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BANK CREDITING TO THE SECTOR OF NON-FINANCIAL CORPORATIONS IN UKRAINE

Abstract

The importance of studying the bank crediting (lending) to non-financial corporations in Ukraine is due to the recent increase in borrowing costs and a low credit supply from banks. This article defines certain parameters, which could help to allocate the limited credit recourses to meet current macroeconomic challenges. The main purpose of the article is to discuss and substantiate the choice of these parameters. The study is focused on the systematic approach and statistical methods to achieve the research goals.

Quantitative parameters of bank lending to non-financial corporations were analyzed through the prism of macroeconomic indicators. In particular, the analysis was conducted on the following parameters of bank lending to non-financial corporations: share of bank loans to non-financial corporations in GDP, volume of loans by type of economic activity, sectoral shares of non-financial corporations in creating gross economic value added, interest rates on loans to non-financial corporations, etc.

It is defined that the share of bank lending to non-financial corporations in GDP is currently low and gradually decreasing. The analysis of the volume of lending by types of economic activities, by the size of borrowers and the respective sectoral shares of non-financial corporations in creation of gross value added showed disproportionate distribution of credit resources by economic returns. The calculation and analysis of the localization and concentration coefficients allowed to identify current problems in crediting of Ukrainian businesses. The interest rates on loans to non-financial corporations remain high, which often makes bank credits inaccessible for them, especially considering the low level of profitability of Ukrainian enterprises.

Keywords credit services, financial resources, credit cycles, lending options, interest rates

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INTRODUCTION

The interdependence of the sectors of financial market and the real economy evokes a vivid scientific interest because financial services is a very important issue nowadays in Ukraine. Considering the multilateral interaction between real and financial sectors and the bank-centric model of the Ukrainian financial market, the analysis was performed in terms of a particular sector policy.

The financial market is characterized by the mechanism of redistribution of financial resources. This mechanism supports the investment flows to the real economy, thereby forming close interconnections between the two main sectors of the economy: real and financial ones. Such interconnections are multilateral. The financial market of Ukraine has a bank-centered nature. Therefore, it is possible to track these interconnections through evaluation the qualitative and quantitative parameters of bank lending to the sector of non-financial corporations. In addition, it is necessary to take into consideration the

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current conditions in a particular economy. The economy of Ukraine is currently in crisis, which is further aggravated by political instability. Therefore, it exhibits a low level of investment attractiveness.

External factors also restrict the access of entities of the non-financial corporations sector to alternative sources of financial resources. Credit services are the most affordable and easy source of financing. However, the market of bank lending in the present situation shows significant problems. The abovementioned adds certain complications and challenges to the subject of the current research. Limited financing opportunities challenge the need for their development. This development will maximize the economic gains from bank lending. Therefore, it is necessary to focus on thorough analysis of the parameters of bank lending to non-financial corporations.

1. LITERATURE REVIEW

The assess of non-financial corporations to banking financing was a recent scientific dilemma for many scientists. Given the many-sided nature of this issue, the different conditions for the functioning of the real sector and the current state of the economy, the research focus should be on studying particular aspects of bank lending to non-financial corporations, which were covered in the works of the leading scholars in this field.

The study of this subject is intrinsically connected to the modern theory of credit cycles. There are two modern key scientific approaches that characterize the credit cycles. Researchers supporting the exogenous approach (Bernanke & Gertler, 1989; Kiyotak & Moore, 1997; Marti, 1996) based their conclusions on the theory of financial accelerator. The credit cycles are reflecting the economic cycles and exhibit their behavior accordingly. In the writings of supporters of the endogenous approach to credit cycles (Minsky, 1975; Rajan, 1994; Rotheli, 2012), the focus is shifted to financial shocks emerging due to accumulation of credit risks of substantial magnitude.

Mises (2012), the representative of the Austrian Economic School, described the negative impact of credit expansion on the development of the economy, especially if it is manifested in a form of excessive financial liberalization and caused by artificial factors. Insecurity of a loan is considered to be the source of crises. Credit expansion, according to Mises, is the driving force behind economic cycles, where the phase of active expansion is followed by a sharp economic increase. After a while, this rise will necessarily transform into a recession with a shrink of credit expansion and can potentially become a depression at the end. As a solution for this problem, Mises proposed application of qualitative credit control mechanism. He considered this mechanism of credit control as the distribution of credit resources in such a way that most of the available financial resources would concentrate in particular groups (Mises, 2012).

De Soto, in his book Money, Bank Credit and Economic Cycles, developed a theory of credit expansion and economic cycles. Unlike other scientists, this Austrian scholar emphasized the need for 100% reservation of the deposits on demand (De Soto, 2008). In his opinion, economic cycles, are not a completely exogenous or endogenous phenomenon. The reasons for the oscillations of the economy are hidden in the activities of the governing monetary and credit institutions (banking institutions with partial reserve management by the central bank). After all, the nature of these institutions is not purely market-driven. At the same time, De Soto holds the view that it is impossible to determine the allowable limits of crediting in the economy.

French scientist Posel (2012) was engaged in studying the peculiarities of the connection between the development of the production of goods, services and credit. He emphasized the fact that in different periods of the economic cycle, the intensity of the correlation between these indicators is different. These changes should be taken into account when designing control systems. Modern scientific vision of bank crediting or lending justifies the need for control of the loan amount. The "maturity" of a loan is based on its compliance with the stage of economic cycle and other related parameters.

In the discovery of the underlying reasons for economic cycles, the American economists Haberler, Hansen, and Gordon (Mass, 1975) give a special role to the investment processes in the economy, including bank credits to businesses. They consider overinvestment as a particular reason that precedes the recession. They explain the mechanism of overinvestment as follows: the investment demand increases the demand for loans that directly causes the interest rates to rise. The high interest rates thus decrease the demand for investment. At the same time, the increased demand for loans causes exertion of financial reserves for businesses that also forces interest rate to rise. Thus, the interest rate should be carefully regulated to prevent the crisis to occur.

Theoretical grounds for bank crediting/lending to non-financial corporations is provided by Lavrushin (2017). The limits of the credit amount should be defined within the area of activity of two related entities according to the very nature of credit relations. The creditor can issue a loan in amount that the borrower can return. Thus, credit expansion opportunities expend only when the projects worth the investment, according to the borrower's and lender's obligations fixed in the credit agreement (Lavrushin, 2017).

Modern scholars focus on researching the dosage of credits. At the same time, the credit policy of banks should correspond to the existing macroeconomic trends. "We assume that the dynamics of inflation rates have distorted the ability of bank managers to properly evaluate firm's potentially profitable investments, thus reducing resources allocation to real economy" (Tinoco-Zermeno et al., 2014). It is important to investigate private sector bank credit, because it has been pointed out as a key factor in explaining the country's low investment rate and thereby economic growth (Moreno-Brid & Ross, 2009).

Instead, based on endogenous nature of credit cycles, Matsuyama (2013) emphasizes that the existing restrictions on borrowing can lead to instability in the dynamic cycles, which, in turn, will cause periodic fluctuations even in the absence of external shocks.

The significance of the selected parameters in assessing bank lending to nonfinancial corporations used in this paper is confirmed in the some studies (Ankargren et al., 2017). These researchers developed an empirical model for analysis and prediction of the impact of financial sector development on the real economy. The parameters included in this model comprised the following elements of the credit mechanism: interest rates, the share of loans in GDP, etc.

While investigating the impact of credit imbalances and the dynamics of financial flows on economic growth, Kozmenko and Korneyev (2017) take into account the ratio of the private sector loans volume to gross domestic product, which, in their opinion, forms the basis for stimulation of investment in the real economy.

The most thorough works, which were dedicated to the impact of bank crediting on the sector of non-financial corporations, as well as to the assessment of required volume of bank credits in the economy are described in the article. These researchers made a significant contribution to the analysis and development of theory of bank crediting to financial and non-financial corporations, and these two sectors should be studied simultaneously to grasp the whole picture of the credit financing in national economy.

The credit capacities of the Ukrainian market are very limited, and the demand for bank loans is not fully satisfied. Currently, there are also significant issues that accompany credit financing in Ukraine. Among those the following can be identified: high cost of credit services, low credit diversification, and high operational and financial risks.

2. THE PURPOSE

The purpose of the paper is, firstly, to define a set of indicators for assessing bank crediting to the sector of non-financial corporations and, secondly, to analyze these parameters in the Ukrainian financial market.

3. METHODS

The analysis of bank lending to non-financial corporations was based on the system approach and statistical methods. The study of systematic rela-

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tions between banks and non-financial corporations while providing credit services allowed for identification of the most significant parameters to assess bank lending to non-financial corporations.

The statistical data used for research purposes was obtained from the official websites of the National Bank of Ukraine and the State Statistics Service of Ukraine. The key parameters of bank lending in the Ukrainian financial sector were estimated with the application of the coefficient-based method and the method of comparison.

The defined parameters satisfy requirements for application of the system approach to identifying the current state of bank lending to non-financial corporations in Ukraine. In addition, they can serve as a benchmark for adjustment of credit flows in the economy in order to maximize the macroeconomic effect of bank lending to non-financial corporations.

4. RESULTS

There is a number of common issues that harm bank credits in general, and credits to the non-financial corporations in particular. In order to solve these issues, it is required, first of all, to optimize credit flows in the economy. Thus, it is necessary to focus on crediting of the selected industries of the national economy. These are the sectors that show the highest economic efficiency and return on investment. To determine these industries, it is necessary to undertake a thorough assessment of the key bank crediting indicators of non-financial corporations. These are the qualitative and quantitative indicators that characterize distribution of credit resources to non-financial institutions.

Thus, it is necessary to focus on modern theories of determining the role of crediting in the development of a real economy. Here one can clearly see the importance of determining the limits for bank crediting. This is to fit credit needs to the credit capacities of nonfinancial institutions. This approach requires deep understanding of the expected effect of the implementation of credit solutions by banks.

The aforementioned scholars centered their attention on the importance of studying credit relations in connection with the borrowers' needs. The following indicators have been selected to analyze the situation with bank lending to non-financial corporations:

- the volume of bank credits to the non-financial corporations and their impact on the formation of gross domestic product (GDP);
- the volume of bank credits by type of non-financial corporations and their impact on establishment of the gross value added (GVA);
- the interest rate on bank credits to non-financial corporations and the average level of profitability of these non-financial corporations.

One of the primary indicators in analyzing credit needs in the economy is the volume of loans granted. This quantitative indicator is chosen to evaluate bank credits to non-financial corporations (Figure 1).

According to Figure 1, there is a gradual tendency in the banking sector of Ukraine to increase the volume of loans to non-financial corporations. At the same time, the growth rate of total loans granted in recent years is greater than this parameter in the beginning of the investigated period.

Such tendency is observed due to the influence of the political and economic crisis processes, which took place in the country in 2013–2014. Thus, in 2015 the total amount of bank loans granted exhibited a clear decline. At the same time, there is a positive trend in crediting to non-financial corporations. Though, it worth mentioning that the dynamics of the absolute indicator of loans granted describes only existing trends and does not explain the causal relationships between existing phenomena and processes. Therefore, the value of loans granted to non-financial corporations is estimated using several indicators.

Senyshch (2015), while studying the activities of banks, fairly emphasized the need to intensify bank crediting to accelerate economic development in the country. The transformation of economic relations in modern conditions calls for increased significance of the role of banks in accumulating and redistributing financial resourc-

Source: Authors' calculations based on the data from the State Statistics Service of Ukraine and the National Bank of Ukraine.

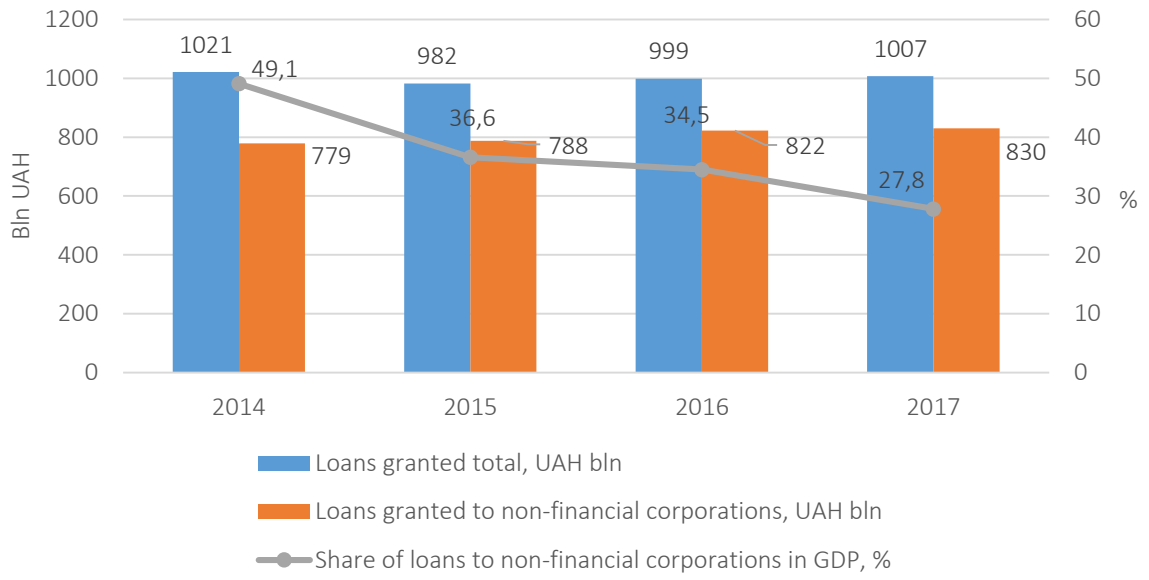


Figure 1. Volume of credits to non-financial corporations and its share in GDP in Ukraine (2014–2017)

es in the economy. The author mentions that the purpose of such a need is to assure necessary rates for economic growth and increase a competitive environment in the country. Stability of banking system in particular and the economy in general depends on effectiveness of these functions (Senyshch, 2015). However, as European practice shows, during the recent financial crisis the strong dependency of euro area non-financial corporations, and SMEs in particular, on bank financing has left them exposed.

This is emphasized by Fernando and Maavrakis, who prove in their research the existence of the adaptive potential for financing changes in companies, which are less dependent on bank credits (Fernando & Maavrakis, 2016).

The Great Britain is negative example of excessive financial dependence of companies and thus, their vulnerability. In the post-crisis period in the Great Britain, reducting the supply of loans has become one of the major reasons for a significant productivity decline, consequently declining the wages and capital per employee indicators inside the companies (Franklin et al., 2019).

Figure 1 shows the dynamics of main indicators of bank crediting in the Ukrainian economy. The share of bank loans in GDP is called a financial capacity indicator in the economy. There are several approaches for its measurement. Figure 1 shows that the share of loans to non-financial corporations in GDP is annually decreasing. In 2017, it was only 27.8% comparing with 49.1% in 2014.

Many scholars widely believe that the share of bank loans in GDP should be around 90%-100% in national economies. They emphasize that only under these conditions the impact of bank credits on economic growth would be significant. Some scholars believe that the increase in this threshold would cause negative consequences for the national economy (Arcand et al., 2012; Cecchetti & Kharroubi, 2012). At the same time, the same scholars mention that the effect of credits to the non-financial corporations depends on other influential factors as well as on general economic situation in the country.

As a matter of fact, in many developed economies this indicator does not exceed 100%. As the adverse example, one could see that in Portugal, before the crisis began in 2009, this indicator fluctuated around 160%. Thus, it could be assumed that the excess of loans in the economy increased the debt burden, which could cause the crisis to emerge. However, in the UK, at the same time, this

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indicator was 180%, and in Denmark it reached even 200%. Beck argues that the growing dynamics of bank crediting does not always indicate a high level of economic development in the country (Thorsten et al., 2014). More probably, this is just a reflection of the stability of banking sector in the economy, which differs from country to country.

Ito and Kawai (2018) do not consider the share of loans to private businesses in GDP as a sufficiently substantial indicator. In their opinion, this indicator should not be a basis for scientific conclusions, because it does not take into account the influence of activities in other branches of economy the on financial market.

An important component of analyzing bank crediting to non-financial corporations is the sectoral analysis of distribution of bank loans granted. Here, the attention should be given to the amount of gross value added created by the types of economic activity.

Figure 2 illustrates the presence of structural imbalances in the lending structure of non-financial corporations by the types of economic activity. The largest share of loans falls in the following categories: wholesale and retail trade, repair of vehicles – more than 33%, manufacturing and processing industry – more than 24%. The share of credit resources of these two types of economic activity is more than half (over 57%) of all credit resources provided to non-financial corporations. However, such situation should not be interpreted as a negative factor for economic development. The key here is the level of financial return in these sectors and the volume of their contribution to gross value added.

The most common indicators that characterize the proportionality of a particular distribution are: concentration coefficient and localization coefficient. These coefficients allow for differentiated estimation of the relationship between the distribution of the results with a set of factor characteristics. This, in turn, allows you to rank factors by the degree of interconnection and influence on the distribution of a productive trait (Kostiuk & Beketova, 2015).

The localization coefficient reflects the role of individual groups or units in generalizing concentration. In statistics, the coefficient of localization is calculated as the ratio of the proportion of the resultant trait to the proportion of the factor. In the current study, the resultant value is the gross

Source: Authors' calculations based on the data from the National Bank of Ukraine website.

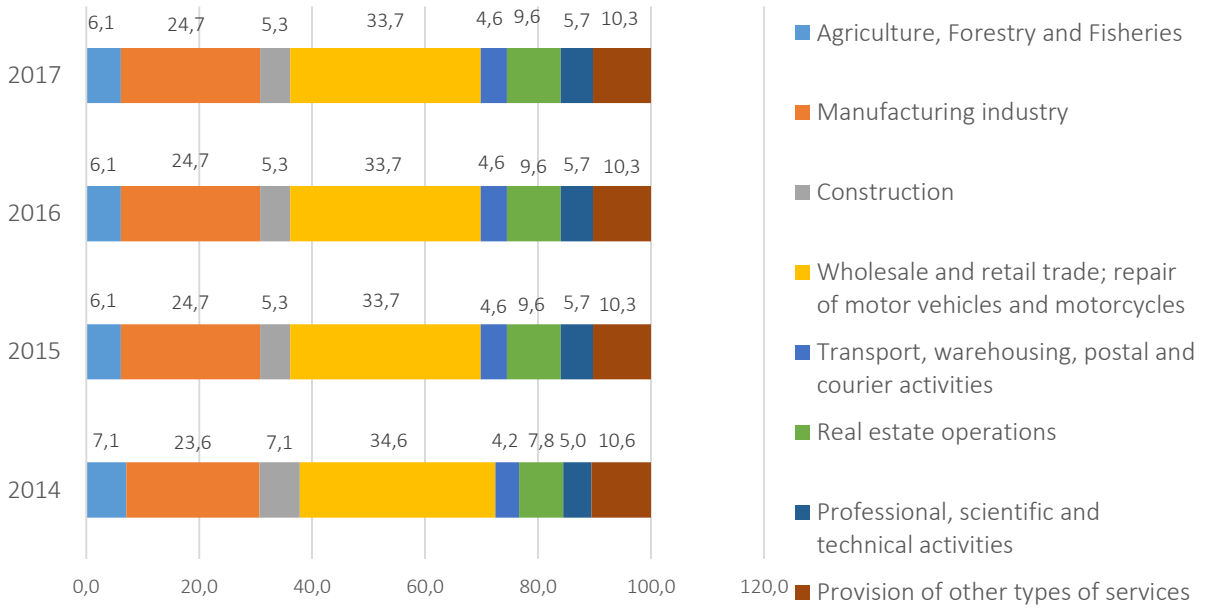


Figure 2. The structure of loans to non-financial corporations for 2014–2017 by types of economic activity, %

value added by type of economic activity, and the factor is the volume of loans by type of economic activity (Holovach et al., 2005).

$$\hat{E}_{loc} = \frac{d_q}{d_w}, \quad (1)$$

where, d_q is the share of gross value added by type of economic activity; and d_w is the the share of loans by type of economic activity.

The value of this coefficient can be defined as follows. If the value of the coefficient is close to one, then the use of loans by the non-financial corporations sector to create gross value added is more uniform. If $K_{loc} < 1$, this would mean that this type of economic activity accounts for a smaller share of the gross added value compared to a proportional share of loans. Provided that the value of the localization factor is greater than one, then the situation can be interpreted as the opposite.

On the basis of the calculations (Figure 2), one can notice that there are certain imbalances in the distribution of the volume of loans received by types of economic activity and their contribution to the creation of gross value added in the Ukrainian economy.

The largest share of credit resources comes from those types of economic activity that do not provide an adequate share of gross value added. During the investigated period, the share of the created gross value added was higher compared to the corresponding share of received loans ($K_{loc} > 1$) for the following main types of economic activity:

- agriculture, forestry and fisheries;
- extractive industry and career development;
- water supply;
- sewage, waste management;
- transport, warehousing, postal and delivery services;
- temporary placement and organization of food;
- information and telecommunications, activities in the field of administrative and auxiliary services, etc.

In the dynamics it is observed that types of economic activities such as manufacturing industry, construction, wholesale and retail trade; repair of motor vehicles and motorcycles, temporary placement and organization of food showed the value of the localization factor less than one. Consequently, each of these branches makes a lower contribution to the creation of gross value added in relation to the volume of loans it receives. For example, in 2017 the trade sector attracted more than 34% of the total volume of credit resources provided to the sector of non-financial corporations. However, the share of revenues from this industry in total gross value added was only 18%. The localization coefficient at the level of 0.53 shows that in 2017 for 1 hryvnia of loans received, trade brought 53 kopiikas of gross value added.

Also, the concentration factor is often used in the regional analysis, in particular, to assess the uniformity of territorial distribution of production capacities, financial resources, etc. (Kostiuk & Beketova, 2015).

To determine the concentration factor, the deviation of the particles of the two distributions are calculated: in terms of the population and the volume of the values of the sign. In this case, these are the volume of loans (d_w) and gross value added (d_q). In the case of a uniform distribution of the values of the sign in aggregate, the two particles are the same. In the case of uneven distribution, the particles are different. In such a situation, one can clearly define a presence of a certain concentration.

The concentration factor is calculated as the sum of the particle deviation modules.

$$K = 0.5\sum \left| d_w - d_q \right|. \quad (2)$$

The magnitude of the concentration factor can vary from zero to one. The higher the degree of concentration, the greater the coefficient value. With the uniform distribution $K = 0$, and at full concentration $K = 1$.

The calculated "concentration factor" indicates a concentration of 33%. During the analyzed peri-

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Source: Authors' calculations based on the data from the website of the National Bank of Ukraine.

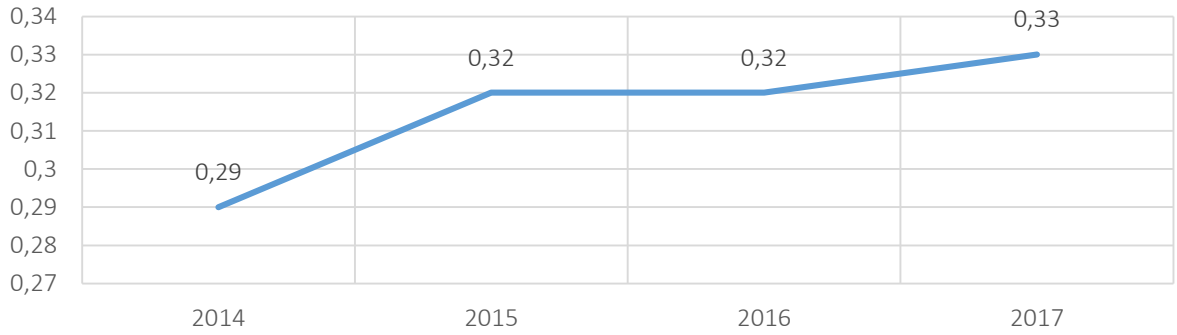


Figure 3. Results of calculations of the concentration coefficient for 2014–2017, %

od, the uneven distribution of credit resources increased by 4% compared to 2014 (Figure 3).

An assessment of the distribution of bank loans to non-financial corporations in terms of enterprise size is an important component of the valuation parameters. Scientists often emphasize low level of credit services for small businesses. Spallone and Murè (2018) state that credit institutions often refuse to lend money to small firms. Usually, this happens because small firms are not able to provide sufficient collateral to lenders.

It allows for identification of existing disproportions of credit financing in terms of size of enterprises. A comparative analysis of the amount of credit financing and total returns in the form of created added value of enterprises by size indicates the interdependence of these indicators (Figure 4). It is clearly seen that medium-sized enterprises create added value almost like large enterprises. In this case, the credit financing is approximately the same.

An important parameter for assessing bank lending to non-financial corporations is the value of credit services, which is expressed as an interest rate. The interest rate on loans is constantly changing influenced by a number of different factors. Moreover, the cost of credit resources is not always attractive for enterprises. The general indicator to assess the potential of non-financial corporations to attract credit resources is the profitability of operating activities. Therefore, the study

Source: Authors' calculations based on data from the State Statistics Service of Ukraine and the National Bank of Ukraine.

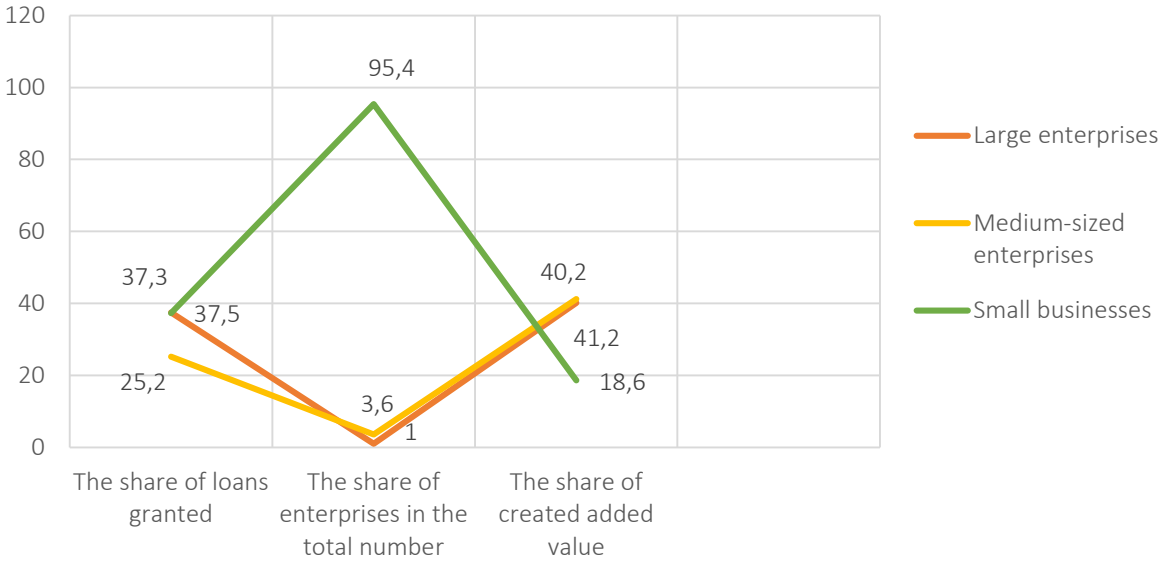


Figure 4. Indicators of shares of large, medium and small enterprises in creating value added and obtaining bank loans in Ukraine in 2017, %

Source: Authors' calculations based on the data from the website of the National Bank of Ukraine.

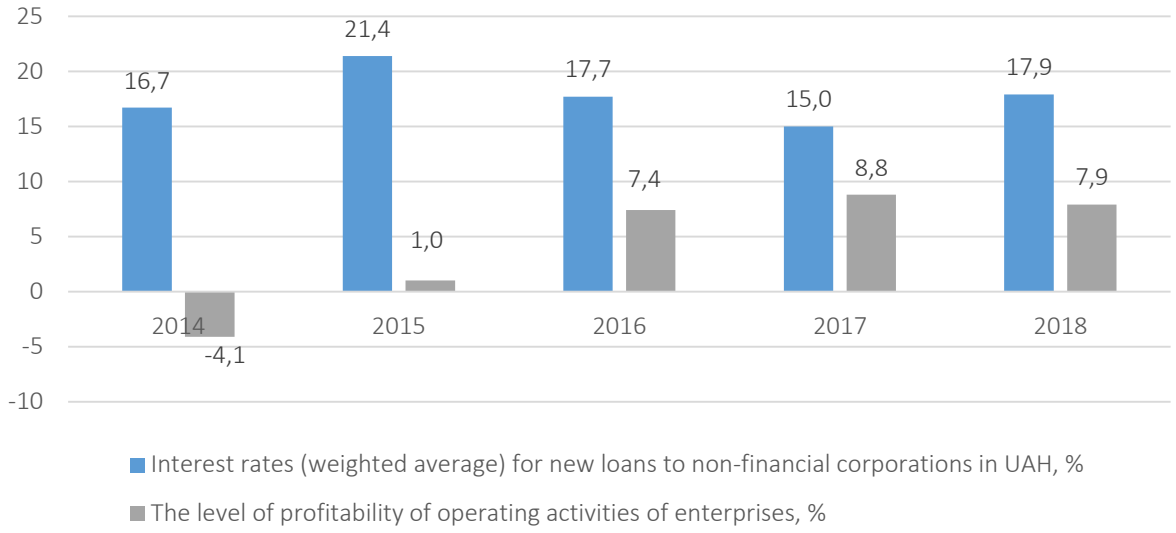


Figure 5. The ratio of interest rates on loans and average profitability for 2014–2018, %

will conduct a comparative analysis of interest rates on loans and profitability of operating activities of Ukrainian enterprises in dynamics (Figure 5). During 2014–2018, the value of loan rates exceeded the rate of return on enterprises. This situation indicates that funding for non-financial corporations at the expense of loans is too expensive.

Note that the cost of credit resources for enterprises may fluctuate depending on factors such as currency type and maturity (Figure 6).

In terms of maturity, during the period under review, the interest rate on loans to non-financial corporations was marked by volatile values. Short-term loans are intended primarily to meet current short-term needs of enterprises.

In terms of financing for the development of the sector of non-financial corporations and the economy, a special role is assigned to the actual interest rates on long-term loans. The analysis of rates on long-term credit resources shows that the lowest

Source: authors' calculations, based on the data from the website of the National Bank of Ukraine.

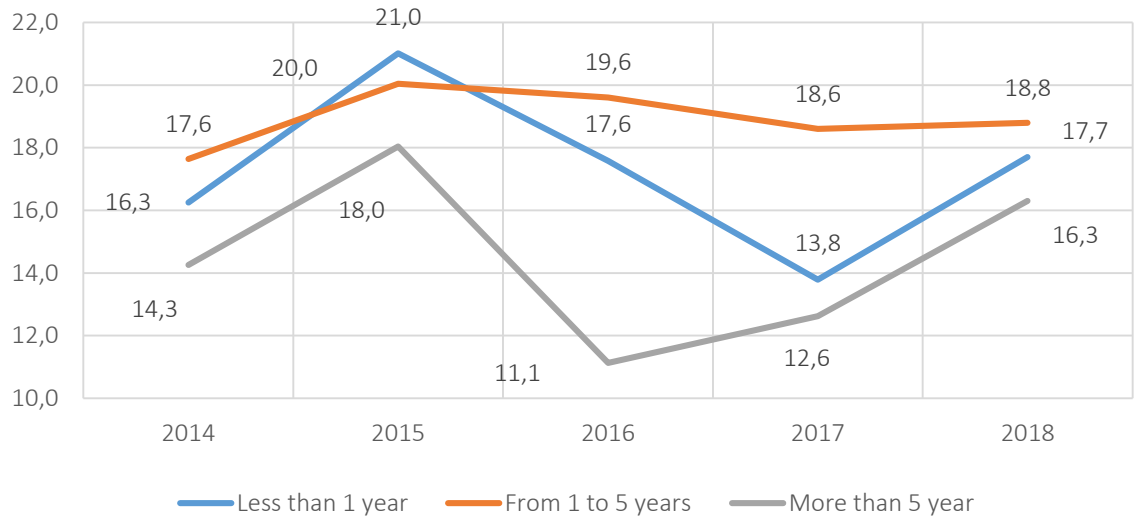


Figure 6. Interest rates for new loans in UAH for non-financial corporations by terms for 2014–2018, %

http://dx.doi.org/10.21511/bbs.14(3).2019.06

Source: Authors' calculations based on the data from the website of the National Bank of Ukraine.

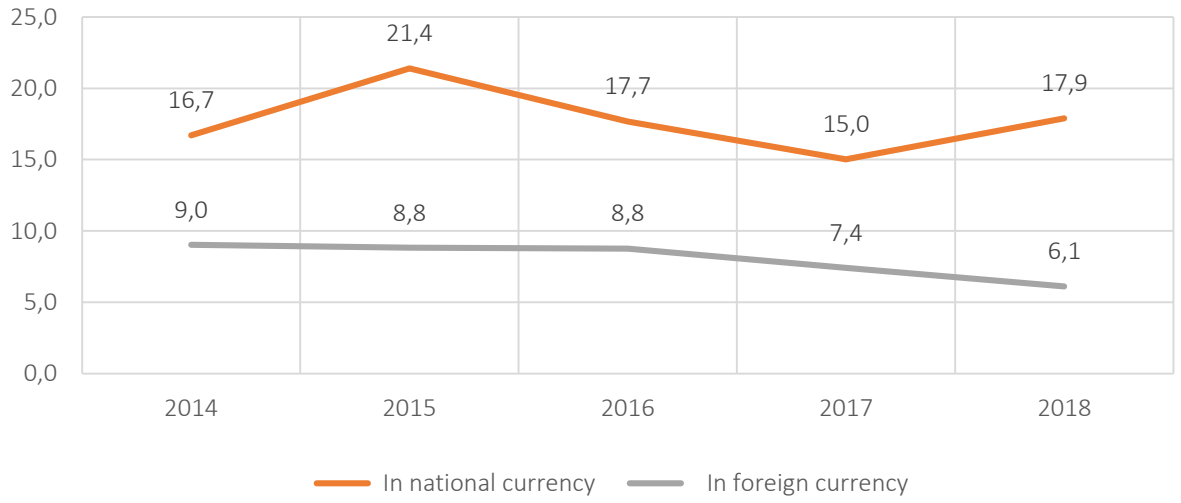


Figure 7. Weighted average interest rates for non-financial corporations by currency type for 2014–2018, %

average weighted rate fell until 2016 – 11.1%, and the highest in 2015 – 18%. Accordingly, while comparing these rates with the indicators of profitability of enterprises, it is clear that the rates remain too high. Consequently, most enterprises are not able to fully use long-term credit resources because of their high cost.

Credits in foreign currency for non-financial corporations are perceived as ineffective and, therefore, not widely used, because most of Ukrainian enterprises trade their products and services in the national market in national currency. Besides that, the constant fluctuations of the currency exchange rates increase the currency risks for national producers. At the same time, one can see the strong trend for decrease of the weighted average interest rates in foreign currency. During the investigated period, this indicator fell down from 9% in 2014 to 6.1% in 2018 (Figure 7). This corresponds to the overall tendency of gradual move of Ukrainian financial market to the European financial environment.

It can be emphasized that lending to banks that provide bank services and donations to banking standards are important in the assessment of credit facilities. However, the research reveals that in crisis, there is an apparent decrease in the bank lending and the size of capital. This is stated in the work of Spanish scholars (Hernando & Villanueva, 2014), who claim that loan demand depends on economic recovery factors. In this case, the adequate size of lending to non-financial corporations depends on the credit risk volume. It is also important to consider the current trends in the debt securities market, as mentioned by Baron and Xiong (2017). These aspects can be a subject for further research in the field to complement the existing parameters of bank lending to non-financial corporations.

CONCLUSION

As a result of the analysis performed on the indicators related to the bank crediting of non-financial corporations, five main indicators were selected. The assessment of these indicators in Ukrainian conditions shows disproportionate and ineffective allocation of bank loans among non-financial corporations. It is also worth mentioning that the share of bank lending to the non-financial corporations in Ukrainian GDP is negligible comparing to the value of this indicator in developed economies and, furthermore, it gradually decreases.

The analysis of lending by type of economic activity and the corresponding shares of non-financial corporation in creating gross value added showed a disproportionality in the distribution of credit resources by economic branches. The calculated values of the localization and concentration coefficients support this conclusion.

The comparison of the indicators of bank lending to non-financial corporations and the structure of creation of added value by size of enterprises demonstrates that medium-sized enterprises create added value almost the same level as large enterprises do. In other words, credit financing for these two groups is approximately the same, thus exhibiting a structural disbalance in the economy. The interest rates analysis showed that for bank loans to non-financial corporations they remain very high, which makes credit services inaccessible for Ukrainian enterprises, especially considering their low profitability rates.

The identified problems show that crediting of non-financial corporations in Ukraine has serious challenges. This confirms a necessity for further application of international best practices in the field and, thus, the need for further research. Thus, the efficiency of bank lending to non-financial corporations can be improved under conditions of financial resource scarcity and other capital market restrictions that take place in Ukraine.

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