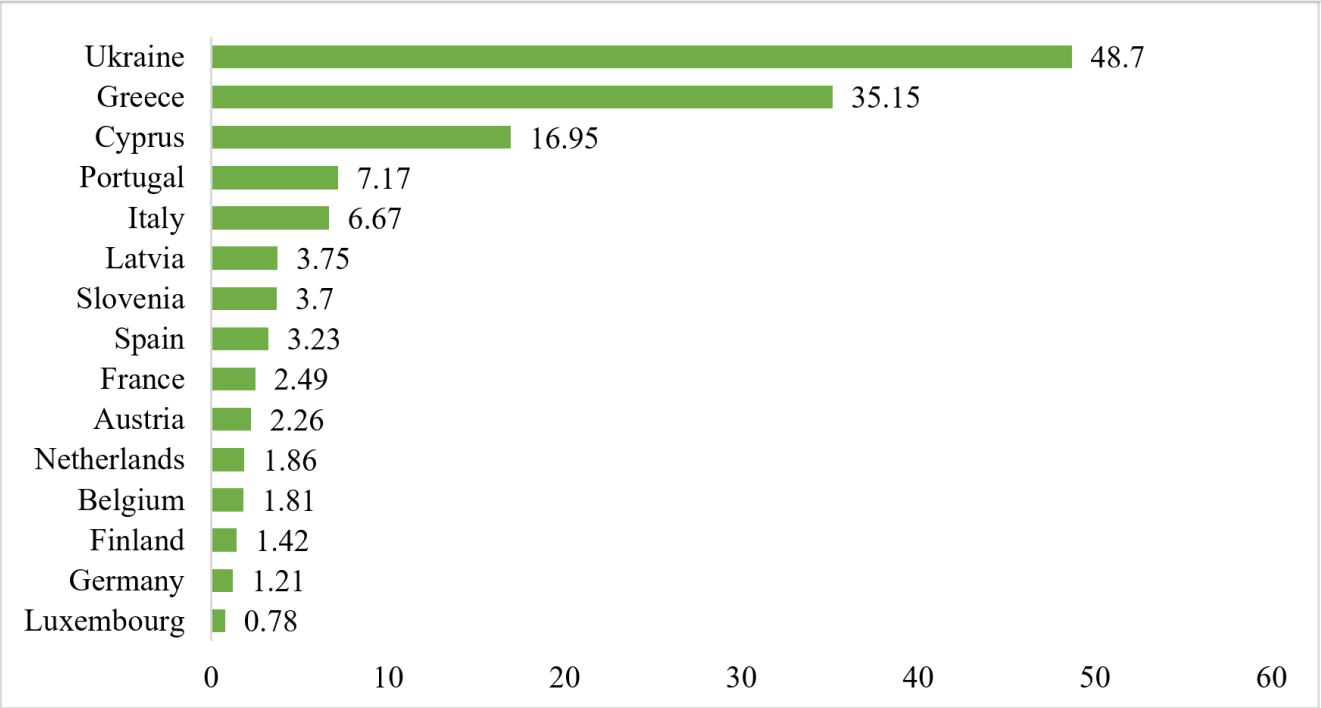
Source: Based on the World Bank Group (n.d.).

Figure 8. The relationship between the level of creditworthiness of the economy and bank loans rate (122-127 countries in different phases of their development as of 2018)

The results can be explained by the fact that better developed financial sector provides a high level of competition in banking services, which leads to lower market profitability of a bank, reflecting the interest margin and bank loans rate (Ahrend, Catte, & Price, 2006). The correlation coefficient between the proposed factors is -40.2%. However, the final conclusions about the lack of connection should not be made, because the graph shows some kind of a nonlinear connection, but the correlation indicates a linear connection.

Loans to GDP ratio remains relatively low in Ukraine (38% – the same as in Indonesia, Mexico and Egypt) due to weak public confidence in financial institutions (including banks) compared to highly developed countries (e.g., in the United States the volume of loans to GDP is 198%).

On the other hand, in Ukraine banks have a low level of confidence in borrowers, so banks' intention to lend to them is low due to high credit risks. In particular, the share of non-performing loans is a confirmation of the high level of credit risks on the part of borrowers for commercial banks (Figure 9).



Source: Based on the National Bank of Ukraine data (n.d.).

Figure 9. Share of non-performing loans in the total amount of loans issued at the end of 2019, %

Figure 9 shows that among European countries Ukraine has the highest share of non-performing loans (NPL). This situation increases the risk of the loan portfolio, affecting the price of lending resources for business entities. The slow decline in the share of non-performing loans does not allow a rapid reduction in bank loans rates to the desired level due to high systemic credit risk.

These trends restrain the rate of decline in bank loans rates.

IV. The size of the bank risk premium is determined not only by institutional factors in bank lending but also by the general business environment in a particular country. It is worth taking into account the fact that when granting loans banking institutions assess the borrowers' risk of doing business because his financial condition directly depends on it. Accordingly, countries with better business conditions should have lower bank loans rates. It is shown in Figure 10 that there is an inverse correlation between the index of ease of doing business and the bank loans rate.

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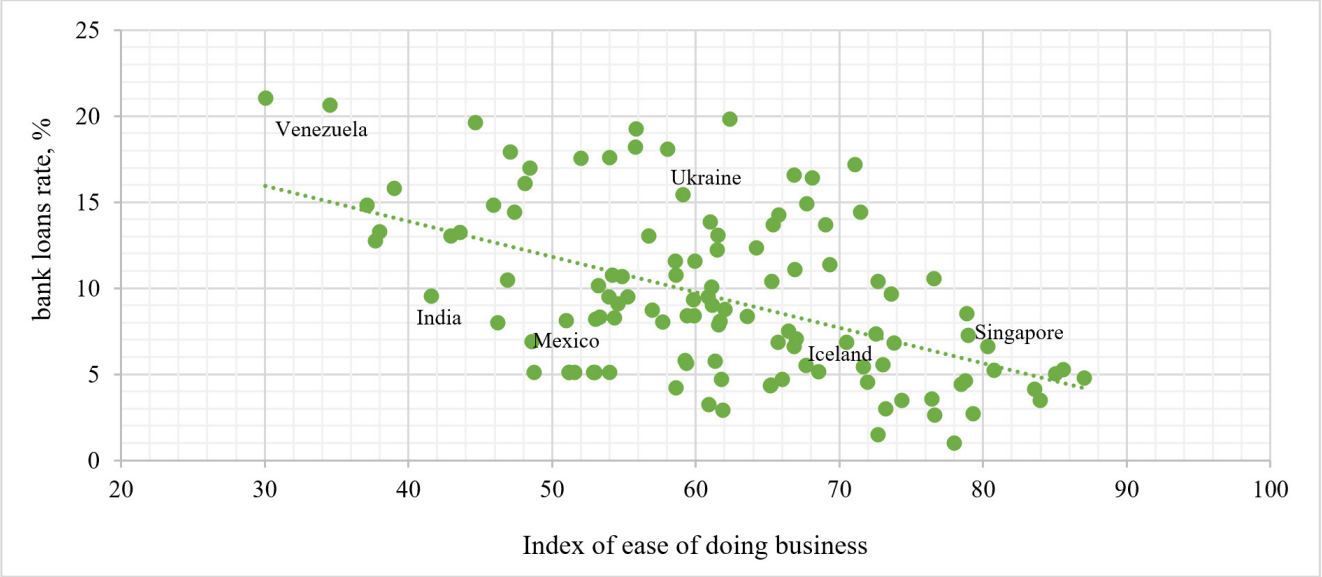

Source: Based on the World Bank Group (n.d.).

Figure 10. The relationship between the ease of doing business index and the bank loans rate (122-127 countries in different phases of their development as of 2018)

The correlation coefficient between the proposed factors is 51.5%. When calculating the ease of doing business index, the World Bank takes into account a number of institutional factors, which are mainly tied to the legislation of a particular country. It follows that the insufficient legal framework for the protection of investors' rights, obtaining loans, registration and protection of property rights, resolving insolvency problems, etc., are the factors of pressure on a possible reduction of bank loans rates in Ukraine.

CONCLUSIONS

Having researched the relationship between the dynamics of macroeconomic country's development indicators and the level of bank loans rates, based on international and Ukrainian practice, we conclude the following.

1. In the context of the Ukrainian experience, the main trends in the bank sector's loans rates are:
a) Ukraine belongs to countries with high bank loans rates;
b) there are instability and sharp changes in the dynamics of the weighted average bank loans rate from year to year;
c) bank loans rates for households are higher compared to the cost of bank loans for businesses;
d) bank loans rates for short- and medium-term loans are higher versus for long-term ones;
e) bank rates on loans in foreign currency are lower compared to the loans in hryvnia;
f) there is a high share of non-performing loans to households and businesses in bank portfolios.

2. In the context of the world and Ukrainian practice a direct and (or) reverse effect between the dynamics of macroeconomic and institutional indicators of the country's and the level of bank loans rates are revealed:
a) the reverse effect between macroeconomic indicators GDP per capita, loans to GDP ratio, and the ease of doing business index and bank loans rate is identified and statistically demonstrated;
b) the direct effect between the dynamics of the inflation rate in the country, the dynamics of non-performing loans (NPL) and bank loans rate is identified and statistically identified.

In general, the dependences that are shown in Figure 5, 6, 8, 10 and the correlation coefficients indicate a greater influence on the cost of bank loans is being made by factors such as inflation and ease of doing business, and a smaller influence of factors such as GDP per capita and the share of loans in relation to the country's GDP.

3. According to the above-mentioned relationships and trends, a significant "natural" reduction of loans rates in Ukraine could be expected, provided:
a) the introduction of the state regulation measures in the monetary and other sectors of the economy aimed at reducing inflation in the country;
b) the implementation of the structural reforms focused on general economic development and raising the standards of life in Ukraine. This will lead to the increasing of the number of potential reliable borrowers on the market of banking credit services (and as a result – to the reduction of the credit risk);
c) the intensification of banks' actions targeted to reduce the share of non-performing bank loans;
d) the simplification of the legal, infrastructural and institutional conditions for doing business in the country etc.

4. The study areas, which can become further research based on this article:
a) modelling and assessment of the intensity of influence between the dynamics of macroeconomic indicators and bank loans rates in Ukrainian and international practice; identification of the most and the least significant factors;
b) modelling and assessment of the intensity of influence between the banking system activities indicators and bank loans rates;
c) analysis of regulatory policies in the global and Ukrainian practice to intensify and reduce the cost of bank lending services.

AUTHORS CONTRIBUTIONS

Conceptualization: Svitlana Hlushchenko, Kamilla Sverenko.
Data curation: Kamilla Sverenko.
Formal Analysis: Svitlana Hlushchenko, Kamilla Sverenko.
Investigation: Kamilla Sverenko.
Methodology: Sergiy Ivakhnenkov, Svitlana Hlushchenko.
Project administration: Sergiy Ivakhnenkov, Svitlana Hlushchenko.
Supervision: Sergiy Ivakhnenkov, Svitlana Hlushchenko.
Validation: Svitlana Hlushchenko.
Visualization: Kamilla Sverenko.
Writing – original draft: Kamilla Sverenko.
Writing – review & editing: Sergiy Ivakhnenkov, Svitlana Hlushchenko, Kamilla Sverenko.

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