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ANALYZING EFFECTIVENESS OF THE INTEREST RATE CHANNEL IN KAZAKHSTAN

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The primary goal of the National Bank of Kazakhstan (NBK) is to ensure the price stability in the Republic of Kazakhstan. To achieve this goal, the NBK pursues the monetary policy that is based on the principles of inflation targeting (IT). According to Mishkin (1996), the monetary policy influences the real economy via the so-called transmission channels. The key role in the IT is allotted to the functioning of the interest rate channel, which reflects the effect of the central bank rate on the market rates, furthermore on the investment and consumer activity and, eventually, on inflation. The purpose of this study is to analyze the relationships between the NBK's base rate, consumer lending rate and the inflation rate in Kazakhstan in the period from 2016 to 2020 on the basis of the vector autoregression model (VAR). The results showed that the interest rate channel in Kazakhstan, as before, does not have a direct effect on the inflation rate; however, it affects the interest rate on consumer loans, which in turn, influences the inflation rate.

Key Words: vector autoregression models, transmission mechanisms, interest rate channel.

JEL-Classification: C32, C52, C53, E17.

I. Preamble

In 2020, the global economy had been hit by an unprecedented shock as a result of the spread of coronavirus infection. Many countries have resorted to using fiscal and/or monetary stimulus instruments as instruments to give a boost to the economy. The monetary policy is considered to be a more operative instrument, since changes in the fiscal policy require parliamentary approval, which takes more time.

The monetary policy is a fairly effective tool capable of influencing the country's economy, and smoothing out the negative consequences of economic crises. At the same time, erroneous decisions of the monetary policy can significantly aggravate the economic situation. The implementation of monetary policy, as a rule, implies the achievement of a single goal – an economic indicator of some kind.

The central bank responsible for the monetary policy implementation is not able to directly and immediately achieve the ultimate goal. Therefore, to achieve the ultimate goal, the central bank relies on intermediate and operational goals. The process by which the monetary policy influences the final objective is called the transmission mechanism.

Mishkin (1995) identified several key transmission mechanisms, such as the interest rate channel, credit channel, etc. Bernanke, Gertler (1995) characterized the transmission mechanisms of monetary policy as a kind of "black box", because, although we admit that the central bank rate has effect on the target variable in the form of inflation or output, it is not known for certain what happens during this process.

Answers to questions about the efficiency of the monetary policy transmission mechanisms, the degree of influence on the real sector of the economy, the speed of transmission of signals from the central bank are of great importance.

Many studies devoted to the analysis of the monetary policy transmission mechanisms show that the most influential transmission channel in developed countries, given the development of financial markets, is the interest rate channel.

As follows from Coricelli, Egert and MacDonald (2005), the foreign exchange channel is the dominating transmission channel in emerging economies. In Kazakhstan, the monetary policy implementation has been heavily dependent on the foreign exchange channel for a long time (Isakova, 2008) because of the fixed exchange rate regime being used and the insufficiently developed financial market.

From August 2015, the NBK accomplished the transition to the IT regime as the most effective monetary policy regime. The ultimate goal of IT is to keep inflation at an optimal level. The main role in IT is assigned to the functioning of the interest rate channel, which reflects the influence of the central bank's interest rate policy on market rates, then on investment and consumer activity and inflationary processes.

This paper is devoted to the analysis of how the interest rate channel of the monetary policy transmission mechanism is functioning in Kazakhstan after the transition to IT, since the effective functioning of the interest rate channel is the most important condition for successful implementation of the IT.

The Paper consists of 6 sections: the second section provides a brief description of historical prerequisites of the monetary policy development in Kazakhstan; the third section presents a review of literature that formed the basis for the empirical experiment; the fourth section describes the data used and the methodology employed in the empiric analysis; the fifth section shows the empiric research conducted by the author on the basis of a VAR model, and the six section depicts findings and recommendations following the results of the study.

II. Historical Prerequisites for the Monetary Policy Development in Kazakhstan

The Transition Period, 1991-1993. Gaining its independence in 1991, Kazakhstan started to implement a number of economic reforms to move to the market economy: price liberalization, privatization of government-owned enterprises and property. The previously established trade and economic ties between the Soviet republics were broken. All this had a significant negative impact on the economic situation in Kazakhstan; there was hyperinflation and a decline in GDP.

In the Soviet times, being a branch of the Gosbank (State Bank), the central bank of the Kazakh SSR did not have monetary sovereignty (Balino, T., 1998). Even after the USSR collapsed, the newly formed NBK could not pursue an independent monetary policy, since Kazakhstan belonged to the ruble zone, and the function of printing money was inherited by the central bank of the Russian Federation. However, the NBK was able to issue non-cash ruble loans to enterprises and to the Government in order to stimulate the economic growth, which, in turn, caused the growth of inflation.

In accordance with the Law of the Republic of Kazakhstan "On the National Bank of the Republic of Kazakhstan" that was passed in April 1993, the main goal of the NBK was "to ensure the internal and external stability of the country's national currency." In November 1993, Kazakhstan introduced its own currency - tenge, which gave full freedom of action in pursuing an independent monetary policy.

The formation of the financial market in Kazakhstan began in 1993 with the establishment of the Kazakhstan Stock Exchange (KASE). At the KASE, a number of state-owned enterprises were privatized through an initial offering, mainly in large blocks, to strategic investors.

The Period of Economic Stabilization, 1994-1997. In 1994, due to better control over the distribution of direct government loans and an increase in the refinancing rate to 400%, it was possible to reduce the inflation rate to 1160% from 2165% a year earlier. The exchange rate was floating, which led to a rapid depreciation of the tenge against the US dollar.

The Ministry of Finance started to refinance the budget deficit by issuing government securities in the domestic market.

In 1996-97, Kazakhstan's GDP showed the positive growth and the inflation rate continued to decrease.

The Financial Crisis in Russia, 1998-1999. From1998, the NBK gave up the practice of direct budget deficit financing that became possible with the development of the securities market. A new impetus to the development of the stock market was given after the pension system reform, which implied the transition from the solidary pension system to the accumulative one. Private pension funds started to invest savings of their contributors into financial instruments.

In 1998, a technical default on government debt obligations of Russia occurred. Given a significant volume of trade turnover, the economic crisis in Russia had a direct impact on the situation in Kazakhstan. Devaluation of the Russian ruble resulted in deterioration in the trade balance, therefore the refinancing rate was increased, and foreign exchange interventions were conducted. In connection with a reduction in foreign exchange reserves and the growing losses of export-oriented companies, in April 1999 the transition from a managed floating exchange rate to a freely floating exchange rate was announced, which enabled to stabilize the situation in the foreign exchange market. De facto, the NBK's exchange rate policy continued to be implicitly pegged to the US dollar at new levels.

The Period of a Rapid Economic Growth, 2000-2007. From the second half of 1999, as a result of growing oil prices, Kazakhstan's economy started to recover.

In 2002, plans for the transition to the IT regime were announced for the first time, and starting from 2007, the NBK began to publish the monetary policy guidelines, where the target range for inflation was specified.

Owing to the inflow of export proceeds, due to high commodity prices, foreign direct investments, from 2003 the crawling band of the exchange rate changed its direction to appreciation, which helped to curb inflation. Sterilization of foreign capital inflows, in turn, resulted in the increase in foreign exchange reserves.

In 2000-2007, Kazakhstan's economy demonstrated growth with an average annual rate of more than 10%, which was due to the increased production in the oil and gas industry, a rise in prices for export raw commodities (oil and metals), inflow of foreign direct investments, foreign borrowings of the banking sector and successful implementation of a number of economic and structural reforms initiated in prior years.

The domestic stock market demonstrated growth. The prospects of a rapidly growing economy attracted foreign investments into the banking sector, which, on the one hand, allowed ramping up volumes of lending to the economy, and, on the other hand, increased their dependence on external financing.

Liquidity Crisis and the Global Financial Crisis, 2007-2009. In 2007, as a result of the liquidity crisis, the banking sector in Kazakhstan became unable to borrow from abroad. Thus, the rate of credit expansion dropped sharply leading to the deflation of the bubble in the real estate market. In response, the NBK lowered the refinancing rate, conducted operations to provide liquidity in tenge and US dollars.

In 2008, the liquidity crisis turned into the global financial crisis with a peak in September 2008 a result of the Lehman Brothers bankruptcy. In order to stabilize the financial system, 10 billion US dollars were allocated from the National Fund.

Resulting from the capital outflow, the KASE index fell, and an increased demand for foreign exchange arose. The NBK's foreign exchange interventions led to a reduction in foreign exchange reserves. In the environment of growing devaluation expectations, devaluation of the tenge was conducted in February 2009.

Post-Crisis Period of Economic Recovery, 2010-2014. Owing to a favorite market environment of oil and raw commodity prices, Kazakhstan's economy had stabilized although the GDP growth rates remained below the pre-crisis levels.

In 2011, the Government launched the "People's IPO" Program, which was designed with a view to attract ordinary people to the stock market. Thus, a successful offering of such companies as KazTransOil and KEGOC was accomplished.

In 2013, developing countries experienced a capital outflow because of concerns associated with the curtailment of the quantitative easing policy of the Federal Reserve System (Fed). Currencies of developing countries had depreciated including those of Kazakhstan's trading partners. In order to improve the state of the balance of payments, prevent depletion of foreign exchange reserves, in February 2014 the NBK conducted the adjustment of the exchange rate of the tenge giving up its maintaining at the same level.

In 2014, the preparatory work was resumed for the transition to the IT in the medium term. The development of a new system of instruments was under way, the system of modeling and forecasting was improved, and there was a plan to gradually increase the flexibility of the exchange rate.

Transition to a New Monetary Policy, 2015 – until present. On August 20, 2015, an announcement was made about the transition to the monetary policy regime based on the IT principles and implying the adherence to a sole goal of keeping inflation at a target level. A number of academic studies proves the effectiveness of the IT in ensuring a sustainable economic growth and increasing the well-being of the people in the long term. The opting for IT determined the giving up of the exchange rate targeting.

The base rate was introduced as a key monetary policy instrument. Letting the tenge float caused significant volatility of the exchange rate, therefore the NBK conducted foreign exchange interventions aimed at stabilizing the situation.

In November 2015, with a view to reduce speculative transactions in the foreign exchange market, the NBK stopped maintaining the upper boundary of the interest rate band; this led to a surge in money market rates. In parallel, an effort was made to strengthen the role of the interest rate channel of the monetary policy, to set up the system of instruments, and to increase transparency of the NBK's actions.

By February 2016, it was possible to stabilize the situation in the money and foreign exchange markets, and the NBK committed itself to the principles of IT and free floating exchange rate and resumed monetary policy operations to maintain the interest rate band.

The TONIA index[1] was chosen as an operating target of the monetary policy as the most liquid and representative money market indicator.

In order to determine the direction of imbalance in the money market and the required volumes for open market operations, a model for short-term liquidity forecasting was introduced. The NBK and the Ministry of Finance worked on building a yield curve of government securities.

With the transition to the IT, it became gradually possible to stabilize devaluation expectations, minimize the NBK's participation in the foreign exchange market, set a trend to de-dollarize the economy, and create prerequisites for the effective functioning of the interest rate channel of the transmission mechanism.

III. Literature Review

According to Mishkin (1995), if we assume that a central bank tightens its monetary policy, the mechanics of the interest rate channel can be written as follows:

$$M\downarrow, i^r\uparrow, I\downarrow, Y\downarrow, \quad (1)$$

where a reduction in the money supply ($M\downarrow$) results in an increase in real interest rates ($i^r\uparrow$), which further leads to a decline in investments ($I\downarrow$); that, in turn, causes a curtailment of output ($Y\downarrow$).

*The pass-through effect "the base rate → a short-term market rate"***.** Cook and Hahn (1988) conducted a study regarding the FRS ability to affect the market rates in the USA with the

[1] A weighted average interest rate on repo opening transactions with maturity of one business day concluded in the automatic repo sector at the KASE

help of the federal funds rate. The research covered the period of 1974-1979. Empiric results showed that the Fed's decisions about changing the federal funds rate caused significant changes in short-term market rates in the same direction. Resulting from the change of the funds rate by 1%, the yield on 3-month and 6-month treasury bills increased by 0.55% and 0.54%, respectively.

The pass-through effect "the base rate → a long-term market rate". Cochrane and Piazzesi (2002) studied the effect of a change in the Fed's target rate on the yield of long-term treasury obligations. According to the results obtained, the yields on treasury bonds for all reviewed maturities reacted positively to a 1% increase in the federal funds rate. At the same time, the reaction of yields to an unexpected change in the Fed's rate was much greater (0.52% versus 0.19% in the case of 10-year treasury bonds).

The pass-through effect "nominal interest rate → real interest rate" is based on two premises specified by Taylor (1995): rational expectations and price rigidity.

Rational expectations theory says that people make rational assumptions about the future and act accordingly. The concept of price rigidity implies that prices are reasonably stable and do not tend to adjust quickly. If an increase in the nominal interest rate does not cause a similar increase in the rationally expected inflation, then the real interest rate will rise. Thus, slow price adjustments allow the real interest rate to be influenced during a certain period while prices and expectations are adjusting.

The Mechanism of Monetary Transmission in Thailand. Disyatat and Vongsinsirikul (2003) studied a transmission mechanism in Thailand in the period of 1994-2002 using a VAR model. The results showed the efficiency of the interest rate channel in Thailand that explained about 50% of changes in output as a result of the monetary policy shock.

The pass-through effect in Thailand, in contrast to developed countries, appeared to be much weaker, which is explained by rigidity of retail interest rates; that, in turn, is driven by the following:

– banks keep from increasing interest rates because of problems of adverse selection and moral hazard, since the increase of interest rates may attract less creditworthy borrowers;

– depositors and borrowers are reluctant to change their bank due to the transition charges, even if other banks offer more profitable interest rates;

– given the costs associated with the change of interest rates and high volatility of the money market rates, banks tend to change their rates when they see a relatively stable and long-term trend in the market.

Monetary Policy Transmission Mechanism in the Eurozone. Angeloni et al (2003), by conducting an empirical experiment on the basis of a VAR model with the use of data prior to 1999 (before the Euro was introduced), identified a reduction in the output in response to an unexpected increase of interest rate, followed by its peak approximately in a year. Inflation appeared to be less sensitive to the increase of interest rates, remained virtually unchanged during the first year, slowly going down in the years that followed. In 7 out of 12 countries in the Eurozone, investments made a major contribution to the functioning of the monetary policy transmission mechanism.

Monetary Transmission Mechanism in Kazakhstan. Isakova (2008) studied the effectiveness of monetary policy in the Central Asian countries. The study was conducted with the use of a VAR model and covered the period of 1995-2006. Five endogenous variables (real income, price indices, central bank rate, monetary aggregates, and the nominal exchange rate) and two exogenous variables (oil prices and the Fed's rate) were used. As the study showed, the interest rate channel in Kazakhstan practically did not function, the foreign exchange channel was the dominant channel influencing prices, and the NBK rate did not affect the real output.

As shown in the study of Isakova (2008), the significance of influence of the foreign exchange channel can be explained by a high degree of dollarization, insufficient development of financial intermediation services, and low sensitivity of market participants to changes in the cost of borrowing.

Mukhamedieva (2010) conducted an empirical study of how certain monetary policy transmission channels in Kazakhstan affect the real output in the period of 2000-2009. The author used the VAR model, which included five endogenous variables (real output, price level, money supply, non-bank lending rate and real effective exchange rate) and one exogenous variable (oil price). According to the results, the reaction of real output was not statistically significant in response to changes in the lending rate.

Starr (2005) was studying the impact of monetary policy transmission mechanisms in Russia, Ukraine, Belarus and Kazakhstan using the VAR methodology for the period of 1995-2003. The VAR system included five endogenous variables (real income, price index, central bank rate, monetary aggregates, and the nominal exchange rate) and two exogenous variables (oil prices and the Fed's rate). According to the results, the output in Kazakhstan reacted weakly to the growth of monetary aggregates. Of the four countries studied, the interest rate channel turned out to be significant only in Russia. As a result of an unexpected shock from monetary aggregates, price levels went up in all four countries, but the impact was significant only in the case of Kazakhstan. The author came to the conclusion that the monetary policy has an insignificant effect on the output in Ukraine, Kazakhstan and Belarus.

IV. Methodology

The empirical analysis has been carried out from February 2016 to January 2021 using the monthly data based on the VAR model, which is a common tool for analyzing monetary transmission mechanisms. The advantage of VAR is the possibility of using the impulse response function, which enables to estimate the magnitude and time of impact by the monetary policy on endogenous variables.

The VAR model was presented by Sims (1980) as a tool for analyzing relationships between multiple variables. VAR is a system of equations where each of the endogenous variables is considered as a dependent variable and is regressed based on the lagging values of the endogenous variables in the system, including its own lags. VAR is formulated as follows:

$$y_t = A_1 y_{t-1} + \ldots + A_p y_{t-p} + Bx_t + \varepsilon_t, \quad (2)$$

where y_t – vector k of endogenous variables, x_t – vector d of exogenous variables, A_1, A_p, B – matrices of coefficients, and ε_t – innovation vector.

Description of Variables. In order to analyze the functioning of the interest rate channel and its ability to affect inflation as the monetary policy's final goal, the following variables were selected:

1) the average value of the TWINA index[2]. TWINA is a proxy of the NBK's base rate and TONIA is the monetary policy's operating target. In contrast to TONIA, the TWINA index is a fully market-based interest rate since it is set without the NBK's direct impact;

2) interest rate on loans to individuals provided for consumer purposes for less than one year (CONS_CREDIT). CONS_CREDIT is a proxy of consumption of durable goods. As opposed to other lending rates, CONS_CREDIT is exposed to distrortion on the part of government interest rate subsidy programs to the least extent. The use of yields on government securities was not feasible due to the absence of consistent time series;

3) the change in the consumer price index (CPI) over the year is a market value of the consumer goods and services basket.

All variables are endogenous and were taken from open sources: Bloomberg information system, the NBK and KASE official web sites. Variables have not been seasonally adjusted since the CPI is expressed on a year-over-year basis and TWINA and CONS_CREDIT are market interest rates, which do not require a seasonal adjustment.

[2] A weighted average interest rate on repo opening transactions with maturity of seven business days at the KASE

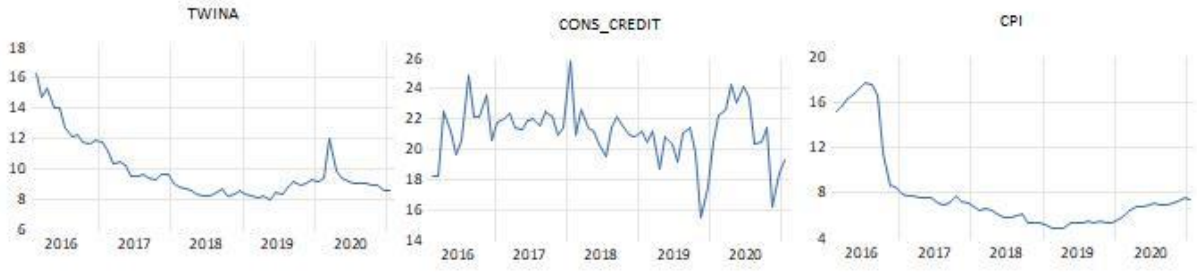
Table 1.

Summary Statistics

	CPI	TWINA	CONS_CREDIT
Mean	7.920000	9.874547	21.12317
Median	7.000000	9.105400	21.26500
Maximum	17.70000	16.28143	25.84000
Minimum	4.800000	7.967895	15.49000
Std. Dev.	3.641977	1.957892	1.863528
Skewness	1.812439	1.572632	-0.478550
Kurtosis	4.877733	4.753486	4.267787
Jarque-Bera	41.66404	32.41848	6.308313
Probability	0.000000	0.000000	0.042674
Sum	475.2000	592.4728	1267.390
Sum Sq. Dev.	782.5760	226.1671	204.8915
Observations	60	60	60

Figure 1.

Raw data



Stationarity Test. Stationarity of the series is an important condition, since it directly affects the behavior of variables. If series *x* and *y* are non-stationary random processes, then modeling the relationship of *x* and *y* through OLS (Equation 2) will generate a false regression.

The variables were tested for stationarity properties by using the ADF test (Augmented Dickey Fuller). Based on the testing results, TWINA and CONS_CREDIT appeared to be stationary in levels, and CPI was brought to stationarity in first difference (DCPI).

Order of Variables was chosen in accordance with the theoretical functioning of the interest rate channel and not on the basis of testing of casual relationships. Thus, the change in the monetary policy stance as presented by TWINA affects the consumption of durable goods by the population (CONS_CREDIT); that, in turn, influences the domestic demand and inflationary processes (CPI): TWINA → CONS_CREDIT → CPI.

Selecting the Lag Length. A lag length in the VAR system was chosen to be equal to 12 months in accordance with AIC (Akaike information criterion) recommendations, LR (sequential modified LR test statistic), HQ (Hannan-Quinn Information criterion) and FPE (Final prediction error). Such lag length corresponds to theoretical and empirical assessments of impact of the monetary policy transmission mechanisms.

Reliability Tests. The LM test was used to diagnose the problem of autocorrelation. The test results did not reveal any presence of autocorrelation problem since all values of *p* were greater than 0.05, which means that the null hypothesis of the absence of serial correlation in the residuals cannot be rejected.

The result of normality test showed that residuals of the model were distributed normally, since all joint probabilities were greater than 0.05.

V. Empiric Results

Results of the VAR Model. According to the results (Table 2), there is a correct reaction of the change in inflation to the interest rate growth on retail consumer loans on the 3rd, 4th, 5th, 6th and 10th months. A maximum deceleration of inflation in response to the growth of interest rates on consumer lending is observed after 5 months.

An increase in TWINA by 1 percentage point will probably lead to the interest rate growth on retail consumer loans by 3.2 percentage points after 4 months, and such assessment is statistically significant.

As a result of the monetary policy tightening, the difference of inflation during the first two months is decreasing. Such speed of the impulse transmission from TWINA to inflation contradicts with the economic theory. On the 4th and 8th month after the increase in TWINA, there is a positive change in inflation, which contradicts with the nature of the interest rate channel functioning.

Table 2

Vector Autoregression Estimates			
Sample (adjusted): 2017M03 2021M01			
Included observations: 47 after adjustments			
t-statistics in [ ]			
	TWINA	CONS_CREDIT	DCPI
TWINA(-1)	-0.4953	-0.7462	-0.2361
	[-1.93268]	[-0.64310]	[-2.72311]
TWINA(-2)	-0.5541	-1.0941	-0.3275
	[-1.75714]	[-0.76636]	[-3.07046]
TWINA(-4)	-0.3750	3.2046	0.2503
	[-1.32769]	[2.50589]	[2.61948]
TWINA(-8)	0.6073	1.1942	0.2968
	[2.17150]	[0.94320]	[3.13728]
CONS_CREDIT(-3)	-0.1536	-0.4591	-0.0532
	[-2.54915]	[-1.68273]	[-2.61030]
CONS_CREDIT(-4)	-0.3889	-0.0649	-0.1069
	[-4.43678]	[-0.16361]	[-3.60425]
CONS_CREDIT(-5)	-0.4007	-0.3481	-0.1229
	[-3.18556]	[-0.61117]	[-2.88749]
CONS_CREDIT(-6)	-0.3510	-0.0779	-0.1140
	[-2.28434]	[-0.11193]	[-2.19263]
CONS_CREDIT(-10)	-0.1029	-0.3625	-0.0789
	[-1.24128]	[-0.96585]	[-2.81568]
R-squared	0.94	0.81	0.94
Adj. R-squared	0.74	0.13	0.74

Impulse Response Function illustrates the reaction of endogenous variables to the shock of one standard deviation to other endogenous variables in the VAR system. The analysis of impulse responses gives an insight into how long the IT shock to the effect of a variable lasts compared to other variables, and which variable provides the greatest response to an interest rate shock over the next 12 months.

Figure 2 shows the reaction of inflation and consumer lending rates in response to the monetary policy tightening. The consumer lending rate declines during the 1st quarter after the shock and increases starting from the 4th month, reaching a peak in the 5th month. Inflation demonstrates fluctuations in response to the monetary policy shock, reaching a negative minimum value in 11 months. The rise in inflation from month 3 to month 5 following an

interest rate shock contradicts with what is expected as a result of the monetary policy tightening.

Figure 2.

Variance Decomposition. Unlike the impulse response function, variance decomposition shows how much of the variance of one variable is caused by shocks in another variable, and how this proportion changes over time.

The results show that the percentage of inflation variance explained by the change in the TWINA rate increases sharply to 35% in the 4th month and then fluctuates within the range of 37–41%. The percentage of variance of the consumer loan rate that falls on TWINA fluctuations tends to grow from 13% to 34% during 12 months.

Table 3.

	Variance Decomposition of CONS_CREDIT:				Variance Decomposition of DCPI:			
Period	S.E.	TWINA	CONS_CREDIT	DCPI	S.E.	TWINA	CONS_CREDIT	DCPI
1	0.39	13.01	86.99	0.00	1.75	3.38	6.22	90.40
2	0.43	17.51	81.10	1.40	1.94	11.48	17.17	71.35
3	0.47	20.13	74.78	5.10	2.17	11.05	15.68	73.27
4	0.52	18.20	66.42	15.38	2.31	35.35	14.51	50.14
5	0.79	24.38	61.12	14.50	2.49	40.87	18.10	41.03
6	0.93	24.79	61.88	13.33	2.60	40.56	20.83	38.62
7	1.00	24.29	63.05	12.66	2.81	39.94	21.95	38.11
8	1.02	27.13	61.65	11.22	3.03	40.57	21.36	38.06
9	1.03	25.72	63.30	10.98	3.12	37.62	25.23	37.14
10	1.04	25.52	63.46	11.02	3.14	37.64	25.75	36.61
11	1.07	25.71	63.08	11.20	3.15	40.18	24.65	35.16
12	1.08	34.31	55.75	9.93	3.35	39.41	25.30	35.29

VI. Conclusion

As a result of an empirical analysis of how the interest rate channel of the monetary policy functions in Kazakhstan based on the use of the VAR model, it was found that the money market rate TWINA does not directly affect the inflation rate, but at the same time affects the rate on consumer loans, which, in turn, affects the inflation rate.

The results obtained are generally consistent with conclusions of other studies about a weak functioning of the interest rate channel in Kazakhstan.

Improving the functioning of the interest rate channel in Kazakhstan is an important condition for successful implementation of the IT. This requires overcoming a number of major challenges, such as a significant amount of concessional financing from the government and the

quasi-government sector, a high degree of dollarization of the economy and an underdeveloped financial market.

The financial market in Kazakhstan, like in most developing countries, remains shallow, as is evidenced by the dominance of commercial banks. It is necessary to develop the stock market as an alternative to the banking sector. The liquidity of the secondary government securities market needs to be increased, which will make this segment attractive for investors. Existing concessional financing programs should be reduced while continuing to support the export-oriented companies, technology development and innovation.

In order to make the interest rate channel more efficient, it is necessary to encourage competition among commercial banks, increase capital mobility by liberalizing control over capital movements, and accelerate the process of privatization of government and quasi-government companies.

The impact of monetary policy actions on market interest rates will depend on the level of development of various segments of the financial market. Without efficient and developed money and capital markets, the opportunities for effective monetary policy implementation will be limited.

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THE ROLE OF MARKET MAKERS AND PRIMARY DEALERS IN LIQUIDITY OF THE GOVERNMENT SECURITIES MARKET

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Liquidity of the government securities market is an important component in ensuring an effective functioning of the stock market. The government securities market is a key point both for local participants and for foreign investors. Liquidity of government bonds also plays an important role in the transmission of monetary policy signals.

Effective measures on increasing liquidity of the government bond market include the establishment of an active market makers system and introduction of the primary dealers institution. Market makers, by maintaining constant quotes, help increasing the activity and efficiency of the market. The institution of primary dealers, in addition to increasing the efficiency of the secondary market, also improves the functioning of the primary government bond market.

For Kazakhstan's market, given its current realities, the introduction of a full-fledged system of primary dealers must be carried out in stages, by defining responsibilities and privileges of participants who will be provided with access to the initial offering.

Key Words: primary dealers, market makers, government securities market, liquidity, monetary policy transmission, bonds.

JEL-classification: E63, G12, G18.

1. Liquidity as the Basis for Efficient Functioning of the Market

Market liquidity implies the ability of investors and market participants to buy or sell assets in a short period at low costs and at a price close to the market price of the asset. Market liquidity depends on a variety of factors, including market structure and the nature of the assets traded. The key difference is between the functioning of the market in normal conditions and in the times of crisis. (Ingo Fender, Ulf Lewrick, 2015).

Illiquidity in the markets hampers efficient pricing and makes it difficult for issuers to access financing. Low liquidity can also exacerbate disruption to the financial system (Julie Guo and Zhan Zhang, 2020). These impacts can be significant, especially during the times of crisis, posing a major risk for issuers, investors and regulators that was illustrated during the spread of COVID-19.

A study by Julie Guo and Zhan Zhang (2020) notes that at the end of February 2020, heightened concerns over the global spread of the virus led to a widespread drop in the value of risky assets and a sharp increase in volatility in financial markets, as a number of investors needed to raise funds to reduce leverage, meet the margin requirements and repay liabilities. These factors contributed to the deterioration in the functioning of financial markets around the world, as liquidity in these markets has significantly decreased, and rate spreads have increased significantly. Government securities, which are considered risk-free assets, also experienced sell-offs from investors and a subsequent deterioration in liquidity, thus leading to a sharp increase in yields. This has been reflected in other financial markets as well, since government securities serve as benchmarks for other financial assets. In particular, illiquidity in the key base market of the US Treasury bonds further contributed to the exacerbation of the market imbalance.

Liquidity of securities in international fixed income markets began to gradually recover by the end of March 2020. The recovery was supported by measures taken by central banks, which included asset purchases and expansion of liquidity operations.

Liquidity is measured by a number of indicators. The key indicators of liquidity are the trading volume, bid-ask spread, volatility. Based on different interpretations of liquidity and approaches to its formalization, four main projections of liquidity are distinguished: time (frequency of transactions/trades), price (illiquidity ratio, price volatility), volume (volume of trades/trades), and transaction costs (bid-ask spread).

The number of trades and the frequency of trades show the trading activity of a security. The trading volume is one of the most commonly used indicators for liquidity assessment and reflects the total volume of all transactions on a security during a certain period of time. Issues with large volumes are traditionally considered the most liquid. The bid-ask spread is also one of the most common indicators for measuring liquidity of a security. The smaller spread indicates the closer price to the market price and, therefore, the lower transaction costs with the security.

More liquid securities have a sufficiently deep market, therefore, large volumes should not have a significant impact on the price. High price volatility indicates low liquidity of the security.

In practice, a combination of these indicators is commonly used for a more comprehensive assessment of liquidity. In a study by Tobias Adrian and Michael Fleming (2017), such indicators as bid-ask spread, market depth, price, trading volume, trading frequency, trade size, and volatility were used to construct the US Treasury bond liquidity index.

The government securities market serves as a benchmark for both local market participants and foreign investors. Therefore, liquidity of the government securities market is an important component in ensuring effective functioning of the entire stock market. In addition, liquidity of government bonds plays an important role in the monetary policy implementation and in the financial system stability (Denis Beau, 2016).

Consequently, increasing liquidity of the government securities market is one of the priority areas in developing the financial market. The possible ways to increase liquidity of government bonds include attraction and simplification of foreign investors' access to the local market, inclusion of government securities into international indices, reduction of the number of securities in circulation, including through repurchase, concentration of government securities in several key (benchmark) issues, use of repo mechanisms, establishment of an institution of market makers, and the introduction of a primary dealer system.

One of the specific features of the government bond market that limits their liquidity is a large number of different securities outstanding. This makes bonds relatively heterogeneous, which negatively affects trading volumes and participants' activity. In addition, institutional investors often buy securities held to maturity or trade them in large volumes, thus significantly reducing their liquidity. These factors reduce the probability of matching of buyers and sellers of a financial instrument. Under these conditions, as a rule, markets tend to rely on market makers. (Ingo Fender, Ulf Lewrick, 2015).

Another commonly used method of increasing liquidity in different countries, especially liquidity of the government bond market, is the introduction of the primary dealers system.

2. Market Makers and the Institution of Primary Dealers

Market makers play a key role in ensuring the market liquidity and contributing to its efficient functioning. Market makers are providers of liquidity in the financial markets, they act as intermediaries and conduct transactions between buyers and sellers (Jon Cheshire, 2015).

The presence of active market makers with sufficient volumes to maintain constant quotes both for buying and for selling helps increasing liquidity in the market, which also has a positive effect on the monetary policy transmission and financial stability.

The vast majority of bonds, including government bonds, are usually traded over the counter market. A large number of different issued bonds reduces the probability of finding matches in bids of buyers and sellers of a security. In such conditions, market makers facilitate trading in financial instruments. They execute clients' orders by finding counter orders (brokerage or agency trade) or act as a counterparty in transactions.

Thus, market makers provide market liquidity, enabling customers to conduct transactions immediately, contribute to the stability of market liquidity by absorbing temporary imbalances in the market and mitigating market volatility in the event of shocks (Denis Beau, 2014).

Most countries have rules determining the activities of market makers. The basic element is that market makers offer prices at which they are ready to buy and sell securities (bilateral quotes) on a regular basis.

Market maker business models differ depending on the market segment, but in general, market makers have a number of common features: a large client base, constant access to multiple markets including for funding and risk hedging purposes, sufficient balance to conduct large transactions, experience to provide competitive quotes including during the periods of heightened market volatility (Denis Beau, 2014).

A market maker's gain is based on the difference between the buy and sell price of a financial instrument (bid-ask spread) minus transaction costs. In markets with low funding costs and the ability to close a position in a short period of time, the market maker's bid-ask spread will be narrower, and the quoted volumes will be larger. In case of increased volatility in the markets and changes in market conditions, market makers tend to apply a wider spread.

The primary and secondary bond markets are closely related. Usually, issuers of securities are interested in improving the liquidity of their issues in the secondary market, which enables to reduce the investor's premium during the initial offering.

For government bonds, many jurisdictions use a primary dealer system, which often combines incentive measures with market making obligations in the market (Denis Beau, 2014).

Primary dealers (PDs) are financial intermediaries, who perform a specialized role in the government securities market. The implementation of the PD system is used to increase liquidity and reduce volatility of the government bonds market.

According to the studies conducted by the International Monetary Fund and the World Bank, the institution of PDs is used in different countries to solve two main objectives:

– a stable offering of government securities at primary auctions, which allows ensuring an uninterrupted state budget financing;

– increasing liquidity of the secondary government securities market, thus ensuring the growth of confidence on the part of market participants in the government securities market and its indicators (Marco Arnone, George Iden, 2003).

The fundamental requirement for PD is to perform the functions of a market maker in the secondary market. This is due to the need to create an effective mechanism for delivering government securities to investors and increase liquidity in the secondary market.

The implementation of the PD system allows improving liquidity in the secondary government securities market, which will contribute to the market price setting, strengthening the turnover of government securities in the secondary market.

Establishment of the institution of PDs implies that PDs obliged to meet certain requirements in the primary and secondary markets.

The World Bank's studies point out the following basic obligations of PDs:

1) participation in offerings: through participation in auctions, PDs function as a channel between an issuer and investors. The obligation to participate in initial placements usually includes an obligation for the dealer to submit a specified minimum number of bids and/or successful bids. The minimum amount is usually expressed as a percentage of the total amount stated/offered. The government authority considers this requirement in the context of the frequency of participation and the minimum volume of redemption of government securities by each PD. The agreement with the PD may include a requirement for regular or mandatory participation in each offering;

2) placement of securities among investors: involves facilitating the placement of government securities among the client base of the primary agent through research, marketing, and active promotion of products;

3) increasing liquidity in the secondary market:

– maintaining "firm" quotes with the established minimum volume over a certain period of time;

– maintaining spread not exceeding its established maximum marginal width that is set by the authority both in the way of directive and in the form of a certain function;

– maintaining a given level of trading turnover in the secondary market for a certain period. The turnover level can be calculated as a share of the total trading volume or of all participants in the secondary market;

4) holding consultative meetings: PDs report on the strategy of executing their functions in developing the market;

5) maintaining partnership relations between the PDs and the public debt administration authority: this responsibility is more a privilege for the PDs;

6) submitting a report on its activities: reports submitted by the PDs assist the public debt administration authority in assessing changes in the market and in individual organizations (Gemloc Advisory Services, 2010).

As a rule, instead of their obligations, PDs can receive a wide range of privileges. They are provided, first, for increasing the motivation of PDs, and second, for supporting the operations performed by PDs in the primary and secondary markets. The main privilege is the exclusive right of PDs to participate in primary auctions. Also could be provided preferential access to funding from the central bank, to the securities lending mechanism, etc.

Analysis of the experience in regulating the activities of the PDs in the government securities market in different countries allows distinguish three main "models". The key criterion for the separating models is the choice by the regulator of a market segment acting as the main object of support: the primary market, the secondary market, or both of these segments at the same time.

The first "model" – "supply of funds to the Ministry of Finance" – is often used by countries that have a high volume of public debt and significant budget deficits. To cover the budget deficit and refinance the accumulated debt, a system is required to maintain a high demand at auctions for the placement of government securities. The key elements of such system are strict obligations of PDs in the primary market: participating in each auction for the placement of government securities; placing orders with a volume of at least a certain percentage of the volume being placed.

The countries implementing the second "model" - "equal stimulation" – are characterized by a lower level of budget deficit than the countries that use the "supply of funds to the Ministry of Finance" model. Nonetheless, the amount of public debt in countries implementing the second "model" is quite high, and their government securities markets can be quite volatile due to a significant speculative component in the demand. Since the need to raise funds in the government securities market in countries using this "model" is slightly lower than among countries using the first "model", the conditions for PDs participation in initial offerings are not so strict (the requirement to a minimum level of participation in initial offerings during a certain period of time, not at every auction). This circumstance enables to tighten the requirements for participation of PDs in the secondary market (maintenance of a minimum share of the market turnover by each PD).

Countries implementing the third "model" - "compulsion to market making" – have a low level of public debt relative to GDP and a relatively balanced (in some cases even surplus) budget. However, the "reverse side" of the balance of public finances is, first, low liquidity of the government securities market (a small volume of initial offerings does not help maintaining the market turnover), and second, the "overbought" of the market by non-residents (the amount of public debt is small, while foreign investors consider the level of credit risks as low).

A low liquidity of the secondary market required from regulators to focus on encouraging the activity of PDs specifically in this segment. Incentive tools are the strict requirements to the volume of buy and sell orders placed by PDs in the secondary government securities market, to

the maximum width of spreads and to the minimum time period for quotation of securities. Along with that, this "model" is characterized by the absence of specific requirements to participation of PDs in the initial offerings of government securities. Most of the countries that use this "model" do not have the right of submitting non-competitive bids by PDs. Weak regulation of PD activities in the primary market of these countries is quite justified: due to a small volume of initial offerings, problems with the demand, as a rule, do not arise. At the same time, PDs themselves have sufficient incentives to participate in initial offerings, since in this case they will be able to build a stock of various types of government bonds that they need to meet their obligations in the secondary market.

3. Government Securities Market in the Republic of Kazakhstan

The domestic government securities market is characterized by a relatively low liquidity of the secondary market and is represented by government bonds of the Ministry of Finance, short-term notes of the National Bank and bonds of local executive authorities.

A reduction in liquidity in the government securities market of Kazakhstan was observed after the consolidation of pension assets, since the decline in the number of market participants limited the activity of the secondary market. The increased concentration of institutional investors has led to a reduction in liquidity events and a decrease in effective market pricing in the market.

The concentration of the major portion of debt of the Ministry of Finance among a limited group of investors, and a small number of market players participating in securities offerings are also conduct to deterioration of liquidity conditions. The propensity of investors to hold government securities until maturity reduces their turnover. In addition, a large number of various government bonds of the Ministry of Finance outstanding with small volumes also limits their liquidity.

The PD system is not used in its classical form in the local government securities market. Government securities of the Ministry of Finance are placed on the stock exchange among participants who are members of the stock market of the stock exchange where, in addition to the second-tier banks and institutional investors, there are organizations that engage in the broker and dealer business.

The institution of market makers for government securities is at an early stage of development. In order to increase liquidity of the secondary market for government securities, in 2020 an incentive program was developed and implemented for market makers dealing with government securities on the exchange platform; it provides a certain package of preferential conditions for professional market participants in case of performing the functions of a market maker for government securities in the exchange market.

The program helped to boost the activity of market participants in the market and to increase the number of market makers for government securities. Currently, there are 3 market makers on the stock exchange that support quotes on 19 government bonds issues: "Freedom Finance" JSC – 9 issues, "Halyk Bank Kazakhstan" JSC – 5 issues and "Bank CenterCredit" JSC – 5 issues.

Thus, the presence of active market makers is an important condition for ensuring market liquidity and its efficient functioning. Therefore, in order to improve liquidity of the government securities market and promote its further development, it is necessary to build a full-fledged system of market makers, including through support from the issuer.

Another possible way of activating the secondary market and increasing liquidity of government securities may be the introduction of the primary dealers institution, taking into account the specifics of the local market that is characterized by a small number of participants and scattered issues of securities.

At present, the government securities market is taking active measures to build a consistent and predictable policy for issuing public debt. The issuance of government bonds is carried out mainly through additional placements, which creates preconditions for reducing the

quantity of securities outstanding. The issuer offers government securities with different maturities, including the sector from 1 to 5 years. Placement of bonds on this segment of the curve led to rise the percentage of marketparticipants in primary auctionsand increased the attractiveness of government securities for non-residents.

Measures on inclusion of sovereign bonds into the international indices simplifying the access to the local market for foreign investors are continuing.

Thus, in the domestic market conditions for increasing liquidity of the government securities market and improving its functioning are being created.

In this conditions, the Ministry of Finance should take effective measures to further extend the list of market makers for government securities, both in the exchange and over the counter markets. For these purposes, in coordination with market participants, the issuer can elaborate and adopt an incentive program in order to support market makers dealing with government securities, which will reflect the main conditions and procedure for performing the functions of a market maker in the market with the indication of a package of preferential measures.

In addition, to activate the secondary market and further develop the government securities market, the introduction of a full-fledged PD system with certain obligations and privileges should be considered, which implies participation in primary placements only for PD. In the international practice, the institution of PDs is used primarily for securities of the public debt management authority since this ensures the stability of government securities placement for financing the budget deficit and increases liquidity of the secondary market.

Thus, the creation of a classic institution of PDs will require the readiness of the market and the elaboration of appropriate regulatory documents regulating the provision of a transparent system for identifying PDs, defining obligations and privileges for PDs, setting requirements to the market-making, to securities quotes, measures in relation to improper performance by a PD of its obligations, etc.

As regards the implementation of the PDs institution, taking into account the existing realities in the development of the government securities market, it is possible to use a consistent approach. At the initial stage, it is possible to reduce the current number of players participating in the initial offering of government securities of the Ministry of Finance, for example, by excluding one or several categories of participants, while excluding the possibility of PD's clients participating in primary auctions, which will help increasing the number of transactions in the secondary market.

In future, as the securities market develops, a transition to the full-fledged institution of PDs with a limited number of participants should be made.

The development of an active market makers system and the creation of the PDs institution will allow significantly increase efficiency of the government securities market and its attractiveness for investors, including foreign ones.

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MORTGAGE MARKET IN KAZAKHSTAN: ANALYSIS AND THE DEVELOPMENT PROSPECCTS

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This Paper is devoted to the review of the housing market development in the Republic of Kazakhstan in the environment of pandemic and post-pandemic as well as of the impact of recent developments on the rise in prices of a square meter of residential property.

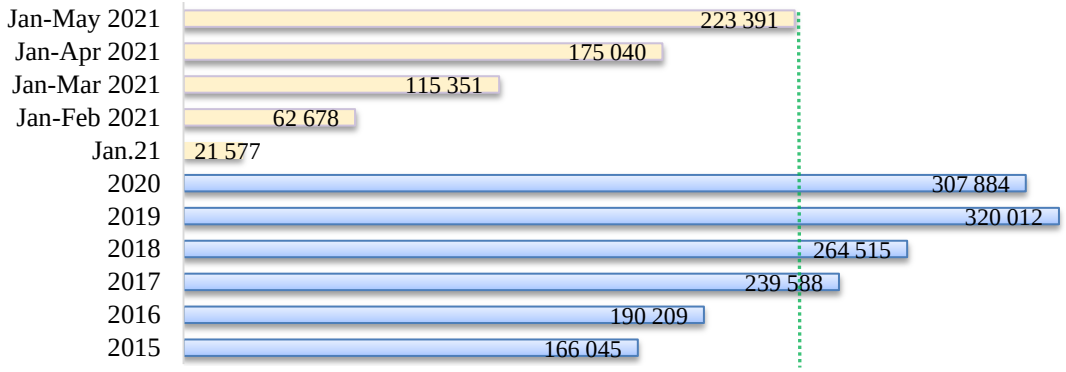
Key Words: real estate, housing prices, mortgage lending, concessionary mortgage.
JEL-classification: R31, R21, E310, R38.

Mortgage lending is one of the main drivers for development of the modern housing market, thanks to which there is an opportunity to improve living conditions, increase the affordability of housing, and thus create prerequisites for the further development of residential construction in Kazakhstan. The coronavirus pandemic in 2020 had a significant negative impact both on the global economy as a whole and directly on that of Kazakhstan. In particular, the introduction of the state of emergency in March-April 2020, a fall in the real sector of the economy and the growing inflation affected earnings of the population and, consequently, caused a decrease in the purchasing power of people, which, in turn, led to reduction in the demand for housing and also to the decreased volumes of mortgage lending. As a result of imposition of quarantine restrictions in April-May 2020, there was a significant decline in home sales. The number of completed transactions for the purchase and sale of residential property during this period fell by 20%.

The implementation of economic measures to support business and the population in 2020 by the government as well as the continuing development of the government mortgage programs allowed not only to restore the dynamics of the housing market from the middle of 2020 but also to give an impetus to a several-fold increase in the demand for home purchases at the end of 2020 and the beginning of 2021. A prerequisite for the increased interest of the population in buying housing was the program enabling Kazakhstani people to use a part of their retirement savings for improving living conditions. So, for example, according to the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, in March 2021 home sales increased by 78% compared to March of the previous year (Figure 1).

Figure 1

Number of purchase/sale transactions 2015-2021 (in units)



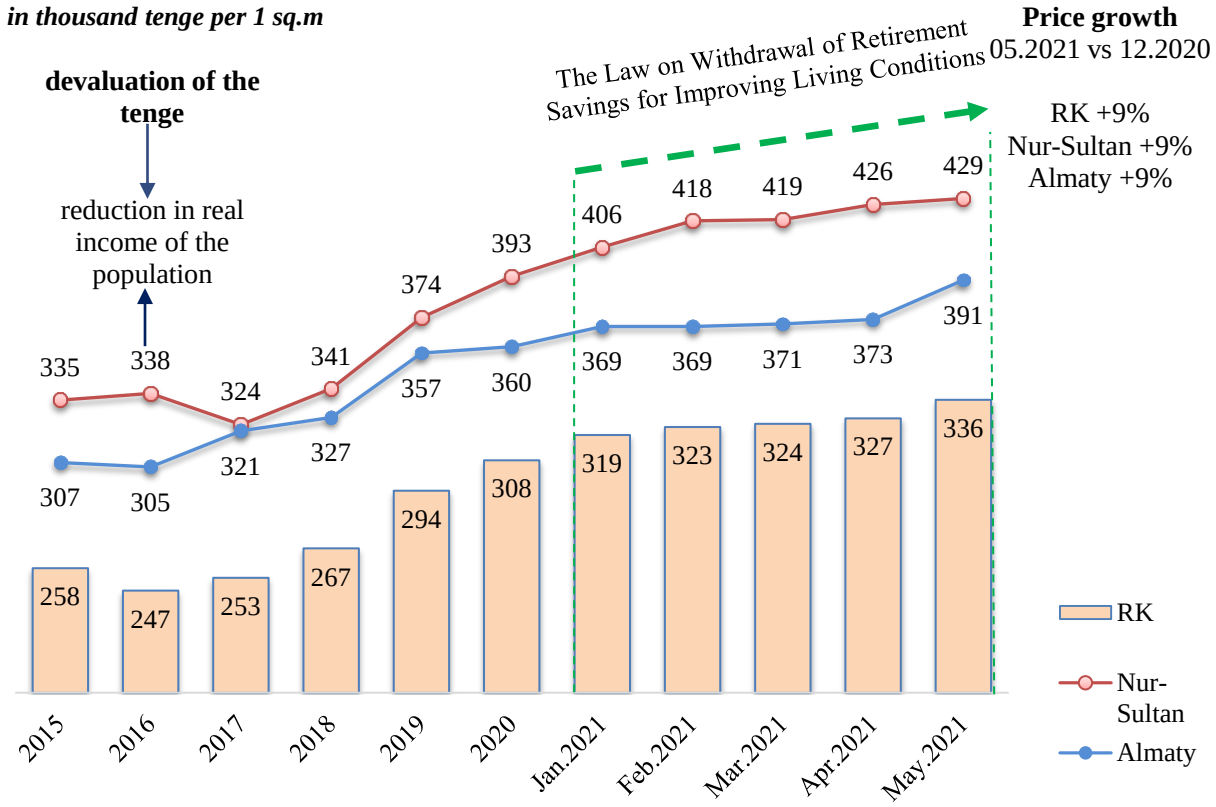
Source: data from the BNS ASPR RK

The period from January through May 2021 has been the peak-period in terms of the quantity of completed housing purchase-and-sale transactions among the country's population, with the quantity of transactions completed during the period reaching 223 391. Moreover, the above volume of transactions concluded during five months of 2021 exceeded the volume of transactions completed during 2015 and 2016 by 35% and 17%, respectively. About a half of the total increase in transactions made in January-May 2021 were in the cities of Nur-Sultan and Almaty as well as in Mangistau and Karaganda regions, with each of them accounting for more than 10% of the total volume.

A sharp growth in the demand for housing and the number of transactions made gave rise to a corresponding increase in prices for the real estate itself. If in the second half of 2020, the cost of primary and secondary housing grew at least by 1% per month on average, since January 2021 the growth rate of new and secondary housing has accelerated to 4% and 7%, respectively. Over five months of 2021, prices for new housing in Kazakhstan as a whole have increased by 9% (Figure 2). A similar growth was observed in the cities of Nur-Sultan and Almaty.

Figure 2

Dynamics of price for new housing in 2015-2021 (in thousand tenge)

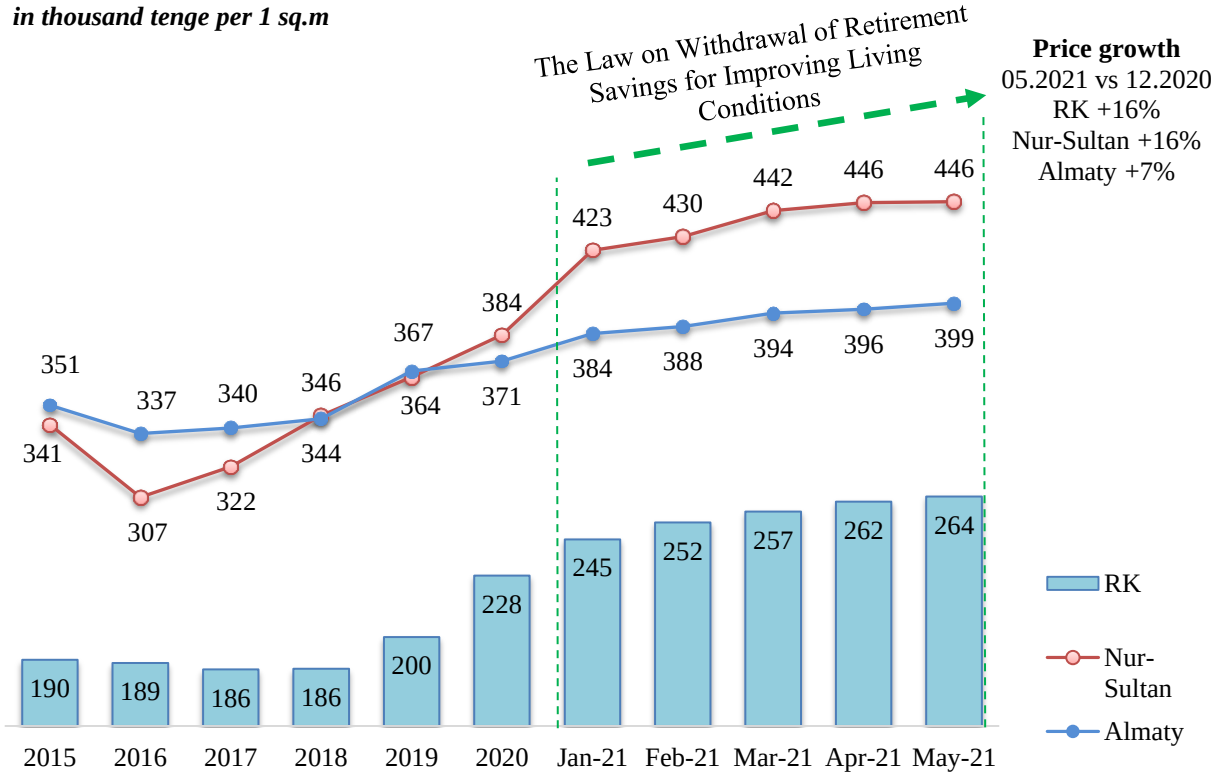


Source: data from the BNS ASPR RK

However, the largest growth of the cost of housing in this period was observed in the secondary housing market (Figure 3). Thus, for example, one square meter of housing went up by 16% in Kazakhstan on average, the rise in the price of 1 square meter in the cities of Almaty and Nur-Sultan made up 7% and 16%, respectively.

Figure 3

Dynamics of price for secondary housing in 2015-2021 (in thousand tenge)



Source: data from the BNS ASPR RK

The main objective in the implementation of mortgage lending in Kazakhstan is to solve the problem of ensuring affordability of comfortable housing for people, since the people's need for housing is the main element that characterizes the quality of life.

Based on the data from the Bureau of National Statistics, Table 1 shows the estimation of the affordability of purchasing a home with an area of 30 sq. meters. If we assume that only the minimum amount equal to the subsistence rate will be spent on current expenses from the monthly income (34 302 tenge according to the Law No. 379-VI Republic of Kazakhstan "On the Republican Budget for 2021-2023" dated December 2, 2020), and the cost of housing will be indexed annually to the inflation rate (the average rate taken is 7%), then in order to purchase a home with a floor area of 30 sq. meters, the longest period for savings will be in the city of Shymkent - 6.7 years, in the city of Turkestan - 5.1 years, and in the cities of Petropavlovsk and Kokshetau – five years each.

Table 1

Estimation of Affordability of Home Purchase with a Floor Area of 20 sq.m

City	Price of sq.m in May 2021, in tenge	Average monthly nominal wage of one employee in Q1 2021, tenge	Wage minus subsistence rate (34 302 tenge), tenge	Apartment with a floor area of 30 sq.m (according to the UN international standards), tenge	Cost of such apartment, incl. average annual inflation of 7%, tenge	Saving period (in years)
Almaty	390 994	268 463	234 161	11 729 820	12 550 907	4.5
Nur-Sultan	428 789	307 546	273 244	12 863 670	13 764 127	4.2
Aktau	240 957	344 329	310 027	7 228 710	7 734 720	2.1
Aktobe	193 155	196 060	161 758	5 794 650	6 200 276	3.2
Atyrau	314 501	405 801	371 499	9 435 030	10 095 482	2.3

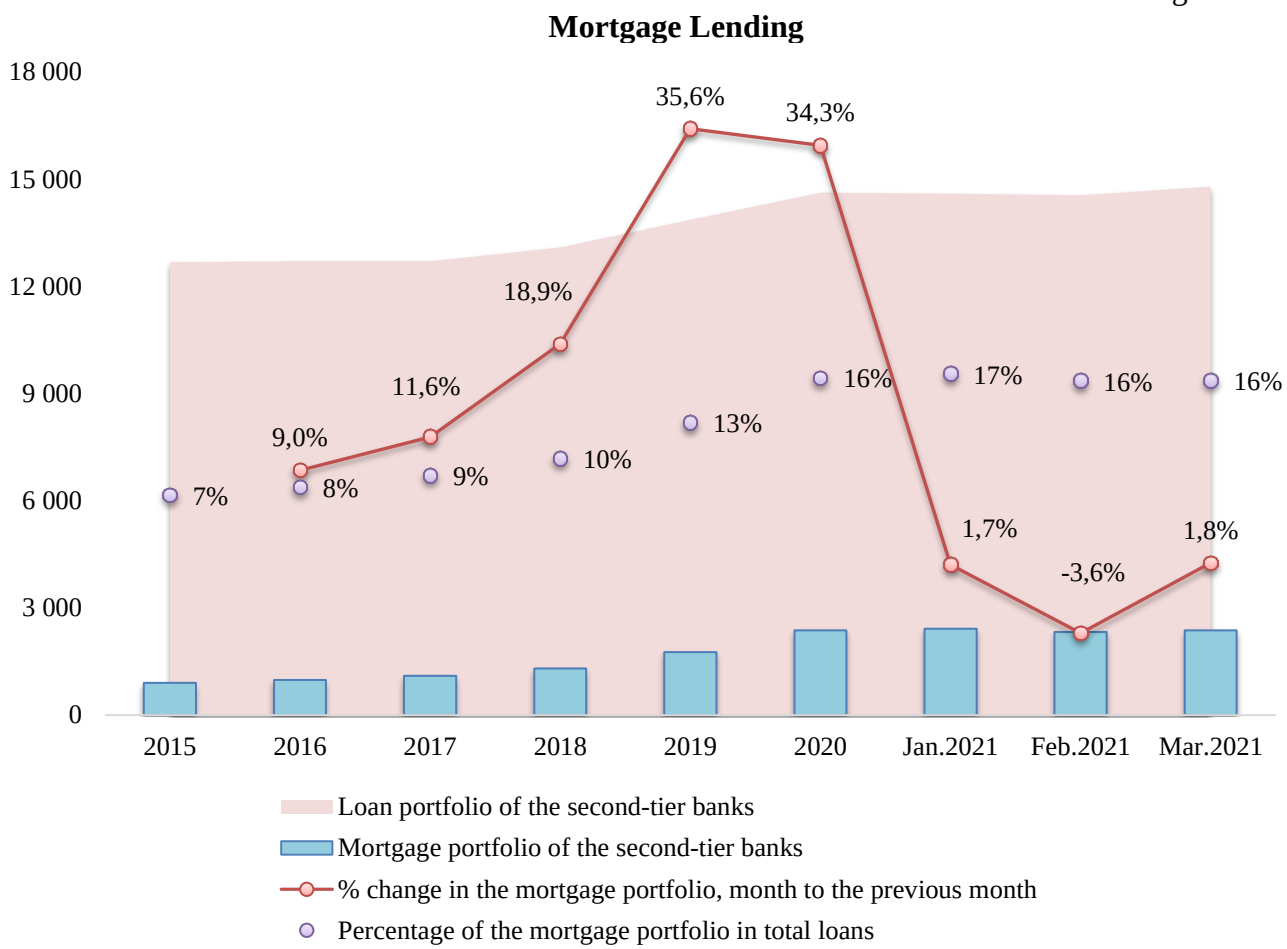
Karaganda	265 177	220 586	186 284	7 955 310	8 512 182	3.8
Kokshetau	246 473	166 698	132 396	7 394 190	7 911 783	5.0
Kostanai	267 347	179 952	145 650	8 020 410	8 581 839	4.9
Kyzylorda	164 851	194 678	160 376	4 945 530	5 291 717	2.7
Pavlodar	265 097	201 956	167 654	7 952 910	8 509 614	4.2
Petropavlovsk	249 466	166 698	132 396	7 483 980	8 007 859	**5.0**
Semey	209 173	213 943	179 641	6 275 190	6 714 453	3.1
Taldykorgan	179 098	188 850	154 548	5 372 940	5 749 046	3.1
Тараз	149 666	176 884	142 582	4 489 980	4 804 279	2.8
Turkestan	274 182	178 479	144 177	8 225 460	8 801 242	**5.1**
Uralsk	200 238	217 998	183 696	6 007 140	6 427 640	2.9
Ust-Kamenogorsk	269 909	213 943	179 641	8 097 270	8 664 079	4.0
Shymkent	355 782	175 858	141 556	10 673 460	11 420 602	**6.7**
Kazakhstan	**335 539**	**230 829**	**196 527**	**10 066 170**	**10 770 802**	**4.6**

Source: data from the BNS ASPR RK

Let us analyze the development of mortgage lending since 2015, when mortgage loans only in the national currency started to be provided in Kazakhstan and all previously provided foreign currency mortgage loans were refinanced in the tenge. The reason for the start of the transition of mortgage lending in the tenge was a sharp devaluation of the tenge against the US dollar in August 2015 – the national currency depreciated from 188.38 tenge to 255.26 tenge. Depreciation of the national currency had a severe impact on the cost of housing during this period since there was a strong dependence of the cost of housing on the US dollar exchange rate in Kazakhstan. While the cost of housing was growing at that moment, the consumer demand for more expensive square meters decreased, thus causing a reduction in the volume of mortgage lending.

To stimulate the people's demand and increase affordability of housing, starting in 2018, new government mortgage housing programs were launched on preferential terms, such as "7-20-25", "Baspana Hit", "Orda" "Bakytty Otbassy", "5-10 -25", "5-20-25"; this led to the displacement of all market-based programs that existed at that time by the government programs. So, for example, only Otbassy Bank JSC ("Housing Construction and Savings Bank" JSC) accounted for 56% of the share of all mortgage loans issued in 2020. Including the housing mortgage programs "7-20-25" and "Baspana Hit", the total share of government programs reached 90%.

Figure 4

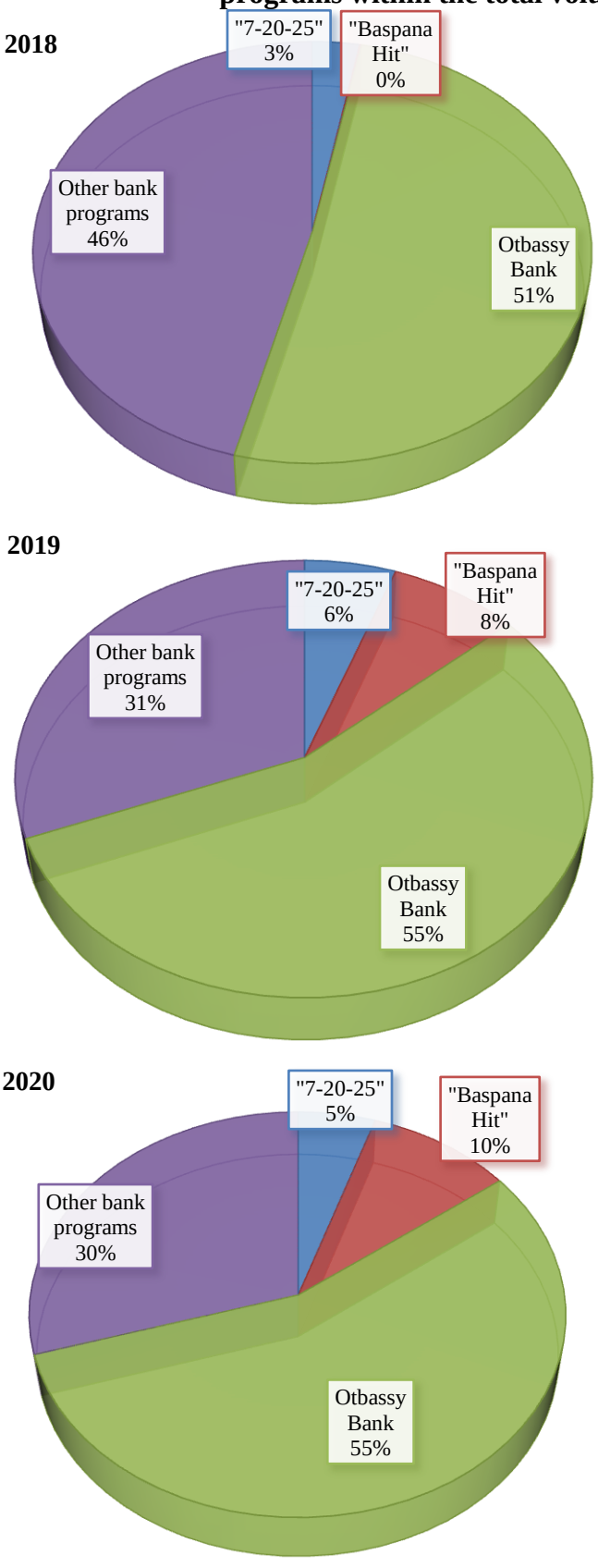


Source: NBK's data

Since 2015, provision of mortgage loans in foreign currency started to go down in the country from 15% to 0% in 2020 owing to the implementation of the Program for Refinancing of Housing Mortgage Loans; under the program, the loans provided in foreign currency before January 1, 2016, were refinanced at the NBRK rate as of August 18, 2015 (188.35 tenge per the US Dollar)	In 2018, a 35.6% growth of the volume of mortgage lending occurred due to the launch of concessional housing mortgage programs: "7-20-25", "Baspana Hit", "Orda", "Bakytty Otbassy", "5-10-25", "5-20-25"	The volume of mortgage lending in 2021 decreased due to the fact that contributors decide to use their pension money for partial or full repayment of debt on mortgage loan

Figure 5

Dynamics of the volume of mortgage loans disbursed under the government programs within the total volume of mortgage lending



In 2018, the volume of mortgage loan disbursements under the “Baspana Hit” program made up 2 billion tenge only or 0.1% of the total volume of all mortgage loans.
However, already in 2020 this amount increased to 9 billion tenge, which already accounted for 10% in the total mortgage loan portfolio.

The amount of loans provided under the “7-20-25” program in the period from 2018 to 2020 increased by 81 billion tenge, from 39 to 121 billion tenge, and as at end-2020 accounted for 5% of the total volume of such loans.

Due to its specification and focus, the “Housing Construction and Savings Bank “Otbassy Bank” JSC is keeping the leading position in terms of the volume of mortgage loan disbursements accounting for 55% of the market in 2020.

Source: “KSF” JSC and “Otbassy Bank” JSC

Based on the above, the following conclusion can be made: there was a high demand for real estate in the housing market of Kazakhstan from February to April 2021 owing to availability of retirement savings for the acquisition of homes and improvement of living conditions. However, this phenomenon has a short-term effect due to the fact that contributors are drawing down their retirement savings. As a result, already in May 2021, the public interest in buying a home decreased in the real estate market, and sales decreased sharply – by 19% compared to April. Thus, the housing market may gradually return to its previous state – before the launch of the program on withdrawal of retirement savings to improve living conditions.

Nevertheless, the fundamental reasons for the rise in real estate prices – the appreciation of the US dollar exchange rate, the growth in the cost of construction and materials – continue to influence the housing market. In the second half of 2021, the situation with housing prices is expected to stabilize, and in the absence of any dramatic changes in economic terms in Kazakhstan and worldwide, it is possible that the cost of housing will be adjusted to the price level of the end of 2020. Utilization of the earmarked resources by the second-tier banks under the "Baspana Hit" program in 2021 and the completion of the "7-20-25" mortgage program in 2023 will push banks to develop their own mortgage programs, which, taking into account the cost of banking resources will cause the increase in the cost of mortgage programs. Thus, a centralization of the government mortgage housing programs will take place in the market with "Otbasy Bank"JSC as the only player, through which all programs of concessional lending for the purchase of real estate in installments or lease with subsequent redemption will be processed.

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