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Macroeconomic aspects of the development of bank lending to industrial enterprises: challenges of today

Abstract

The *aim* of the article is to highlight the key modern macroeconomic aspects and trends in the development of bank lending to industrial enterprises in highly developed countries of the world and to identify promising areas for its further development. The *methodological basis* of the study is the generalization of the results of applied research in the field of economics, scientific papers, statistical data, which highlight certain aspects of the development of the modern globalized economy, in particular its impact on the macroeconomic features of industrial development and bank lending to industrial enterprises. *Results.* The influence of financialization on the macroeconomic environment and the development of bank lending to industrial enterprises (on the example of the USA, Great Britain, Germany) is investigated. The influence of such unprecedented for the XXI century force majeure factors as the COVID-19 pandemic and the war in Ukraine on the macroeconomic environment and the development of bank lending to industrial enterprises is considered. The key trends in global economic development that stimulate transformations and structural changes in the macroeconomic environment of highly developed countries are highlighted. The role of bank lending to industrial enterprises in these processes is determined, which consists in lending to industrial innovations, as well as in the development of such promising areas as the "green" and "blue" economy. *Practical implications.* The practical results can be the basis for further research: on solving the problems of convergence of the financial and real sectors of the financialized economy, in particular with the participation of bank lending to industrial enterprises; on the role and importance of bank lending to industrial enterprises in overcoming the current macroeconomic consequences of the war in Ukraine; on certain aspects of the integration of bank capital into the development of industrial enterprises that are part of the "green", "blue" economy. *Value/originality.* The results of the study provide a deeper understanding of the role and contribution of bank lending to industrial enterprises in the processes of ensuring positive macroeconomic dynamics and maintaining macroeconomic stability, as well as allow to assess the depth of prospects for the development of bank lending to industrial enterprises.

Keywords

bank lending to industrial enterprises, macroeconomic environment, financialization, COVID-19 pandemic, macroeconomic consequences of the war, "green" and "blue" economy

JEL: E44, F62, F65, G21, G31



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1 Introduction

The development of national economies in most countries of the world is significantly influenced by the current realities of strengthening globalization processes. Global trends in economic development are gradually integrated into the macroeconomic environment of countries and can be a source of numerous processes of its transformation and the emergence of new challenges and risks. Accordingly, of particular scientific interest is the development of bank lending to industrial enterprises as an important financial and credit instrument for promoting positive dynamics of macroeconomic

indicators and ensuring macroeconomic stability. In this context, the following issues deserve special attention: the impact of financialization on the development of bank lending to industrial enterprises; the impact of force majeure factors of the XXI century, such as the COVID-19 pandemic and the war in Ukraine, on the macroeconomic environment and the development of bank lending to industrial enterprises; the impact of global innovation trends on the macroeconomic goals of developed countries and the response of the banking business (in particular, in the field of lending to industrial enterprises). To date, not many scientific works have been devoted to the study of the impact of

modern macroeconomic aspects on the development of bank lending to industrial enterprises. At the same time, attention should be paid to the works of M. J. Buchanan, A. R. Musgrave, A. Fisher and many others, which explore the general and specific aspects of financialization of the modern market economy. In the study of the impact of the COVID-19 pandemic on the industrial sector and macroeconomic dynamics, it is necessary to pay tribute to the works of L. Lebedeva, O. Moskalenko. The prospects for the development of bank lending in the context of the formation of a "green", "blue" economy are the subject of research by a large international group of scientists of the organization "Green Finance Platform" and many others. Accordingly, the purpose of the article is to highlight the key modern macroeconomic aspects and trends in the development of bank lending to industrial enterprises in developed countries and to identify promising areas of its development.

2 Financialization and bank lending to industrial enterprises

The process of financialization of the economy is one of the most distinct macroeconomic trends of today as a consequence of globalization of the world economy. "Modern economy is a financial market economy, first of all." (Buchanan, Musgrave, 1991)

In general, the increasing role of the financial sector in the economy is commonly understood as financialization. This phenomenon originated in the 1980s. Financialization is associated with the following negative macroeconomic consequences: a decrease in material production; a decrease in the capitalization of the real sector; a decrease in the share of labor in national income; the emergence of socio-economic problems (for example, an increase

in the financial burden on the state in terms of social payments, benefits, etc. due to an increase in the number of laid-off employees of enterprises) (Fischer, 2021).

The process of financialization significantly distorts the role of finance, which ideally should be to serve the needs of the real sector of the economy, to ensure the accumulation, efficient distribution and redistribution of value in the national economy. The current hypertrophied development of the financial sector leads to deepening income inequality, long-term reduction of aggregate demand, inefficient allocation of financial resources, decline of the real sector, uneven development of countries and concentration of capital in financial centers, increased risks of bankruptcy, destabilization of socio-economic development (Herasymenko, 2016).

Accordingly, the process of financialization of the economy also affects the state of bank lending to industrial enterprises: bank investments in the development of industrial enterprises often look less attractive than existing instruments in the financial market. This leads to processes that ultimately reduce the role of bank lending in the development of the industrial sector of the economy.

In particular, on the example of such a highly developed country as the United States, whose financial system is focused on the development of the stock market, it is possible to observe how the share of industrial sectors of the economy (mining and quarrying, construction, manufacturing, utilities) and the share of finance, insurance and real estate in the national income of the United States for the period 1948–2021 changed (Figure 1).

Thus, in 1948, the share of the industrial sector in the US national income was 38.46%. Since then, the situation has changed significantly: in 2021, the share of the industrial sector in the US national

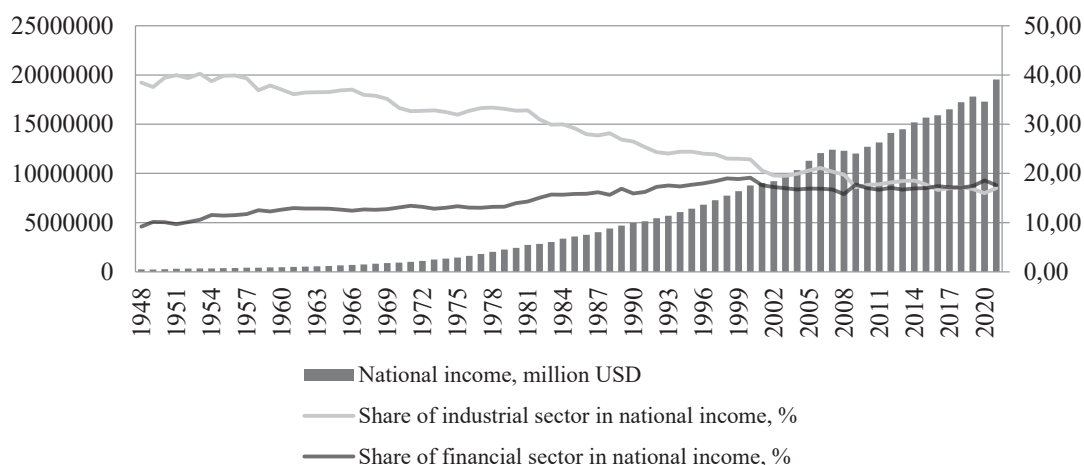


FIGURE 1 Shares of industrial and financial sectors of the economy in the national income of the USA, 1948–2021, in %

Source: compiled by the author based on the data (Official web-site of Bureau of Economic Analysis)

income was 17.01%. The changes shown in Figure 1 are primarily due to an increase in the share of the financial sector by 8.40 percentage points (from 9.20% in 1948 to 17.60% in 2021) or 91.32%, as well as other non-manufacturing services. These changes took place against the background of a reduction in the total number of US commercial banks in 1945–2020: their number decreased by 216.78% (from 13,419 institutions in 1948 to 4,236 in 2021) (Official website of Federal Deposit Insurance Corporation).

It is expected that the share of commercial and industrial loans in the loan portfolio of US commercial banks and savings institutions in the period 1984–2022 will also decline: in general, over the period of analysis – by 4.78 percentage points or 25%, and in the second quarter of 2022 will amount to 21.13% (Official website of Federal Deposit Insurance Corporation).

Thus, given the pace of development of the US economy, including industrial production, it can be concluded that the role of bank loans in the development of the industrial sector (in particular, the smart industry) in the post-war period was not decisive. According to the author, such a scenario of bank lending to industrial enterprises on the example of the United States has its roots in the change in the model of relations between banking and industrial business during the Great Depression (1929–1933). Thus, the veto of the US government on the mixing of banking and industrial business excluded the influence of the factor of personal interest of the bank (represented by its individual representatives) in the implementation of certain credit projects of industrial enterprises (Moffatt, 2019).

The situation of convergence of the real and financial sectors of the economy is observed in other countries whose financial system model is based on the stock market. A relevant example is the

United Kingdom. The data in Figure 2 show that the dynamics of the financial sector's contribution to GDP has become more rapid since the 2000s. At the same time, the financial sector proved to be less resilient than the real sector to global challenges such as the COVID-19 pandemic. At the same time, lending to industrial enterprises by monetary institutions looks different than in the United States: the share of lending to industrial business over the past 2 years has increased from 28.21% (September 2020) to 38.38% (August 2022) (Official website of Bank of England).

It should be noted that in those countries where the financial systems are dominated by banks, there is a lower degree of penetration of financialization in the processes of economic development, in particular, if to compare the example of the United States and Germany.

Based on the data of Table 1, it is possible to make the following scientific assumption: the process of financialization of the economy gradually affects both the development of the industrial sector and the financial mechanisms of its development. Thus, the shares of the industrial sector in the gross value added of the United States (a country where financialization has gained significant momentum: the share of the financial sector in gross value added over the past 13 years has increased by 65%) and Germany (a country where financialization is weak – the share of the financial sector in gross value added over the past 13 years has decreased by 5.5%) are at a fairly high level. At the same time, the share of the industrial sector in the gross value added in Germany is much higher than in the United States (on average by 6.41 percentage points over the analyzed period). As for the development of bank lending, it is worth noting the following: in Germany, the share of bank loans to the industrial sector in the total volume of loans to business entities is quite high (an average of 55% over the past 13 years);

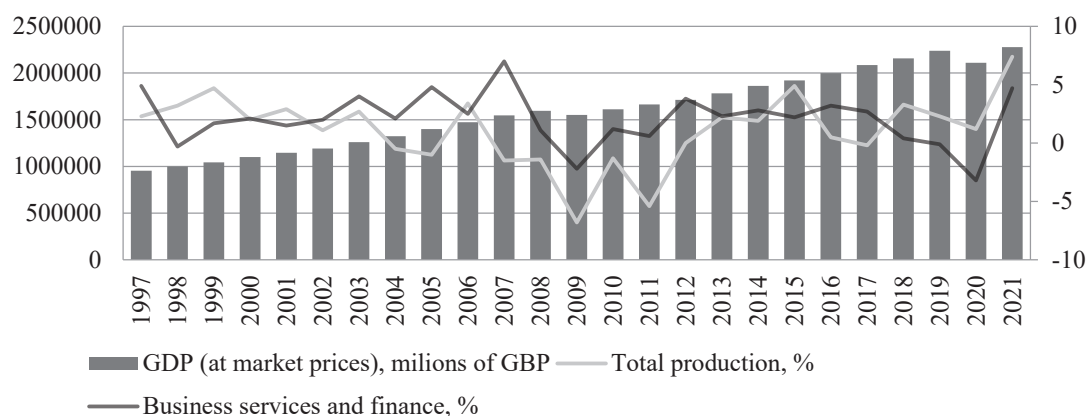


FIGURE 1 GDP and dynamics* of output of the real and financial sectors of the Great Britain, 1997–2021

* Change in percentage, last year to previous year

Source: compiled by the author based on the data (Official website of Office for National Statistics)

TABLE 1 Selected indicators of bank lending to industrial sectors: United States and Germany, 2008–2020

Year	Share of industrial sector in value added, %		Share of finance, insurance and real estate operations in value added, %		Commercial and industrial loans in loans to enterprises granted by banks, %	
	USA	Germany	USA	Germany	USA	Germany
2008	21,56	29,86	18,50	15,90	19,01	56,53
2009	19,58	27,59	19,23	16,99	16,67	56,29
2010	20,40	29,86	19,86	16,35	16,05	55,98
2011	21,25	30,15	20,46	16,30	18,00	56,63
2012	21,86	30,38	21,85	15,89	19,41	56,56
2013	22,75	29,79	22,28	15,82	19,85	54,42
2014	23,81	30,00	23,55	15,42	20,64	54,16
2015	23,75	30,14	24,48	15,40	20,78	53,86
2016	23,67	30,62	25,57	15,02	20,76	53,64
2017	25,21	30,48	26,55	14,66	20,66	53,76
2018	26,82	30,30	27,99	14,46	21,32	54,40
2019	27,44	29,97	29,27	14,39	20,99	54,47
2020	27,04	29,29	30,56	15,03	22,47	54,24

Source: compiled by the author based on the data (Official website of OECD; Official website of Federal Deposit Insurance Corporation; Official website of Deutsche Bundesbank)

in the United States, it is relatively small (an average of 19.74% over the past 13 years).

According to the author, this comparison once again confirms that bank lending to industrial enterprises is the most developed in bank-oriented financial systems. At the same time, it is the mechanism of bank lending that ensures the efficiency of the use of financial resources by industrial enterprises, as well as significantly contributes to the increase of their share in gross value added.

3 Macroeconomic dynamics and industrial lending: the impact of modern force majeure

The national economy of any country in the world is significantly affected by global challenges, in particular, such as the rapid spread of the COVID-19 pandemic in the world since 2019, as well as the aggravation of numerous geopolitical conflicts and the unprecedented war in Ukraine since February 24, 2022. The consequences of such dramatic events cannot but affect the macroeconomic environment and, accordingly, the state of bank lending to industrial enterprises.

COVID-19 pandemic has become the most serious test for the countries of the world in the last 150 years (Lebedeva, Moskalenko, 2021).

If to consider some macroeconomic indicators of the economic development of the EU countries (Figure 3) and the USA (Figure 4) during the emergence and course of the COVID-19 pandemic (2018–2021), a number of common trends can be identified: a rapid decline in GDP in 2020 compared to 2019 – by 1.5% in the United States and by 4.04%

in the European Union; a record decline in the industrial production index in April 2020 – to 84.20% in the United States and to 76.80% in the European Union; a number of programs to support the industrial sector, as evidenced by an increase in the share of industrial loans in the loan portfolio of non-financial corporations in the United States by 7.05%, as well as a slight decrease in the same share in the European Union – by 0.6%.

Thus, in the European Union, the government's response to the challenges of the COVID-19 pandemic for the industrial sector worked, as a result of which an important role was played by industrial business support programs. In particular, it was the provision of loans on preferential terms (preferential interest rates, extended maturity, etc.) and debt guarantees for industrial business (Official website of OECD).

Analyzing the macroeconomic situation in Ukraine against the backdrop of the COVID-19 pandemic (Figure 5), it can be observed that the negative macroeconomic consequences came quite later than in the United States and the European Union: although GDP did not decrease during the analyzed period, the industrial production index fell sharply by 6.41% in 2021, and the share of loans to industrial enterprises in total bank loans to non-financial corporations decreased by 11.87% in 2021.

The negative nature of the delayed response of the Ukrainian economy and authorities to the challenges of COVID-19 is exacerbated by the fact that the Ukrainian economy did not have time to recover to a certain level, as it happened in the United States and the European Union, and immediately suffered a new macroeconomic shock as a result of the full-

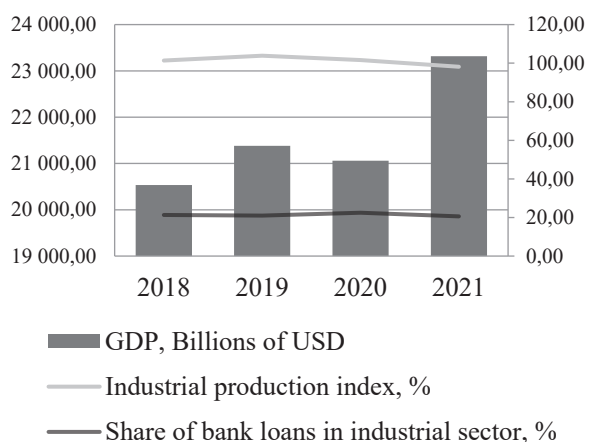


FIGURE 3 Dynamics of GDP, industrial production index, share of loans in the industrial sector (%), USA, 2018–2021

Source: compiled by the author based on the data (Official website of OECD; Official website of Federal Deposit Insurance Corporation)

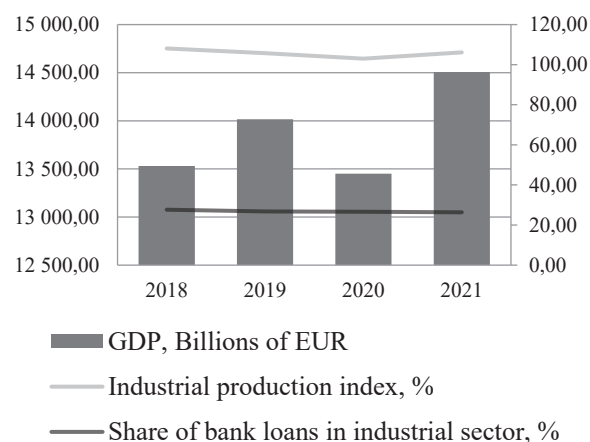


FIGURE 4 Dynamics of GDP, industrial production index, share of loans in the industrial sector (%), Europe, 2018–2021

Source: compiled by the author based on the data (Official website of OECD; Official website of European Central Bank)

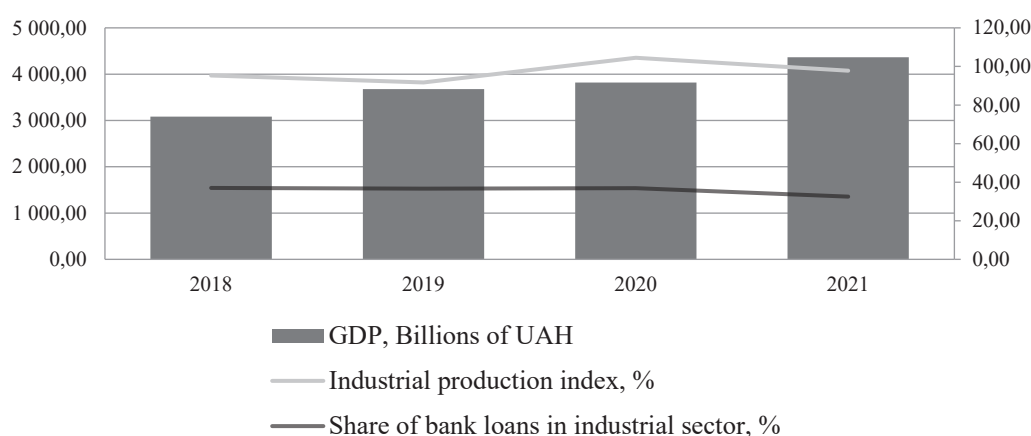


FIGURE 5 Dynamics of GDP, industrial production index, share of loans to the industrial sector (%), Ukraine, 2018–2021

Source: compiled by the author based on the data (Official website of the State Statistics Service of Ukraine; Official website of National Bank of Ukraine)

scale invasion of the Russian Federation into the territory of Ukraine on February 24, 2022. In particular, only in the second quarter of 2022, compared to the same period last year, GDP decreased by 37%; the inflation index for January-September 2022 was 121.8% compared to 110.0% in 2021; the share of loans to the industrial sector in the total volume of loans granted by banks to non-financial corporations since the beginning of 2022 and as of July 2022 decreased by 2.75 percentage points, and the total volume of loans granted to industrial enterprises decreased by UAH 11.14 billion over the same period.

A large number of industrial enterprises, industrial facilities (including critical infrastructure facilities) in Ukraine have suffered and suffer almost daily as a result of numerous enemy shelling: as of 27.09.2022, 422 industrial enterprises were completely or

partially destroyed. According to the World Bank's PDNA methodology, as of 01.07.2022, the total cost of losses caused to the industrial sector is estimated at USD 8.1 billion, which is almost 4.1% of the country's GDP for 2021, 6.3% of total fixed assets and 24.9% of total equity capital in the industrial sector of Ukraine as of Q3 2021 (Moroz, Bondarenko, 2022).

At the same time, the issue of future reconstruction of the Ukrainian economy is being actively considered. Bank lending to industrial enterprises can play an important role in the process of national economic reconstruction: for example, in case of creation of a special bank for reconstruction and recovery in Ukraine (similar to the "Kreditanstalt für Wiederaufbau", Germany) and building a strong industrial policy. Given that banks are the dominant

institutions in the financial system of Ukraine, it is bank lending to industrial enterprises that can significantly contribute to overcoming the macroeconomic consequences of the current war.

4 Promising areas of bank lending to industrial enterprises

The impact of current trends in the global economy on the national economy is an impetus for structural changes in its macroeconomic environment. Current trends in the global economy significantly affect the formation of macroeconomic policies of individual countries. The readiness of countries to solve the problems of increasing national competitiveness, macroeconomic indicators, resource saving, etc. is usually formalized in a clearly defined macroeconomic policy. Bank lending to industrial enterprises plays an important role in solving certain macroeconomic problems, directly or indirectly. The industrial sector is the engine of the national economy, which also introduces the latest ideas, and bank lending to enterprises is a powerful tool, given its financial and analytical potential.

According to the author, the macroeconomic basis for the development of promising areas of bank lending should include the following key trends:

- The Fourth Industrial Revolution. Building on the widespread adoption of digital technologies that resulted from the Third Industrial, or Digital, Revolution, the Fourth Industrial Revolution will be largely driven by the convergence of digital, biological and physical innovations during the XXI century (Schwab, 2021);
- The newest theory about the seven colors of the economy: white, black, gray, brown, purple, green, blue. While the white economy refers to the healthcare industry as a whole, the black economy is often used to refer to illegal or unauthorized trade activities. The grey economy is also known as the informal or underground economy. Based on the colours of nature, the green economy refers to sustainable and environmentally friendly economic activities such as agriculture, clean technology and renewable energy. Similarly, the blue economy refers to water-related activities like marine biotechnology, fisheries and aquaculture. However, the brown economy is the opposite, where activities are based solely on fossil fuel resources, which have been proven to harm the environment in the long run. The purple economy is the care activities and services (Darwish, 2021).

The role of banks and bank lending to industrial enterprises in the transformation of the macroeconomic environment through the financing of innovation is well known. Banks remain an important source of financing innovative projects of industrial enterprises to date. It should be noted

that the banking business and lending operations, including those with industrial enterprises, have undergone significant changes under the influence of the industrial revolution in recent decades: many banking processes have been digitized; the decision-making process on the feasibility of lending has been accelerated; the banking analytical and information resource has been improved; new types and forms of bank lending have been developed, etc.

However, a completely new trend in the development of banking business is its participation in the development of the "green" and "blue" economy. Over the past decade, the banking industry has become increasingly aware of the importance of green finance. Both commercial and investment banks are beginning to take action, including integrating environmental factors into banking strategy and management, and mobilizing capital for specific green assets through lending, credit and savings products and capital markets activities, including green bonds.

The need for action has been highlighted by central banks, especially the Bank of England, whose Governor has warned that climate change is a systemic risk to the banking sector. This has led to the creation of the Task Force on Climate-related Financial Disclosures (TCFD), which has produced recommendations for the financial sector and public companies to integrate climate change into their business strategies (Official website of Green Finance Platform).

Multilateral development banks (MDBs) also play an important role in mobilizing international climate finance and increasing financial leverage for low-carbon and climate-resilient investments by improving the planning, preparation, structuring, financing and risk mitigation of public and private investments. More broadly, sustainable development and responsible investment are increasingly being integrated into the investment process of MDBs. Many of them have made ambitious commitments to ensure that their loan portfolios support environmental activities and integrate natural capital and social impacts into their investment decision-making processes.

5 Conclusions

Based on the results of the study, the following conclusions can be drawn:

1. The current macroeconomic aspects of the development of bank lending to industrial enterprises are: financialization of the economy, the degree of which varies depending on the country and its model of the financial system; force majeure factors that affect the macroeconomic environment, and, accordingly, the development of bank lending to industrial enterprises (COVID-19 pandemic, war in Ukraine); rapid integration into the macroeconomic

environment of the phenomena and trends of the globalized economy, such as the Fourth Industrial Revolution, the theory of colors of the economy.

2. Comparison of the degree of penetration of financialization and the state of bank lending to the industrial sector (on the example of the USA, Germany) showed that the process of financialization of the economy gradually affects both the development of the industrial sector and the mechanisms of financial support for its development. In countries whose financial system model is oriented to the stock market (in particular, the United States), the role of the financial sector is growing faster, and the share of bank lending to the industrial sector in the loan portfolio of banks is decreasing over the years.

3. Countries in which the macroeconomic consequences of the COVID-19 pandemic manifested themselves immediately (end of 2019 – first half

of 2020), and whose governments quickly focused on the need to introduce measures to support the industrial sector (including bank lending programs), were able to quickly restore their macroeconomic performance. In Ukraine, where the macroeconomic consequences of the COVID-19 pandemic manifested themselves somewhat later (second half of 2020–2021) and the economic recovery did not come, the real macroeconomic shock occurred from the beginning of 2022 as a result of the war with Russia.

4. Bank lending to industrial enterprises, despite the emergence of new mechanisms for financing industrial business, is a traditional and effective tool for overcoming numerous negative macroeconomic consequences. Bank lending to industrial enterprises is in a state of constant development and improvement, which indicates the growth of its role in such new trends as the development of the "green" and "blue" economy.

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