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# Development of efficient mortgage lending in macroeconomic stability and economic equilibrium provision

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## Abstract

The paper reveals the essence of the modern mortgage lending market carried out by banking institutions in Ukraine. The peculiarities of the market functioning and the factors that restrain its development in modern conditions are considered. The definition of the concept of “mortgage” is theoretically substantiated, and the general financial and economic characteristics of mortgage lending in Ukraine are provided. The paper considers main indicators of banking activities in mortgage lending in Ukraine for 2018-2021. The article reveals the analysis of consumer lending dynamics and proves that mortgages has been playing a key role in banking activities due to providing a significant part of income, proper consideration of the benefits and risks of working in this direction, as well as increase the stability of banks. To manage credit risk, the National Bank of Ukraine (NBU) has introduced risk factors for unsecured consumer loans. New credit approval standards for financial institutions were studied and it was established that the repayment term is one of the factors affecting the number of mortgage loans. It has been proven that the mortgage lending volume is greatly influenced by exchange rates.

Analysis of the situation in the primary market reveal that certain relations regarding the provision and repayment of the mortgage are formed between the mortgage lender and the borrower. The secondary market functions to refinance mortgage lenders and to attract loans through issuing mortgage securities, selling mortgage assets to banks, secondary professional non-bank mortgage financial institutions or use these mortgage assets as collateral. Secondary mortgage institutions must ensure the activity of mortgage lenders on the primary mortgage market with risks diversification and carrying out measures to refinance mortgage lenders at the expense of funds from the placement of mortgage securities. The secondary mortgage market was created due to the banking system seeking to finance long-term mortgages at the expense of short-term bank liabilities. That is why the creation of the secondary mortgage market is one of the main priorities of the state policy in the national mortgage system development. The interest rate on mortgage loans is one of the important factors affecting loans. Therefore, this factor needs a more profound analyzing.

**Keywords:** market, mortgage loan, banking institution, long-term loan, interest, real estate, lenders, borrowers.

## Introduction

Mortgage lending is an important factor in the country's economic and social development. The economic essence of mortgage lending implies representing a system of economic relations arising in the process of mortgage loan providing, i.e, a money loan secured by real estate. The notion of mortgage is much broader in scope and deals not only the financial sector since mortgage lending takes into account its impact not only on the financial sector, but on macroeconomic, social and political spheres and the state of public life as well.

The mortgage market plays a significant role in running the efficient mortgage system. The mortgage market is defined as an organized system of economic relations arising in the process of generating mortgage capital and transforming it into financial obligations secured by real estate. On the other hand, loan capital provided as collateral for real estate, which circulates in the form of mortgage loans on the one hand and mortgage securities on the other one, is a specific product on the mortgage market.

Financial resources mobilization is the most important element of the mortgage market running, since the structure and cost of funds directly affect the ability of banks to turn them into loanable mortgage capital, that is, to direct them to the economy and business entities financing. The effectiveness of the mortgage system functioning depends on all its structural elements interrelation. The development of the system is based on credit and financial, special credit and financial, socio-legal and socio-economic principles. Mortgage lending in Ukraine has been constantly developed in recent years, but mortgage loans make up a small share of the total portfolio of commercial banks.

The development of the mortgage partly depends on the state of the real estate market and its efficiency. Therefore, the formation of an effective mortgage lending mechanism requires not only the improvement of the real estate market functioning, but also the stabilization of the national financial market, *i.e.*, on the one hand, its policy should ensure the full development of investment relations related to the real estate market, and, on the other hand - protect mortgage markets from the instability of the global financial system [4-9].

### ***Theoretical background***

Issues of the development of the mortgage lending market are the subject of ongoing research in world economic science. A significant contribution to their study was made by foreign scientists such as: T. Galbraith, A. Gregory, J. Dixon, T. Copeland, G. Markowitz, A. Marshall, J. Soros, K. Steven, D. Ricardo, J. Richard, H. Paull, C. Walsh, G. Harrison, J. Hika, H. Herbort, K-P. Follak and in the studies of domestic scientists, in particular, A. Danylenko, M. Demyanenko, V. Mesel-Veselyak, O. Yermakova, V. Kilochko, S. Kruchko, V. Kilochko, I. Liutiy, A. Martyn, P. Sabluk, V. Savych, M. Stupen, N. Tanklevska, A. Chupis, O. Shpychak and other scientists [4, 9, 21].

The paper aims to scientifically substantiate theoretical and practical principles of bank mortgage lending in Ukraine and provide a detailed financial and economic analysis of one of the largest banks of Ukraine, JSC KB PrivatBank, and the financial condition of its insurance partners. The study also aims to develop recommendations on ways to optimize the provision of targeted mortgage loans and identifying possible prospects for cooperation of the bank under study.

### ***Materials and methods***

A complex of general scientific methods was used to achieve the aim of the research. Observational and comparative methods were used to determine the analysis of financial commercial bank. We used a selective method, since the degree of integration of banks and insurance companies is always individual. Therefore, it is advisable for each institution to use a representative sample of several companies. The method of mathematical processing of time series was also in the research, since it is the basis of horizontal and vertical analysis of the enterprise's activity, assessment of the financial state.

### ***Results and discussion***

The extending of the process of economic integration and globalization in Ukraine has led to the wider use of market instruments for credit relations regulation. Mortgage loans play an important

role in Ukrainian market relations, since the real estate mortgaged by banks is a reliable means of fulfilling one's obligations. Therefore, a mortgage is an important factor in stimulating economic development, it is a modern financial method, and its effective use will ensure an increase in investments in the economy of Ukraine.

Scientists consider the nature of the concept of "mortgage" from a legal and economic point of view. According to the scholars, the legal aspect of a mortgage implies that it acts as a special type of loan, credit, sale or lease agreement that secures a debt obligation and remains in the possession and use of the mortgagor. The economic aspect of a mortgage implies that a mortgage is a combination of a real estate pledge and loan capital and acts as collateral for real estate to secure a debt obligation that is designated as a loan [10, 11, 20].

According to Art. 1 of the Law of Ukraine "On Mortgages", a mortgage is a type of securing the fulfillment of an obligation with immovable property, which remains possessed and used by the mortgagee. According to the Law, in the event of non-fulfillment of the obligation secured by the mortgage the by the debtor, mortgagee has the right, to satisfy the claims primarily at the expense of the subject of the mortgage prior to other creditors of this debtor in the manner established by this Law [14-16].

There are different interpretations of the concept of "mortgage loan" in the economic literature. For example, V. Vovk and O. Khmelenko consider a mortgage as "a special economic relation of a loan secured by immovable property (land, industry, dwelling *etc.*)". However, P. Krush and O. Klymenko claim that "mortgage is an economic relationship related to the granting of a loan secured by real estate".

Palyvoda K. views mortgage loan as "legal relations based on acts and other documents on obtaining the right to demand a mortgage debt, and is one of the elements of the mortgage market" while I. Arefieva interprets the essence of a mortgage as "a long-term targeted loan for the purchase of real estate (a plot of land, an apartment, a house) with the object of loan registered as a mortgage".

The authors highlight the following principles here: specifics, obligation, transparency, credibility, irreversibility and seniority.

The principle of the specifics implies that the rights to the specified property which is the subject of the mortgage are recorded in the register. For this purpose, a separate table is allocated mortgage loans register. Accounting is carried out according to the name of the owner and the name of the real estate object.

The principle of obligation implies that the rights to the object must be recorded. The legal consequence of the latter argues that the right of ownership of immovable property arises in no other way and no earlier than the moment of writing.

The principle of glasnost (publicity) is embodied in the rules regarding the availability of mortgage registers to all interested parties to get acquainted with the contents. The register provides information about the economic (technical) characteristics of real estate, as well as about other people's rights to real estate – lease, mortgage, easements *etc.* to the interested parties.

The principle of seniority boils down to the fact that the mortgage rights recorded in the registers are executed in the order they are recorded. The principle is used for both undifferentiated and heterogeneous burdens.

Institutions that keep mortgage books (courts, mortgage agencies) must verify the legality of the act of establishing ownership of real estate in each specific case, thereby ensuring the principle of authenticity.

Yevtukh O. emphasized that these principles should be complemented with economic and social ones. Economic principles mainly include compliance with the principle of profit because the creditor, the investor and, under certain conditions, the borrower act on the basis of this principle.

The principle of sociality consists in the social orientation of mortgage lending, primarily in the fact that it extends to a fairly wide range of the population. This principle provides for the possibility to support certain socially vulnerable segments of the population in obtaining mortgage loans: large families, disabled people, young families, etc. ensured by the state.

The mortgage lending market is an important segment of the formation of an effective mortgage lending system that combines the financial market and the real estate market, promotes the capitalization of financial resources, ensures macroeconomic stability and economic balance. The mortgage market is considered to be a market that provides the flow of financial capital in the form of mortgage securities, either as part of the securities market, or as an area of accumulation for the long-term accumulation of funds for the purpose of providing mortgage loans through mortgage securities. Mortgage bonds are issued and are therefore a part of the debt capital market. Sources of capital and their attracting for further mortgage lending are the key elements in interpreting the nature of the mortgage market.

According to I. Razumova, the mortgage market is a part of the financial market where credit funds are redistributed against real estate. It works at the expense of mortgage loans issued on the primary mortgage market and refinanced on the secondary mortgage market.

Thus, the mortgage market ensures the formation of mortgage loan capital in the form of mortgage loans, and the conversion of loan capital into financial debt secured by real estate as well. This process is two-way as the mortgage market is an organized system of economic relations arising in the process of mortgage capital formation and its transformation into financial obligations secured by real estate.

Mortgage capital is a form of a mortgage loan; financial obligations secured by real estate are instruments of mortgage financing – mortgages, mortgage bonds, mortgage certificates and other types of mortgage securities. Mortgage capital is a specific product on the mortgage market, i.e. loan capital secured by real estate, which, on the one hand, circulates in the form of mortgage loans, and, on the other hand, is represented by mortgage securities.

The mortgage market is divided into primary and secondary ones. The primary mortgage market is the segment of the mortgage market that encompasses the economic relationships arising when banks buy and sell the collateral.

Here, borrowers who are currently paying the buyer the loan principal and interest, transfer them to the buyer for servicing the mortgage loan. Only credit institutions with sufficient liquidity can buy mortgage loans.

With mortgage lending development, investors who can afford receiving additional income through reliable (low-risk) investments appeared in the financial market. This opportunity is provided through investing in collateralized securities that can be issued and sold to investors at banking institutions.

The reliability of these securities is ensured by strict legal restrictions on the distribution of resources, credit terms and clear specialization of banks on active and passive operations.

The participants of the primary mortgage market are:

- The borrower – the main subject of mortgage credit relations, they receives mortgage funds for the purchase of real estate on the terms of return, following terms, payment, guarantee, *etc.*;
- Lenders (primary mortgage lenders) – a financial and credit intermediary that accumulates funds, transfer them into loan capital and distributes them among borrowers in the form of collateral for profit.

Banks can be creditors. These include mortgage banks – specialized lending institutions, saving banks (loan and savings societies, housing and construction cooperatives, savings banks, *etc.*), which attract the population's savings and issue mortgage loans to individuals.

Infrastructure institutes of the mortgage market such as notary and legal institutions, intermediaries in the real estate market, appraisers, bodies of state registration of rights to immovable property and transactions, the subject of which is immovable property, judicial authorities, property insurance companies, life and disability of the borrower, civil liability of mortgage market participants are other participants of the primary mortgage market.

The criteria for measuring the effectiveness of the functioning the primary market of mortgage loans involve both the increase in the absolute value of the scale of mortgage loans and the formation of qualitative characteristics of the funds of mortgage loans. Primary and secondary models of the secondary mortgage market are distinguished through relations that arise between participants of the secondary mortgage market.

Most researchers distinguish primary and secondary models of the mortgage market, based on the features of the mortgage refinancing mechanism. The primary model involves a combination of the functions of the primary creditor and the issuer of mortgage securities while the secondary model is engaged with the function of the mortgage refinancing mechanism.

Since refinancing involves limiting the mortgage loans funding source through the direct sale of mortgage loans and the issuance of mortgage securities, the primary and secondary models are types of mortgage mechanisms based on the functioning of the secondary mortgage capital market. The chain of relationships “borrower-investment bank” makes the model of the first level, and “borrower-bank-intermediary-investor” forms the model of the second level.

Two-tier (American model) focuses on the secondary mortgage market. In this model, the bank issues a mortgage to the borrower in exchange for the obligation to transfer a fixed amount of money to the bank every month during a certain period. This obligation of the borrower is secured by the mortgage of the purchased house. The bank sells the loan to one of the mortgage lenders, simultaneously transferring the mortgage obligations. These institutions immediately reimburse the bank for the payments made to the borrower and demand that the monthly payments received from the borrower (excluding the bank’s profit (margin)) be transferred to the institution. The monthly repayment amount, the interest rate at which the institution agrees to purchase the mortgage, is set by investors based on the yield of the underlying financial instrument. The diagram of the two-level secondary mortgage market organization is shown in Figure 1.

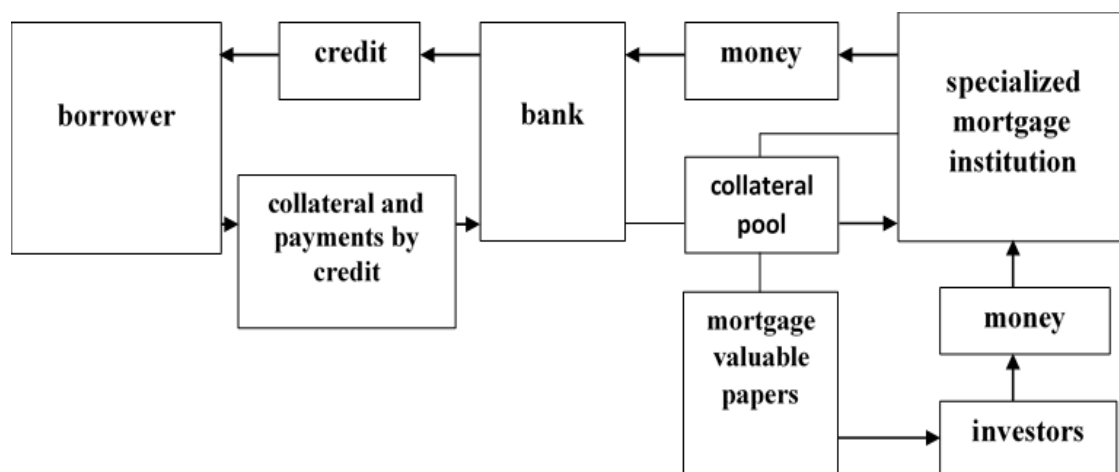


Figure 1 – Two-level (American model) of the secondary mortgage market

Mortgage agencies buy a small number of mortgage loans from commercial banks, collect them centrally and create new collateral on each basis with the borrower’s payment as the source

of payment. These payments are not secured by real estate mortgages, but by institutions that are legal entities.

Institutions sell mortgage-backed securities on the stock market and also act as intermediaries. They transfer payments from banks to investors who buy the securities, excluding their deposits.

One-level (German model). This is a balanced mortgage loan model based on the “save and borrow” principle. Here, the investor has the opportunity to accumulate the contribution necessary for the purchase of an apartment (for example, 50% of its value) for a long period, and then obtain a mortgage for the purchase (construction) of a pre-selected apartment (Figure 2).

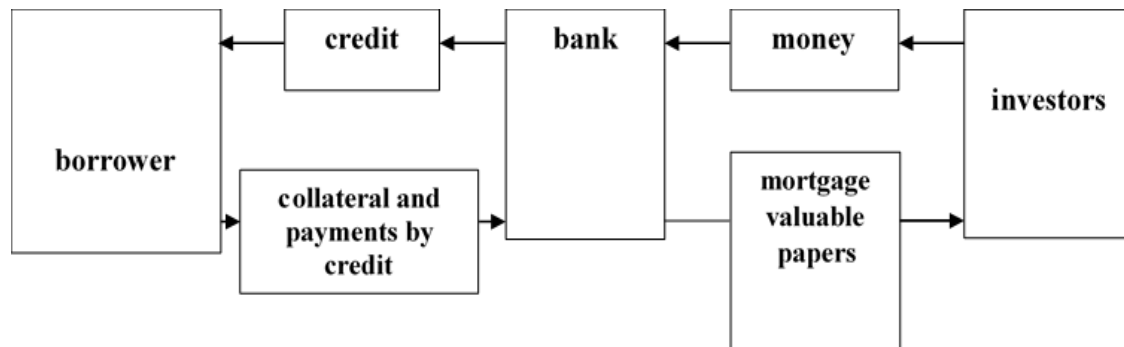


Figure 2 – One-level (German model) secondary mortgage market

A savings bank is a closed financial structure, its activity starts with the formation of authorized capital and, on this basis, the bank can have its own resources for granting loans. All the available own and borrowed assets of the Fund are used exclusively for running the statutory activities, namely financing housing construction and issuing mortgage loans for the purchase of completed apartments. The diagram of the organization of the one-level secondary mortgage market is presented in Figure 2.

In Ukraine, the mortgage market system is as a two-level system. The mortgage market is based on certain economic principles, the system of relationships that arise in the process of buying and selling financial debts secured by real estate (collateral). Lenders can keep these collaterals in their own portfolios or sell them to investors. The state only redistributes the risks on the secondary mortgage market – it is the function it performs in the organization of this mortgage system. The state, through state guarantees, reduces the investor’s risk, thereby increasing security and increasing the efficiency of the entire financial system. The formation and development of the bank mortgage lending mechanism is based on the legal, economic and organizational management methods, which provide a systematic way to solve the problem. International experience and its adaptation to the domestic legislative framework taking into account the specifics of the economic conditions of the Ukrainian economy is an important factor in the development of the lending mechanism of the mortgage bank [15, 16, 18].

PrivatBank is the largest Ukrainian bank in terms of assets and it is the leader of the retail banking market of Ukraine. It operates based on a license of the NBU. The bank was established in accordance with the founding agreement dated February 7, 1992 as a limited liability company under the name Commercial Bank “PrivatBank” and registered by the National Bank of Ukraine on March 19, 1992, the registration number 92.

PrivatBank operates on the basis of the Civil Code of Ukraine, the Economic Code of Ukraine, laws of Ukraine – “On banks and banking activities”, “On joint-stock companies”, “On securities and the stock market”, “On state regulation of the securities market in Ukraine”, “On financial services

and state regulation of financial services markets”, “On the depository system of Ukraine”, “On the system of guaranteeing deposits of individuals”, regulatory and legal acts of the National Bank of Ukraine, other Ukrainian legislation acts.

The key activity of JSC CB “PrivatBank” (hereinafter PrivatBank) is aimed at providing banking services to legal entities and individuals on the territory of Ukraine. The activity is carried out in accordance with the license of the National Bank of Ukraine. From the very beginning of its activity, it has proven itself as a reliable and stable bank.

Corporate behavior in PrivatBank is anchored to legality, transparency, competence, respect for the rights and interests of customers, bank creditors, shareholders and employees and is aimed at increasing the effectiveness of the bank's activities, maintaining its profitability and financial stability.

The bank's mission is “to help the economy to develop, business to grow, and private clients to realize their dreams through providing financial services of the highest quality”. The bank's slogan: “PrivatBank – take and do”.

In 1996, JSC CB “PrivatBank” became a full member of the Visa International payment system and began issuing plastic cards on a large-scale.

In 1997, PrivatBank became the first Ukrainian bank be rated by Thomson BankWatch (an international rating agency) and became a full member of the Europay payment system.

In 1999, PrivatBank opened its branch in Cyprus. The Privat Bank branch in Nicosia became the first Ukrainian bank branch established abroad.

In 2000, the bank changed its ownership — on July 6, PrivatBank decided to reorganize the bank from a limited liability company to a closed joint-stock company. In this regard, on September 4, 2000, the first Charter of the Closed Joint Stock Company of the commercial bank “PrivatBank” was registered.

Over the eight-year period of its existence, the bank has achieved leadership positions in the banking services market of Ukraine due to an increase in market share, an increase in operational efficiency, a constant increase in reliability, an increase in competitiveness and the comprehensiveness of the provision of banking products for its clients owing to joint work of the bank's close-knit team on the basis of a progressive management system and advanced banking technologies.

In 2016, PrivatBank was nationalized due to its unbalanced credit policy and scale of the bank's activities. On the evening of December 18, 2016, at a special meeting, the Government of Ukraine made an official decision to transfer 100% of the bank's shares to the State, represented by the Ministry of Finance. As of June 6, 2018, PrivatBank changed into a joint-stock company and registered the new statutory capital [15, 16, 18].

On October 21, 2020, the international rating agency Fitch Ratings approved PrivatBank's rating at the “stable” level. PrivatBank pays significant attention to development and research areas to stimulate the development of innovations in the bank. The bank's efforts in this direction are aimed at developing new products and increasing the availability of services for the bank's clients.

The bank has been developing the innovations. In 2020, the Bank launched Ukraine's first biometric payment POS terminal with FacePay24 technology, and together with SM POS and UKey started the implementation of POS business software (an integrated solution in one device that combines a modern mobile POS terminal with payment functions, a cash register and a product accounting system). The payment option is implemented in the chatbot of the popular Viber messenger, using the LiqPay internet acquisition, it was the first bank in Ukraine to issue a payment card of the international UnionPay system, in addition, in October 2020 the bank launched the first online service in Ukraine for subscriptions and management of utilities providers. PrivatBank is the

recognized leader of the domestic market of payment cards. To date, the bank has issued more than 30 million plastic cards (44% of the total number of cards issued by Ukrainian banks).

There are 5,143 ATMs operating in the bank's plastic card service network, more than 141,000 retail and service points across Ukraine accept the bank's plastic cards for payment. A wide network of service for card products allows PrivatBank to actively introduce services for the automated plastic cards issuance of salaries to corporate clients [15, 16, 18].

Currently, PrivatBank is among the most dynamically developing banks in Ukraine, and occupies a leading position in the country's banking rating. Significant results of the bank's activities are worth mentioning. In particular, the transformation of the banking institution that began after nationalization resulted in contribution of UAH 9,978 million of taxes and fees to the state budget of Ukraine by JSC CB "PrivatBank" in 2021. Before the transfer of the institution into state ownership, the bank did not willingly pay taxes and fees (it ranked at the end of the second dozen of taxpayers). An analysis of the composition and structure of the assets of JSC CB "PrivatBank" in 2018-2021 is given in Table 2.

**Table 2 – Structure of JSC CB "PrivatBank" assets in 2018-2021**

Indices	2018	2019	2020	2021	Deviations+-
Cash and equivalents	27360	45894	49911	52835	25475
Indebtedness of banks	-	27118	25059	26243	-875
Loans and advances to customers	50140	59544	55021	68218	18078
Investment securities	180120	152157	221711	222277	42157
Other assets	20500	24946	30881	31812	11312
<b>Total assets</b>	<b>278120</b>	<b>309659</b>	<b>382643</b>	<b>401385</b>	<b>123265</b>

Source: compiled by the authors based on the financial statements of JSC CB "PrivatBank" for 2018-2021.

Table 2 shows the analysis and structure of assets of JSC CB "PrivatBank". The indicator of cash and the equivalents has grown significantly over the analyzed years. As of 2018, their value amounted to UAH 27,360 million, and by 2021 there was an increase of UAH 25,475 million, that is, to UAH 52,835 million. As for the indicator of bank indebtedness, in 2019 it amounted to UAH 27,118 million, but by 2021 there was a slight decrease to UAH 26,243 million. The indicator of loans and advances to customers also increased during 2018-2019. The increase from UAH 50,140 million to UAH 59,544 million can be observed. However, the following year, the indicator decreased to UAH 55,021 million, and the next year, it increased to UAH 68,218 million. The indicator of investment securities has a positive trend. As of 2018, their value was UAH 180,120 million, but in 2019, it decreased to UAH 152,157 million. Starting from 2020, the indicator is actively increasing and amounted to UAH 221,711 million; in 2021 it made UAH 222,277 million. Other assets increased slightly. In 2018, they amounted to UAH 20,500 million, and by 2021 – UAH 31,812 million, *i.e.* there was an increase by UAH 11,312 million. In general, assets increased by almost one and a half times from UAH 278,120 million to UAH 401,385 million. Figure 3 shows the structure of PrivatBank JSC assets in 2021, %.

As it can be seen from Figure 3, the structure of PrivatBank's assets is atypical for the banking system of Ukraine, in which assets usually consist of the value of the bank's loan portfolio, and investment activity is not sufficiently developed. This peculiarity of the structure of assets of PrivatBank is explained by the fact that the portfolio of investment securities contains domestic state loan bonds received by the bank during the period of nationalization.

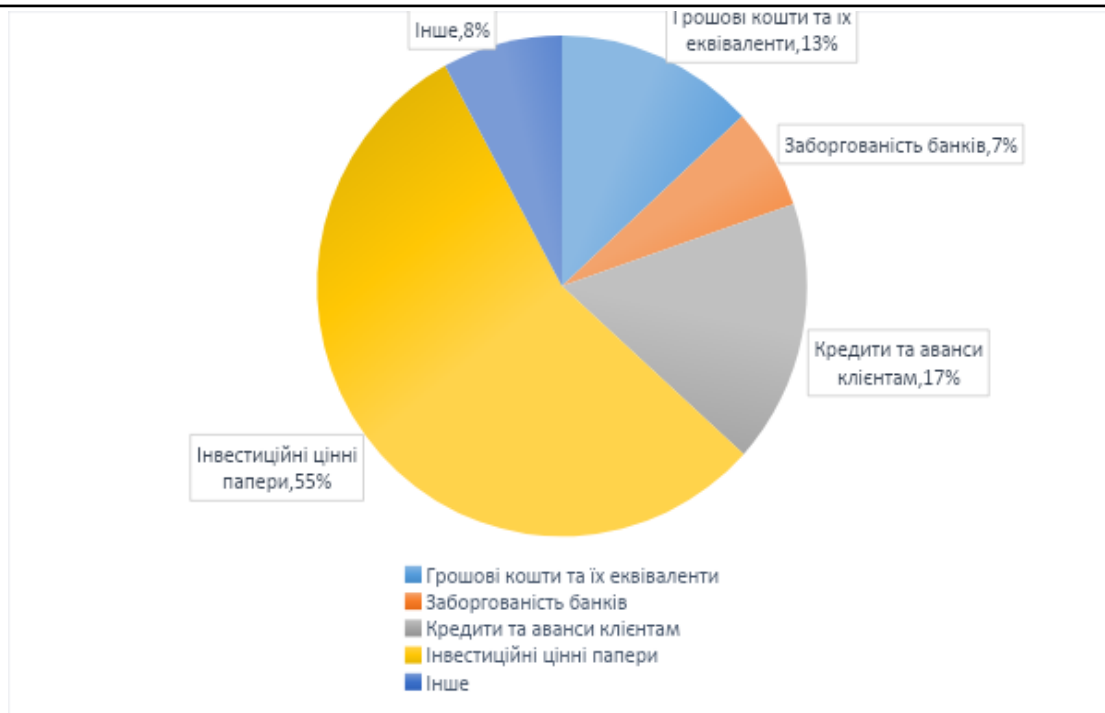


Figure 3 – Structure of JSC CB “PrivatBank” assets in 2021  
**Source:** drawn by the authors on the basis of the conducted research

The activities of JSC “PrivatBank” are mainly focused on the development of lending and maintaining the high quality of the bank’s loan portfolio. The strategic goal of PrivatBank is to increase the quality credit portfolio of retail loans for small and medium-sized businesses. To achieve this, the bank implemented a careful and balanced lending policy in providing microloans to small and medium-sized businesses and individuals. Adhering to a balanced bank credit policy (small loans for a relatively short period of time), the bank continues to increase its own credit activity, as shown in Table 3.

**Table 3 – Analysis of the JSC CB “PrivatBank” loan portfolio by borrowers in 2018-2021, UAH million**

Indices	2018	2019	2020	2021	Deviation +/-
Loans to legal entities	6 358	6 992	6 097	4 358	-2 000
Loans to individuals	64 284	69 499	54 967	61 727	-2 557
Loans to small and medium enterprises (SME)	8 499	8 973	7 376	12 970	4 471
<b>Total</b>	<b>79 141</b>	<b>85 464</b>	<b>68 440</b>	<b>79055</b>	<b>-86</b>

**Source:** compiled by the authors based on the financial statements of JSC CB “PrivatBank” for 2018-2021.

The data of Table 3 indicate that the value of the loan portfolio of JSC CB “PrivatBank” had been increasing until 2019 and amounted to UAH 85,464 million, but in 2020 there was a decrease of almost 20% – from UAH 85,464 million to UAH 68,440 million. However, in 2021, there was an increase to UAH 79,055 million.

Loans to legal entities as of 2018 amounted to UAH 6,358 million, in 2019 there was a slight increase to UAH 6,992 million. Starting from 2020, there has been a decrease in lending to legal entities. In 2020, the figure was UAH 6,097 million, and in 2021 it made UAH 4,358 million [15, 16, 18].

The rate of lending to individuals has also changed over the years. In 2018, loans granted to individuals amounted to UAH 64,284 million, by 2019 they increased positively to UAH 69,499 million. However, in 2020, they decreased to UAH 54,967 million, and the following year they increased to UAH 61,727 million. Loans granted to small and medium-sized enterprises (SMEs) are growing very slowly. During the analyzed years, they increased from UAH 8,499 million to UAH 12,970 million. Figure 4 represents the structure of the loan portfolio of JSC CB "PrivatBank" by borrowers in 2021, %.



Figure 4 – The structure of the loan portfolio of JSC CB "PrivatBank" by borrowers in 2021, %

Source: drawn by the authors on the basis of the conducted research

Therefore, Figure 4 data indicate that loans granted to individuals make up the largest share in the structure of the loan portfolio, namely 78.08%. Loans granted to small and medium-sized businesses make up 16.41%, and the smallest share is for loans granted to legal entities – it amounts of 5.51% of the entire structure of the loan portfolio of JSC CB "PrivatBank".

Currently, PrivatBank's product portfolio for individuals consists of 9 credit products. The analysis of the structure of the loan portfolio for individuals of JSC CB "PrivatBank" is given in Table 4.

Table 4 – Analysis of the structure of the JSC CB "PrivatBank" loan portfolio for individuals in 2018-2021, UAH million

Indices	2018	2019	2020	2021	Deviation +/-
Credit cards	45 314	51 890	40 609	45 314	0
Mortgage loans	12 923	11 467	9 566	9 858	-3 065
Consumer loans	4 193	4 148	3 500	5 343	1 150
Loans for the purchase of a car	332	250	35	394	62
Other loans	672	498	129	83	-589
<b>Total loans to individuals (except for reserves)</b>	<b>64 284</b>	<b>69 499</b>	<b>54 967</b>	<b>60 992</b>	<b>-3 292</b>

Source: compiled by the authors based on the financial statements of JSC CB "PrivatBank" for 2018-2021.

According to Table 4, the value of the loan portfolio for individuals underwent changes during the analyzed years. As of 2018, a total of UAH 64,284 million of loans were granted to individuals; by 2019, this figure had increased to 69,499 million UAH. However, the next year there

was a decrease to UAH 54,967 million, and the next year the indicator increased to UAH 60,992 million.

Most of the loans were granted through credit cards during the analyzed years. The indicator of 2019, was the best – the amount of loans provided through credit cards made UAH 51,890 million. However, by 2021, the indicator decreased to UAH 45,314 million. Mortgage loans decreased from UAH 12,923 million. up to UAH 9,566 million during 2018-2020. However, in 2021, there was a positive increase to UAH 9,858 million. Consumer loans decreased significantly during 2018-2020. As of 2018, the indicator was UAH 4,193 million, and by 2020 it decreased to UAH 3,500 million. However, the indicator increased by one and a half times, i.e. to UAH 5,343 million in 2021 [15, 16, 18].

Loans for the purchase of cars are next to unpopular. As of 2018, loans for the purchase of cars amounted to UAH 332 million, and by 2020 they decreased to UAH 35 million. In 2021, there was a significant increase to UAH 394 million. Other loans decreased during 2018-2021 from UAH 672 million to UAH 83 million. The dynamics of the JSC CB “PrivatBank” credit portfolio structure is presented in figure 5.

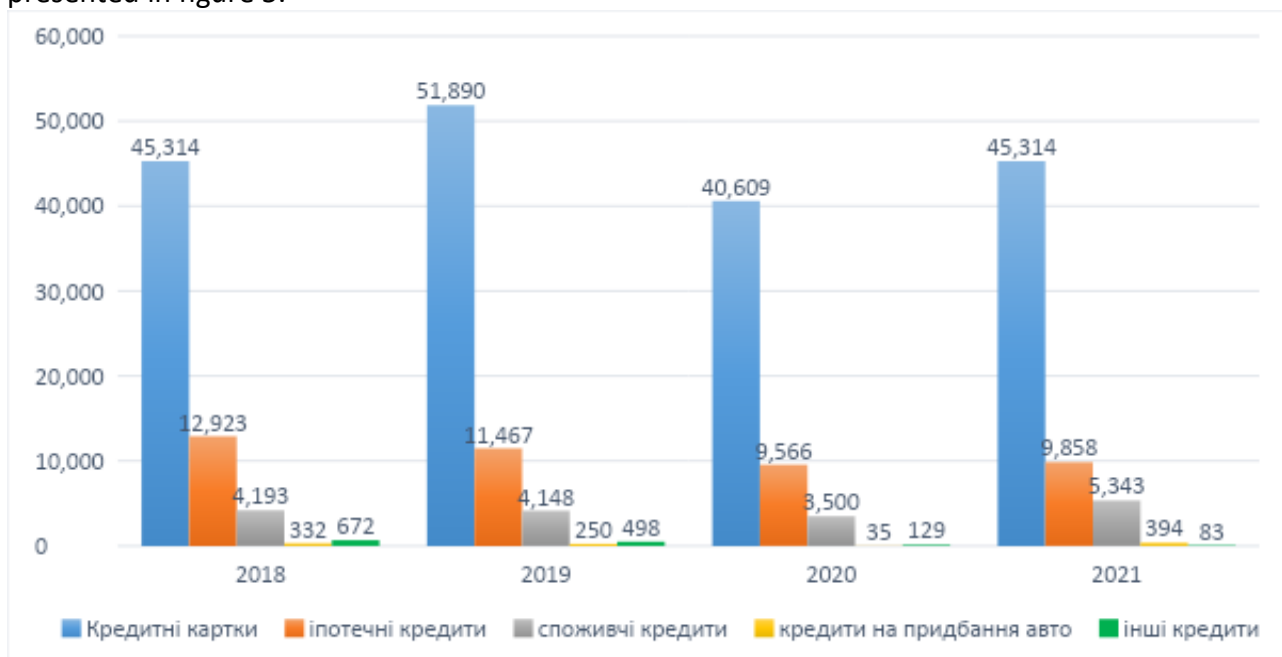


Figure 5 – Dynamics of the JSC CB “PrivatBank” credit portfolio structure in 2018-2021

**Source:** compiled based on the JSC CB “PrivatBank” financial statements of 2018-2021

Credit cards made a comparatively significant increase in 2018-2021. The number of mortgage loans grew slowly. Mortgage lending mechanisms implemented by banking institutions are currently represented by lending programs for citizens who invest funds in real estate on the terms of equity participation or purchase ready-made housing on the primary or secondary markets. A number of Ukrainian banks, in particular JSC CB “PrivatBank”, joined the state mortgage lending program – “Affordable mortgage 7%”. JSC CB “PrivatBank” also provides a mortgage loan to individuals “Loan for the purchase of housing”. The main terms of mortgage lending by JSC CB “PrivatBank” are listed in Table 5.

Residents of Ukraine can use the state program “Affordable Mortgage 7%” if they are willing to purchase their first residential real estate or property rights to such real estate, as well as improve living conditions, if the area of the residential real estate does not exceed the standard accommodation area. The borrower must be no older 65 years on the date of the mortgage loan expiry. The average monthly income of the borrower and his family members for the last six months

should not exceed ten times the average monthly salary in the region of Ukraine, where the subject of the mortgage is located, calculated according to official data of the State Statistics Service.

**Table 5 – Terms of mortgage lending in JSC CB “PrivatBank”**

Real estate type	Mortgage loan			«Affordable mortgage 7%»
	Primary market	Secondary market	Bank real estate	
Annual interest rate for the 1st year of lending	12%	12%	12%	7%
Annual interest rate since the 2nd year of lending	UIRD* 12M + 4%	UIRD* 12M + 4%	UIRD* 12M	UIRD12M UAH +4,5%
Credit period	12 - 240 months			
Loan value	UAH100 K – 4 mln			UAH100K – 2.5 mln
Advance	Starts with 25%			
Borrower age	21- 65 years (as of the date of the loan recovery the borrower/guarantor is to be under 65).			As of the date of the loan recovery the borrower/guarantor is to be no older 65.
Interest calculation scheme	Annuity			
Mortgage insurance	0.5% of the mortgage value			
Personal insurance	0.5% of the value of the loan principal			
Single commission	1%	1%	0%	0.5%
Notary services	Approximately UAH12 000			
Real estate appraisal	Approximately UAH3 500			

*Source: PrivatBank mortgage lending programs*

The terms of this program are quite attractive. However, there are restrictions concerning the area of the mortgage object. The accommodation area is to make 50 square meters of the total area of the subject of the mortgage for a single person or a family of two and 20 sq. meters – for each family member apart from these. The interest rate for using a mortgage loan is 7%, plus 0.5% of the loan amount of a single fee for granting a loan. However, interest rates are not fixed. Interest rates are set individually for each borrower and depend on many factors such as completed and unfinished real estate, as well as the Ukrainian index of deposit rates for individuals, which is calculated on the basis of the nominal market rate of physical deposits published by banks of Ukraine and presented on the official website of the NBU. If the borrower wants to have a loan for the object of completed construction, the interest rate will be calculated based on the average interest rate for individual deposits in the current year plus 4.5% per annum, but it does not exceed 30% per annum.

If the borrower takes out a mortgage loan for residential real estate in an object of incomplete construction, the interest rate is calculated as the average interest rate of individual deposits for a year plus 7% per annum, but no more than 30% per annum – until the moment of commissioning. The interest rate will be based on the average interest rate index for individual deposits plus 4.5% per annum, but no more than 30% per annum.

According to the program “Loans for the purchase of residential real estate” of JSC CB “PrivatBank”, the interest rate for using a mortgage varies from 12% in the first year of lending to 16% in the second year of lending. In addition, borrowers must pay a single fee of 0%-1% of the loan

amount. The results of organizational and economic mechanism of mortgage lending in banking institutions study reveal that mortgage lending in Ukraine is characterized by a distinct regional disproportion as well as price growth caused by insufficient solvency of demand for housing. Wealthy population, labor migration, increase in the cost of construction, speculative operations and the lack of a more effective alternative direction for investment funds have varying degrees of balance in demand and supply for different types of real estate. A mortgage institution must carry out efficient monitoring and control over the condition of real estate. This is the only way to enable the Ukrainian mortgage market to achieve a more efficient running [1, 2, 15, 19].

## Conclusions

Ukraine has implemented state programs to support the development of mortgages, but they are not very effective due to low incomes of citizens since people with low incomes cannot use these programs. Insufficient financing of projects from the state budget and unsatisfactory awareness of the population regarding the state programs are also among the obstacles. Solving these issues at the state level will contribute to increasing the effectiveness of the analytical project and improving the social well-being of the Ukrainian population. None of the mortgage lending models used in Ukraine to date was able to estimate the long-term resources of banks or the flexibility of mortgage portfolios management. If the mortgage lending is restructured in Ukraine after the current mortgage crisis, it can be assumed that the American model of mortgage lending will dominate there. The establishment of a banking institutions system of (BIS) is one of the mechanisms for mortgage lending optimization. The development of mortgage lending and its positive impact on the competitiveness of the national economy of Ukraine can be achieved under the development of the real estate market, ensuring its transparency, fair pricing and balance which will further result in growing demand and supply for real estate.

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