

## **Choosing a mortgage lending model in the Kyrgyz Republic**

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**Abstract.** In the modern world, mortgage plays an important role in the life of the citizens of the country due to its important role in providing their housing needs. Thus, it is important to find the most effective model of mortgage lending for the country to maximize the living standards of its citizens. The aim of the work is to choose the most effective model of mortgage lending that can be used in the country and bring the greatest benefit to it. The main methods used in the research were analysis, deduction, induction, and abstraction. The paper examined various aspects of mortgage lending, focusing on the different payment models and their implications for borrowers. Two types of mortgage loans were considered: with annuity and differentiated payments, their main differences in terms of payment rates were described, and mathematical formulae for their calculation were specified. To illustrate the impact on the borrower of each of them, a theoretical example was provided, on the basis of which the differences between the two systems were described. The paper also describes three models for organizing mortgage lending systems: a closed (stand-alone) mortgage system, a truncated open model and an extended open model. The suitability of these models for the development of the Kyrgyz mortgage market was assessed based on their characteristics and features, positive and negative components. The work brings new knowledge in the context of studying the peculiarities of mortgage lending as a whole, as well as allows finding opportunities for improving its functioning in the Kyrgyz Republic

**Keywords:** finance; banking system; macroeconomics; entrepreneurship; social sphere

## Introduction

The housing market plays an integral and important role in the economy of any country. It has a strong influence on many aspects of a country's social, economic and political development. In particular, it stimulates economic growth through activities in construction, architecture, real estate and related industries. This sector attracts investment, contributing to job creation and increasing national output. In addition, the housing market affects the financial stability of the country, as many citizens use property as a means of saving and investing (and actually housing). This also helps to diversify the investment portfolio and reduce risks, and also favourably affects the social stability of the country, as with affordable housing and stable housing prices, people feel more confident about the future and stability. As such, the industry creates numerous jobs in housing construction or housing maintenance (Kovalenko *et al.*, 2023).

Nowadays, with rapid socio-economic changes and the development of financial markets, the issue of affordable and sustainable housing remains a priority for many countries (Gupta & Hansman, 2022). The Kyrgyz Republic, as part of the global community, is also facing the challenges of ensuring housing affordability and creating effective mechanisms of real estate finance. In this context, the choice of an optimal mortgage lending model is of particular importance, affecting economic development, social stability and the welfare of citizens. Therefore, it remains relevant to consider different models of mortgage lending in order to select the most effective among them for the Kyrgyz Republic and its subsequent widespread use in the country.

Many scientists have been engaged in assessing the economic development of Kyrgyzstan as a whole. Thus, D. Sharipova & A. Kudebayeva (2023) assessed changes in welfare in Central Asia based on data from Kyrgyzstan and Kazakhstan. The scholars described the multifaceted factors influencing the dynamics of well-being in Central Asia, shedding light on the role of freedom of choice and financial satisfaction, on the basis of which they proposed individual state initiatives to improve the overall situation in the countries.

Scenarios for the future development of the country were also assessed by N. Strelkovskii *et al.* (2020). The scientists described 6 variants of the country's future development, which makes it possible to test certain options of long-term macroeconomic policy to assess its effectiveness.

Development in terms of digital transformation in the country was assessed by M. Amanalieva (2020). The scientist described the role of a systematic approach to the introduction of the principles of the digital economy, and also showed what actions are taken by the state authorities of the country, including regional ones, for these purposes. Partially, the crediting sphere in the country was assessed by L. Kuhn & I. Bobojonov (2021), with a special focus on credit in the agribusiness sector. In turn, the problems of infrastructure financing in Kyrgyzstan were assessed by J. Salimova-Tekay (2022), although she did not assess specifically the mortgage lending in the sphere. She believes that the country needs significant investment in this area in order to provide opportunities to address poverty, climate change adaptation and economic development. She sees government support as the main opportunity for financing at the moment. However, no works were found that investigated mortgage lending in the country as such, due to which conducting this study also remains relevant.

The aim of the paper was to draw conclusions about what should be the model of mortgage lending in the Kyrgyz Republic. This will make it possible to apply the available knowledge in practice and thus significantly improve the efficiency of the functioning of this sphere.

## Materials and Methods

The study includes different mortgage lending models in order to understand their impact on the final amount of payments and their distribution over time. At the same time, the focus was on the choice between annuity and differentiated payment mortgages, as well as in terms of mortgage lending models (stand-alone, truncated-open and extended-open). The description of the benefits of each

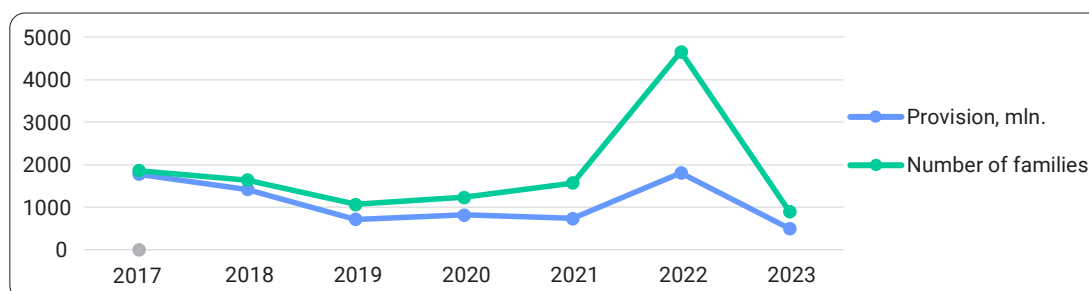
system was assessed based on the general macroeconomic features of the modern development of Kyrgyzstan. In addition, in order to assess mortgage and annuity payments, calculations were made to describe the benefits and disadvantages of mortgage lending forms, namely annuity and differentiated. The values for the calculations were chosen on the basis of theoretical selection, i.e. they were not intended to show the real situation of the mortgage market in any of the countries. Nevertheless, even such calculations allowed comparing the advantages of each system. All the important constructions and calculations for the work were carried out in Microsoft Excel.

The approach that was used during the research was systematic. It allowed describing the factors affecting the development of mortgage lending in Kyrgyzstan in the form of a single system, within which these components interact with each other and lead this model to changes. This allowed significantly simplifying the process of assessing the internal state of economic development in Kyrgyzstan. One of the main methods used during the study was analysis. It made it possible to draw conclusions about what should be the optimal mortgage lending model in the country based on available facts about the current state of development of the Kyrgyz Republic, as well as general theoretical statements about mortgage lending models. Thus, the historical method was also used, since data characterizing the country's past development were evaluated.

Forecasting was also useful, which made it possible to assess the future development of the Kyrgyz Republic taking into account the selected mortgage lending models. The deduction method was used to select the main small factors affecting mortgage lending in the Kyrgyz Republic and to form a basic understanding of the current state of this sphere in the country. In turn, the method of induction allowed, by understanding the main features of different mortgage lending models, to draw conclusions about how they will function in the country, and which of them will be the most favourable for all participants of the loan origination process. The comparison method, in turn, made it possible to identify the advantages and disadvantages of each of the mortgage lending models, which made it possible to form a single opinion on which of them (stand-alone, truncated open or extended) would be the most efficient to use in the country. It was also used to evaluate annuity and differential mortgage lending methods. The construction of figures to form a more concrete understanding of the operation of the respective mortgage mechanisms was carried out using the graphical method.

## Results

To begin with, it is worth considering the general state of the mortgage lending market in Kyrgyzstan. Some data on this matter is provided by the State Mortgage Company, as shown in Figure 1.



**Figure 1.** Data on the number of families and loan payments from 2016 to 2023

**Note:** the data for 2023 is up to July 2023

**Source:** compiled by the authors

As can be seen from Figure 1, the dynamics of mortgage lending in Kyrgyzstan is quite erratic: in some years the values of repayments are quite high (2022 and 2017), while in other years they are subdued. It is difficult to say what the trend is at the moment, as the full data for the whole period of 2023 remain unknown, but in case they increase to significant quantitative values, it would be possible to say that the situation in this market (at least in terms of state support) is gradually improving. There are three main systems of mortgage lending with government support in the country: social mortgage, preferential mortgage and affordable mortgage (4, 6 and 8 per cent respectively). Each of them has its own peculiarities and conditions for obtaining. In general, even considering the most "expensive" of the options at 8%, it should be noted that, given the

general state of economic development in Kyrgyzstan, such interest rates seem more than fair. Although the number of families receiving such support remains small, it is to be expected that it will increase over time.

In general, there are quite a few types of mortgage lending, but the main two are fixed or variable rate mortgages (McDonald & Thornton, 2008). Accordingly, in the first case, the borrower takes a loan at a fixed interest rate for the entire term of the loan and the monthly repayments remain constant throughout the term of the loan. In the second case, the borrower takes a loan at a variable interest rate that depends on market rates. This can cause the monthly repayments to change based on changes in interest rates. An intermediate option is a variable rate mortgage, where a combination of the above two options occurs: for

example, the rate may be fixed for the first few years of the loan and then switch to a variable rate. As it can be understood that, depending on the choice of the lending model, the final repayment amount will ultimately depend (Nazaralieva & Aitaliev, 2016). In addition, mortgage repayment models can be divided into 2 more groups: annuity and differentiated. In the first case, the amount of payment is constant throughout the period, while in the second case its amount varies over time and is higher at the beginning of the period than at the end. Both of these systems are worth considering; the formula for calculating an annuity payment is shown below (1):

$$A = P \times \frac{r \times (1+r)^N}{(1+r)^N - 1}, \quad (1)$$

where  $A$  – periodic payment;  $P$  – principal amount of the loan;  $r$  – interest rate for the period under review;  $N$  – number of payments for a mortgage loan.

In this case, the amount of the interest payment will be as follows (2):

$$pr_n = P_n \times r, \quad (2)$$

where  $pr_n$  – interest payment for the period under review;  $P_n$  – balance of the principal amount of the debt.

Thus, the amount of payment on the principal debt is determined as follows (3):

$$pd_n = A - pr_n, \quad (3)$$

where  $pd_n$  – payment of the principal debt for the period under review.

In this case, the balance of the principal amount of the debt can be calculated as follows (4):

$$P_{n+1} = P_n - pd_n. \quad (4)$$

In turn, the calculation of differentiated payments occurs differently, as shown below (5):

$$D_n = P \times r \times \left(1 - \frac{n}{N}\right) + \frac{P}{N}, \quad (5)$$

where  $D_n$  – payment for the period.

In this case, the amount of payment on the principal debt is unchanged and is calculated as follows (6):

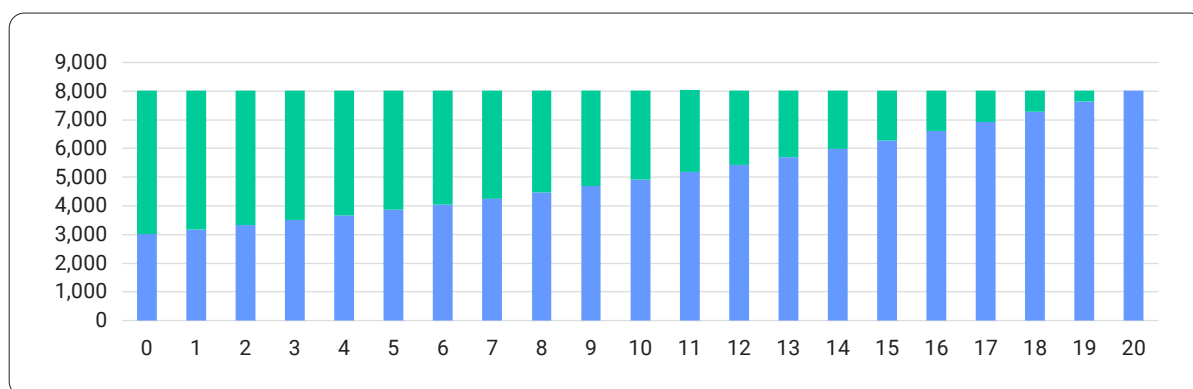
$$pd = \frac{P}{N}. \quad (6)$$

And the amount of the interest payment changes and is found in the same way as in (2). The principal balance can be found as follows (7):

$$P_n = P - pd \times n. \quad (7)$$

In order to understand which mortgage lending model is more profitable, it is worth analysing them in more detail. To do this, it is worth having a closer look at how payments are distributed over time. For example, if the loan size is 100,000 USD, the interest rate is 5%, and the period is 20 years, then both annuity and differentiated payments can be calculated.

First, let's look at the situation with the annuity payment. As stated above, in this case the annual payment will be single, and using formula (1) and the data provided above, it can be calculated that it will be approximately 8,024.26 USD in year. However, the ratio of interest payments to the loan body will change as shown in Figure 2.

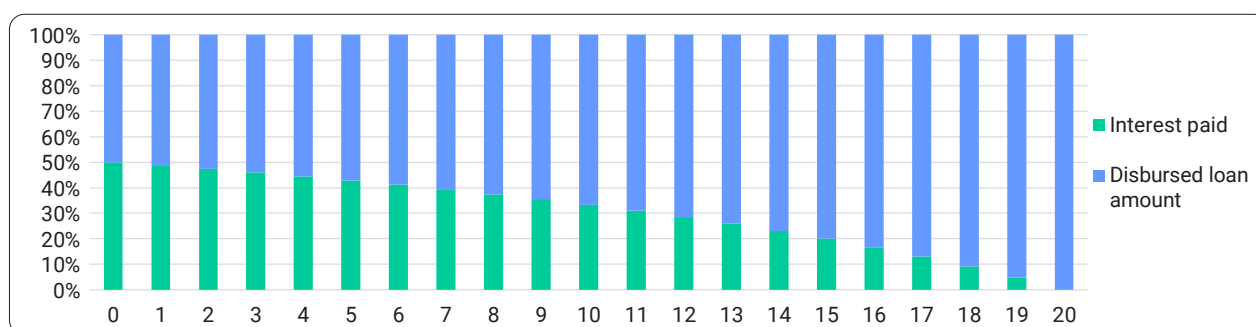


**Figure 2.** Change in the amount of loan principal payment and interest in each of the mortgage loan payment periods with annuity payment, USD

**Source:** compiled by the authors

As can be seen from Figure 2, the amount of the repaid loan body gradually increases until it takes up almost the entire payment amount. However, the amount that is paid remains identical. It is worth noting that the total amount of payments for the period will be 168,509 USD, that is, the overpayment will be 68,609 USD or

almost 60.5%. Another option, in which the payment is calculated using the differentiated payment method, can be considered. In this case, the initial payment will be equal to 10,000 USD and gradually decrease by 250 USD up to 0 USD in the last period. These data are shown in Figure 3.



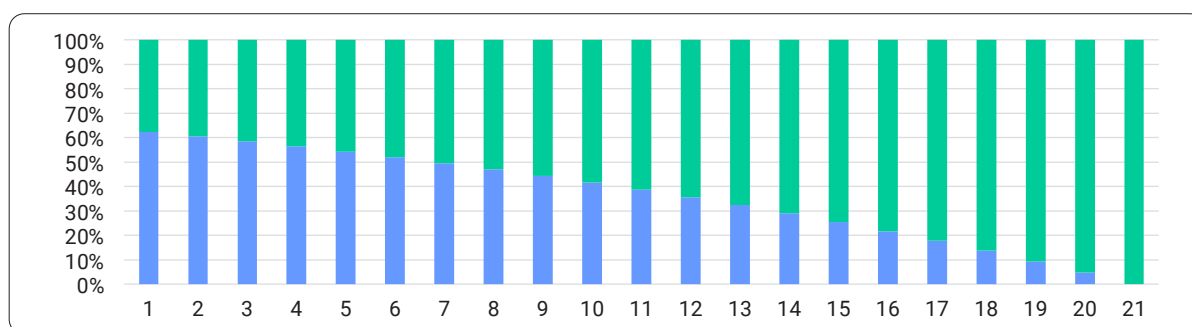
**Figure 3.** Change in the amount of repayment of the loan body

and interest in each of the mortgage loan repayment periods with differentiated payments, USD

Source: compiled by the authors

As it can be seen from Figure 3, part of the interest payments for a mortgage actually decreases, which is why the payment in the first period is the highest, although it decreases over time. It is also worth noting that the total number of payments in this case is equal to 157,500 USD, that is, higher than the original mortgage amount by 57,500 USD, and lower than the option provided above with an annuity payment by 11,109 USD, which may make it seem more profitable, although in reality this may not be the case. The reason that the second mortgage payment option will most likely not be the most optimal for households is the change in the price level in the country over time. In

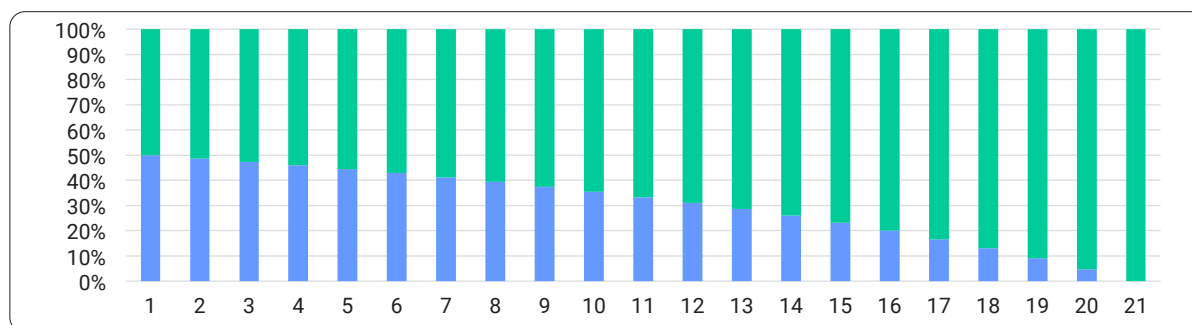
other words, although the payment in the first option is higher than in the first, it may actually turn out to be more profitable. For example, if the inflation rate is high enough in subsequent years, the real cost of the loan will fall, making it less difficult for the household to repay. On the other hand, if inflation is not expected to increase in future periods, then the second option may be more effective. This can also be described using an extension of the theoretical example described above: if the inflation rate in the country in which the events take place is at an average annual rate of 5.5%, then the real amount of payments will be distributed as shown in Figures 4, 5.



**Figure 4.** Change in the amount of loan principal payment

and interest in each of the mortgage loan payment periods with annuity payment, taking into account inflation, USD

Source: compiled by the authors



**Figure 5.** Change in the amount of repayment of the loan body and interest in each

of the mortgage loan repayment periods with differentiated payments taking into account inflation, USD

Source: compiled by the authors



As can be seen from Figures 4 and 5, future payments in this case are reconfigured, and payments at older periods have a low value. If summarizing the total amount of payments under such inputs, it turns out that the first model, whose payments are distributed evenly over time, will be cheaper than the second one (103.917 USD vs. 103 USD). Of course, these figures are theoretical, but they clearly show the state of affairs in mortgage lending. Thus, a household's choice of mortgage should be based primarily on its expectations about the future development of Kyrgyzstan and, in particular, the state of the country's main macro-financial indicators. Thus, if the homeowner believes that long-term inflation will be higher than the interest on the debt – he should unambiguously choose the annuity option. If the homeowner also has access to stock markets and relatively safe opportunities for capital accumulation, he can also take into account the discount rate, for example, the yield on government bonds. In such a case, the comparison should be made on the basis of the level of the discount rate, which is likely to be higher than the long-term expected inflation rate (Szumilo, 2021).

If describing the models of organization of mortgage lending systems, it is possible to distinguish three of them:

- closed (autonomous) mortgage system;
- truncated open model;
- extended open model.

The stand-alone mortgage system works on the principle of savings and loans. Borrowers must save a certain portion (typically 30-50%) of the required loan amount through a home-savings contract. Savings and loan associations, building societies and credit unions operate on this model. The system offers lower interest rates on deposits and loans, but is independent of general financial market conditions. The truncated open model, used mainly in the primary mortgage market, involves banks using mortgages obtained from customers as collateral for externally raised resources. The model relies on various sources of funding such as bank capital, customer deposits and interbank loans. Interest rates on loans are directly dependent on the state of the credit and financial market. The extended mortgage lending model includes the issuance of mortgage-backed securities that are traded on domestic and international markets. Mortgage bonds form a significant part of the investment portfolios of organizations such as insurance companies, because of which they play a significant role in international financial markets, although they are not common among developing countries (Fürstenau & Hommel, 2019).

As for their application in the realities of Kyrgyzstan's development, the first model, or autonomous mortgage system, can be actively used in the country. Moreover, its use can be considered the most efficient due to the fact that it excludes the use of intermediaries, and thus reduces transaction costs. In this context, there is only a question of the number of investors among individuals who will be ready to buy the offered propositions from developers: for the latter, such a form is quite favourable, as it allows them

to receive part of the funds during the construction of the building instantly. On the other hand, working directly with the developer brings additional risks for households due to the fact that it does not allow them to get guarantees about the receipt of the asset for which the funds were paid at the end (there is a risk of bankruptcy of the developer, which is particularly relevant in crisis years).

The second model, namely the truncated open model, is the most optimal, as it brings its share of benefits to all (which is why it remains the most commonly used model in developing countries). In this model, developers, or owners of buildings or flats, gain demand for them, banks gain profits for lending, and households directly acquire houses, as well as the certainty of paying the mortgage and providing all services properly (because the bank directly serves the customer) (Parnes, 2023). The lending rates are then directly dependent on the state of the financial system in the country, as well as macro factors. Due to the simplicity of the system, it is common in many countries of the world and should become the basic one for Kyrgyzstan. The extended model is more complicated – since it requires the issuance of securities, its efficiency requires a developed stock market, which is often lacking in developing countries and which is a problem in Kyrgyzstan. Funds for mortgages in this case are taken from the secondary securities market and provided by individual investors; it should be noted that investment banks and brokers also benefit, which makes this system not as efficient as it could be, but the average interest rate on loans should be fairer and lower than in a truncated open model (Hodula *et al.*, 2023). In addition, there are additional risks associated directly with stock market trading. The lack of control over mortgage loans has already led to significant negative consequences in 2008-2009, significant government control over this market in order to prevent a similar situation from occurring again should be expected. Thus, despite all the benefits, the model cannot be used in Kyrgyzstan effectively enough at this stage. For this purpose, it is necessary to develop institutions in general and the stock market in particular.

State Mortgage Company is the only authorized body for mortgage lending with the aim of providing affordable housing for citizens and creating a sustainable mechanism for attracting financial resources in the sphere of mortgage lending and economy class construction. Its mission is to contribute to the sustainable development of the country's economy through the development of the mortgage market, improving the population's access to housing and solving social problems in the field of housing to improve the quality of life of the society. SMC aims to become a stable and sustainably developing organization, providing affordable housing for citizens and contributing to the development of the economy and construction industry in the country. It provides financial support to citizens of Kazakhstan wishing to purchase housing. The Company issues mortgage loans for the purchase, construction, or repair of housing, which contributes to increasing the affordability of housing for the population. This affordability

consists of both lower requirements for obtaining such a loan and loyal rates that vary depending on the citizens purchasing the mortgage.

Recently, the company has achieved some impressive results. In particular, it has officially become a member of Asian Secondary Mortgage Market Associations (ASM-MA), which opens the door for it to share experience and co-operate in the development of the housing finance market in the Asian region. In addition, the company has successfully attracted significant funds in the public housing policy sector, including grants from the Government of the Federal Republic of Germany and loan funds from the Saudi Fund for Development. All of these funds are being utilized for mortgage loans and housing construction. SMC

has also started construction of the largest residential complex in Bishkek, which will consist of more than 5,000 flats and provide affordable housing for citizens at a price not exceeding 550 USD/m<sup>2</sup>. The last-mentioned achievement is the development of an electronic portal that allows citizens to apply for mortgage loans online, providing a more convenient and affordable way to obtain financing for housing. In general, all these achievements testify to SMC's commitment to developing the housing sector, attracting investment and improving the availability of housing for citizens of the Kyrgyz Republic.

The development of the company is also evidenced by the dynamics of its financial statements, which is shown in Table 1.

**Table 1.** Selected financial indicators of State Mortgage Company

| Years                     | 2017     | 2018     | 2019     | 2020     | 2021    | 2022      |
|---------------------------|----------|----------|----------|----------|---------|-----------|
| Assets                    | 2,636.26 | 4,319.03 | 4,956.31 | 5,446.76 | 6,656.9 | 12,458.91 |
| Interest income           | 96.6     | 150.27   | 210.77   | 224.95   | 196.54  | 203.74    |
| Net profit for the period | 18.92    | 40.16    | 61.99    | 74.31    | 90.28   | 172.72    |

**Source:** compiled by the authors

As can be seen from Table 1, the company is characterized by stable growth in both income levels (interest – the main source of profit, and net – minus all liabilities). In addition, the company has significant growth rates of assets, as well as key indicators characterizing financial stability and liquidity. Thus, the company's activities can be considered effective.

## Discussion

M. Nakiwala *et al.* (2023) assessed access and problems in terms of mortgage finance. Researchers observed that people's knowledge and attitudes towards mortgage finance significantly affect the utilization of mortgage loans in different countries. Strict mortgage loan eligibility criteria create disadvantages for low-income individuals in accessing mortgage loans compared to higher-income individuals. Therefore, in order to increase the level of acceptance of mortgage loans among the population, scholars have suggested making the most acceptable conditions for their acceptance, including the use of government support mechanisms. M. Calabria (2014) in his study described the relationship between banking crises and falling prices in the housing market. For example, while various measures, including monetary policy measures, may have played a role in the 2008 financial crisis, the main cause of losses for both households and financial institutions was the significant level of leverage in the mortgage finance system. The paper advocates policies that directly deleverage households and the financial system as integral components of mortgage finance reform. In other words, the scholar writes that the model implemented within a country should focus primarily on its sustainability on the part of borrowers.

As part of their study, D. Loomans & M. Kaika (2023) evaluated the possibilities of regulating the mortgage

system. The scholars write that regulation of the mortgage market has led to significant positive results in terms of the sustainability of the financial system, as well as helped to attract more investment in the sector. On the other hand, according to the researchers, in Canada it has also led to non-wealthy households using risky strategies such as hiding debts or using informal credit arrangements to be able to take out mortgages. In other words, the use of interventions by the state may not necessarily have a positive impact on the development of the field: therefore, the authorities should be cautious about such initiatives and be on their guard before making any decisions in this area.

L. Agnello *et al.* (2020) described findings from an analysis of housing market cycles in 20 Organization for Economic Co-operation and Development (OECD) countries from 1970 to 2015. The authors found that liberalization of the mortgage sector leads to longer housing booms, while a higher degree of securitization is associated with shorter housing crises. Institutional differences in national mortgage markets also play a role, as changes in housing finance such as mortgage capital withdrawals, average maturities, covered bond issuance and loan-to-value ratios affect the length of housing cycles. In terms of government involvement in this area, the scholars write that the tax deduction of mortgage interest and capital gains allows for better quality house price growth; the same applies to the provision of guarantees, credit, and liquidity by government-linked financial institutions. Overall, the findings showed that macroprudential policy, housing finance regulation and monetary policy can mitigate the macroeconomic effects of housing market ups and downs while improving financial stability, because of which it is important to find a balance between government support measures to overcome the disruptions caused by housing downturns

and avoid rapid house price growth. In turn, A. Fuster *et al.* (2019) evaluated the role of technology development on the mortgage lending market. The scholars showed that lenders with higher levels of technological development offer better terms and conditions for lending; similarly, borrowers are more likely to borrow from such counterparties. Scholars therefore point to a future trajectory for lending that focuses on the interaction of technology and finance to provide the greatest value for money.

L. Liu (2023) assessed the impact of fixed-rate mortgages on both rental and housing markets in the context of a life cycle model. The scientist divided the life cycle of a household into three continuous stages depending on their mortgage involvement and solved optimal management problems for each stage. They take into account factors such as down payment ratios, mortgage interest rates and the term of the mortgage. Overall, he concluded that mortgage length has a positive effect on long-term homeownership rates. Therefore, it is more efficient for homeowners to engage in such long-term relationships. C. Loibl *et al.* (2020) assessed the relationship between financial debt and mental health in older households. The findings highlighted the need for a nuanced approach to shaping one's debt obligations. The researchers wrote that while debt obligations in general cause people stress, housing debt such as a mortgage may cause less stress than other forms of debt such as credit cards or personal loans. Thus, government authorities should firstly create an affordable housing market in the country and adequate conditions for mortgages, rather than other forms of lending.

The mortgage market model present in the US was analysed by L. Lambertini *et al.* (2017). The scholars presented a dynamic stochastic general equilibrium (DSGE) in which the housing sector, mortgages and endogenous default were represented. The scholars show that two types of shocks can then occur: a mortgage risk shock and a housing demand shock, which is broadly reminiscent of the 2008-2009 crisis as well as the Great Depression (1929-1939). This shows that the model built by scientists really more or less plausibly reflects real world events. In addition, it clearly shows the dangers inherent in its use, namely the occurrence of financial crises with often huge negative consequences, especially for emerging economies. This once again emphasizes the fact that applying such a strategy for Kyrgyzstan is not only ineffective, but will probably lead to significant negative consequences in case of problems in the mortgage market.

Thus, the truncated model, which is based on the interaction between banks as intermediaries and borrowers, is the most effective for Kyrgyzstan, at least for the time being. However, it is worth realizing that in order to develop

the mortgage market more efficiently and quickly, domestic economic actors may need assistance from the state (Kish, 2019). This is primarily due to local financial conditions, where households cannot afford to borrow at the high rates that banks may require to cover their risks. The state, through its mechanisms, can enable such contracts (for example, by paying part of the mortgage for households, or by providing additional guarantees for banks to lower interest rates) (Kim & You, 2021). Such a policy would achieve a much higher level of efficiency in the functioning of the mortgage credit market in the country.

## Conclusions

The study shows that in Kyrgyzstan, the choice of mortgage lending model should be carefully assessed against the country's development context. The stand-alone mortgage system, where borrowers accumulate part of the required loan amount before taking out a mortgage loan, may be efficient due to direct interaction with developers and lower transaction costs, but it is difficult to use in practice due to higher risks for households due to direct interaction with developers. The extended mortgage lending model implies the use of mortgage-backed securities, which makes it difficult to implement and requires a developed securities market and institutions in principle, which makes it impossible to implement in the country. Nevertheless, it has its benefits, such as the possibility of ensuring fairer interest rates. In addition, it brings with it risks associated with securities, so it must be supported by government intervention and control to prevent financial crises. The best model was chosen to be the truncated open model, which is commonly used in developing countries, allowing banks, households, and property developers alike to reap their share of the benefits. It is quite simple to implement, which makes it worth implementing in Kyrgyzstan, at least in the current realities.

Ultimately, the choice of mortgage lending model should be consistent with the borrower's financial situation, expectations of inflation and economic stability, and the state of the financial market in Kyrgyzstan. Careful consideration of these factors will allow borrowers to make informed decisions that best suit their individual needs and the economic realities of the country. It is relevant for future research to propose other alternatives for the described mortgage lending models and to continue to evaluate and analyse this market among academics.

## Acknowledgements

None.

## Conflict of Interest

None.

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**Анотація.** У сучасному світі іпотека відіграє важливу роль у житті громадян країни через її вагомий роль у забезпеченні житлових потреб. Таким чином, важливо знайти найбільш ефективну модель іпотечного кредитування для країни, щоб максимально підвищити рівень життя її громадян. Метою роботи є вибір найбільш ефективної моделі іпотечного кредитування, яка може бути використана в країні та принести їй найбільшу користь. Основними методами дослідження були аналіз, дедукція, індукція та абстрагування. У роботі досліджено різні аспекти іпотечного кредитування, з акцентом на різні моделі виплат та їхні наслідки для позичальників. Розглянуто два типи іпотечних кредитів: з ануїтетними та диференційованими платежами, описано їх основні відмінності з точки зору ставок платежів, а також наведено математичні формули для їх розрахунку. Для ілюстрації впливу на позичальника кожної з них було наведено теоретичний приклад, на основі якого описано відмінності між двома системами. У роботі також описано три моделі організації систем іпотечного кредитування: закрыта (автономна) іпотечна система, усічена відкрита модель та розширена відкрита модель. Оцінено придатність цих моделей для розвитку іпотечного ринку Киргизстану на основі їх характеристик та особливостей, позитивних та негативних складових. Робота привносить нові знання в контексті вивчення особливостей іпотечного кредитування в цілому, а також дозволяє знайти можливості для вдосконалення його функціонування в Киргизькій Республіці

**Ключові слова:** фінанси; банківська система; макроекономіка; підприємництво; соціальна сфера