

# “Assessment of bank lending diversification in Ukraine”

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# ASSESSMENT OF BANK LENDING DIVERSIFICATION IN UKRAINE

## Abstract

At the present stage, commercial banks conduct their activities under constantly changing general economic, social and political conditions, which influence the reliability and efficiency of banking institutions performance. Nowadays, the problems of comprehensive assessment of the efficiency of main banking operations as well as the reliability of the Ukrainian banking system became relevant.

The purpose of the paper is to study the current state and diversification of bank lending in Ukraine, the problems that arise in the national economy due to the deteriorating performance of the banking system of Ukraine. The analysis has shown that a certain stable but not effective loan activity of Ukrainian banks for a long period of time was observed. Also, there is a demand for credit resources, which is currently not completely fulfilled.

The recommendations provided in this article contribute to the development of bank lending and the related increase in entrepreneurship and successful lucrative enterprises in Ukraine. Also, the analysis has revealed the direct correlation of the domestic credit provided by the financial sector with 14 relevant indicators and inverse dependence with 6 indicators.

## Keywords

assets, profit, risks, bank system, reliability and efficiency of banking activity, financial sector

**JEL Classification** G21, G28, P34

## INTRODUCTION

The collapse of the largest players in the financial industry during the 2008 financial crisis, and then the reaction of governments and international fiscal organizations, in turn, demonstrated huge problems. The crisis led to a decline in GDP in some countries. National economies have been affected by austerity measures and/or the collapse of the real estate market all over the world.

Research and development, innovation, and the advancement of science and production can, not be carried out without sufficient and stable funding. However, the lack of open competition in the financial services sector can undermine and threaten such development in the long term.

Obviously, the enterprises and industries of the national economy are eager to get profit, which generates their development. On the other hand, if the bank system is ineffective, the development of the national economy is restrained. There are countless reports of problems the bank systems have.

New players in the market, development of technology blockade and related services are considered as threats and require the consumers'

protection. Transparent international competition will result in cheaper/faster services, greater stability and market access, especially for those affected by the risks of the bank system. The credit market should be regulated by the consumer as the key regulator. The best way for consumers is to have an actual choice, relevant information and knowledge. Therefore, the research of bank lending diversification is relevant and timely.

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## 1. LITERATURE REVIEW

Many scholars dedicate their research to the study of peculiarities of bank system development in general and lending in particular.

Mukhtarov et al. (2018) indicate that loans are the most important source of bank revenues. In addition, they constitute the largest part of bank assets. In addition, lending is a major function of banks. However, one can say that this situation involves a certain risk for banks. The main risk is the possibility that customers will not be able to return this loan amount to banks. This risk is also referred to as the credit risk of the bank. Also, they revealed significant factors that increase the credit risk of Azerbaijani banks. According to these results, Azerbaijani banks should increase the ratio of capital adequacy and total assets by providing loans to qualified clients to reduce credit risk. In addition to this situation, it is necessary to reduce the unemployment rate and increase the interest rate in order to prevent the problem of credit risk.

Belás et al. (2018) show that the most important factor is the proper risk management, and then adequate funding of business using external sources, as well as credit risk rising during the crisis, had the least effect on the variability of financial risks in business. The attitude of entrepreneurs towards the creation of financial reserves is a statistically insignificant factor. The authors also proved that the intensity of financial risks is determined by various factors that experts cannot only discuss, but also evaluate. It is important that factors that determine the intensity of financial risks are evaluated regularly.

Tung et al. (2018) analyze the introduction of capital regulation by Vietnamese commercial banks. This study contributes to the field with empirical analysis of the specific case of application of the underlying program in developing countries, where economic integration is still ongoing. Despite the fact that non-bank lending supported

the growth of capital ratios, this indicator had a negative correlation with ROA and could lead to an increase in risk loans.

Doležal et al. (2015) note that credit risk for SMEs is an actual theoretical, scientific and practical task for research for minimizing the credit risk of commercial banks and increasing their efficiency. The results of their research showed that there is a high probability of improving the credit process for small and medium-sized businesses segment, which is an important factor in overall economic growth.

Ibrahim and Shah (2012) write that the behavior of bank lending and its interconnectedness with macroeconomics and financial variables is a problem that is being given a lot of attention. The presence of a loan, collapse and promotion on the stock market can act as a counterbalance to the forces, suppresses real production in the national economy, reflects a negative real deal – the financial uncertainty of long-term relationships and the dynamics of their interaction. In the long run, the turmoil under uncertainty in the market becomes negative and receives significant answers from real production. Thus, financial uncertainty is capable of distorting the decision on bank lending, and also exerting strong pressure on the stock market in the short term.

Bekhet and Eletter (2014) claim that credit loans are the base of the banking. The efficiency of the credit department of the bank can guarantee a stable operation of the bank and an increase in profitability. To reduce the credit risk ratio, it is obligatory to check the financial position and credit history of the client.

Gietzen (2017) offers new data on the ratio of interest rate and risk in the currency market, microfinance to liquidity. The microfinance sector is not limited to financing liquidity risk to attract longer-term lending. The imbalance structure contributes to a high degree of interest rate risk.

One can agree with Nikolaidou and Vogiazas (2017) that avoiding the emergence of bank problems is undoubtedly a key issue for politicians. Achieving credit risk reduction is possible without reducing the importance of banks as financial intermediaries. The main problem is connected with monitoring and planning to prevent the reverse effect on the real economy. Risks are dynamic by their nature and difficult to assess.

Alqahtani and Mayes (2017), the Islamic banking system researchers, say that the risk crisis offered a unique opportunity and insight into the stability and resistance of its bank system for Islam. The researchers investigated the main factors of the crisis, including moral failures, poor governance, discrimination, light credit, careless lending, the impact of excessive debt, regulatory and oversight lacks.

Chodnicka-Jaworska and Jaworski (2017) studied credit default swaps (CDS). These tools are important to test the potential systemic risk of large banks. The difference between the American and European markets can be shown. Distribution of CDS analyzes the likelihood of default, it can also provide information on vulnerability of banks. They claim that the distribution of CDS by banks is strictly related to business models, potential profit and macroeconomic conditions for analyzing the determinants of CDS distribution.

## 2. METHODS

The methodological basis of the study is a systematic approach to the statistical analysis of bank lending and its diversification. The following methods were used in the research: statistical observation, grouping, generalizing statistical characteristics, comparisons, analysis of interconnections, expert evaluations, and discriminant analysis. The use of a systematic approach determined the study of internal causality, structural and functional, hierarchical, direct and reverse relationships, which permitted to identify complicated processes of bank lending in Ukraine, to research the nature of certain economic processes and phenomena.

The purpose of the article is to assess current state and diversification of bank lending in Ukraine.

## 3. RESULTS

The diversification of lending is defined as the provision of a loan under various conditions, depending on the nature of the borrower, the direction of the loan, credit risk, the maturity of the loan, the timeliness of return, etc.

For the economic development of any country, it is important to achieve stability of the banking system, that is a vital part of the economy. To predict the activities of investors, is a transparent and stable banking system a necessary condition. The redistribution of temporarily free funds, their receipt in the industry with a permanent need to mobilize additional capital can also be achieved through the development of financially stable and reliable banks that can withstand the dynamic external environment and the internal market (Abdullah, Parvez, & Ayreen, 2014; Buckley & Olearchyk, 2017; Dierkes et al., 2013).

At the beginning of 2018, there are 84 deposit corporations in the bank system of Ukraine, including four commercial banks and one savings bank controlled by the government. Also, there are 79 private commercial banks with total assets of UAH 611,480.74 million.

Currently, the banking system of Ukraine is in deep crisis. In fact, many banks were declared insolvent, deposits declined, and lending almost ceased. To overcome the banking crisis, it is important to introduce a new model of monetary regulation. The development of the national economy, primarily through lending business support in Ukraine, can be considered as a foundation for a competitive market environment.

The authors consider the problems, risks and challenges facing the Ukrainian bank system nowadays.

### 3.1. Macroeconomic risk

For the banking system, uncertain macroeconomic environment, together with the persistent and high level of corporate and consumer debt, create the basis for activating activities in the event of significant instability (Belás et al., 2018; Chodnicka-Jaworska & Jaworski, 2017; Christopoulos & Barratt, 2016).

### 3.2. The risk of excessive control

Strengthening regulatory requirements is sometimes expensive, excessive, and inefficient. Although the bank system recognizes the need for more rigorous controls, there is a concern about the scope and complexity of regulation that holds back and impairs governance and the overall margin of industries in the national economy. Growing regulatory requirements affect the innovative activities of commercial banks. Although many banks adapt to increasingly stringent requirements, regulation remains a problem for banks that have to invest a significant amount of time, effort, and money to comply with banking system standards (Bugel, 2016; Bolgar, 2014).

### 3.3. Political interference

The bank system has been reiterated by concerns that governments may interfere in banking operations for many reasons, including increased revenues during the budget deficit, increased investor protection and the restoration of the national tax base (Buckley & Olearchyk, 2017; CIMA, 2016; Dierkes et al., 2013).

### 3.4. Technological risk

Out of all the pressing issues, obsolete major IT systems have been a major challenge for the global bank system. The lack of proper investment in secure, flexible systems that can improve digital and mobile banking can lead to significant losses, as well as increase the risk for cyber attacks (BCBS, 2017; Christopoulos & Barratt, 2016).

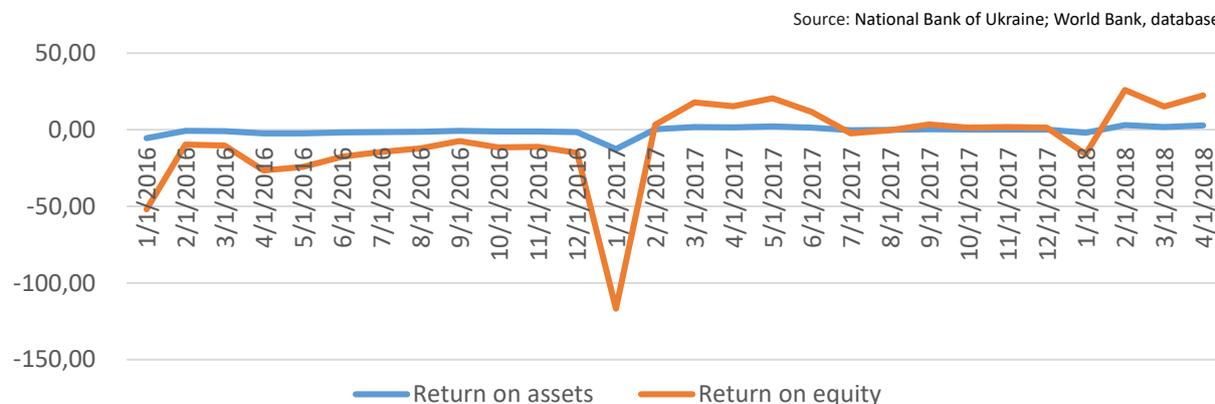
### 3.5. Criminality

Cyber attacks are increasingly seen as a major concern for banks in the modern banking system. Many banks are concerned that today they are not equipped to prevent attacks by opportunistic hackers, organized criminals or corporate government computer-based spyware. Such fears are compounded by the spread of new technologies and the potential high risk of technology use, including distributed accounting books, crypto currencies and real-time payments. Insufficient investment in banking technology systems leaves the banking system vulnerable to potentially large and volatile attacks (Bugel, 2016; Bolgar, 2017; Christopoulos & Barratt, 2016).

For a more detailed analysis of the current state of the bank system in Ukraine, the dynamics of return on assets and return on equity of Ukrainian banks was analyzed (Figure 1).

According to Figure 1, the lowest value of return on equity was observed on January 1, 2017 (-116.74%), the highest value of this indicator was observed on April 1, 2018 (22.32%). That is, it can be considered as a significant improvement of the bank system in Ukraine. As for the return on assets, the situation here is more even. The lowest value of return on equity is on January 1, 2017 (-12.60%), the highest value accounts for February 1, 2018 (3.12%), which also indicates improvement of the Ukrainian banks activity in 2018.

To study the status and bank lending diversification of the bank system in Ukraine, the value of loans in the national currency according to the



**Figure 1.** Dynamics of return on assets and return on equity of Ukrainian banks in 2016–2018, %

statistical reporting of Ukrainian banks (excluding overdraft) should be analyzed (Table 1).

**Table 1.** Interest on loans in hryvnia according to the statistical reporting of Ukrainian banks (excluding overdraft) in 2010–2017

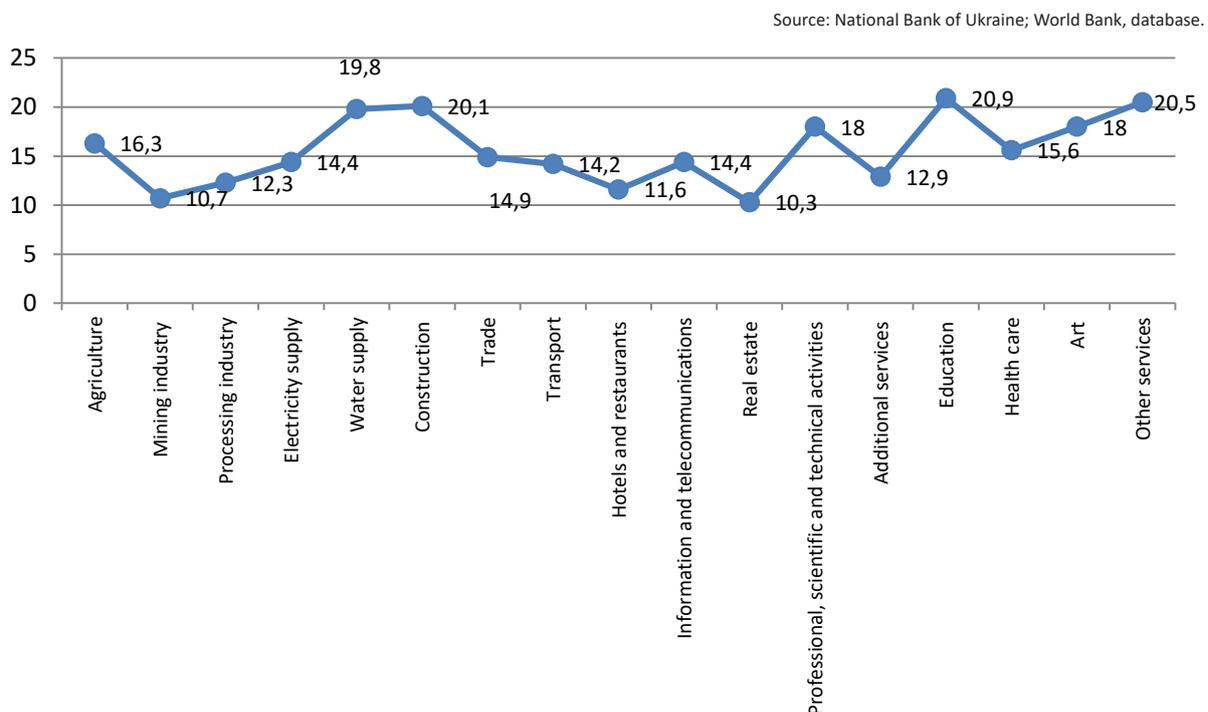
Source: National Bank of Ukraine; World Bank, database.

Year	Total	Short-term loans	Long-term loans
2010	13.5	13.6	13.4
2011	14.7	14.9	14.2
2012	21.7	20.9	26
2013	20.2	20.4	18.8
2014	20.7	20.9	19.2
2015	20.2	19.3	26.2
2016	22.1	20.2	26
2017	21.2	23.2	20.3
Deviation, %	+57.04	+70.58	+51.49

Thus, the cost of loans in the national currency of Ukraine is gradually increasing. The growth of the value of loans is observed at 57.04% in 2017 compared with 2010. The value of both short-term (by 70.58%) and long-term (51.49%) loans in the Ukrainian economy is also increasing. The value of loans, both short-term and long-term, undoubtedly affects the interest rate. Weighted average rates on loans by industries of the Ukrainian economy in the year 2017 are presented in Figure 2.

It can be concluded that the lowest interest rate among the sectors of the Ukrainian economy is in the field of real estate transactions (10.3%), and the highest – in education (20.9%). Lower interest rates make loans affordable. This may increase the demand for bank loans. Under normal conditions, interest rate cuts can lead to an increase in bank lending.

However, in a credit crisis, interest rate cuts are an inefficient tool in increasing bank lending, because if borrowers want to borrow at low interest rates, banks will not provide loans. Banks need more liquidity. Lower interest rates may increase demand, but it will not have an effect on supply. The situation on the credit market of Ukraine may be due to the following reasons: economic slowdown, inflation and devaluation expectations, rapid exchange rate fluctuations; lack of loans and their high cost; unfavorable conditions for attracting resources in bank lending; high credit risk, management failures and the lack of clear mechanisms for insolvent borrowers; low level of protection of the rights of creditors and borrowers (BCBS, 2017; Belás et al., 2018; Bolgar, 2014; Chodnicka-Jaworska & Jaworski, 2017; Christopoulos & Barratt, 2016; Dierkes et al., 2013).



**Figure 2.** Weighted annual average rates on loans by industries in Ukraine in 2017, %

**Table 2.** The ratio of loans by sectors of the economy to total gross loans

Source: National Bank of Ukraine; World Bank, database.

Indicator	Years					2017 to 2013 ratio, %
	2013	2014	2015	2016	2017	
Share in total gross loans: residents	98.20	96.97	95.43	95.00	94.55	96.28
Share in total gross loans: non-residents	1.80	3.03	4.57	5.00	5.45	302.77
Share in total gross loans: deposit-taking corporations	1.87	1.56	1.18	0.49	0.52	27.81
Share in total gross loans: National Bank of Ukraine	0.00	0.00	0.00	0.00	0.00	–
Share in total gross loans: other financial corporations	2.26	2.04	2.08	1.47	1.05	46.46
Share in total gross loans: general government sector	0.65	0.53	0.37	0.28	0.14	21.54
Share in total gross loans: non-financial corporations	71.46	72.54	71.89	76.32	77.15	107.96
Share in total gross loans: other resident sectors	21.96	20.30	19.92	16.43	15.70	71.49

In recent years, the proportion of loans issued to legal entities was about 80%, reflecting the corresponding trend of 2013–2017.

Table 2 considers the ratio of loans by sectors of the economy to total gross loans.

If banks activate lending to individuals, then it will more likely lead to a predominance of consumer loans and mortgages than to stimulating manufacturing industries.

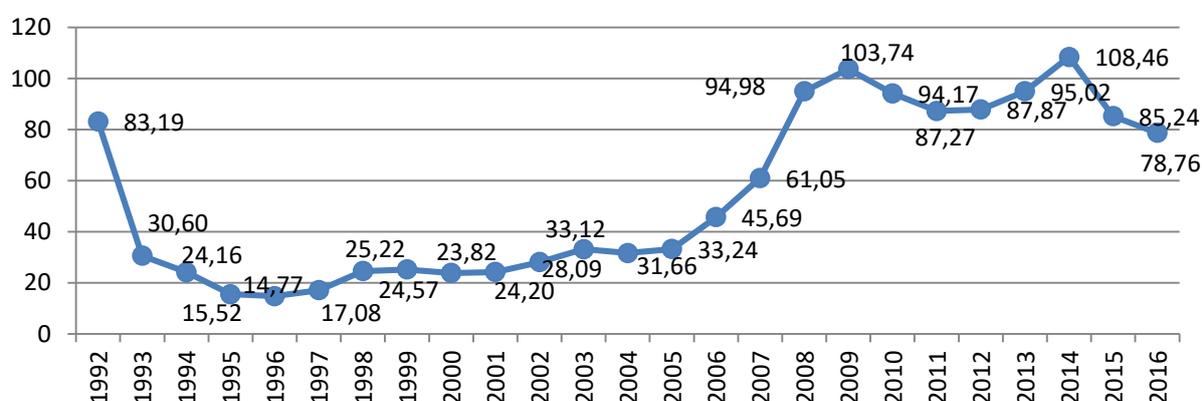
As a result, bank lending for the study period was ineffective and could not serve as a stimulus for the economic development of Ukraine (Abdullah, Parvez, & Ayreen, 2014; Christopoulos & Barratt, 2016; Dierkes et al., 2013).

For a more detailed study of the state of lending in the Ukrainian economy, the dynamics of the domestic credit provided by the financial sector in % of GDP over the period 1992–2017 in Ukraine was considered (Figure 3).

According to the World Bank, the domestic credit provided by the financial sector includes all loans to different sectors on a gross basis, with the exception of a government loan. The financial sector includes banks, as well as other financial corporations (financial leasing companies, money lenders, insurance corporations, pension funds and companies with foreign investment). According to Figure 3, since 1992, there has been a significant decrease in the amount of domestic credit provided by the financial sector in Ukraine from 83.19% of GDP in 1992 to 23.8% in 2000. Since 2000, a gradual increase in the amount of domestic credit has begun, with the largest amount recorded in 2014 at 108.46% of GDP.

Economic recovery and development of the real sector of the national economy are impossible without overcoming the credit crisis. To do this, monetary and fiscal policy should be improved, and special attention must be paid to the development of the private sector (Bolgar, 2014, 2017; Bunker, Naem, & Zhang, 2016; CIMA, 2016).

Source: National Bank of Ukraine; World Bank, database.

**Figure 3.** Domestic loans provided by the financial sector in Ukraine, % of GDP

**Table 3.** Correlation coefficients of the dependence of the domestic loans provided by the financial sector with the researched indicators

Indicator	Direct dependence	Indicator	Reverse dependence
Average grant element on new external debt commitments (%)	0.525176	Average interest on new external debt commitments (%)	-0.60916
Net domestic credit (current LCU)	0.838523	Average interest on new external debt commitments, official (%)	-0.62818
PNG, bonds (AMT, current USD)	0.545021	Bank liquid reserves to bank assets ratio (%)	-0.71279
PNG, bonds (DOD, current USD)	0.874918	Bank non-performing loans to total gross loans (%)	-0.92538
PNG, bonds (INT, current USD)	0.905397	Commercial bank branches (per 100,000 adults)	-0.59344
PNG, bonds (TDS, current USD)	0.665758		
PNG, commercial banks and other creditors (AMT, current USD)	0.804486		
PNG, commercial banks and other creditors (DIS, current USD)	0.674271		
PNG, commercial banks and other creditors (DOD, current USD)	0.910585		
PNG, commercial banks and other creditors (INT, current USD)	0.896443	Net income from abroad (current LCU)	-0.79873
PNG, commercial banks and other creditors (TDS, current USD)	0.82535		
Use of IMF credit (DOD, current USD)	0.727325		
Gross domestic income (constant LCU)	0.779712		
Short-term debt (% of exports of goods, services and primary income)	0.647857		

For a more detailed study and assessment of the differentiation of bank lending in Ukraine, a correlation analysis was conducted to identify the relationship between domestic credit provided by financial sector, domestic credit to private sector, domestic credit to private sector by banks and 40 indicators.

Table 3 deals with the correlation coefficients of the dependence of the domestic credit provided by the financial sector with the researched indicators.

Table 3 shows that direct dependence is observed between domestic credit provided by the financial sector with 14 of the studied indicators; and inverse dependence with 6 indicators is observed. The highest direct dependence is observed with PNG, bonds (INT, current USD) and PNG, commercial banks and other creditors (DOD, current USD).

Table 4 analyzes the coefficients of correlation of domestic credit to the private sector (% of GDP) with the studied indicators.

Table 4 shows that direct dependence is observed between domestic credit to private sector and 13 studied indicators, and the inverse relationship with the 5 surveyed indicators.

Table 5 considers the correlation coefficients of the domestic credit to the private sector by banks with the studied indicators.

The analysis of Table 5 shows that direct dependence is observed between domestic credit to private sector by banks and 14 surveyed indicators, and the dependence with the 5 indicators is curtailed.

The most important scientific interest in assessing the diversification of bank lending in Ukraine is the analysis of dependence on indicators of PPG and PNG (public and publicly guaranteed and private nonguaranteed credits). That should become the purpose of further scientific researches.

The following negative factors that affect the sphere of bank lending can be cited: the shadow economy, the influence of the monopolization of the national economy; imbalances in public finance; military operations in the east of Ukraine. In today's competitive lending market, banks are looking for the ways to provide services faster and cheaper, and also seek to increase their profits. Using automation tools, banks can improve business processes, offer more loans and improve customer service that needs credit resources.

**Table 4.** Correlation coefficients of the domestic loans to the private sector (% of GDP) with the researched indicators

Indicator	Direct dependence	Indicator	Reverse dependence
Average grant element on new external debt commitments (%)	0.607629	Average interest on new external debt commitments (%)	-0.59676
Net domestic credit (current LCU)	0.798808	Average interest on new external debt commitments, official (%)	-0.60195
PNG, bonds (DOD, current USD)	0.892051	Bank liquid reserves to bank assets ratio (%)	-0.80285
PNG, bonds (INT, current USD)	0.892613	Bank non-performing loans to total gross loans (%)	-0.88312
PNG, bonds (TDS, current USD)	0.589933		
PNG, commercial banks and other creditors (AMT, current USD)	0.888075		
PNG, commercial banks and other creditors (DIS, current USD)	0.849345		
PNG, commercial banks and other creditors (DOD, current USD)	0.953718		
PNG, commercial banks and other creditors (INT, current USD)	0.942107	Net income from abroad (current LCU)	-0.81665
PNG, commercial banks and other creditors (TDS, current USD)	0.903912		
Use of IMF credit (DOD, current USD)	0.775048		
Gross domestic income (constant LCU)	0.596663		
Short-term debt (% of exports of goods, services and primary income)	0.682604		

Improved investment climate, introduction of an effective mechanism to prevent credit risks, the use of tough measures to protect the rights of the lender and the borrower can contribute to the development of credit processes in the banking sector.

It is important to introduce European standards for enterprises; increase investment projects in support of SMEs; intensify the efforts of foreign

banks to open a credit line for lending to small and medium-sized enterprises for the implementation of energy efficiency projects.

It is necessary to implement the NBU policy, which will take into account the interests of the real sector of the economy and banking sector. SMEs are the main segment that can provide economic stability during a crisis and be a source of income.

**Table 5.** Correlation coefficients of domestic loans to the private sector by banks (% of GDP) with researched indicators

Indicator	Direct dependence	Indicator	Reverse dependence
Average grant element on new external debt commitments (%)	0.593822	Average interest on new external debt commitments (%)	-0.56701
Net domestic credit (current LCU)	0.759955	Average interest on new external debt commitments, official (%)	-0.58574
PNG, bonds (DIS, current USD)	0.533176	Bank liquid reserves to bank assets ratio (%)	-0.80662
PNG, bonds (DOD, current USD)	0.859139	Bank non-performing loans to total gross loans (%)	-0.73562
PNG, bonds (INT, current USD)	0.854884		
PNG, bonds (TDS, current USD)	0.560839		
PNG, commercial banks and other creditors (AMT, current USD)	0.852962		
PNG, commercial banks and other creditors (DIS, current USD)	0.863829		
PNG, commercial banks and other creditors (DOD, current USD)	0.927324		
PNG, commercial banks and other creditors (INT, current USD)	0.906622	Net income from abroad (current LCU)	-0.78136
PNG, commercial banks and other creditors (TDS, current USD)	0.86844		
Use of IMF credit (DOD, current USD)	0.726032		
Gross domestic income (constant LCU)	0.599354		
Short-term debt (% of exports of goods, services and primary income)	0.703269		

## CONCLUSION

The analysis shows that the direct dependence is observed between domestic credit provided by the financial sector with 14 of the studied indicators; inverse dependence with 6 indicators. The highest direct dependence is observed with PNG, bonds (INT, current USD) and PNG, commercial banks and other creditors (DOD, current USD). The direct dependence is observed between domestic credit to private sector and 13 studied indicators, and the inverse relationship with the five surveyed indicators. The direct dependence is observed between domestic credit to private sector by banks and 14 surveyed indicators, and the dependence with the five indicators is curtailed.

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