



НАЦИОНАЛЬНЫЙ БАНК КАЗАХСТАНА

Financial Stability Report of Kazakhstan 2022

Astana, 2023

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List of Acronyms and Abbreviations

\$/bbl.	US dollars per barrel of oil
ADB	Asian Development Bank
Agency	Agency of the Republic of Kazakhstan for Regulation and Development of the Financial Market
AIX	Astana International Exchange of Astana International Financial Centre
AQR	Asset Quality Review
BIN/IIN	business identification number / individual identification number
bln	Billion
BNS ASPR RK	Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan
bp	basis point
BTU	British thermal unit
CCEA	Common Classifier of Economic Activity
CCP	central counterparty
CIT	corporate income tax
CNY	Chinese yuan
COVID-19	coronavirus infection
CP	credit partnership
CPI	consumer price index
CB RF	Central Bank of Russian Federation
CSD	“Central Securities Depository” JSC
DA	domestic assets
DL	domestic liabilities
EAD	exposure at default
EAEU	Eurasian Economic Union
EAR	effective annual interest rate
EBRD	European Bank for Reconstruction and Development
ECB	European Central Bank
ECD	export customs duties on crude oil
EIA	US Energy Information Administration
EL	expected loss
EU	European Union
EUR	Euro
FAO	Food and Agricultural Organization
FRED	Federal Reserve Economic Data
FSAP	Financial Sector Assessment Program
FSR	financial stability report
FX	foreign exchange
GDP	gross domestic product
GQPS	government and quasi-public sector
GSs	government securities
HHI	Herfindahl-Hirschman index
HLA	highly liquid assets
HML	home mortgage loan
IBGP	bonds of the issuer with government participation
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IOs	insurance organizations

IPM	individual portfolio managers
JSC	joint-stock company
KASE	Kazakhstan Stock Exchange
KDIF	“Kazakhstan Deposit Insurance Fund” JSC
KSF	“Kazakhstan Sustainability Fund” JSC
KZT	Kazakhstan tenge
LCR	liquidity coverage ratio
LE	legal entity/entities
LGD	loss given default
MCI	monthly calculation indicator
MF RK/MF	Ministry of Finance of the Republic of Kazakhstan
MFO	microfinance organization
mln	million
MRR	minimum reserve requirements
NBK/National Bank	National Bank of the Republic of Kazakhstan
NDF	non-deliverable forward
NF RK/NF	National Fund of the Republic of Kazakhstan
NPL/NPL 90+	loans past due 90+ days on principal and/or interest accrued (non-performing loan)
NSFR	net stable funding ratio
OE	owners' equity
OEMFA	organization engaged in microfinance activities
OFAC	the Office of Foreign Assets Control
OFCP	open foreign currency position
PD	probability of default
PDL	payday loan
pp	percentage point
PS	pawnshop
QPS	quasi-public sector
RB	republican budget
RC	registered capital
RDA	ratio of placing part of the bank's resources in domestic assets
RK	Republic of Kazakhstan
RUB	Russian ruble
SCB	State Credit Bureau JSC
SDN	Specially Designated Nationals And Blocked Persons
SME	small and medium-sized enterprises
sq.m	square meter
SRC MF RK	State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan
STB	second-tier bank
thous.	thousand
TONIA	Tenge Overnight Index Average
TWINA	Tenge Week Index Average
trln	trillion
UAPF	“Unified Accumulative Pension Fund” JSC
US	United States
US\$/USD	United States dollars
US Fed	United States Federal Reserve System
VAT	value added tax
YoY	year-on-year

Key Findings

Macroeconomic Conditions

In 2022, the global economic growth slowed down amid geopolitical uncertainty. Disruption of logistics chains and increased sanctions rhetoric led to a rise in world energy and food prices. The increased imbalance in the markets exacerbated the already high inflationary pressure in the world.

The widespread tightening of the monetary policy by central banks of developed countries in order to mitigate inflationary pressure has led to lower expectations for the global economic growth, which amounted to 3.5% by the end of 2022. The raising of policy rates of developed economies puts pressure on the currencies of emerging markets, boosting inflation expectations further.

Kazakhstan's economy also faced serious challenges in 2022 due to a record high consumer inflation, tighter monetary conditions, and high volatility in the foreign exchange market. Despite high oil prices in 2022, production declined due to maintenance work at major oilfields. The GDP growth in Kazakhstan slowed to 3.2% (4.3% in 2021) and was supported mainly by agriculture, thanks to a record grain harvest in 2022. At the same time, investment activity increased in 2022, rising from 3.7% in 2021 to 7.9%, however, its level remains low relative to GDP.

In order to maintain financial stability in Kazakhstan in 2022, various measures were taken to increase the attractiveness of the tenge and stabilize the foreign exchange market. Thus, the NBK raised the base rate to 16.75% during 2022 to stabilize the inflationary background in the medium term and reduce inflation expectations. At the same time, the National Bank, together with the Government of Kazakhstan, adopted a program for protection of tenge deposits that provides for compensation for retail deposits in the tenge.

Government Securities Market

In 2022, high inflation expectations in the environment of unstable geopolitical situation directly affected the cost of securities and the maturity structure. The investment horizon of market participants shifted to short- and medium-term segment. Despite the demand from voluntary market participants, reduction of their risk appetite to purchase "long" securities resulted in an increase of required yield. The need for debt financing of the MF RK in 2022 was realized mainly at the expense of captive investors.

Insufficient level of liquidity and efficiency limits the opportunities of the GSs market to act as a benchmark for the cost of borrowed capital, which somewhat reduces the efficiency of the pricing process in other segments of the financial market. To some extent, this is driven by a limited number of active institutional and international investors. Increasing decentralization and expanding the perimeter of investors with different investment objectives will reduce the existing gap between supply and demand prices, which, in turn, will stimulate the increase in activity both in the primary and secondary GSs market.

Residential Real Estate Market

In 2022, real estate prices in both the primary and secondary markets continued to surge. The average number of completed sales transactions per month decreased by approximately one-quarter compared to 2021, but continued to exceed the 2020 levels. Amid rising housing prices, increased demand for real estate, and geopolitical uncertainty, the annual growth of rental costs for a well-equipped home accelerated significantly. The sizable decline in the number of transactions in the real estate market was primarily stemming from the increase in housing costs. Concessional mortgage lending had a positive impact on the consumer demand for first-time home buyers, but distorted the market pricing by continuing to crowd out mortgage lending at market rates.

Lending Activity of Banks

The geopolitical shock in early 2022 led to the increased uncertainty in the financial market. The withdrawal of a number of subsidiaries of major Russian banks from the Kazakh market changed the structure of the banking sector and increased its concentration. At the same time, Kazakhstan's banking sector showed its soundness and continued its stable functioning. Thus, during 2022, the loan portfolio of banks continued to grow. The retail segment served as the main driver of growth: the ramp-up of loans to individuals over the year has significantly exceeded the increase in loans to legal entities. Consumer and mortgage loans accounted for the largest lending volumes in the retail lending segment.

Loan Portfolio Quality

In 2022, according to the National Bank's analytical metrics, there was a moderate decline in the quality of bank loan portfolio because of the growth of problem loans. The share of doubtful loans increased in the corporate portfolio, while in the retail portfolio both the shares of non-performing and doubtful loans went up. Meantime, the decrease in the loan loss provisioning ratio in this environment increases the banking sector's vulnerability.

The growth of doubtful loans in the corporate portfolio occurred predominantly among loans provided in 2021, which may indicate the accumulation of risks and requires additional monitoring. The volume of doubtful loans among loans originated in 2021 increased significantly in the first half of 2022 due to the influence of the state of emergency in January, uncertainty about the implications of sanctions against the Russian Federation for Kazakhstan in March, as well as subsequent global logistics challenges and price increases.

Risks associated with concentration of large borrowers are gradually decreasing. However, the quality of loans of the banking sector's largest borrowers is worse than among other borrowers, especially in relation to loans provided in foreign currency.

The main deterioration in the loan quality of the corporate portfolio is observed among loans provided in 2021, among which small businesses predominate¹. At the same time, the loan quality of small businesses is the lowest among business entities; they are also more likely to go bankrupt. Thus, the bulk of registered legal entities are small businesses, of which only 2.5% have bank loans. The low penetration of credit among such borrowers is explained by the limited number of solvent enterprises.

The deceleration in the growth rate of the unsecured consumer loan portfolio contributed to a minor decline in the growth rate of the retail portfolio as a whole. The high level of digitalization of banking services simplified the procedure for providing consumer unsecured loans to the population. Fast loan processing, convenience of receiving the service without leaving home contributed to the increased demand of the population for this type of product. Accordingly, the high profitability of this product led to the revision of business models of most banks and their further reorientation towards unsecured consumer lending.

The mortgage portfolio of banks continued to grow. The quality of loans in the retail loan portfolio continued to remain high. However, there is a slight increase in problem loans. Growth in NPL90+ loans is observed among loans originated in 2021, which stems from realization of pent-up demand after restrictions imposed during the pandemic.

Another important trend observed in recent years is an active growth of the microfinance market. Microfinance organizations (MFOs) serve as the main growth driver for organizations engaged in microfinance activities (OEMFAs); they mainly provide loans for consumer purposes. In response to the active development of the microfinance market with some signs of deterioration in loan quality, regulation of this type of activity has been strengthened in order to reduce risks and maintain the market stability.

¹ The small business category includes legal entities with up to 100 employees

Liquidity and Funding Risks

At year-end 2022, the volume of highly liquid assets grew, while liquidity ratios of most banks continued to remain at the levels exceeding the regulatory requirements. Despite the presence of shocks due to both external and internal factors, liquidity risks in the banking sector continued to remain moderate.

On the funding side, risks stemming from its structure persisted, being caused by a low share of effectively term funding. The level of concentration of the largest sources of funding in the banking sector's liabilities remained unchanged compared to the previous year. At the same time, some diversification of the funding base was observed due to a reduction in the share of QGS. Amid the heightened geopolitical uncertainty, the share of non-residents in retail funding increased.

The level of dollarization in banks continued to decline, however, the share of foreign currency deposits remains significant. Nevertheless, the direct foreign exchange risk was limited; the net open foreign exchange position in the banking system did not exceed the thresholds, despite individual episodes when the pressure was growing.

I Macroeconomic Conditions

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1.1 Macroeconomic Conditions

1.1.1 Global Challenges to Financial Stability

The global economy in 2022 experienced several shocks of economic, financial and geopolitical nature at once: persistently high inflation rates for the first time in the last few decades, especially in the US and major European countries; subsequent tightening of monetary policy in both developing and developed countries; a downturn in China and deterioration of the geopolitical environment. In the context of high uncertainty in the global environment, risks to financial stability have increased significantly.

High inflation and monetary tightening in advanced economies exerts pressure on emerging markets

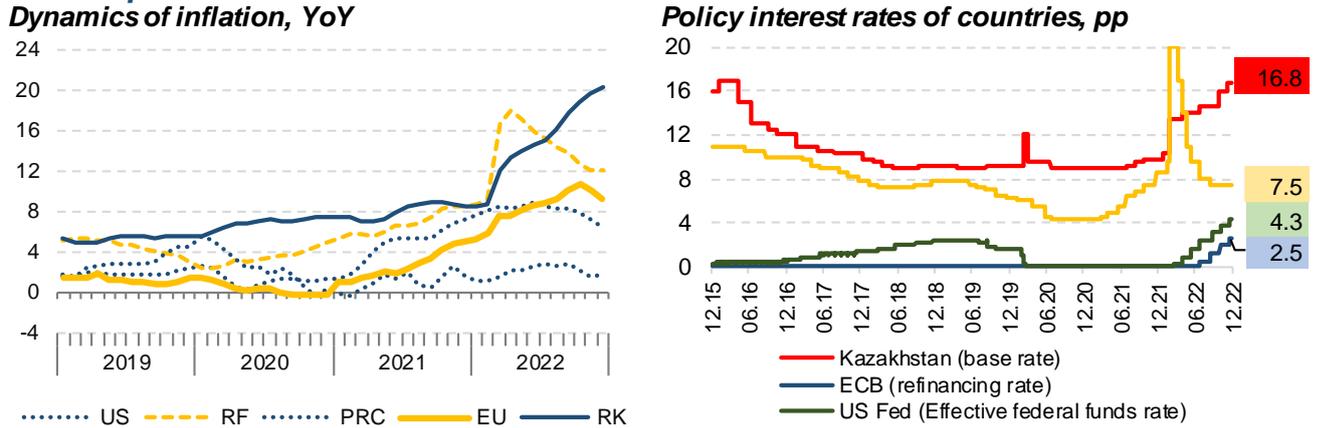
Developing countries face multiple vulnerabilities related to high costs of foreign borrowing and persistently high inflation, volatility in commodity markets, growing uncertainty about the global economic outlook, and geopolitical conditions.

The onset of global inflation was driven more by a prolonged period of stimulative monetary policy, fiscal support during the 2020-2021 pandemic and a hike in food prices in 2021. At the beginning of 2022, the escalation of geopolitical events around the world, subsequent supply chain disruptions and the accompanying increases in oil, gas, and food prices served as additional drivers of inflation in 2022. Thus, inflation in 2022 exceeded targets in many regions of the world, reaching the highest levels in decades. In particular, price growth in 2022 reached more than 9% in the US, almost 11% in Europe and 20% in Kazakhstan (*Figure 1.1*). Meantime, inflation expectations kept increasing everywhere.

Starting from 2021, developing countries began to raise interest rates, while developed countries also proceeded with the policy of key rate increases from 2022 (*Figure 1.1*). As the signs of sustained inflationary pressure intensified, central banks in advanced economies began to adjust their signals about the timing of monetary policy

normalization, terminating asset purchase programs initiated or expanded during the pandemic, moving into a cycle of key interest rate hikes.

Figure 1.1 Central banks of countries were raising interest rates in response to inflation pressure



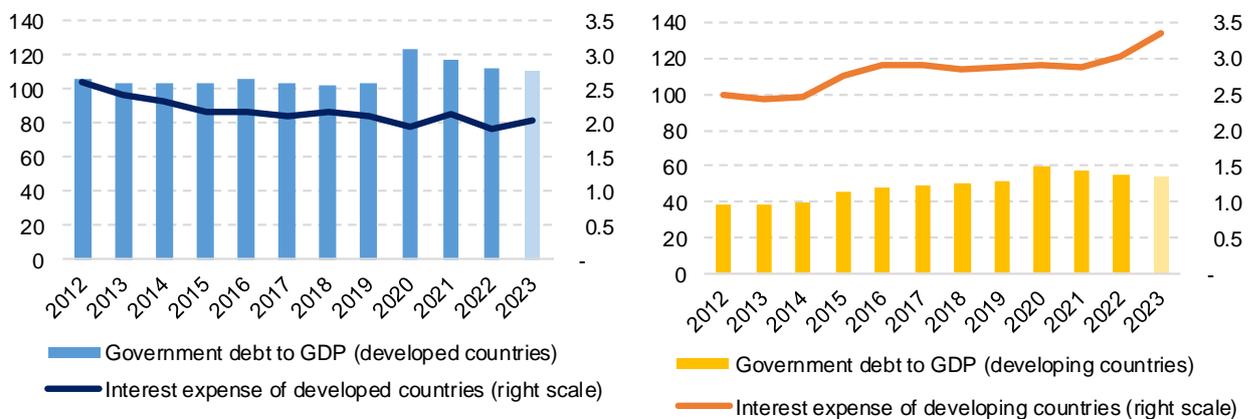
Source: FRED, BNS ASPR RK, US Fed, ECB, Bank of Russia

The pace of policy tightening in terms of both frequency and magnitude accelerated in 2022, gradually leading to tighter financial conditions. The main objective of normalization of monetary conditions was to slow down aggregate demand in order to eliminate heightened inflationary pressures. Thus, in 2022 the US Fed raised the policy rate from 0-0.25% to 4.25-4.5%. For the first time in 11 years, the ECB raised the benchmark interest rate from 0% to 0.5%, and subsequently raised it four more times during the year to 2.5%. In 2022, the CB RF raised the key rate to 20% given the aggravation of geopolitical conflict, with subsequent reduction to 7.5%.

Growing yields on government bonds in developed economies have increased funding costs for many countries. The sharp rise in interest rates has slowed the pace of economic recovery, leading to a sharp decline in asset value and stress for financial institutions and businesses.

Figure 1.2 Government debt of emerging economies remains at the upper bound of historical ranges

Government debt of countries of the world, pp



Source: IMF, Fiscal Monitor "Helping People Bounce Back", October 2022

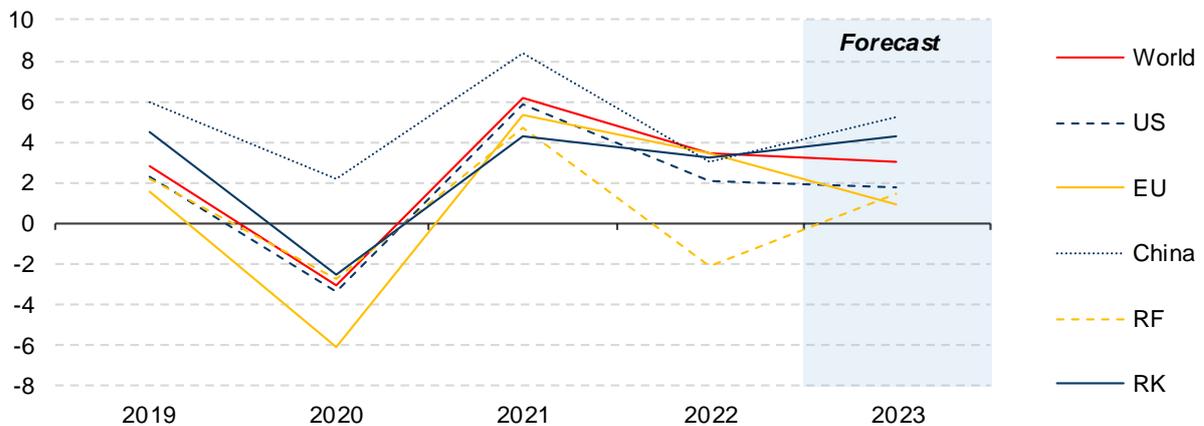
Note: Data is provided excl. China. Columns for 2022–2023 is projected data

Public debt burden has increased significantly in most emerging economies, depleting the fiscal capacity to absorb new shocks and increasing refinancing risks. On average, the public debt to GDP ratio in emerging economies increased from 38% in 2012 to 55% of GDP in 2022 (Figure 1.2).

1.1.2 External Macroeconomic Conditions

According to the IMF data for 2022, the global economic growth slowed to **3.5%** from **6.2%** in 2021 (WEO, 2023Q1)² on the back of geopolitical tensions, rising energy prices and monetary tightening by central banks (*Figure 1.3*). This sharp nosedive reflects a significant slowdown in the economic growth of the largest economies: a contraction in the US GDP in the first half of 2022 and a contraction in the Eurozone GDP in the second half of 2022, just as the imposition of self-isolation and blocking regimes due to China's "zero-tolerance COVID-19" policy.

Figure 1.3 The global economic growth was positive despite a slowdown in 2022
The real GDP growth estimate and forecast, YoY, pp



Source: IMF WEO, July 2023

The recovering growth in China could be slowed by larger-than-expected economic turmoil caused by a resurgence of COVID-19 cases and a sharp deceleration in activity in the real estate sector (*Box 3.1*). The IMF projects a further decline in the growth rates of the global economy to 3.0% in 2023 (WEO, July 2023).

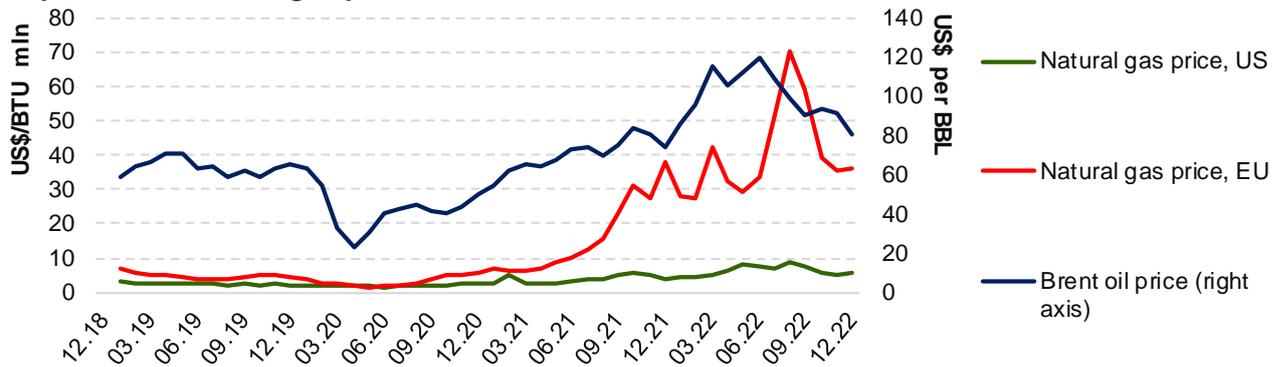
At the same time, due to fears about a slowdown in the global upturn, the imposition of an embargo on Russian oil and escalation of geopolitical risks, the price of Brent oil in 2022 was extremely volatile throughout the year. Trading at the beginning of the year started at US\$85/bbl and ended at around US\$81/bbl, however, prices reached triple digits during six months of 2022 (*Figure 1.4*). According to the World Bank, in 2022 the average price was 99.8 US\$ per barrel.

Prices for spot purchases of natural gas reached the highest levels in the last decade exceeding the equivalent of 250 US\$ per barrel of oil³ (EIA, World Energy Outlook 2022). Coal prices also reached record levels in the third quarter of 2022 ahead of the heating season due to expectations of cold winter in Europe. According to the International Energy Agency, rising prices for gas and coal make 90% of the contribution in the growth in world electricity prices.

² IMF | World Economic Outlook Update: Inflation Peaking amid Low Growth, 2023.

³ The barrel equivalent is used by oil and gas companies in financial statements as a single measure to estimate the production and reserves of oil and natural gas (approximately equaling to 5,800 cubic feet of natural gas (58 therms))

Figure 1.4 Prices of oil and natural gas reached the all-highs over the recent decade
Oil price, US and EU gas price



Source: World Bank

Note: BTU (British thermal unit) is defined as the amount of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit. One barrel of oil contains 5.825·10⁶ BTU. One standard cubic foot of natural gas is, as a rough approximation, equal to 1000 BTU.

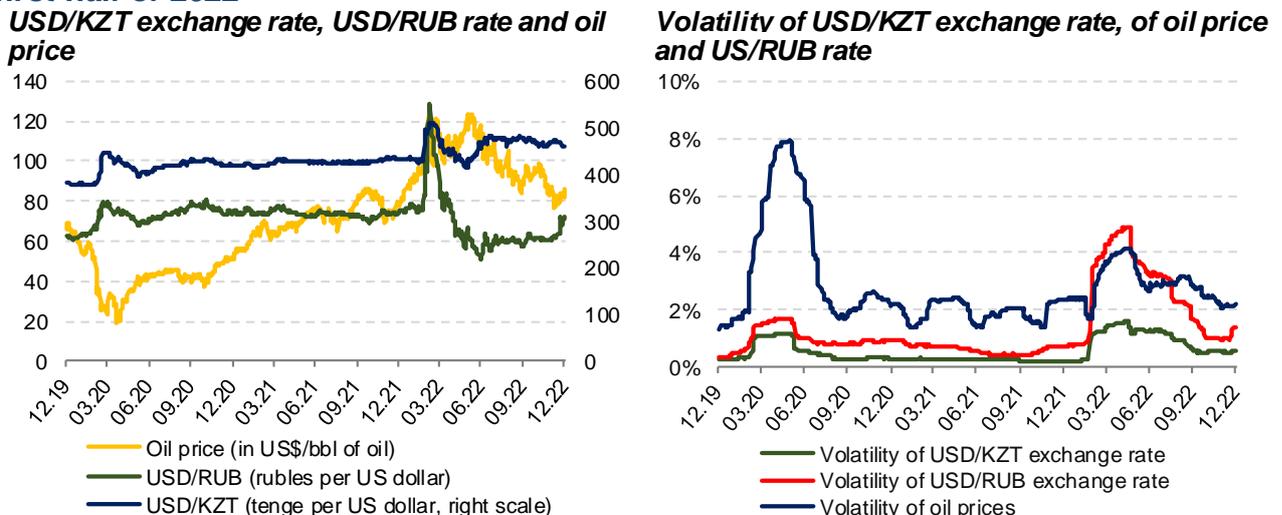
World food prices in 2022 went up by 14.3% compared to 2021 (FAO⁴, Food Price Index, 2022), which, coupled with a surge in 2021, has caused significant market tensions and led to serious food security concerns in low-income net food importing countries. Despite high volatility, the growth rate of the FAO Food Price Index had slowed at the end of 2022.

1.1.3 Internal Macroeconomic Conditions

Dynamics of the National Currency Exchange Rate and the Foreign Exchange Market

In 2022, the financial sector of Kazakhstan was exposed to both internal and external shocks, which had realized mainly through the currency channel. Thus, in 2022, the foreign exchange market was extremely unstable amid the growing uncertainty about the cost of energy resources, worsening geopolitical situation and tightening monetary policy in developing countries, as well as the strengthening of the US dollar against other currencies.

Figure 1.5 Volatility of the tenge exchange rate showed a multi-fold increase in the first half of 2022



Source: NBK, Bloomberg, NBK computations

Note: Volatility has been calculated by finding a standard deviation in the logarithm of changes over 60 days

In the first quarter of 2022, despite high oil prices, imbalances in the foreign exchange market of Russia because of the increased sanctions rhetoric and a strong depreciation of the ruble in Kazakhstan, the demand for foreign currency expanded, putting pressure on the

⁴ Food and Agriculture Organization of the United Nations, Food Price Index (2022).

tenge exchange rate. Thus, from the end of February 2022, the tenge exchange rate weakened dramatically, reaching a peak of 512.17 tenge per US dollar in mid-March 2022 (*Figure 1.5*). In May 2022, the tenge exchange rate began to strengthen, reaching an annual low of 414.79 tenge per US dollar. Geopolitical tensions increased in late February; volatility of the ruble against the US dollar had intensified extremely, affecting volatility of the tenge exchange rate against the US dollar. Volatility was gradually decreasing in the second half of 2022.

To maintain financial stability, various measures had been taken in Kazakhstan in 2022 to increase attractiveness of the tenge and stabilize the foreign exchange market. Thus, the NBK was raising the base rate from 9.75% to 16.75% during 2022 (*Figure 1.1*) in order to stabilize the inflationary background in the medium term as well as to bring down inflation expectations. During this period, currency interventions were also conducted (on certain days) to prevent speculative fluctuations, trading on the KASE exchange platform was carried out in the form of a Frankfurt auction, the rate of mandatory sale of currency by quasi-government sector companies was increased from 50% to 75%, and the export of foreign cash was limited. At the same time, the National Bank, together with the Government of Kazakhstan, adopted a program for protection of the tenge deposits, which provides for compensation (premium) on deposits of individuals in the tenge (*Box 5.1*). The announcement of the Program was a timely and necessary mechanism for neutralizing the risks of the banking sector and had a positive impact on strengthening the stability of funding of the banking sector, as well as increasing the attractiveness of the tenge deposits.

Inflation

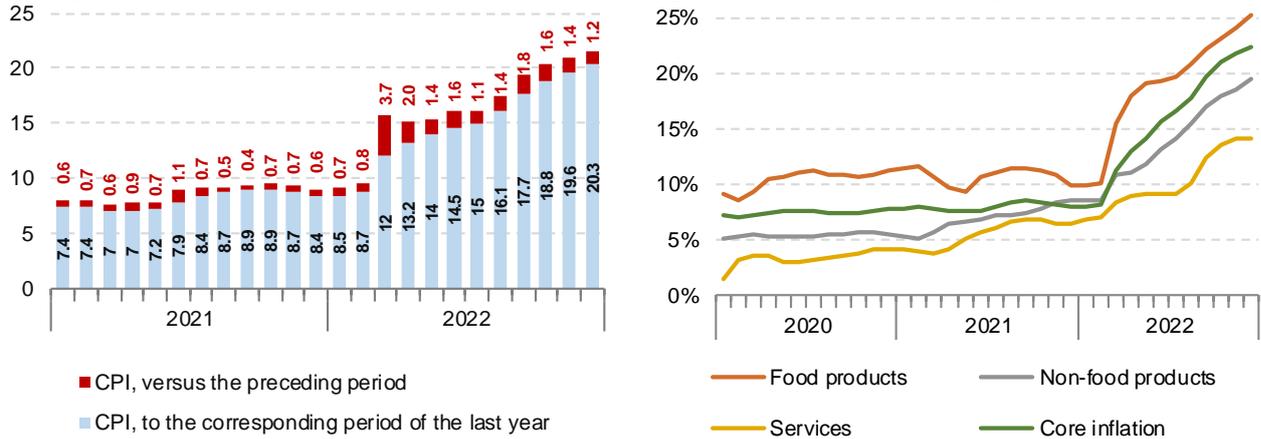
In 2022, the inflation rate in Kazakhstan had exceeded the target of 4-6% in March and amounted to 20.3% in December 2022 (at end-2021 inflation was 8.4%). Starting from March 2022, all inflation components demonstrated acceleration (*Figure 1.6*).

The largest contribution to acceleration of the headline inflation was made by food prices, where the annual growth amounted to 25.3%. Within the structure of food inflation, the growth in prices for bread and bakery, cereals, dairy products, eggs, fruits and vegetables accelerated. An increase in prices for essential goods reduces the real income of the population, thus increasing the associated risks to the financial stability of households. In the structure of food products, sugar showed significant growth, with its prices rising by 64.9%.

The largest surge in prices for non-food products (19.4%) was observed among prices for personal hygiene products, clothing and footwear as well as detergents and cleaning products. Price controls on certain types of fuel and lubricants had a disinflationary effect. The main acceleration in inflation of paid services to the population (14.1%) occurred in the third quarter of 2022 due to a sharp increase in housing rent prices (39.8%). Annual growth peaked at 46.3% in October 2022 during a period of increased demand from Russian citizens amid the announcement of partial mobilization.

Expected inflation estimates remained high, reaching an all-time high since 2016 in December 2022. Thus, 66% of respondents expected faster price growth or persistence of current growth rates in the year ahead. A persistently high inflation is a major challenge, particularly for the most vulnerable households, and may increase the risk of social tensions.

Figure 1.6 Inflation in Kazakhstan reached the highest level over recent decades
CPI dynamics, pp **Dynamics of inflation components, YoY**

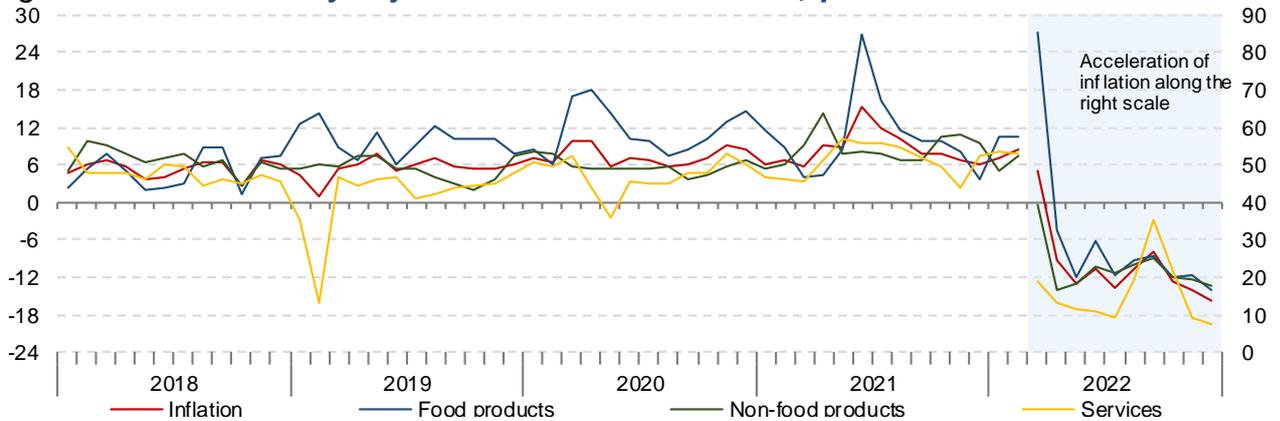


Source: BNS ASPR RK

Note: The base index, which excludes fruits and vegetables, utilities (regulated), railway transport, communication, gasoline, diesel fuel and coal is taken as core inflation

The analysis of seasonally adjusted inflation indicators shows that the inflationary background in annualized terms has been steadily at high levels since March 2022 (Figure 1.7). To stabilize inflationary processes in the medium term and to slow down inflation expectations, the National Bank proceeded to tighten the monetary policy by raising the base rate from 10.25% in January to 16.75% in December 2022.

Figure 1.7 Seasonally-adjusted annualized inflation, p



Source: BNS ASPR RK, NBK computations

Note: The diagram shows the annualized, seasonally-adjusted monthly data on the consumer price index and its components

Seasonal adjustment was performed using the X-12-ARIMA method from 2011 to 2022

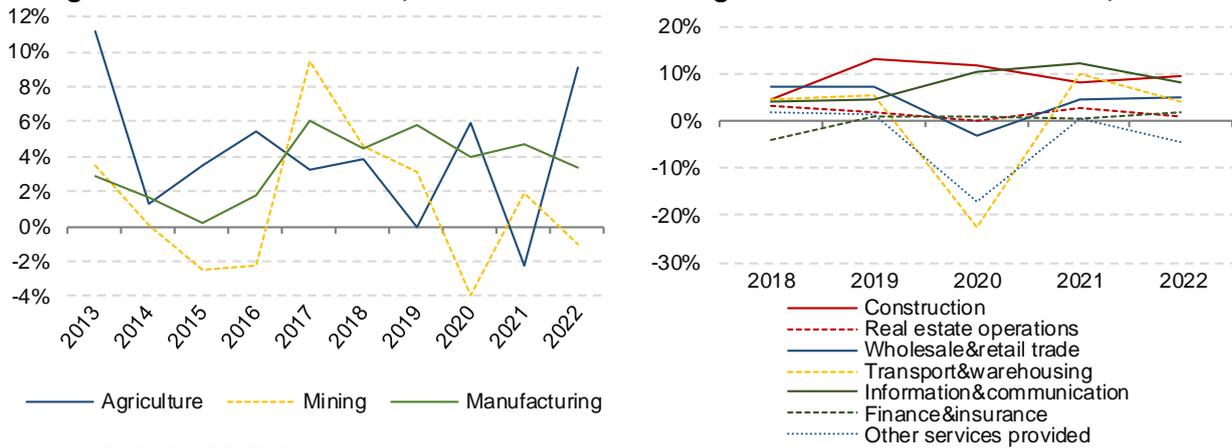
Economic Growth

At end-2022, the economic growth rate of Kazakhstan was 3.2%, demonstrating a decrease compared to 4.3% in 2021. Agricultural production increased by more than 9.1% due to a record grain harvest owing to favorable climatic conditions. Positive growth rates in the tradable sector (Figure 1.8) were also observed in the manufacturing industry. However, despite high world commodity prices, external shocks, disruptions in work at the Caspian Pipeline Consortium (CPC), as well as repair work at the large Kashagan oil field have negatively affected the mining industry. Thus, production volume in the mining industry decreased by 1% in 2022. The decrease in gas production was 1%, oil – 1.9%, other minerals – 7.6%.

At end-2022, production volume in the manufacturing industry increased by 3.4%. Growth in mechanical engineering amounted to 9.4%, including in the automotive industry – by 19.1%, in the manufacturing of electrical equipment – by 22.2%, in beverages – by

11.2%, in the chemical industry – by 10.2%, in the light industry – by 6%, food production – by 3.9%, in oil refining – by 1.9%.

Figure 1.8 The GDP growth in tradable sectors in 2022 was supported by agriculture
GDP growth in tradable sectors, YoY **GDP growth in non-tradable sectors, YoY**

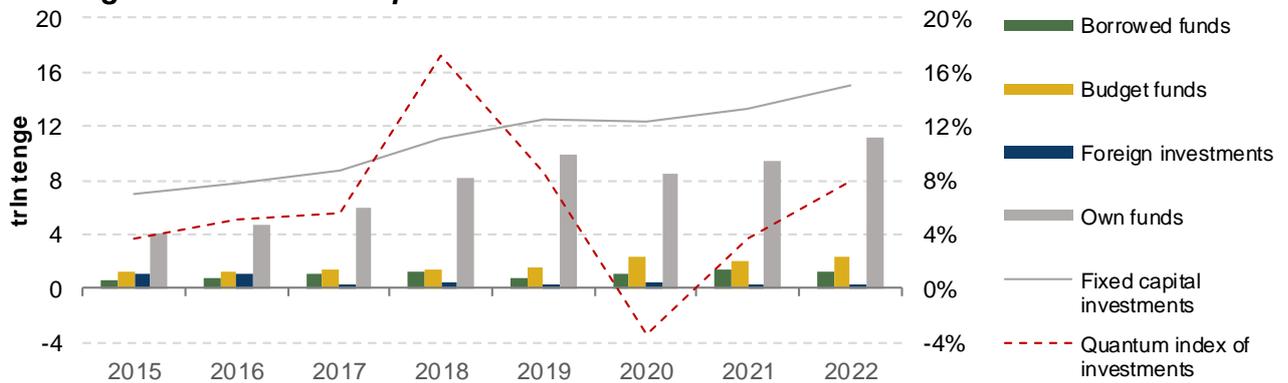


Source: BNS ASPR RK

After a decline in the economic activity in 2020 because of the COVID-19 pandemic, there has been a gradual recovery in the non-tradable sector from 2021. Thus, at the end of 2022, the main driver in the non-tradable sector was the construction sector, demonstrating a 9.4% growth, as well as wholesale and retail trade (5.0%) (Figure 1.8). The growth rate of the information and communications sector decreased to 8.0% in 2022 compared to 12.9% in the previous year, however, the continued trend towards digitalization after the COVID-19 pandemic period kept the sector at a relatively high level.

An important factor in ensuring sustainable economic growth is attracting fixed capital investments. Throughout 2021-2022, investments in fixed capital were gradually increasing from 13.2 trln tenge to 15.1 trln tenge (Figure 1.9). The growth rate of fixed capital investments accounted for 7.9%. Excluding the mining industry, fixed capital investments amounted to 10.6 trln tenge.

Figure 1.9 Trends in the growth of fixed capital investments increased in 2022
Funding sources of fixed capital investments

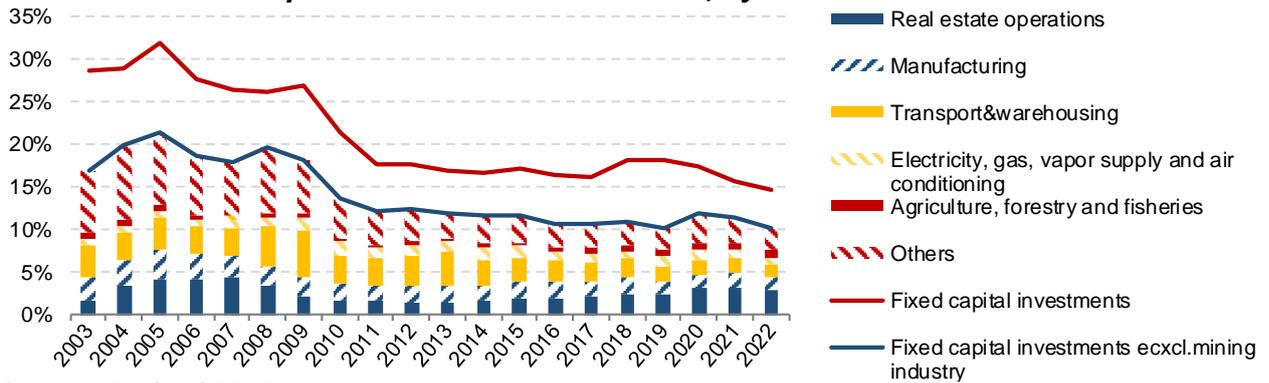


Source: BNS ASPR RK

Own funds, which went up from 62% to 74%, accounted for the largest share in the structure of investment financing in 2022. The share of budget funds from the national and local budgets increased from 14% to 16%, while the share of borrowed funds decreased insignificantly from 9.5% to 8.6%. The leading areas of fixed capital investments in 2022 were the industry (48%), real estate transactions (20%), transport and warehousing (11%), as well as agriculture, forestry and fisheries (6%).

Figure 1.10 Share of capital investments to Kazakhstan's GDP amounted to 14.6 % in 2022

Structure of fixed capital investments as % of GDP, by sectors



Source: BNS ASPR RK

The share of fixed capital investments to GDP decreased in 2022 (Figure 1.10). At the same time, a significant increase in investments was observed in the sector of real estate transactions. However, the share of investments in the mining industry is declining due to the downturn in the oil refining and chemical industries. Over the past five years, the level of fixed capital investments to GDP has gone down – from 18% in 2018 to 14.6% in 2022. According to the Investment Policy Concept until 2026⁵, fixed capital investments should amount to 25.1% of GDP by 2026.

Box 1.1 Financial Stability Index (FSI)

As part of the effort to make the monitoring of systemic risks more efficient, the National Bank has been actively involved in the development of information and analytical tools. One such tool is the Financial Stability Index (FSI). This indicator is a composite index consisting of a variety of macroeconomic and financial indicators that aim to quantify financial stress, which contributes to a better understanding of financial fluctuations in the economy. Unlike price stability, defining and measuring financial stability is not trivial, especially given the interdependence and complex interactions of various elements of the financial system with each other and with the real economy. The National Bank has designed a methodology for calculating the FSI, which is currently at the stage of testing and calibrating the optimal parameters. Subsequently, regular publication of the index is planned as part of the Financial Stability Report.

Today, central banks widely use composite financial stress/instability indices in the economy to quantitatively monitor the dynamics of soundness of market participants. In particular, various versions of such indices (financial stability index, financial stress index, financial vulnerability index and others) are used in the European Central Bank, Asian Development Bank, Bank of Korea, and Reserve Bank of India, International Monetary Fund, Central Bank of Malaysia.

FSI Calculation Methodology

To optimally assess financial stability, financial market indicators were selected that reflect one or more “symptoms” of stress (financial instability). At the first stage, standardization of parameters (Z-score) is carried out to bring different components into comparable values, which is done under the following formula:

$$Z_{it} = \frac{X_{it} - \mu_i^X}{\sigma_i^X}, \text{ where:}$$

μ_i^X average value;

⁵ The Investment Policy Concept of the Republic of Kazakhstan until 2026 Government Decree of the Republic of Kazakhstan dated July 15, 2022 No. 482.

σ_i^X standard deviation.

At the second stage, aggregation by sectors is performed by summarizing the values weighted by their variance. In the weighting scheme used, the inverse of the standard deviation is used to determine the weights, which increases the sensitivity of the indicator – more volatile parameters receive more weight. This approach allows increasing the recall (minimizes a type II error).

$$WA_{it} = \sum Z_{it} * w_i, \text{ where } w_i = \frac{\frac{1}{\sigma_i}}{\sum_{i=1}^N \frac{1}{\sigma_i}}$$

At the third stage, normalization (Min-Max) of the weighted average is performed to obtain an index from 0 to 100.

$$FSI_t = \frac{WA_t - WA_{min}}{WA_{max} - WA_{min}}, \text{ where } WA \text{ is the weighted average}$$

The optimal threshold separating the zones was calculated by minimizing the noise-to-signal ratio (NTSR). This allows the threshold to be chosen in such a way so as to balance the ratio of false negative crisis predictions (type II error) and false positive crisis predictions (type I error). The minimum indicator for finding crisis periods is 60%. In order to verify the presence of financial stress using the FSI, the optimal threshold was estimated, which allows dividing the index values into two zones:

“a stability zone” – the absence of risks or their increase without a significant impact on the economy;

“a heightened risk zone” – the increase of risks, which are capable of exerting a significant effect on the economy.

The empirical evaluation showed that the optimal threshold level is 60. An FSI above 60 indicates a move into a higher risk zone. Calibration of the threshold value is based on historical episodes of crises, which were defined as consecutive declines in the real GDP growth over 4 quarters and periods of negative real GDP growth.

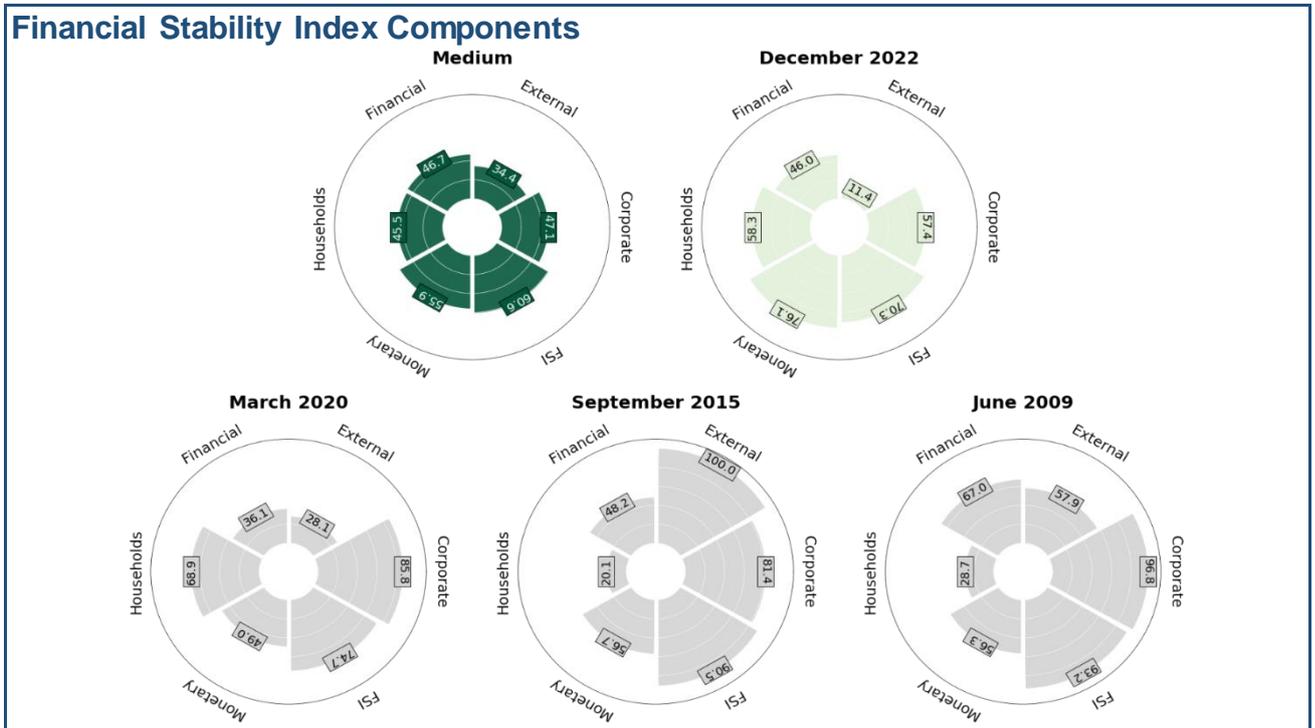
Financial Stability Index

The calculation of the index makes it possible to generally assess the level of risk in the financial system, as well as to decompose the main factors affecting financial stability. In 2022, the FSI was in the zone of increased risk, where the factor is the monetary sector, in particular, the record growth of inflation.

Diagram of the Financial Stability Index and a Heightened Risk Zone



The growth of the index in the second half of 2009 was driven by the global financial crisis, in particular by deterioration in performance of the corporate and financial sector. In 2015-2016, a plunge in oil prices significantly affected performance of the external and corporate sector. In 2020, performance of the corporate sector and households deteriorated significantly because of the COVID-19 pandemic.



1.2 Households

The growth rate of real household income slowed in 2022 amid high inflationary pressure. In the labor market, according to the analytical estimate, the overall level of underemployment decreased. Given high inflation expectations, the share of non-food products in the structure of expenditures increased, and the growth rate of expenditures adjusted for inflation was negative in the second half of 2022.

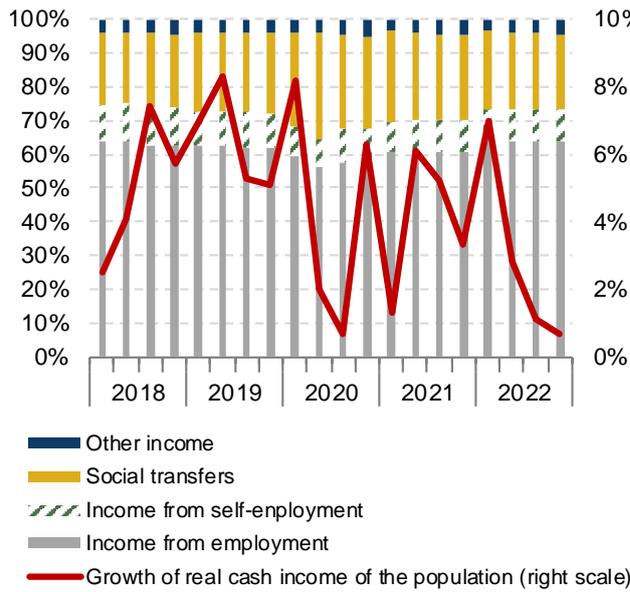
Despite the fact that the household propensity to save was growing moderately, the lack of significant growth in real income of the population and a high share of government’s social transfers in the structure of household income increases the sensitivity of the population to macroeconomic shocks.

In 2022, growth rates of real personal income decelerated (*Figure 1.11*). If in the first quarter of 2022 the index of real cash income of households was 7%, then by the fourth quarter the indicator decreased by 6.2 percentage points and amounted to 0.8%. The share of income from employment increased from 60.8% in the fourth quarter of 2021, amounting to 64% in the same period of 2022. The share of social transfers after a significant increase in 2020, when its value reached a maximum in the second quarter of 2020 at 31.3% of all income, decreased in 2021 to 25.8% and continued to decline in 2022 to 22.2%, returning to the pre-pandemic levels. Such dynamics could be explained by a decreased volume of benefit payments and other support measures to assist people facing a loss of income because of the pandemic in connection with the end of the pandemic and restoration of business activity. Additionally, the share of income from self-employment increased by 3.41% during the year.

Nominal cash income had demonstrated an average quarterly growth of 2.64% during the first-fourth quarters of 2022 (*Figure 1.11*). Income from employment in 2022 went up by 23.3% compared to 2021. The growth rate in the “other income” category increased, which in the first, second and fourth quarters of 2022 grew of the last year. This category includes, among other things, financial assistance from relatives, but showed growth due to an increase in income from property, leasing of apartments, and interest on deposits at banks.

Figure 1.11 Nominal income from labor and other income continues to grow

Household income structure



Household income in monetary terms, thous. tenge



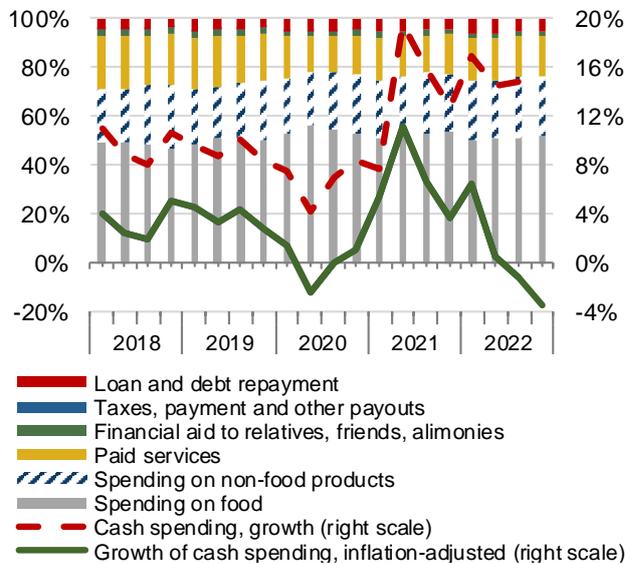
Source: BNS ASPR RK

Despite normalization, the dependence of household income received from social transfers from the government remains high. As a result, both fiscal and financial stability risks continue to remain significant.

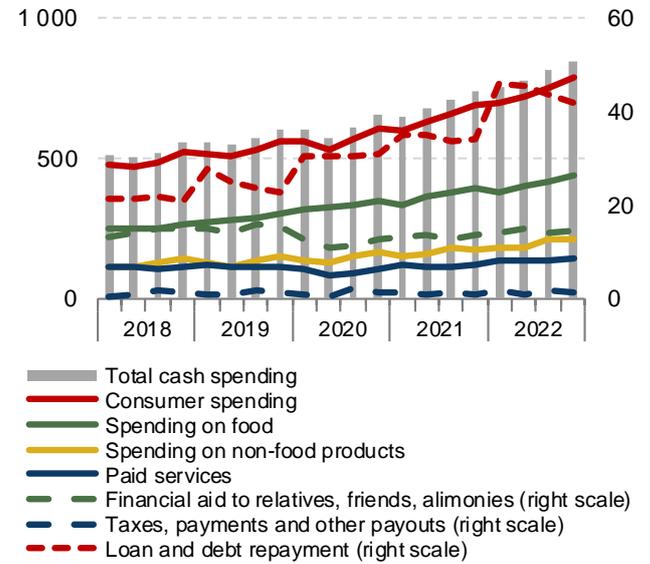
Household expenditures of Kazakhstanis account for more than 50% of GDP by the end-use method, and therefore household balance sheets have a large effect on the aggregate demand. In 2022, due to inflationary pressure, the growth rate of household cash expenditures adjusted for inflation decreased from 6.5% in the first quarter to -3.5% in the fourth quarter of 2022 (Figure 1.12).

Figure 1.12 The growth rate of household cash expenditures is decreasing, and the share of debt servicing expenses is increasing

Household expenditure structure



Household expenses in monetary terms, thous. tenge



Source: BNS ASPR RK, NBK computations

Note: * financial assistance to relatives, friends and alimony

** The index of real cash expenditures was calculated as the growth of cash expenditures adjusted for inflation

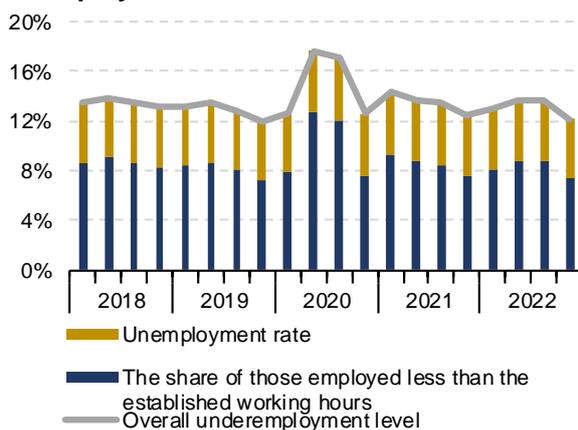
The shares of spending on non-food products and paid services increased by an average of 2.9% and 3.3%, respectively, compared to last year, while the share of food expenditures decreased by 3.2%. The share of taxes, payments and other payouts increased by 11.3%. However, when considering long-term trends in the structure of income, an increase in the share of food expenditures and a decrease in the share of expenses on paid services is observed. The growth in the share of non-food expenditures in the overall structure to values above 25% during the year is mainly explained by inflationary pressure and the increase in the cost of imported durable goods, which generally correlates with global trends (*1.1 Macroeconomic Conditions*).

In 2022, the average quarterly consumer spending went up by 2.89%, which is largely driven by increased expenditures for non-food products and paid services (*Figure 1.12*). Non-food expenditures went up by 18.8% on average during the quarter compared to the corresponding quarters of the previous year. Spending on paid services showed the greatest growth in the second and third quarters, increasing by 20.1% and 21.71% compared to the corresponding quarters of 2021. Nominal growth in food spending in 2022 amounted to 3.27% on average per quarter.

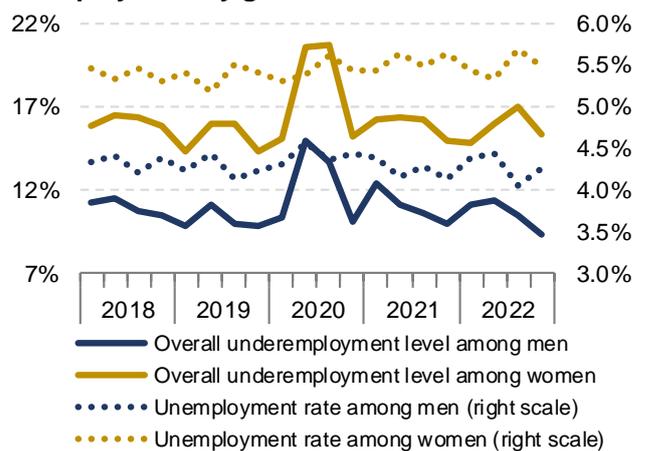
When taking into account those people who worked less than the established working hours, the average overall underemployment rate in 2022 dropped by 0.36 percentage points to 13.09%, which is significantly lower than during the pandemic (*Figure 1.13*). Despite the noticeable downward trend, this indicator is still relatively high, and incomplete utilization of the labor resources capacity could potentially lead to a slowdown in the economic growth.

Figure 1.13 The decrease in the overall level of underemployment of the population is observed

Unemployment rate including indirect unemployment



Unemployment rate including indirect unemployment by gender



Source: BNS ASPR RK, NBK computations

Note: The share of people employed less than the established working hours is calculated as the number of people who worked from 0 to 40 hours per week

When considering the rates of unemployment and underemployment with a distribution by gender, both indicators are significantly higher among the female population. Thus, the average underemployment rate among women in 2022 reaches 15.78%, while among men it amounts to 10.5%.

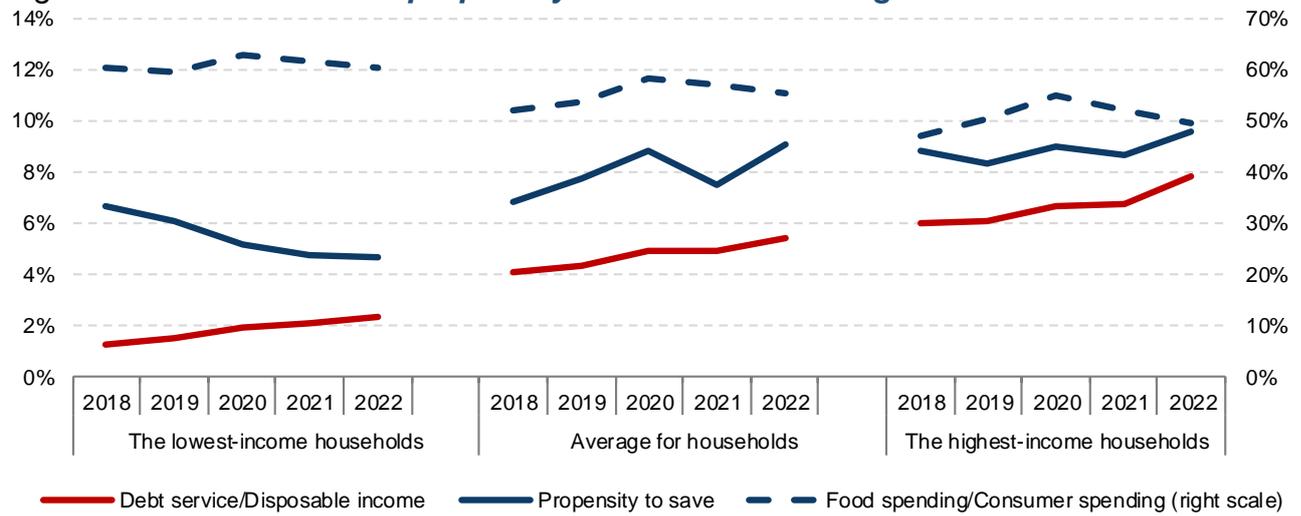
In 2022, the share of spending on food within consumer expenditures continued to decline across all household categories (*Figure 1.14*). The decline in the share of social transfers in 2021 contributed to a decrease in the propensity of households to save. Nevertheless, given a significant increase in household income from employment, the propensity to save increased for households on average and the highest-income households. In the structure of consumption of households with the lowest income level, the

share of food products remains high and is about 60%, and the propensity to save continues to decline over the past 5 years.

The share of debt servicing costs to disposable income has been growing since the previous year, with both the largest share and the largest increase in costs being characteristic of households with the highest income; this is associated with a greater opportunity for them to obtain and service loan proceeds. In general, the growth of debt burden is observed among all categories of households.

An increase in debt burden and a lack of significant growth in real income of the population increases the sensitivity of households to macroeconomic shocks. Such dynamics in the long term limit the possibilities for further increase in consumption, thus limiting the opportunities for the economic growth.

Figure 1.14 Households' propensity to save is increasing



Source: NBK's computations based on the data from the BNS ASPR RK

Note: Social transfers include retirement benefits, student scholarships, allowances and targeted social support

The lowest-income households - households falling under Decile 1.

The highest-income households - households falling under Decile 10.

Propensity to save (α) is computed as: $\alpha = 1 - \frac{\beta}{\gamma}$, where:

β – household consumption expenditure,

γ – household disposable income, i.e. income minus taxes, fines, mandatory payments and financial assistance to relatives

Box 1.2 The Law “On Recovering Solvency and the Bankruptcy of Citizens of the Republic of Kazakhstan”

The Law "On Recovering Solvency and the Bankruptcy of Citizens of the Republic of Kazakhstan" comes into effect from March 3, 2023. This means that people having debts will be able to file for bankruptcy starting from March 2023. The law provides for 3 types of procedures: out-of-court bankruptcy, judicial bankruptcy and solvency recovery. All three procedures are initiated only by the debtor himself/herself, i.e. a creditor has no right to file for bankruptcy of the debtor.

Out-of-court bankruptcy can be applied by people under the following conditions:

1. debt to banks, microfinance organizations and collectors does not exceed 1600 MCIs;
2. there is no repayment of liabilities to banks, microfinance organizations and collectors during 12 consecutive months at the date of filing;
3. no registered property;
4. an overdue debt has been resolved with the bank;
5. the bankruptcy procedure has not been applied over seven years.

In respect of debts over 1600 MCIs and other types of debts people will be able to apply judicial bankruptcy. The purpose of judicial bankruptcy is to maximize the satisfaction of creditors' claims at the expense of the bankrupt's property. If the only home is pledged, the creditor will be entitled to seize it during the judicial bankruptcy. If the only home is not a lien, creditors will not be able to claim it. The remaining outstanding amount is subject to write-off provided there is no evidence of bad faith on the part of the debtor.

Solvency recovery provides for the possibility to obtain in court an installment plan for payment of debts (up to 5 years), if there is a stable income. The recovery plan is developed jointly with the financial manager and approved by the court. The advantage of this procedure is that afterwards the person does not acquire the status of "a bankrupt", and, therefore, he/she is not subject to the consequences provided for a bankrupt person.

Consequences after declaring a person bankrupt are as follows:

- 1) a prohibition to take loans and credits during 5 years;
- 2) a recurring bankruptcy is possible after 7 years only;
- 3) monitoring a bankrupt's financial standing during 3 years after the bankruptcy.

1.3 Monetary Policy, Foreign Exchange and Money Market

The dynamics of Kazakhstan's economic performance in 2022 were significantly influenced by macroeconomic and geopolitical shocks. Given the restructuring of import supplies of products, significant external inflationary pressure, high world food prices and positive fiscal impulse, domestic inflation in December 2022 reached 20.3%.

The exchange rate channel continues to play a significant role in absorbing external shocks. Despite the rise in global oil prices, the tenge exchange rate was under pressure and was highly volatile in the first half of 2022, due to instability in global markets. The impact of increased risks on the foreign exchange market was mitigated by maintaining the supply of currency through the NB's interventions, the NFRK asset conversions and mandatory sale of foreign exchange proceeds by quasi-government sector companies.

Kazakhstan's money market in 2022 continued to function under liquidity surplus, and the NBK acted as a net buyer of liquidity. In the first half of the year, amid heightened risks, the tenge instruments were becoming less attractive, thus reducing the NBK's open position on monetary policy instruments. At the same time, the demand from market participants for the borrowed tenge liquidity in the repo market increased.

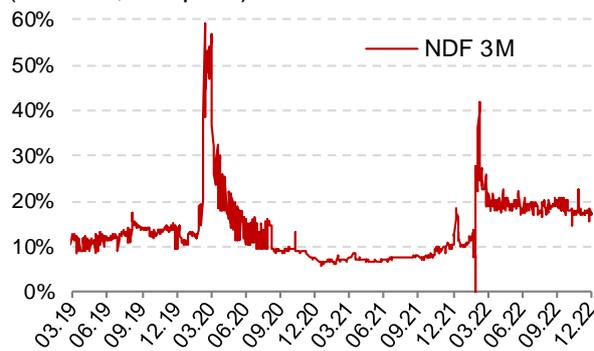
As a result of rising inflation, the spread between the interest rate and inflation was negative starting from H2 2022. On the back of growing geopolitical tensions, the spread between NDF and interest rate was negative starting from March 2022. In order to reduce inflationary pressure, the NBK kept the base rate at a high level, and the Tenge Deposit Protection Program was announced to keep confidence in the national currency.

1.3.1 National Currency Exchange Rate Policy and the Foreign Exchange Market

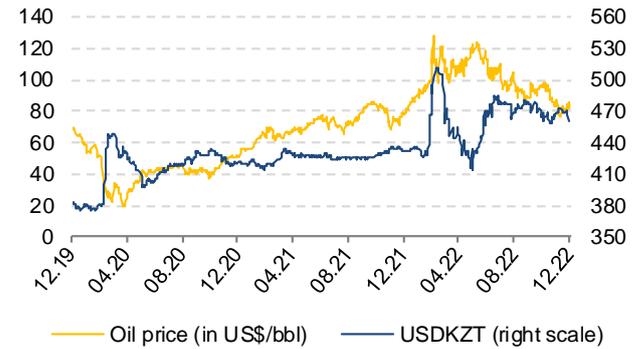
Major shocks affecting the foreign exchange market of Kazakhstan in 2022 were the January events – large-scale riots that occurred in a number of cities in Kazakhstan in early January 2022, and the escalation of geopolitical conflict that began in February 2022. Risks that had heightened in January led to an increase in NDF rates on the dollar-tenge currency pair. NDF rates, which were at 12% on December 31, 2021, increased to 16% on January 5 and reached 18% on January 6 (*Figure 1.15*).

Figure 1.15 **NDF rates on the USD/KZT currency pair**

NDF rates on the USD/KZT currency pair
(3 month, last price)



Dynamics of the exchange rate of the tenge



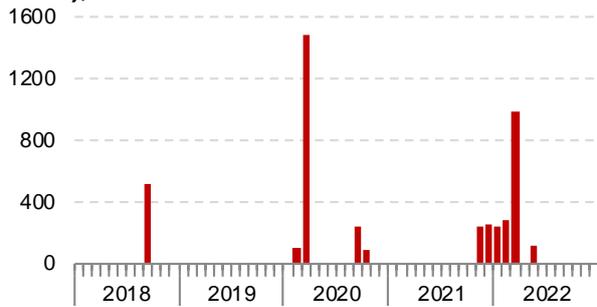
Source: Bloomberg

The impact of the January events on the foreign exchange market was partially offset by the suspension of trading on the Kazakhstan Stock Exchange from January 6 to 12 in the currency section, and from January 6 to 11 – in all other instruments. The resumption of trading after the end of the riots reduced the risks of the panic effect on the foreign exchange market. As a result, the increase in trading volumes was not so significant. Overall, the trading volume in January 2022 amounted to USD 2.8 bln, which is slightly higher than the average monthly trading volume for the whole of 2022 (USD 2.7 bln). In addition, the impact on the FX market was mitigated by the supply of liquidity through the NBK's interventions, the NFRK asset conversions and sale of foreign exchange proceeds by quasi-government sector companies. The volume of net sale of foreign exchange in January 2022 owing to the NBK's interventions amounted to USD 239.8 mln, and the volume of foreign exchange sale owing to conversion of the NFRK transfers was USD 695.9 mln (Figure 1.16). As a result of the measures taken, volatility of the exchange rate did not increase. The maximum daily decline in the exchange rate of the national currency amounted to 0.5%. NDF rates also decreased after resumption of trades on the KASE.

In February-March 2022, escalation of the geopolitical conflict was the determining factor for the direction of the foreign exchange market. On February 25, the tenge depreciated against the dollar by 6.6%, the official rate was 465.99 tenge per dollar. On March 16, the exchange rate reached a maximum of 512.19 tenge per dollar. The increased risks were reflected in the growth of risk premiums, with NDF rates exceeding 40% in March. The NBK intervened during this period; FX liquidity supply was also supported by the NFRK transfer conversions. The volume of net sales of US dollars by the NBK in February amounted to US\$273.7 mln. The maximum volume of NBK interventions was in March: net sales of USD in March amounted to US\$990.5 mln. Currency sales from the NFRK transfers in February amounted to US\$510 mln, US\$890.9 mln – in March. After March 10, NDF rates began to gradually decrease and by the end of March were about 19%. The exchange rate of the national currency against the dollar also appreciated by the end of March, and the official rate was 458.2 tenge per dollar by the end of March. During 2022, the national currency depreciated by 6.8%.

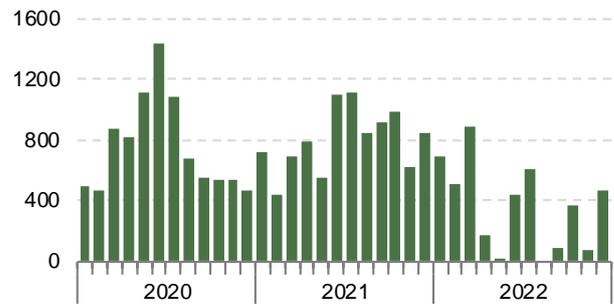
The NBK intervened in the first half of 2022, total net interventions in 2022 amounted to US\$1.6 bln. Interventions were conducted in January after the resumption of trading on the KASE to mitigate the effects of the January events, as well as in February, March and May – given a lower investor risk-return and increased geopolitical tensions. The NBK's interventions showed the largest volumes in March, 37% of the currency supply in March was from the NBK.

Figure 1.16 NBK's interventions
NBK's foreign currency interventions (net sales), US\$ mln



Source: National Bank

Conversion volumes of transfers from the National Fund, US\$ mln

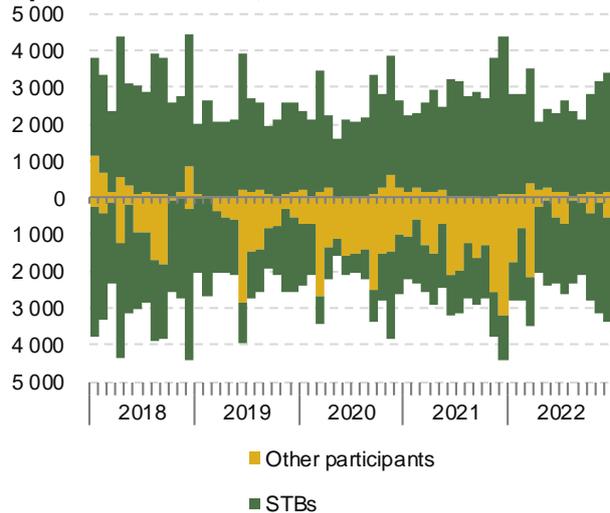


The volume of conversions from the NFRK transfers decreased in 2022 compared to previous years. Thus, the volume of currency sales at the expense of the NFRK in 2022 amounted to US\$4.3 bln, which is by 55% less than conversions in 2021. At the same time, the volume of transfers to the budget from the NFRK in 2022 increased by 1.8%. The ratio of conversions and total transfers in 2022 was only 44%, while in the previous year conversions to total transfers from the NFRK made up 91%. The rest of transfers were made from the accumulated tenge liquidity. Decline in conversions noticeably reduced the NFRK's share in the foreign exchange market, accordingly, and the concentration of the market. The largest volume of the NFRK conversions in 2022 was in January and March.

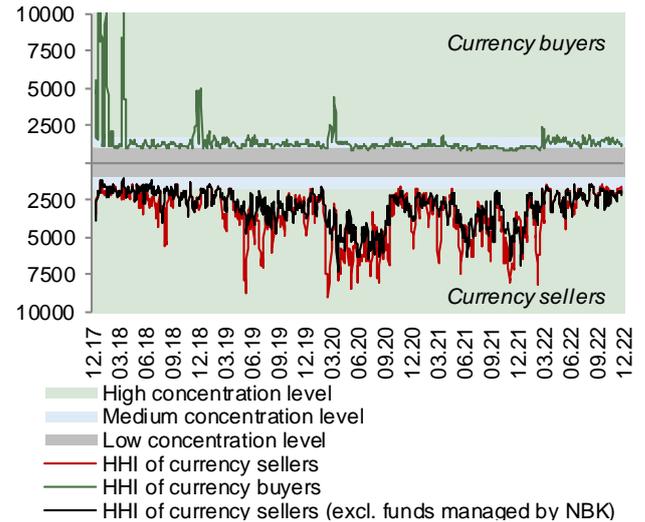
The volume of trading in the USD-KZT currency pair on the KASE amounted to US\$ 32.3 bln, which is by 9% less than in 2021 (Figure 1.17). The maximum trading volume of US\$3.5 bln was in March 2022. Thus, the trading volume in March exceeded the average trading volume of other months in 2022 by 33%.

Figure 1.17 On-exchange currency market on the USD/KZT currency pair

Operations volume, US\$ bln



Concentration level in the market



Source: KASE, National Bank computations

Note: HHI – Herfindahl-Hirschman index, which is calculated as the sum of the squares of the shares of volumes of each participant from the total volume of transactions in the market; Concentration is calculated as the moving average of HHI over 5 consecutive days

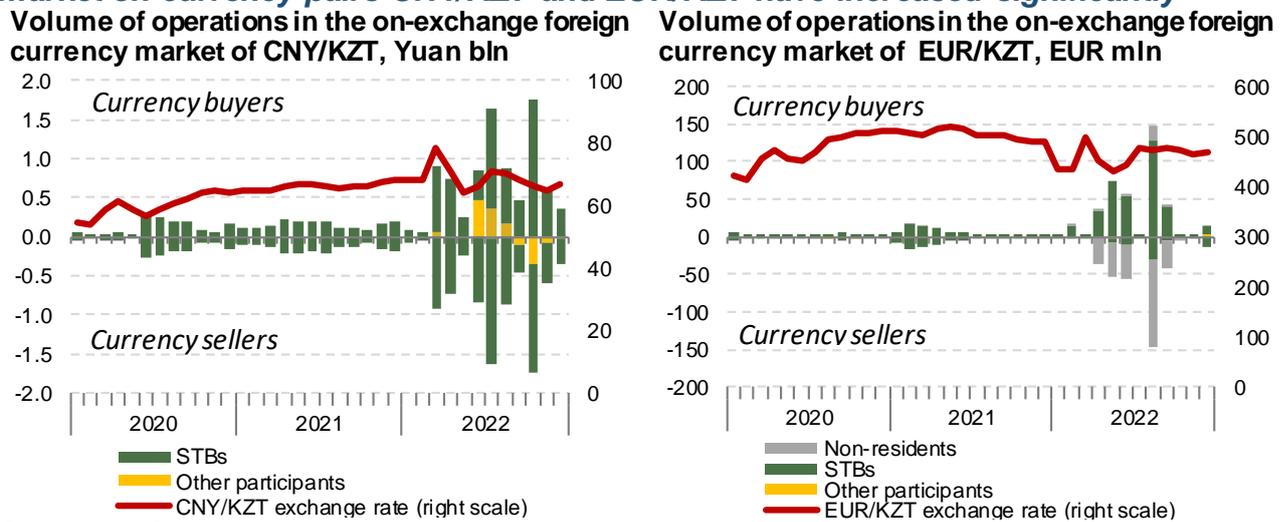
There is still a high concentration of participants on the currency market, especially on the side of currency sellers. At the same time, the concentration of currency sellers in 2022 has decreased. The decrease in the concentration of currency sellers is generally a positive signal for the market, as it indicates an increase in the sources of currency supply. The limited number of sources of currency supply resulted in that during the periods of pressure on the exchange rate the value was determined to a greater extent by currency sellers.

On the FX purchase side, the market is comparatively more diversified and yet also characterized by significant concentration. Moreover, the concentration of buyers in 2022 has increased compared to previous years. Thus, the two largest participants of the month in 2022 accounted for an average of 32%, while in 2020 and 2021 this figure was 30% and 28%.

In 2022, trading volumes increased in the exchange currency market of Kazakhstan Stock Exchange in the following currencies: Russian ruble, Chinese Yuan, euro. Taking into account that Russia, China and the European Union are the main importers for Kazakhstan, the increase in trading volumes could be driven by a heightened demand for currency as a result of increased imports (by 19.7% in 2022). In addition, due to the sanctions imposed on Russia, the share of settlements in national currencies in the EAEU countries started to increase. An additional factor in the increase in the volume of trading in the above currencies could have been the increase in supply and demand on the part of Russian and Belarusian citizens who opened accounts at Kazakh banks in 2022.

From March 2022, the volume of trading in the CYN/KZT currency pair started to grow actively, with the trading volume going up by more than 15 times compared to the preceding month (Figure 1.18). Thus, in March, the trading volume amounted to 909.3 mln Chinese Yuan compared to 59.5 mln Chinese Yuan in February. Trading volumes reached their maximum in July (1.6 bln Yuan) and in October (1.7 bln Yuan). Overall, during 2022, the trading volume equaled 8.5 bln Yuan or 589.8 bln in the tenge equivalent, exceeding the trading volume of 2021 by 4.5 times.

Figure 1.18 *Since March 2022, trading volumes in the on-exchange foreign currency market on currency pairs CNY/KZT and EUR/KZT have increased significantly*

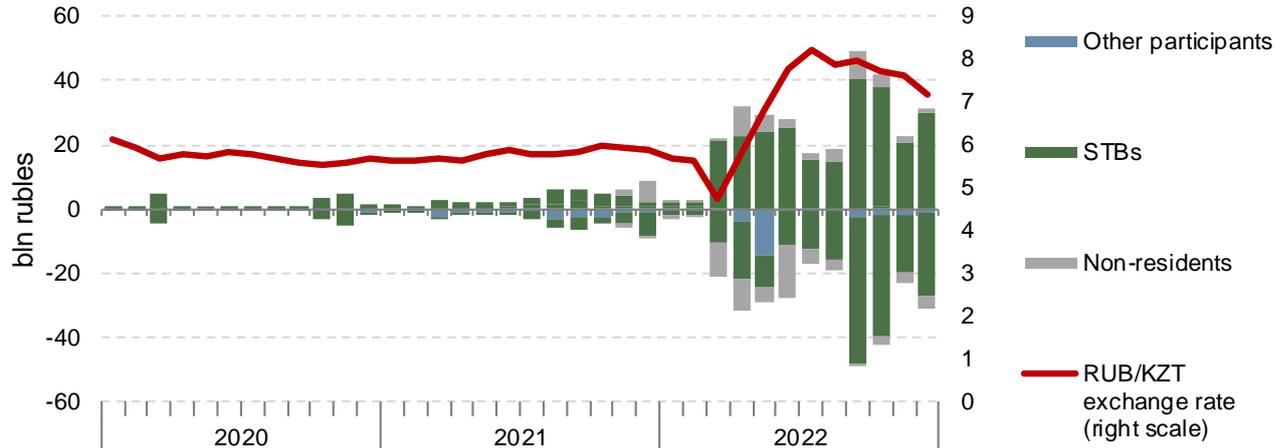


For the EUR-KZT currency pair, exchange trading in 2022 increased by 5.6 times on a year-on-year basis and amounted to 26.2 bln euros. The trading volume started to grow in April 2022 and reached the maximum volume in August 2022 (148.5 mln EUR). The main buyers of euros during the year were STBs, and the main sellers – non-resident banks.

The highest growth in the foreign exchange market in 2022 was observed in the RUB-KZT currency, where trading volumes increased by 6.3 times to 296.5 bln rubles in 2022 compared to 46.7 bln rubles in 2021 (Figure 1.19). In the same manner as other currencies, the active growth of market volumes for the RUB-KZT currency pair started in March 2022, with the trading volume increasing from RUB 2.5 bln in February to RUB 21.3 bln in March. The maximum trading volume in 2022 was observed in September and in October – during the second wave of migration of Russian citizens to Kazakhstan, after the announcement of mobilization in Russia. In September, the trading volume increased to 49.2 bln rubles, in

October – to 42.1 bln rubles. The main participants, according to the exchange's data, are Kazakh commercial banks and non-resident banks.

Figure 1.19 Volume of operations in the on-exchange foreign currency market of RUB/KZT



Source: KASE

The market for the Russian ruble is the most active in the KASE's currency section after the US dollar; however, despite a significant growth, its volumes were 7 times lower than the trading volumes for the US dollar.

Table 1. Trading volumes for major currencies in tenge equivalent

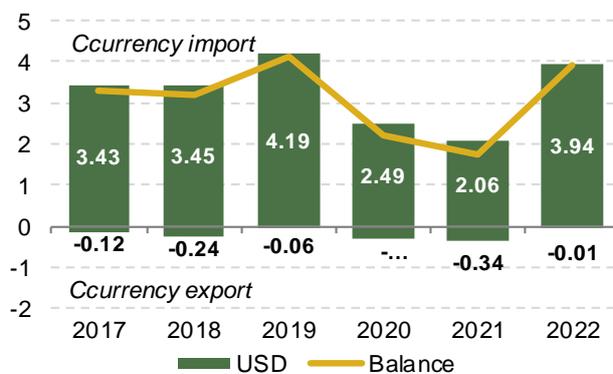
	Trading volumes (bln tenge)	
	2021	2022
USD	15 138,0	14 927,2
RUB	272,4	2 140,2
CNY	122,9	589,9
EUR	35,0	185,6

Source: KASE

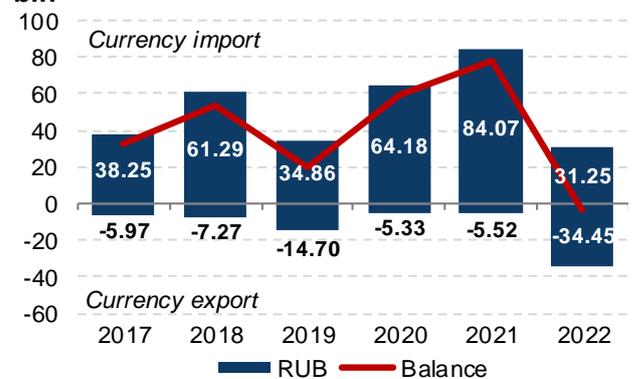
As a result of the increased demand for the US dollars, in 2022 STBs had imported a record-high amount of cash dollars over several years. Thus, in 2022 imports of USD cash (US\$3.9 bln) were 91% higher than the amount of cash imported in 2021 (Figure 1.20). The maximum amount of cash (US\$726.8 mln) was imported in March 2022.

Figure 1.20 Currency import (+)/export (-)

Import(+)/export(-) of cash USD by STBs, US\$ bln



Import(+)/export(-) of cash rubles by STBs, RUB bln



Source: National Bank

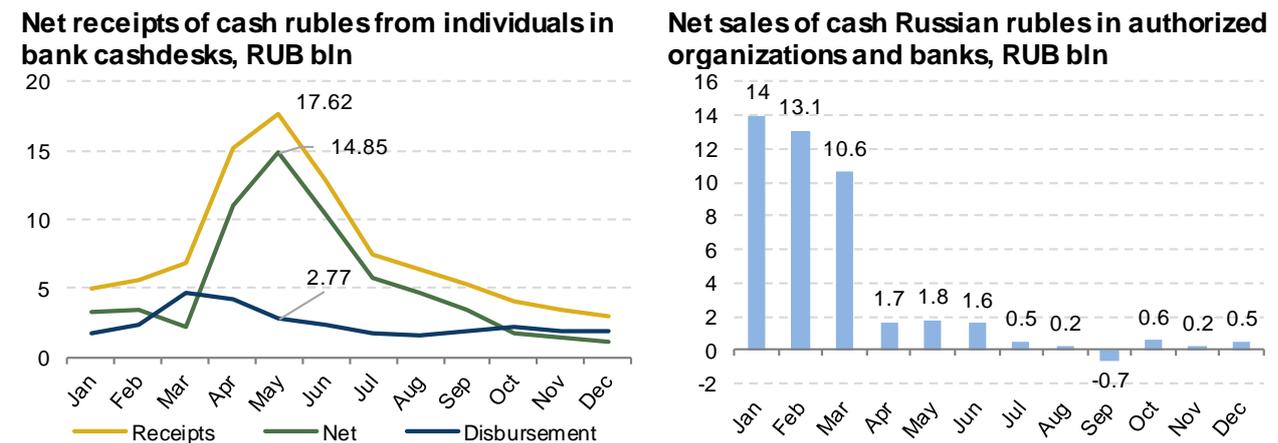
As opposed to the US dollars, the import of Russian rubles by banks went down from 84.1 bln rubles in 2021 to 31.3 bln rubles in 2022 (-63%) (Figure 1.20). In contrast, the export of rubles by banks increased by more than 6 times. Thus, in 2022, the export of rubles amounted to 34.5 bln rubles, while in the previous two years the annual average value of exports amounted to 5.4 bln rubles. For the first time, according to the data from 2017, STBs

exported more rubles than they imported, which was driven by the inflow of cash rubles through other channels. Starting from May 2022, there was no import of cash rubles due to the sufficiency of available liquidity.

Growing geopolitical tensions, lack of access to bank accounts during the January events, spreading rumors about imposition of limits by STBs on withdrawal of foreign currency deposits similar to Russia and, in addition, the demand for foreign cash by Russian citizens triggered a rush for foreign cash, which peaked in March 2022. On March 9, the Bank of Russia introduced a temporary procedure for transactions with foreign cash, which regulated a ban on the sale of foreign cash by Russian STBs, a limit on the amount of funds to be disbursed from foreign currency deposits or accounts of individuals, as well as the collection of fees from individuals when disbursing funds from such deposits. Fearing the imposition of such restrictions in Kazakhstan, depositors began to withdraw their foreign currency savings and transfer them to cash. In response, some STBs, due to limited cash reserves, began to impose restrictions on deposit withdrawals, limits on the maximum amount of withdrawals, or withdrawals only upon a one-week advance order. In order to restrict the export of currency from the country, in March 2022 the President of the Republic of Kazakhstan signed a Decree⁶ prohibiting the export of foreign cash in the equivalent exceeding US\$10 000.

In addition to Kazakhstani depositors, the demand for foreign cash came from Russian citizens who exchanged Russian rubles for the US dollars in Kazakhstan because of restrictions imposed in Russia. Thus, the inflow of cash rubles to the bank cash desks increased significantly. Thus, compared to the monthly average for 2022 (RUB7.722 mln), in May the volume of foreign cash inflows to bank cash desks from natural persons (including residents and non-residents) amounted to as much as RUB17.617 mln (*Figure 1.21*). Meantime, placements of cash by resident natural persons to their foreign currency accounts (RUB15 334 mln) amounted to 87.04% of the total volume of receipts in May.

Figure 1.21 In 2022, there was a significant inflow of cash rubles



Source: National Bank

At the beginning of July, the volume of cash balances of rubles in bank cash offices increased to RUB37.9 bln. At the same time, in the period from July 2021 to March 2022, the volume of cash balances in banks averaged RUB7.1 bln. In this regard, according to the Government Decrees⁷, all banks temporarily lifted restrictions on the export of cash rubles for conversion into non-cash form. As a result, in July-August 2022, banks exported about RUB34.3 bln.

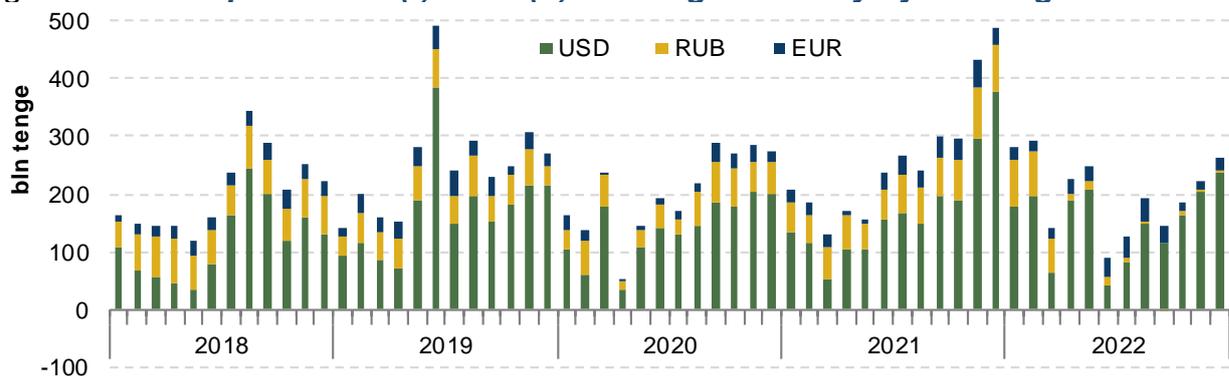
⁶ Presidential Decree of the Republic of Kazakhstan dated March 14, 2022 No.830 “About the Measures to Ensure Financial Stability of the Republic of Kazakhstan”

⁷ Government Decrees of the Republic of Kazakhstan dated July 18, 2022 No. 490 and dated December 28, 2022 No. 1079 “On Some Aspects of Ensuring Financial Stability of the Republic of Kazakhstan”

As a result of an ongoing inflow of rubles, in 2022 net sales of the Russian currency to individuals at banks and authorized organizations⁸ decreased significantly. In 2022, sale of rubles to the population went down by 29.34% YoY. At the same time, the aggregate volume of rubles purchased from the population showed a more than 2.2 times increase. If in the period from March to December 2021, a total of about 25 bln of the Russian currency (including 2 bln rubles from non-residents) was bought, 61 bln of Russian rubles (including 15 bln rubles from non-residents) was purchased during the same period of 2022. As a result, net sales by bank and non-bank exchange offices decreased from RUB14 bln in January to RUB0.5 bln in December 2022. The average monthly volume of net sales amounted to RUB3.7 bln in 2022 versus RUB10.7 bln in 2021.

Meantime, net sales of the US dollars by exchange offices in March 2022 went down to 65 bln tenge (67% less than in February), which accounts for about one fifth of the imported currency (*Figure 1.22*). The reduction in net sales of cash dollars in exchange offices stem from a decrease in the supply of foreign cash because of withdrawal of foreign currency deposits, rather than due to a lower demand from the population. Overall, net sales of the US dollars in exchange offices were 10% less than in 2021 and amounted to 1.8 trln tenge.

Figure 1.22 Net purchases (-)/sales (+) of foreign currency by exchange offices



Source: National Bank

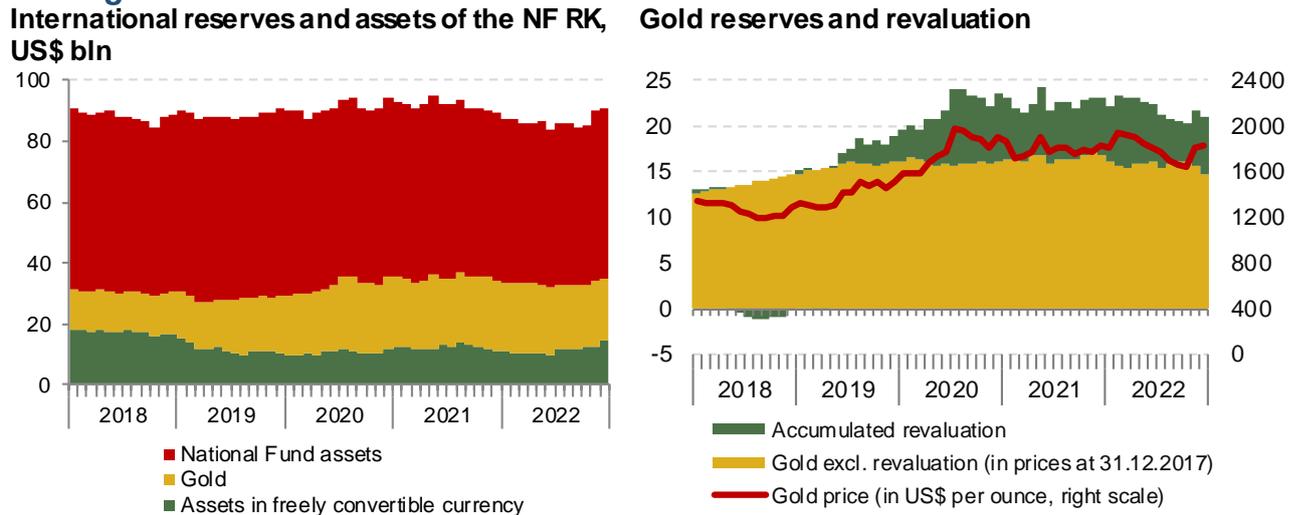
Some changes are also noticeable in the indicators of remittances and payments in rubles. In 2022, 1.5 million payments and money transfers to Russia were made, with the growth of transactions being 2% compared to 2021. At the same time, the total amount of transactions increased by 96% from 17.3 trln tenge in 2021 to 34.0 trln tenge in 2022. The number of money transfers and payments received from the Russian Federation also amounted to 1.5 mln transactions, exceeding the 2021 figure by 3.1 times. In money terms, the growth amounted to 13%.

Additionally, there has been a significant increase in sales of gold minted bars by banks and some non-bank exchange offices, which was associated with the population's interest in investing in gold as an alternative instrument for preserving their savings in the environment of geopolitical shock and volatility in the financial market. In March 2022, an increase in minted bars sold accounted for 2.9 times compared to the same period of 2021 (8,269 minted bars with a total weight of 167.2 kg in March 2022 versus 2,898 bars weighing 48.2 kg in March 2021). At the same time, in April 2022, owing to stabilization of the situation in the foreign exchange market, the volume of minted bar sales decreased (-55.28% MoM).

⁸ According to subparagraph 9, paragraph 1, Article 1 of the Law of the Republic of Kazakhstan "On Currency Exchange Regulation and Currency Control", authorized organizations are financial organizations of the Republic of Kazakhstan that are not banks, operating exclusively through exchange offices on the basis of a license from the National Bank of the Republic of Kazakhstan for exchange transactions with foreign cash
лицензии Национального Банка Республики Казахстанна обменные операции с наличной иностранной валютой

In general, the volume of minted bar sales of during 2022 went up by 17.4% compared to 2021.

Figure 1.23 In 2022, the NBK continued to maintain a high level of gold and foreign exchange reserves



Source: National Bank

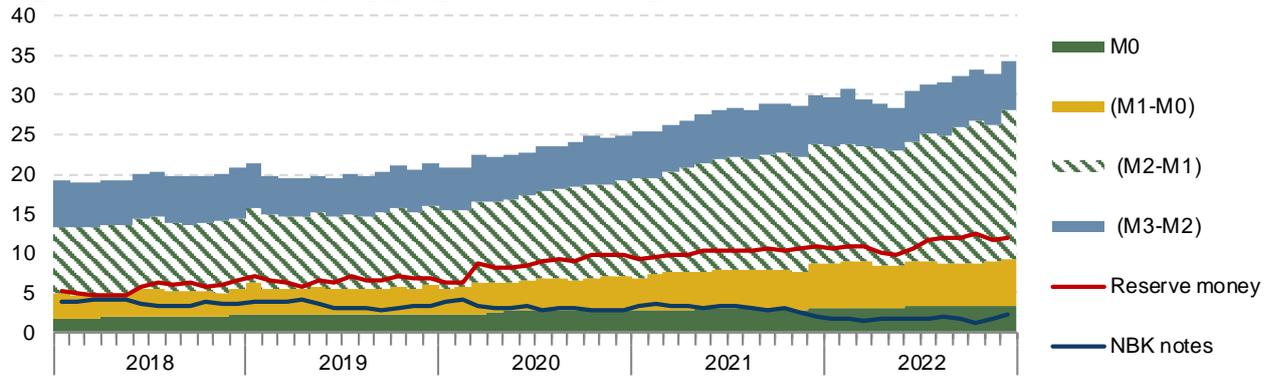
During 2022, the reserves in convertible foreign currencies went up by 34.6% and equaled US\$14.6 bln by the end of the year (Figure 1.23). During 2022, the gold decreased by 13%, thus, the share of reserves in convertible foreign currencies in international reserves went up from 32% to 42%. A decline in the share of gold in international reserves (from 68% to 58%) and an increase in the share of hard currency advanced diversification of the portfolio and made the structure of international reserves more balanced. The NFRK assets increased by US\$415 mln (+0.8%) and at the end of the year amounted to US\$55.7 bln.

The price of gold, having increased in February due to heightened risks, gradually declined during the year and went up again in November 2022. At the same time, in general, the price of gold did not change significantly in 2022 (-0.3%). Thus, the revaluation as a result of changes in the price of gold was insignificant, and the reduction of the share of gold in the international reserves portfolio occurred as a result of net sale of gold.

1.3.2 Monetary Aggregates, NBK Operations and the Money Market

Money supply continued to grow actively in 2022, while expansion in the reserve money rate slowed down compared to the previous year. Thus, during 2022, the money supply went up by 14% (to 34.3 trln tenge), whereas in 2021, the money supply growth accounted for 21% (Figure 1.24). The growth in the money supply was mainly driven by an increase in term deposits in the tenge and transferable deposits in foreign currency. Retail deposits ramped up to a greater extent. Thus, deposits of the population (term deposits in the tenge and transferable deposits in foreign currency) increased by 2.4 trln tenge, and deposits of non-bank legal entities – by 1.3 trln tenge.

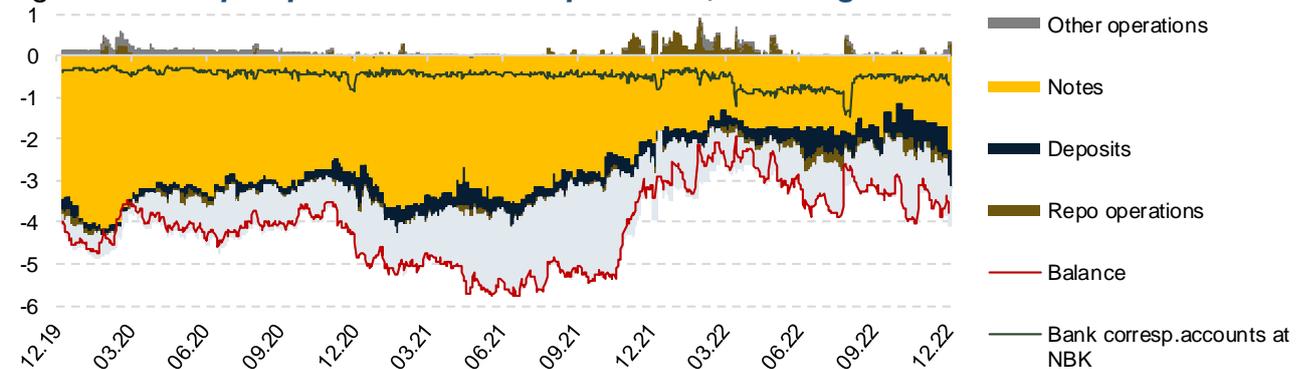
The growth of deposits, and, therefore, the money supply, occurred owing to lending, the inflow of funds from non-residents and issuance through the purchase of the NBK gold. Thus, in general, in 2022, credits to the economy from second-tier banks increased by 4.3 trln tenge, loans to the population – by 3.1 trln tenge, and loans to businesses – by 1.2 trln tenge. The growth rate of the reserve money decreased slightly in 2022. The expansion of the reserve money amounted to 11.9 bln tenge. Within the reserve money, cash outside the NBK went up by 10.8%, deposits of STBs and other organizations at the NBK increased by 7.3%.

Figure 1.24 Monetary aggregates, trln tenge

Source: National Bank

Thus, the money multiplier (the ratio of money supply and the reserve money) increased in 2022 (2.89) compared to 2020-2021 (2.55 – in 2020, and 2.75 – in 2021).

In 2022, the Kazakh financial market continued to function in the environment of liquidity surplus, and the NBK continued to act as a net buyer of liquidity. In the first half of the year, amid heightened risks, attractiveness of the tenge instruments decreased, which reduced the NBK's open position on monetary policy instruments during this period. Thus, the NBK's open position temporarily declined in the last days of January, from -2.9 trln tenge at the beginning of January to -2.6 trln tenge in the last days of January (Figure 1.25). Over the course of two days, February 23-25, the balance of the NBK operations went down by 967.2 bln tenge, from -3.1 to -2.1 trln tenge. Starting from June, the volume of excess liquidity began to gradually increase, and at the end of the year the balance of the NBK operations amounted to -3.7 trln tenge.

Figure 1.25 Open position on NBK operations, trln tenge

Source: National Bank

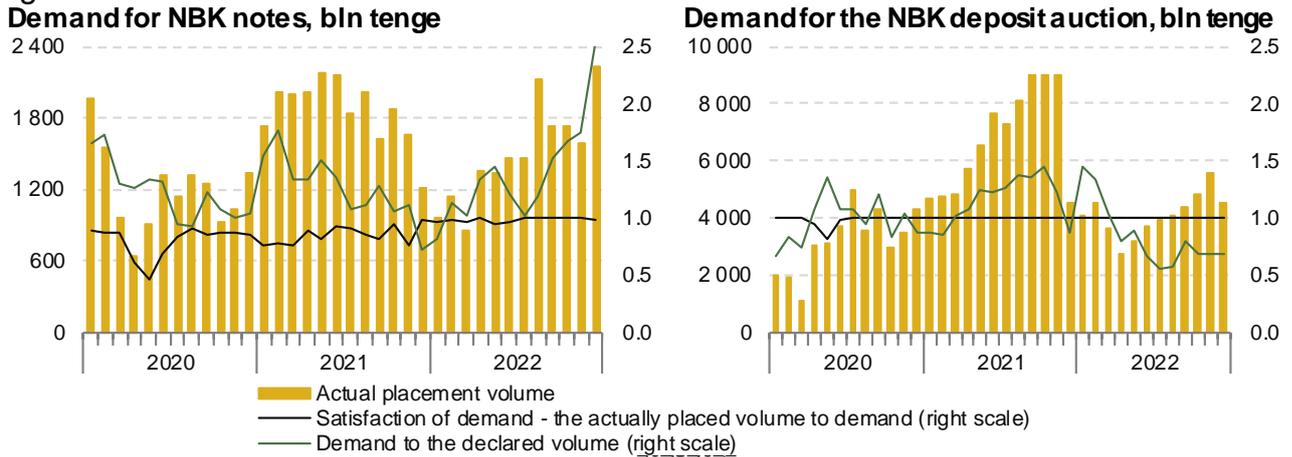
Notes and deposit auctions remained as the main instruments of liquidity withdrawal in 2022; on average, notes accounted for 53% of the instruments of liquidity withdrawal, and deposit auctions – 30%. In 2022, the share of the NBK deposits in the structure of instruments of liquidity withdrawal occasionally increased. On average, the NBK withdrew about 14% of excess liquidity through deposits in 2022.

Demand for notes was lower in the first half of 2022. In general, during 2022, the actual volume of note auctions amounted to 17.9 trln tenge, being by 4.3 trln tenge lower than the auction volumes in 2021 (Figure 1.26). In 2022, the average annual volume of notes in circulation at nominal value was 1.7 trln tenge, whereas in 2021 it amounted to about 3 trln tenge.

During 2022, the NBK satisfied the demand for notes nearly to the full extent, and the demand for notes usually exceeded the announced volume. However, most auctions held in January and March were an exception; during these periods, the demand was lower than the announced auction volume. Additionally, since March, overall auction volume has been

minimal compared to other months. Heightened risks during these months reduced the demand for the tenge instruments.

Figure 1.26 The demand for the National Bank's instruments decreased in 2022



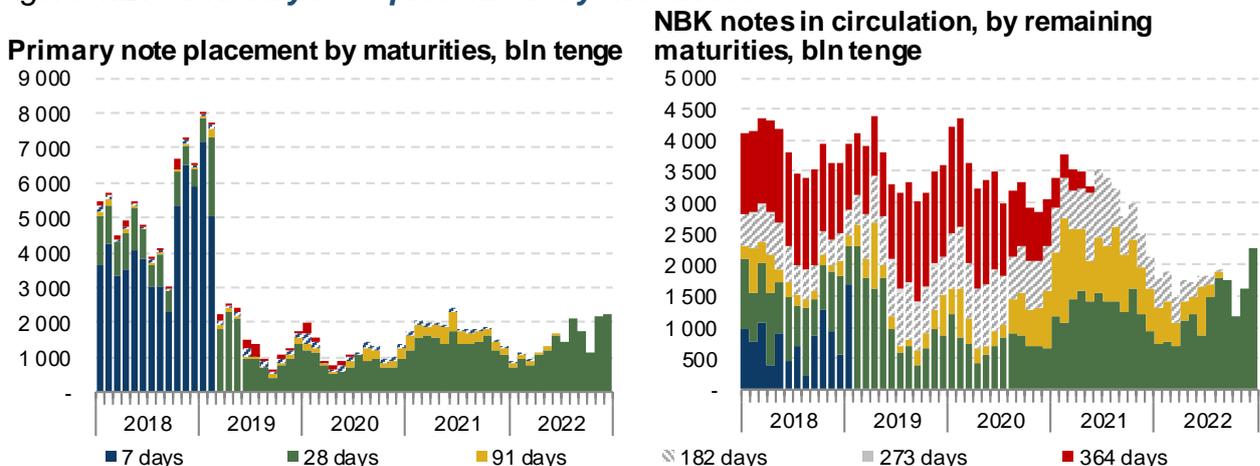
Source: KASE, National Bank computations

The demand for deposit auctions in 2022 was lower than that in 2021. In January - February 2022, the demand for deposit auctions was approximately at the level of December 2021, however, in March - April, the demand for deposit auctions declined. Although the demand for deposit auctions began to gradually recover in subsequent months, after March demand was significantly lower than the announced volumes. The NBK fully satisfied demand during 2022.

The average daily position on deposit auctions during 2022 was approximately 974.0 bln tenge, being by 42% lower than the average daily position on notes (Figure 1.26). Overall, the total volume of deposit auctions placed in 2022 (49.2 trln tenge) was by 39% lower than auctions placed in 2021 (81.0 trln tenge). The smallest volume of deposit auctions was placed in April (2.7 trln tenge). The demand for the NBK notes was also slightly lower during this period.

To enhance the transmission, in 2022 the NBK stopped offering relatively long-term issues (Figure 1.27). Starting from April, the NBK stopped issuing six-month notes and starting from July – three-month notes, issuing only notes with maturity of 1 month, which ensure that decisions on the base rate will be transmitted to the financial sector within a month.

Figure 1.27 Primary note placement by maturities



Source: KASE

After the issuance of three-month and six-month notes was stopped, the notes remaining in the portfolios of market participants with maturities of three and six months began to be gradually redeemed. In September, the last issues with such maturities were

redeemed, and at the end of September market participants had notes with maturities of one month only.

STBs remain the main buyers of notes in the primary market (*Figure 1.28*). In 2022, STBs accounted for a significant share of the volume placed in the primary market, 12% - from STB clients and brokers, about 7% – from funds managed by the NBK.

Figure 1.28 Primary placement of NBK notes, by participants

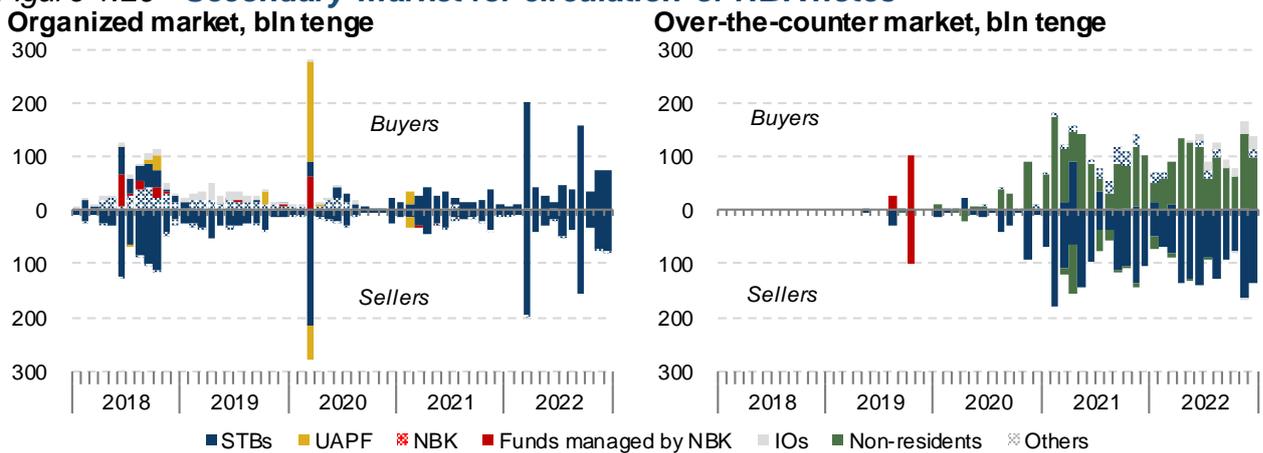


Source: KASE

In 2022, activity in the organized secondary note market ramped up. Trading volumes increased in March and September (up to 199.8 bln tenge and 156.3 bln tenge, respectively).

The secondary market continues to be less active compared to the primary market. Thus, in 2022, trading volumes in the organized secondary market amounted to 727.8 bln tenge, and in the unorganized market – to 1.3 trln tenge, while the volumes of the primary market during 2022 amounted to 17.9 trln tenge (*Figure 1.29*).

Figure 1.29 Secondary market for circulation of NBK notes



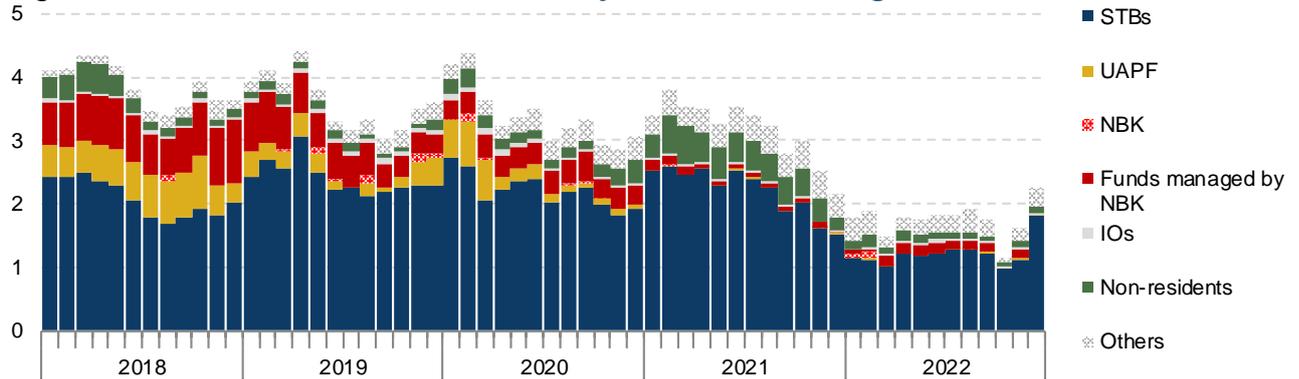
Source: KASE, CSD

In 2021-2022, trading volumes in the unorganized secondary market for notes increased significantly. Non-residents are the main buyers in the unorganized market. Thus, in 2022, non-residents accounted for 82% of the purchase volume of notes. Professional participants and STB clients and brokers accounted for about 7% of the purchase volume of notes and insurance organizations – for about 9% (*Figure 1.29*).

As the issuance of longer-term notes was ceased in 2021-2022, the share of captive investors among note holders has noticeably decreased, and the share of market investors has increased. The main holders are STBs; during 2022 their share increased from 71% to 80% (*Figure 1.30*). In 2022, the share of non-residents among note holders gradually went down from 10% at the beginning of the year to 4% at the end of the year, for comparison –

in 2021 the share of non-residents averaged 14%. The reduction in the position of non-residents as holders of the NBK notes was most likely driven by the decreased attractiveness of the tenge instruments against the backdrop of increased geopolitical tensions in the region and tightening monetary policies of developed countries.

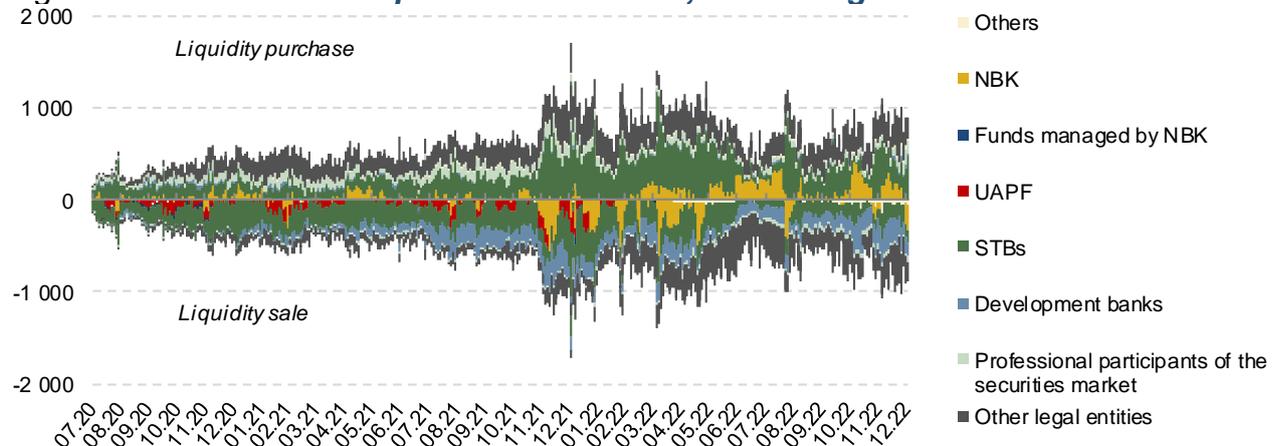
Figure 1.30 *NBK notes in circulation by holders, trln tenge*



Source: KASE

The repo market continues to remain one of the most active markets for liquidity distribution, while the current surplus of liquidity in the financial market, a small number of market participants, their high concentration as well as the preference of market participants for the NBK as a counterparty reduce the repo market efficiency. As a result of increased need for liquidity from STBs in 2022, trading volumes in the repo market increased. Thus, the volume of transactions on the automatic repo market in tenge in 2022 increased to 197.7 trln tenge, which is by 42% more than in 2021 (139.6 trln tenge) (Figure 1.31). The average monthly volume of transactions in 2022 went up to 16.5 trln tenge (42% higher than in 2021 – 11.6 trln tenge). The maximum increase in volumes was observed in April and May; the volume of transactions during these periods reached 20.5 and 19.3 trln tenge, respectively. As a reminder: on the contrary, the demand in the market of notes and deposit auctions decreased during this period. Thus, during this period, the demand for the tenge instruments declined, and participants preferred to hold a short position in the tenge and meet their needs by raising funds through repos.

Figure 1.31 *Automatic repo market volumes, in bln tenge*



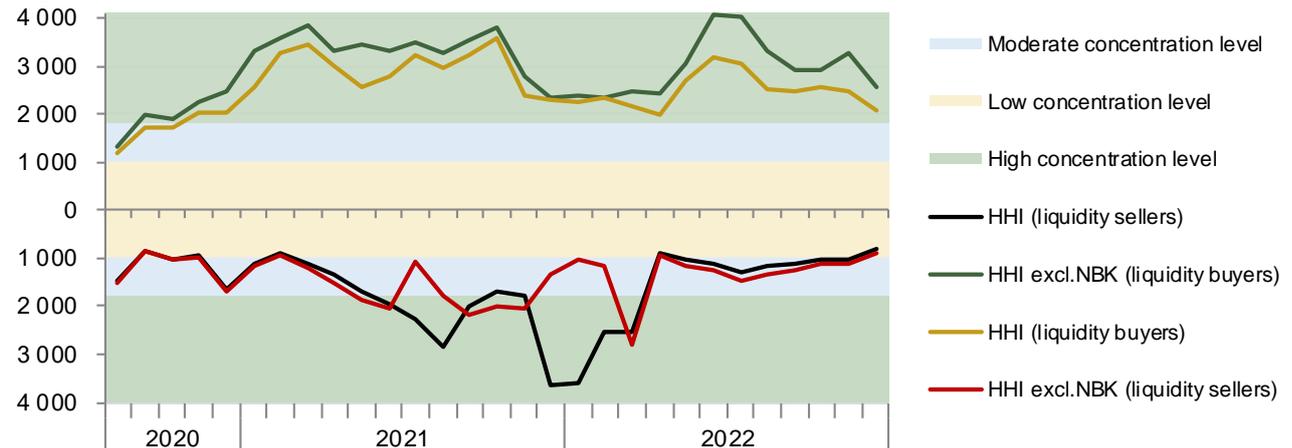
Source: KASE

Note: In the Figure all repo tools traded in tenge. Other legal entities are legal entities that are clients of brokers/dealers. Individual clients of broker-dealers are classified as “Other.”

The repo market is characterized by a high concentration of participants both on the side of liquidity provision and liquidity withdrawal (Figure 1.32). Due to the systemic liquidity surplus in the banking sector, a significant need for liquidity is observed among a limited number of buyers; as a result, the bulk of demand in the repo market is built by several large buyers of liquidity. For example, in 2022, two large buyers accounted for about 65% of the

average monthly volume of transactions in the repo market, and four large liquidity buyers accounted for about 83% (including the NBK).

Figure 1.32 Concentration of repo market



Source: KASE

Note: HHI – Herfindahl-Hirschman index, which is calculated as the sum of the squares of the shares of volumes of each participant from the total volume of transactions in the market; concentration is calculated as a monthly moving average of HHI.

The concentration of liquidity sellers is lower than that of buyers, but is also significant. Thus, in 2022, the four largest sellers accounted for about 60% of the average monthly transaction volumes, and the two largest liquidity sellers in the month (including the NBK) accounted for about 40%. As a result, as the need for liquidity increases, interest rates quickly shift towards the upper bound of the base rate corridor.

In 2022, the need for the tenge liquidity from STBs increased, and their share in the purchase of liquidity amounted to 45%, going up from 38% in 2021. The share of professional participants in the purchase of liquidity decreased from 16% (in 2021) to 8% in 2022. Other legal entities⁹ (STB clients and brokers) are also major participants in the repo market; their share in liquidity purchases in 2022 amounted to 31%, decreasing from 36%. On the liquidity placement side, the share of “other legal entities” group went up from 15% to 33% in 2022, while the share of STBs, on the contrary, went down from 45% to 26%. Major participants in the liquidity placement market also include development banks and the UAPF, their share decreased slightly in 2022 to 20% and 5%, respectively (from 22% and 9% in 2021). Professional participants are more involved on the liquidity buying side, in 2022 their share was 8%. On the tenge liquidity selling side, the share of professional participants was 4%.

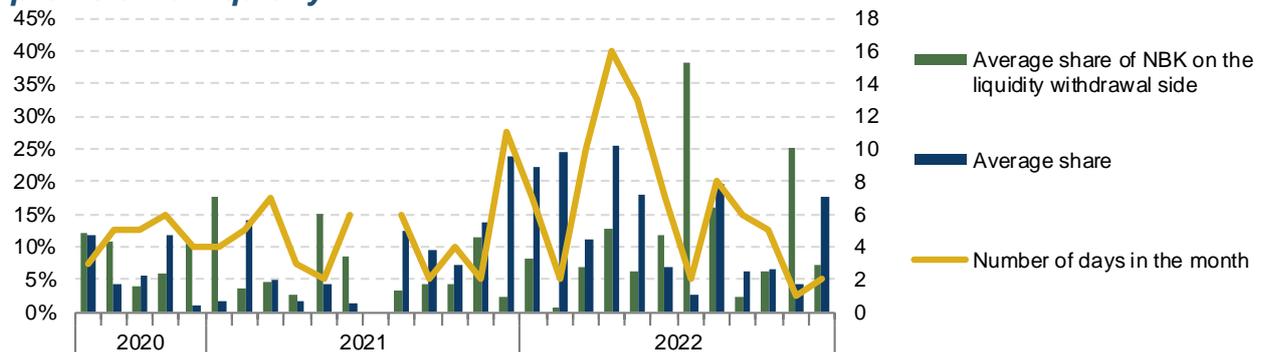
In 2022, the NBK was participating in the repo market more actively. On the liquidity withdrawal side, the NBK's share of trading volume doubled over the year, to 14% (from 7% in 2021). On the liquidity provision side, the NBK's share increased from 6% in 2021 to 9% in 2022. Over the first five months of 2022, the NBK had been a net seller of liquidity, and since June it had largely withdrawn liquidity. The maximum share of the NBK on the selling side was observed in February (20%) and April (21%). The maximum participation of the NBK on the liquidity withdrawal side in 2022 was observed in July (40%), August (28%) and November (28%); on average during this period, the NBK withdrew about 4.6 trln tenge per month.

In 2022, the number of periods when the NBK was concurrently involved in both the withdrawal and supply of liquidity increased. The simultaneous participation of the NBK on the buying side and on the selling side is an evidence of low efficiency of the market. The NBK enters into transactions at rates at the bounds of the base rate corridor, that is, under the worst conditions; therefore, market participants preferred to enter into transactions with

⁹ It is worth mentioning that the information on client classification is prepared by a bank/broker itself

the NBK instead of looking for a counterparty to conclude transactions on more favorable terms. This situation was observed almost every month, more often it happened in January, March, April, May and August (Figure 1.33).

Figure 1.33 Simultaneous participation of NBK on the side of withdrawal and provision of liquidity



Source: KASE

The NBK participated in the repo market most often in April – on 16 out of 19 business days, the NBK concurrently withdrew and provided liquidity. The NBK's share in the total volume of transactions for the purchase of liquidity on such days is 13% on average, and for the sale of liquidity – 26%. Thus, in April, on average, about 13% of transactions on 16 out of 19 business days (84% of days) could be entered into by market participants under better conditions. The NBK's maximum average share on such days was observed in August, with the average share of liquidity purchase being 16%, and the average share of liquidity sale – 20%. Thus, on average, about 16% of the volume of transactions in 8 out of 22 business days in August could be concluded by market participants on better terms.

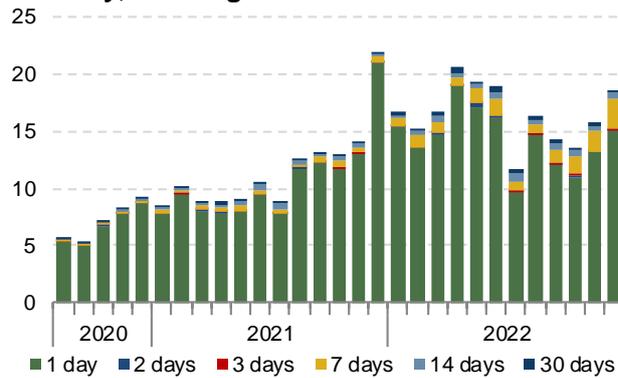
A concurrent presence of the NBK on the withdrawal side and on the liquidity supply side also indicates that the spread between the NBK rate at the corridor bounds and the market participant rate does not cover the credit risk premium. A narrow spread in the repo market may also be a reason for the underdevelopment of the interbank market. In addition, the concurrent presence of the NBK on the sides of placement and attraction of liquidity is further explained by the discrepancy in the timing of submission of applications by participants to attract and place liquidity. Thus, applications for the purchase of liquidity are mainly submitted by participants before 15:30, while some large liquidity sellers place liquidity after 15:30. The discrepancy between the timing of applications is stemming from a high concentration of market participants and the heterogeneity of activities of large participants in the overnight repo market.

An overnight repo – the market where the NBK is present, is still the most popular instrument in the repo market (Figure 1.34). However, the share of 7-day repos began to increase in 2022. Thus, from 4% in January, the share of 7-day repo transactions gradually increased to 14% by December 2022. The share of overnight repos decreased accordingly during 2022: from 93% in January to 81% in December. Market participants also enter into repo transactions with maturity of 14 and 30 days; however, the share of these instruments is much lower: without taking into account the weighting by maturity, the average monthly share of 14-day repos in 2022 was 3%, and 30-day repo transactions – about 2%.

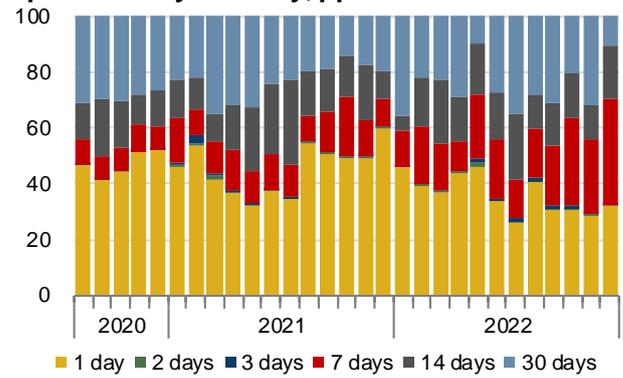
At the same time, when assessing liquidity distribution, it is necessary to take into account the duration of transactions. When weighted by maturity, the share of instruments with longer maturities increases significantly. Thus, when weighted by maturity, only 37% of the liquidity in the repo market was distributed through overnight repos. 7-day repos account for 21% of transactions, 14-day repos – for 16% and 30-day repo transactions – for 25%.

Figure 1.34 Volume of automatic repo operations, by maturity

Volume of automatic repo operations, by maturity, trln tenge



Maturity-weighted share of automatic repo operations by maturity, pp

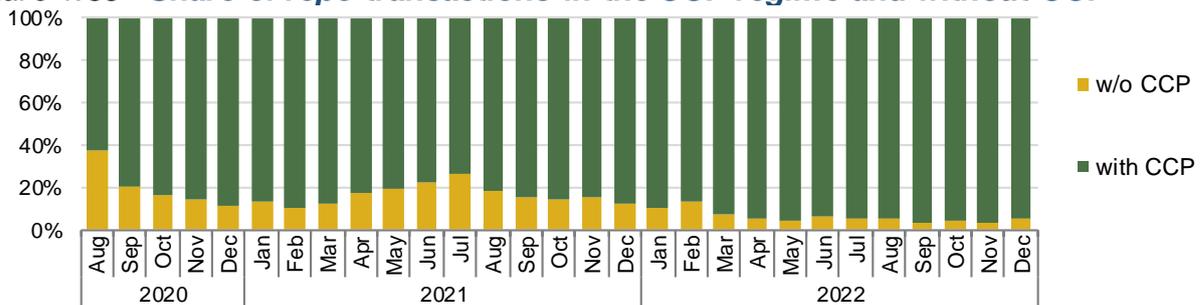


Source: KASE

Note: The Figure 1.34 shows all repo instruments, including in tenge and foreign currency.

In 2020, the KASE launched a new trading and clearing system, ASTS+. With the transition to ASTS+, central counterparty services became available to market participants in all segments of the exchange market, including the repo market. In this case, the central counterparty (CCP) is the exchange itself. When concluding transactions with the CCP, the KASE takes on the risk of failure to fulfill the obligation of a financial market participant to supply money or a financial asset by becoming the sole counterparty for all transactions with market participants. Thus, the central counterparty becomes a seller for each buyer and a buyer for each seller. The transition to the ASTS+ system in the repo market was carried out in August 2020. However, participation in trading without a CCP is still available in some trade regimes. The trade regime is selected by the participant independently, depending on the preferences regarding the terms and conditions of a transaction (with/without a CCP) and the basket of securities.

Figure 1.35 Share of repo transactions in the CCP regime and without CCP



Source: KASE

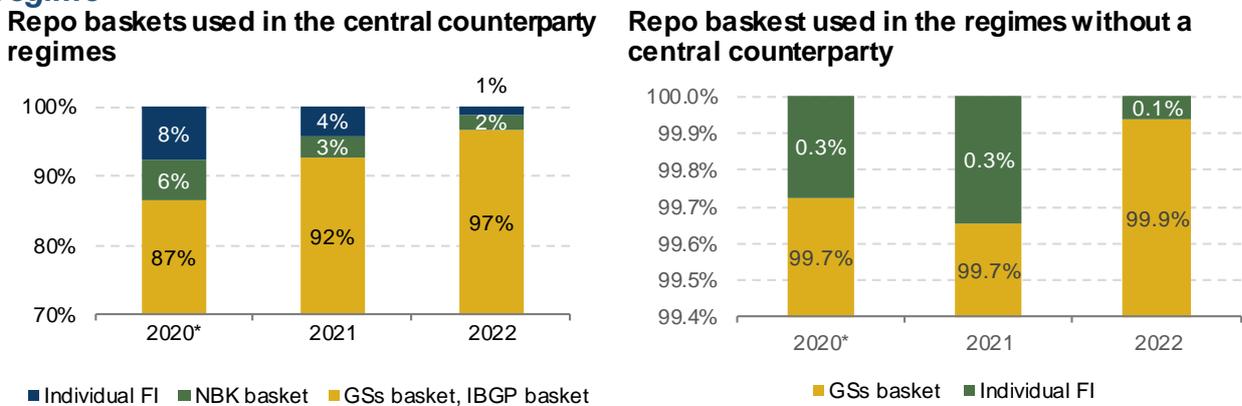
With the transition to the ASTS+ system, the percentage of transactions concluded without a CCP was gradually decreasing during 2020, with some growth in 2021; in July 2021, the share of transactions without a CCP reached 26% and started to go down again in the months to follow (Figure 1.35). In 2022, given the increased risks, participants preferred to enter into transactions with lower risks, and the share of transactions without a CCP continued to decline gradually, amounting to 3-5% in recent months; about 95-97% of transactions were concluded with the Central Counterparty.

In CCP regimes, repo transactions with a GSs basket and a basket of issuer bonds with government participation (IBGP)¹⁰ account for a major share, in 2022 they accounted

¹⁰ In IBGP with a central counterparty the following debt securities can be used that are on the official list of the exchange, denominated in the tenge, and their issuer is: 1) a national company of the Republic of Kazakhstan; 2) an organization, where 75 percent or more of the total number of issued shares or of the paid-in registered capital belongs to the government, a national holding company or a national management holding company; 3) an organization, where 75 percent or more of the total number of issued shares or of the paid-in

for 97% (Figure 1.36). The share of repos with a separate financial instrument decreased to 1% in 2022 (for comparison, in 2021 their share was about 4%, and the share for 4 months of 2020 amounted to 8%). The share of repo transactions with the NBK’s basket also decreased and amounted to 1% in 2022; in 2021, the share of transactions with the NBK’s basket was 4%. The TONIA index is determined in the repo market in a regime where the service of a central counterparty is used, a basket of government securities acts as collateral, overnight repo is offered, respectively, the TONIA index is determined based on transactions in the most liquid part of the market.

Figure 1.36 Repos with GSs basket account for the bulk of operations in the trading regime



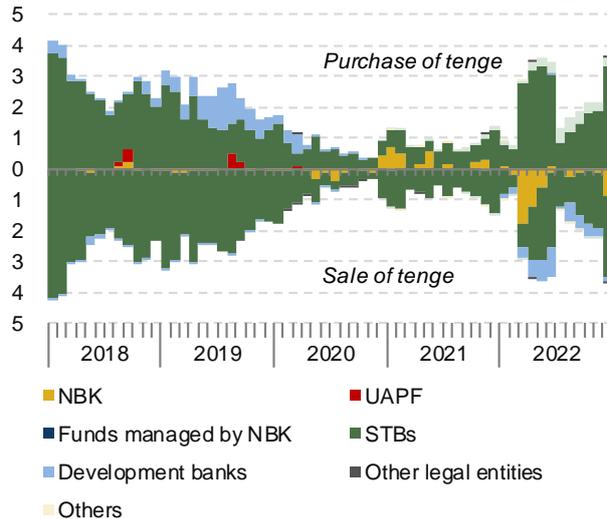
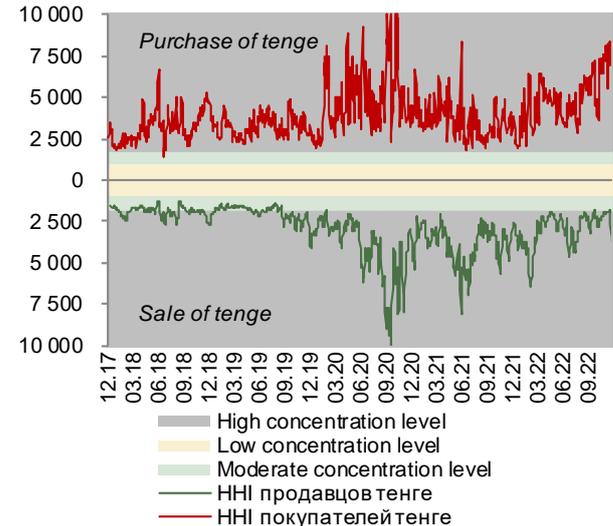
Source: KASE

Note: *data from August 2020 – after the transition of trading to the ASTS+ system

Swap market volumes increased significantly in 2022 and virtually reached the level of 2018 (Figure 1.37). As a reminder, in 2020-2021 swap volumes showed a decline. During these years, a low level of dollarization (for the Kazakh market) allowed STBs to maintain a currency position close to neutral, without resorting to significant volumes of derivatives transactions, as in prior years. In March, the main driver of growth in the currency swaps market was the increased need of some banks for the tenge liquidity. In addition, in 2022, in the context of increased currency volatility, dollarization boosted, while STBs preferred to hold reserves of HLAs in foreign currency and meet the needs for the tenge liquidity through borrowed funds (repo, currency swap). Thus, the volume of the foreign exchange market in 2022 amounted to 27.9 trln tenge, showing a 2.5 times increase compared to the last year. The average daily volume of transactions in 2022 was 121.5 bln tenge, while in 2021 it was 46.3 bln tenge. A significant buildup in volumes of the currency swap market was observed in March, when volumes went up by 787 bln tenge in February, to 2.9 trln. The NBK was on the supply side providing the tenge liquidity; 61% of liquidity in March was provided by the NBK. In April, the NBK still provided significant amounts of liquidity, with the NBK’s share of the tenge liquidity supply amounting to 35%.

In March 2022, concentration on the buying side of the tenge liquidity of currency swaps has increased significantly, with the two largest participants accounting for 70% (47% in February). Concentration on the buying side continued to go up until the end of the year, reaching its maximum in December. On average, in 2022, the two largest buyers of liquidity accounted for about 76% of the transaction volume per month.

registered capital belongs to a subsidiary of a national holding company or a subsidiary of a national management holding company

Figure 1.37 The volume of swap market
The volume of the FX swap market, trln tenge

Concentration of currency swap market


Source: KASE, National Bank computations

Note: HHI – Herfindahl-Hirschman index, which is calculated as the sum of the squares of the shares of volumes of each participant from the total volume of transactions in the market; Concentration is calculated as the moving average of HHI over 5 consecutive days

The concentration in the market of sellers of tenge liquidity in the currency swaps market was also high, but significantly lower than in the market of buyers. The increase in concentration in March 2022 is explained by the NBK participation, during this period the share of the two largest participants in the month was 73%, where the NBK accounted for 61% (Figure 1.37). During 2022 on average, the two largest participants of the month accounted for 52%.

Thus, a significant increase in concentration on the buying side of liquidity, as well as the NBK's presence on the selling side, is an indication of increased need for the tenge liquidity in the currency swap market.

1.3.3 The NBK's Interest Rate Policy and the Money Market Rates

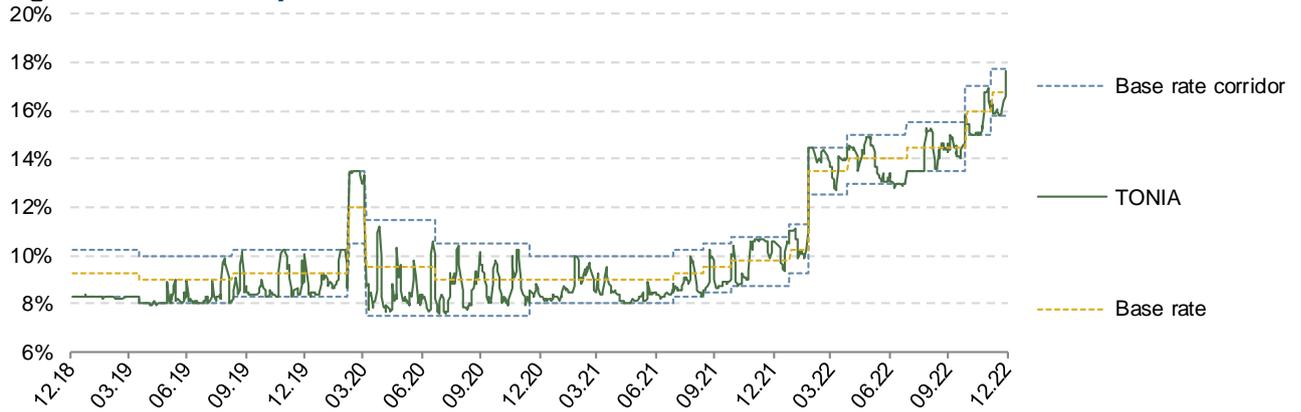
In 2022, the NBK had raised the base rate six times. On January 25, the base rate was raised by 50 basis points to 10.25%. On February 24, 2022, the NBK raised the base rate by 350 basis points to 14.5%. After that, the NBK raised the base rate several more times as a result of rising inflationary pressures and due to realization of geopolitical risks, growing world prices as a result of increased costs because of disruptions in supply chain and growing energy prices in 2022. Thus, the base rate had gone up by 7 percentage points over 2022 and stood at 16.75% at the end of the year.

In 2022, the TONIA was mainly within the base rate corridor. The TONIA was maximally close to the upper bound on the 20th of February and early March. During June, the TONIA began to gradually approach the lower bound of the base rate, and on some days of July and August, the TONIA "broke through" the lower bound. Transactions below the lower bound are usually concluded when the supply of liquidity in the repo market exceeds the NBK's available portfolio of government securities for entering into liquidity withdrawal transactions, and transactions are concluded between market participants at rates below the lower bound. A significant factor for lowering of interest rates in July 2022 was the inflow of liquidity as a result of redemption of GSs held in the STB portfolio in the amount exceeding 250 bln tenge.

In 2022, the TONIA remained rather volatile and fluctuated within the band; it did not stand at the lower bound as in 2017-2019 (Figure 1.38). The pullback from the lower bound in 2020-2022 is mainly associated with the ongoing demand from large buyers. The periods

when the TONIA was at the lower bound in July-August 2022 are related to a decreased demand from a large liquidity buyer.

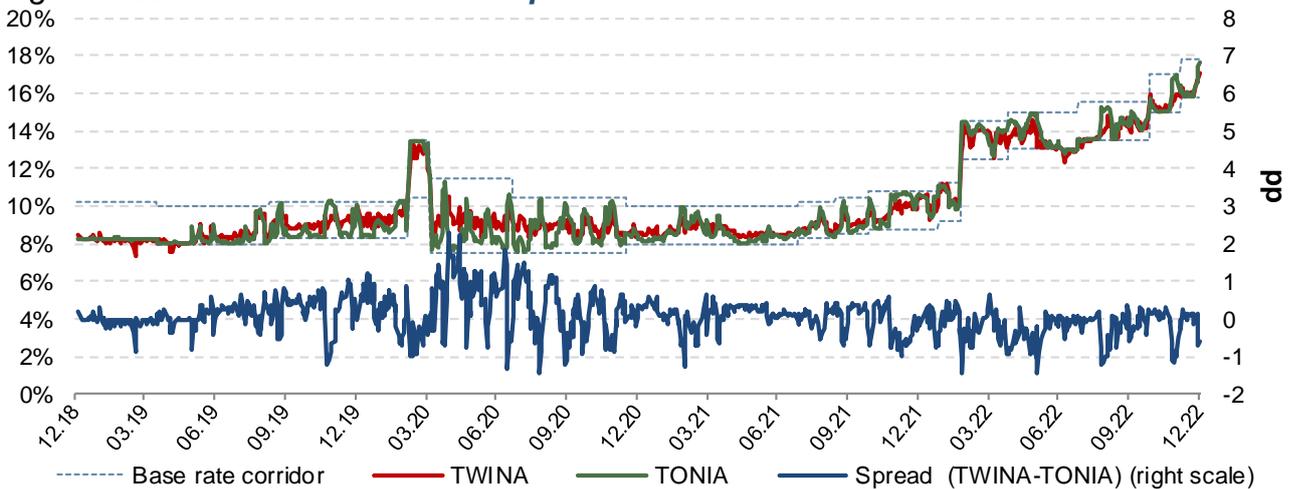
Figure 1.38 The operational benchmark for the base rate – indicator TONIA



Source: KASE

Despite the fact that the NBK was not present in the 7-day repo market, the interest rate transmission remains in this market (Figure 1.39). Seven-day repo rates are mainly staying within the base rate corridor and follow the path of overnight repo rates. At the same time, seven-day repo rates have a negative spread between overnight repo rates, and, therefore, the cost of liquidity in this market is on average lower than in the overnight repo market. As a result of lower demand for liquidity in July and in August 2022, the weighted average interest rate in the seven-day repo market fell below the lower bound of the base rate, similar to the rates of the overnight repo market.

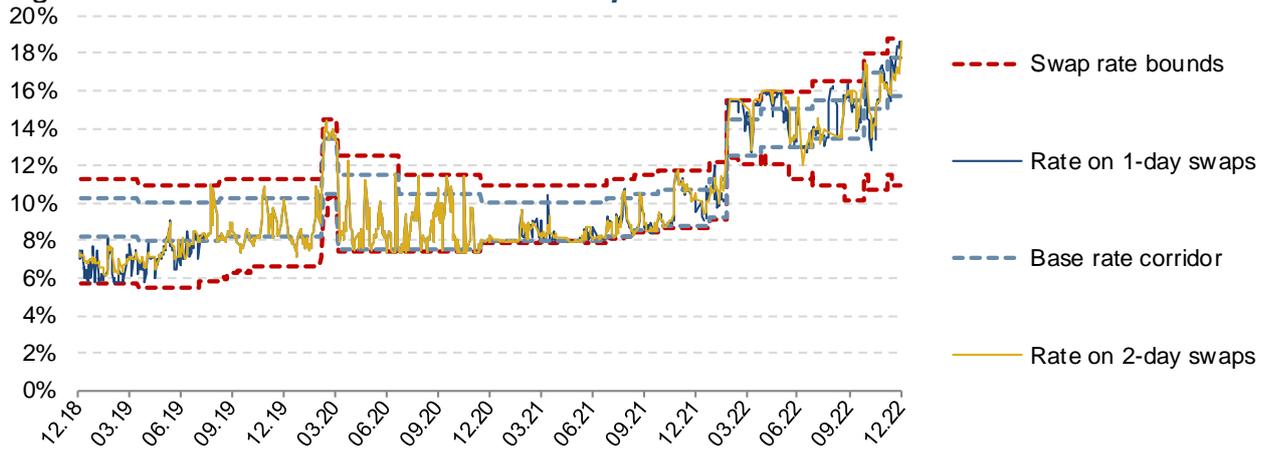
Figure 1.39 Interest rates in the repo market



Source: KASE

Interest rates in the currency swap market are more volatile than the overnight repo rates, albeit they are following their dynamics (Figure 1.40). As a result of increased demand for the tenge liquidity in March-April 2022, swap rates rose to the upper bound of swap rates, which goes above the repo rate bound by 1%. During the decline in demand for the tenge liquidity in July and November, the weighted average rate fell below the base rate bound. At the same time, in 2022, interest rates were well above the lower bound for FX swaps, which, stemming from the increase in the effective federal funds rate, gradually fell lower during 2022 in contrast to the lower bound for repo rates.

Figure 1.40 Interest rates in the FX swap market



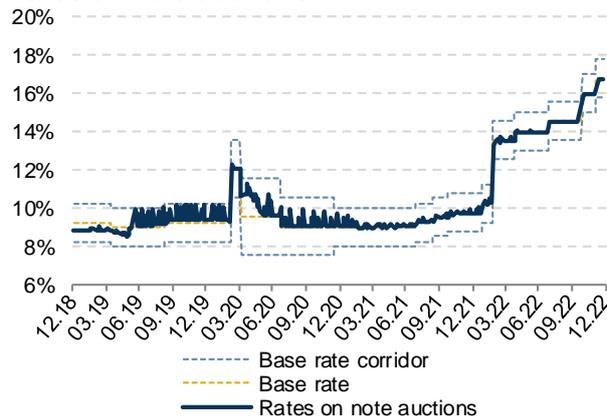
Source: KASE, NBK

Based on the results of auctions, weighted average yields on the NBK notes in 2022 were setting primarily slightly below the base rate (Figure 1.41). Thus, out of 53 auctions held in 2022, the weighted average rate exceeded the base rate at 9 auctions only, while from the second half of June 2020 to February 2021, the weighted average yields on notes at initial offering often exceeded the base rate. However, during this period, the demand for notes was not fully met by the NBK, in contrast to 2022, when the NBK almost fully satisfied the demand. Starting from late February 2021, the NBK stopped accepting bids where yields significantly exceeded the base rate. In 2022, participants submitted bids closer to the base rate, which explains the increased bid rate.

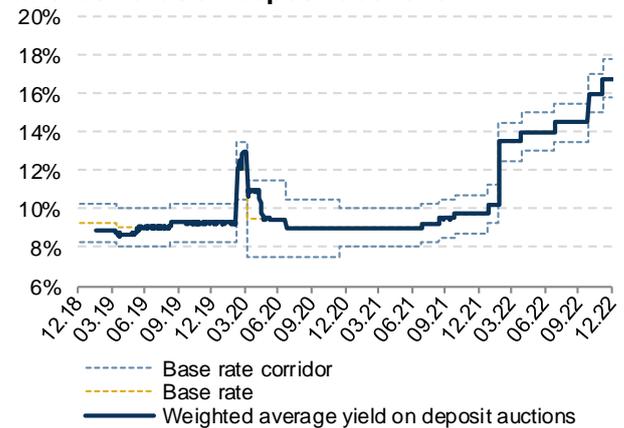
Starting from July 2020, placements at deposit auctions are made at the base rate, in 2022 this practice continued. In fact, a deposit auction is not an auction, since the rate at which the NBK withdraws liquidity is always equal to the base rate. Market participants, knowing this, submit bids at the base rate, therefore, 100% of the bids are executed.

Figure 1.41 Interest rates on open market operations

Rates on note auctions



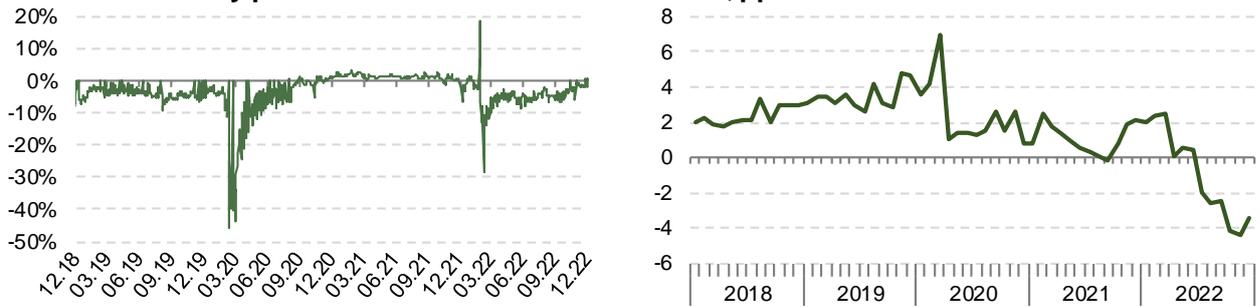
Interest rates on deposit auctions



Source: KASE

As a result of increased NDF rates on the USD/KZT currency pair, amid intensifying geopolitical risks, in March 2022 the spread between the TONIA rate and the NDF rate became negative (Figure 1.42). On some days, negative spreads exceeded 20%, on March 9 the negative spread between the TONIA and the NDF rate widened to 28%. Despite recurring base rate hikes in 2022, a significant negative spread between the TONIA and the NDF rate persisted, narrowing only by the end of the year. Thus, in 2022 the NBK failed to keep the spread between the TONIA rate and the NDF rate close to zero – the spread was negative from March onwards. Significant negative spread in 2022 indicated the presence of arbitrage, which made downside strategies in respect of the tenge profitable.

Figure 1.42 Spread between TONIA rate and NDF rate on USD/KZT currency pair
Spread between TONIA rate and NDF rate on USD/KZT currency pair **Spread between TONIA rate and consumer price index, pp**



Source: Bloomberg, KASE, BNS ASPR RK, National Bank computations

Due to the rising inflation, the real rate in March 2022 dropped to near-zero, and in July it became negative and remained so until the end of 2022. Thus, the interest rate in the tenge in the second half of the year did not compensate for expectations of exchange rate movements and inflation. At the same time, taking into account the 10% compensation on retail deposits in the tenge, the interest rate for households was much higher. This rate compensated for the heightened inflation and exchange rate expectations, which explains the absence of growth in dollarization of deposits at the systemic level despite the increased risks in the tenge.

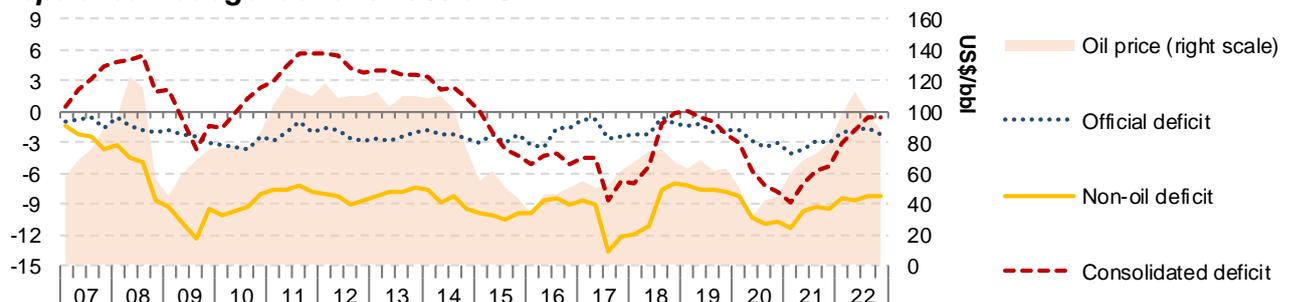
1.4 Fiscal Policy

In 2022, growth in tax revenues of the republican budget and additional target transfers from the National Fund contributed to reduction in the republican budget deficit. The share of transfers in the structure of budget revenues decreased in 2022, but the level of non-oil deficit remains high. The National Fund assets excluding the government debt continue to decline relative to GDP, which significantly reduces the sustainability of fiscal policy in the long run.

A growing debt burden both on the loan servicing and repayment side increases the need for debt financing. In case of inability of the domestic GSs market to provide funds for debt financing, fiscal policy will become more dependent on the declining assets of the National Fund and external loans.

As at end-2022, the non-oil deficit contracted significantly to 8.4% of GDP (Figure 1.43). The main factor of deficit reduction is the outstripping growth rate of nominal GDP caused by a high inflation rate. In nominal terms, the non-oil budget deficit increased from 8 trln tenge to 8.6 trln tenge. The consolidated deficit including oil revenues from oil sector organizations amounted to 0.55% of GDP, having decreased significantly compared to 2021.

Figure 1.43 A high level of non-oil deficit is persisting
Republican budget deficits as % of GDP



Source: MF RK, IMF, National Bank's computations

Note: The consolidated deficit of the RB in the diagram was calculated as the official deficit minus transfers from the NF RK plus revenues to the NF RK excl. investment income.

Budget Revenues

In 2022, revenues to the republican budget totaled 16.1 trln tenge, having increased by 27.3% compared to the previous year (*Figure 1.44*). The share of transfers from the NF RK declined from 35.5% in 2021 to 28.4% in 2022 of total republican budget revenues, returning to the pre-pandemic levels of 2018 and 2019. Their share declined due to the outpacing growth in tax revenues, which amounted to 10 trln tenge in 2022, an increase of 42.1% compared to 2021. The main contributors to the growth in tax revenues in 2022 were the receipts of corporate income tax (CIT) from large businesses, value added tax (VAT) and export customs duties on crude oil (ECDs).

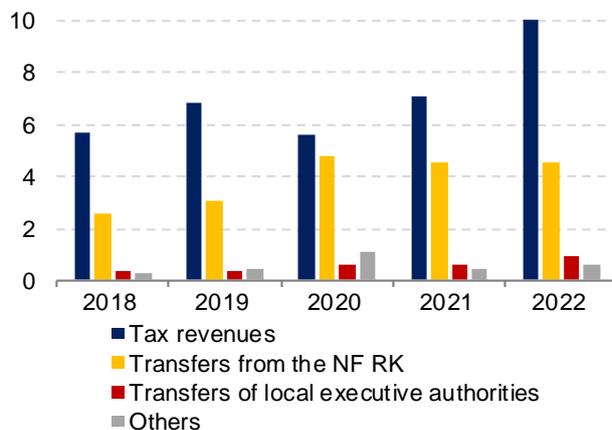
VAT receipts in 2022 amounted to 4.2 trln tenge, having increased by 50.5% compared to 2021. VAT receipts on goods produced, works performed and services rendered within the territory of the RK have gone up by 66.1% since 2021 and amounted to 1.6 trln tenge in 2022. VAT receipts on imported goods, except for goods imported from the territory of the Russian Federation and the Republic of Belarus grew by 75.4%, amounting to 1.4 trln tenge. Meantime, the VAT on goods imported from the territory of the EAEU member states increased by 14.3%, equaling 1 trln tenge.

Growth in revenues from CIT in 2022 was 39.4% in annual terms on the back of additional tax liabilities paid by large mining and metallurgical companies as well as higher prices for major export commodities.

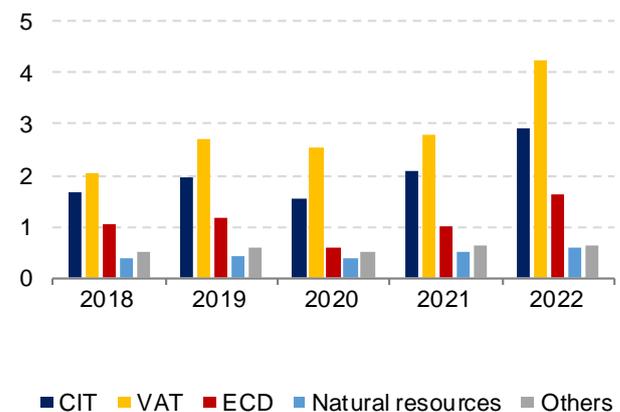
The ramp-up in revenues from ECDs was associated with the rise in world oil prices. According to the World Bank, the price of Brent crude oil in 2022 averaged 99.8 US\$ per barrel, having gone up by 41.7% compared to 2021.

Figure 1.44 Growth of tax revenues

Revenues to the RB, trln tenge



Tax revenues to the RB, trln tenge



Source: MF RK, National Bank computations

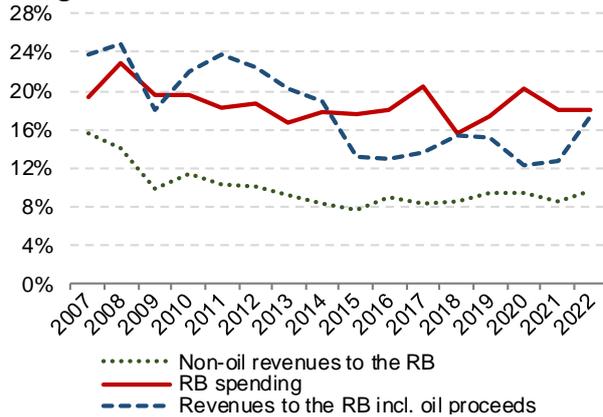
Despite high growth in nominal terms, non-oil revenues of the republican budget remain low in relation to nominal GDP. A significant decline in non-oil revenues as a consequence of lower tax rates in 2009 was not accompanied by a corresponding adjustment of expenditures, which led to an increase in the level of non-oil deficit.

Before 2015, the high level of non-oil deficit was offset by excess revenues from oil sector organizations in the setting of high oil prices. After the decline in oil prices at the end of 2014, total revenues of the republican budget, including revenues from oil sector organizations, were significantly below the level of republican budget expenditures (*Figure 1.45*).

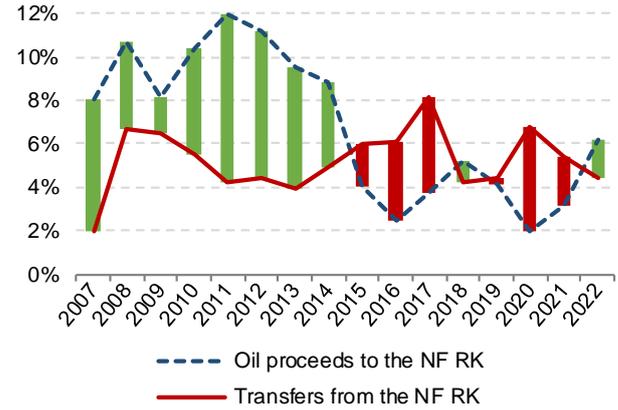
In 2022, high world oil prices contributed to the growth of oil revenues to the National Fund, which exceeded the level of transfers allocated to the republican budget. Despite the positive trend of revenues in 2022, in the long term, oil revenues cannot be a reliable source of budget financing without the accumulative mechanism of the National Fund due to high volatility.

Figure 1.45 Growth rates of budget spending are not in line with a steady path, thus narrowing the fiscal space

Revenues and expenditures of the republican budget as % of GDP



Tax receipts to the National Fund and transfers, as % of GDP



Source: MF RK, BNS RK, National Bank computations

Note: Revenues to the RB, incl. oil proceeds, are calculated as receipts to the RB minus transfers from the NF RK and ECD. In 2009, the CIT rate was reduced from 30% to 20%. The VAT rate gradually decreased during 2007 to 2009 from 14% to 12%.

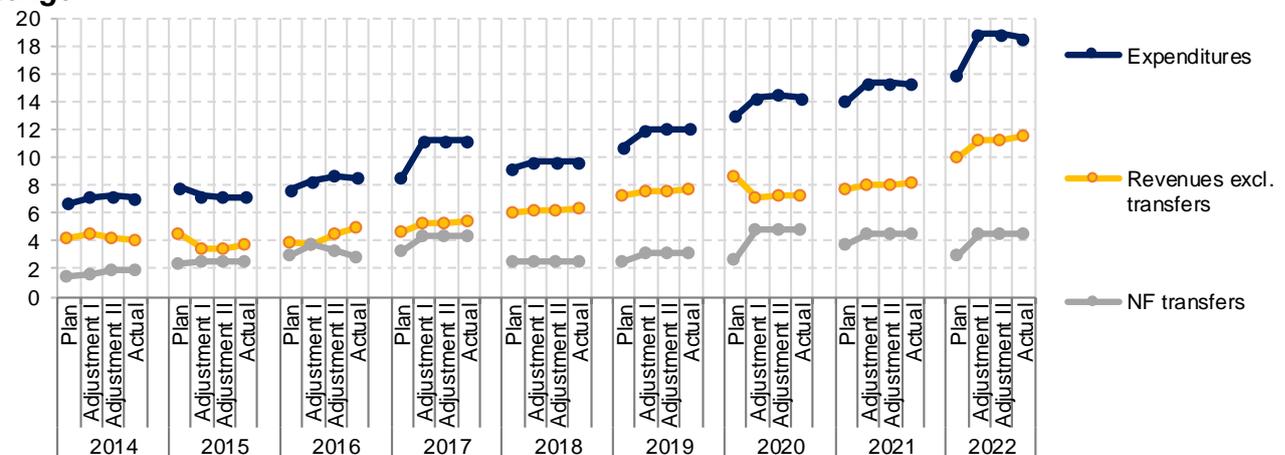
Starting from 2024, the National Fund will build up earmarked assets, which are intended for Kazakhstani citizens who have not reached the age of eighteen. The earmarked assets will be replenished annually with 50% of the average investment income of the National Fund for 18 years. In this regard, the savings function of the National Fund becomes a higher priority in terms of preserving the assets of the National Fund for future generations.

Budget Spending

Since 2017, there has been a trend to adjust the budget spending largely at the expense of transfers from the National Fund (*Figure 1.46*). The adjustment mechanism functions effectively in the need of an additional fiscal stimulus in the crisis periods, as was the case in 2020. However, the possibility to expand the budget spending in more stable periods reduces the fiscal policy discipline and sustainability of public finance in the long term.

Figure 1.46 Republican budget adjustments

Revenues, expenditures and transfers from the National Fund to the republican budget, trln tenge



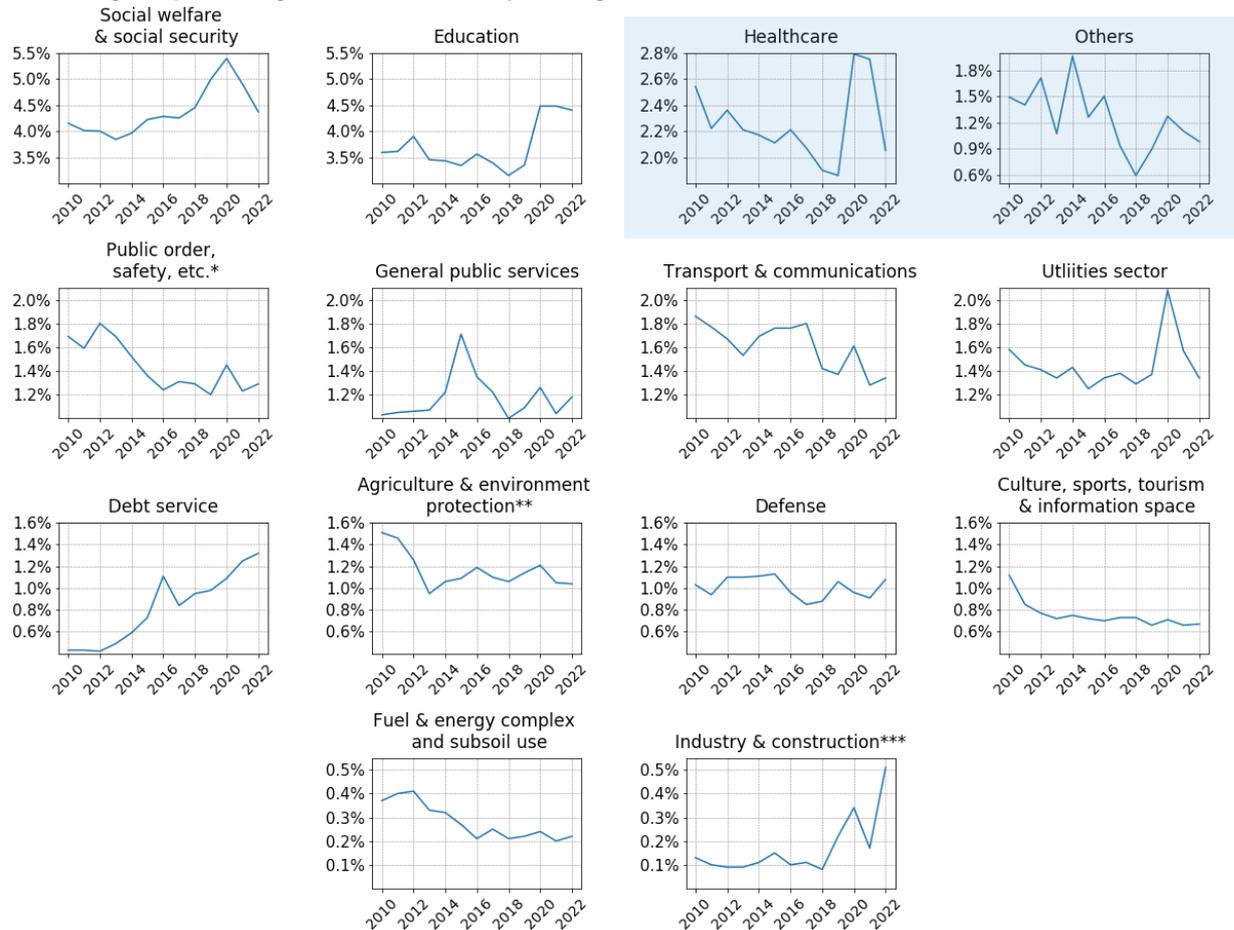
Source: MF RK

The main areas of state budget spending include spending on the social sphere, including for social welfare and social security, education and healthcare (*Figure 1.47*). At end-2022, such expenditures totaled about 11.1 trln tenge, or 10.8% of GDP.

The state budget spending on healthcare went down to 2.1 trln tenge in 2022 compared to 2.25 trln in 2021 (Figure 1.48). At the end of 2022, health care expenditures as % of GDP returned to the pre-pandemic levels. Expenditures on social welfare and social security amounted to 19.9% of total expenditures, or 4.5 trln tenge, or 4.4% of GDP. A significant growth in the state budget spending over the last 5 years has been demonstrated by spending on education that has grown significantly by 232.3% since 2018, amounting to 4.5 trln tenge (20% of total expenditures), or 4.4% of GDP.

Figure 1.47 The largest portion of budgetary funds is allocated to education and social security

State budget spending as % of GDP, by categories



Source: MF RK, BNS RK, National Bank computations

Note: State budget expenditures excl. one-time transaction to support STBs in 2017 of 2 trln tenge.

Full names of expenditure categories of the republican budget:

*Public order, safety, legal, judicial and penal activities

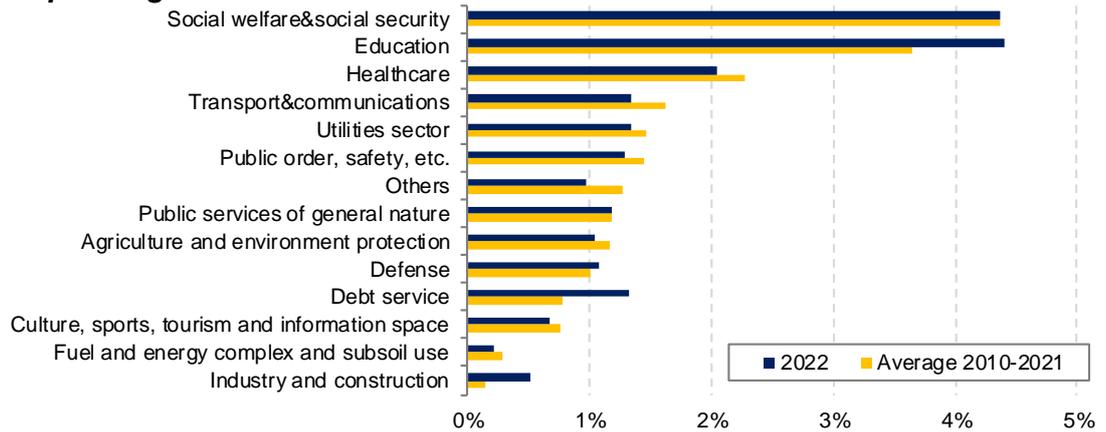
**Agriculture, water management, forestry, fisheries, specially protected natural areas, protection of the environment and wildlife, land relations

***Industry, architectural, urban planning and construction activities Utilities expenses at the end of 2022 amounted to 1.38 trln tenge, or 1.3% of GDP and in relation to GDP also returned to the pre-pandemic levels, having decreased by 0.21%. In addition, in 2022, the state budget spending on defense increased significantly by 46.3%, amounting to 1.1 trln tenge, or 1.1% of GDP.

A significant contribution to the growth of expenses was also made by expenses for the industry, architectural, urban planning and construction activities, which in 2022 increased by 386 bln tenge (a 273.6% growth). However, their level remains one of the lowest in the structure of government spending, along with expenditures on the fuel and energy complex and subsoil use.

Figure 1.48 Social expenditures remain as the top-priority among the state budget spending

State budget spending as % of GDP

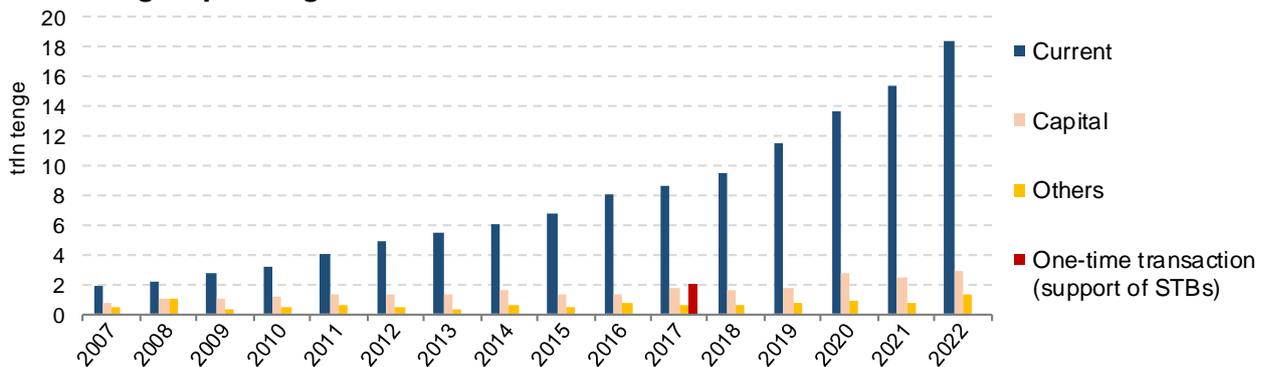


Source: MF RK, RK, National Bank computations

Government spending in the economic classification shows a stable increase in current expenditures, as well as their disproportionate dominance in the structure of total government spending at the end of 2022 and amounts to 75.3% of total expenditures, or 17.8% of GDP in 2022 (Figure 1.49). The high share of current expenditures limits the possibilities for increasing capital expenditures, which at the end of 2022 amounted to 2.9 trln tenge, or 12% of total spending. The expansion of current expenditures, taking into account the high share of social expenditures in the structure of government spending, significantly reduces the possibility for the budget adjustment in the future.

Figure 1.49 Displacement of capital spending by current expenditures

State budget spending in economic classification

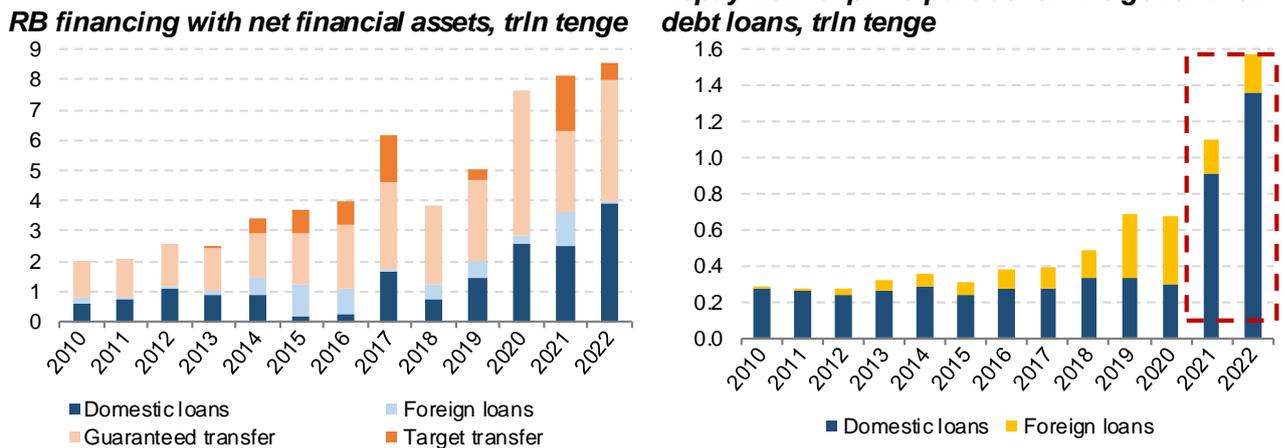


Source: MF RK

Depletion of Reserves

A high gap between non-oil revenues and budget expenditures is covered with government debt and resources from the National Fund. As at end-2022, a total of 8.5 trln tenge was raised from net assets of the Government, of which 4.58 trln tenge were transfers from the NF RK (Figure 1.50). In 2022, the Government attracted 4 trln tenge to repay the principal debt and finance the budget deficit, of which 3.97 trln tenge were domestic loans. This structure is the result of the increasing role of domestic debt given the economic instability in world markets, which was accompanied by high inflation rates, as well as exchange rate volatility due to the tense situation in the geopolitical arena.

Figure 1.50 Insufficient volumes of non-oil revenues are covered with the National Fund assets and the raising of debt

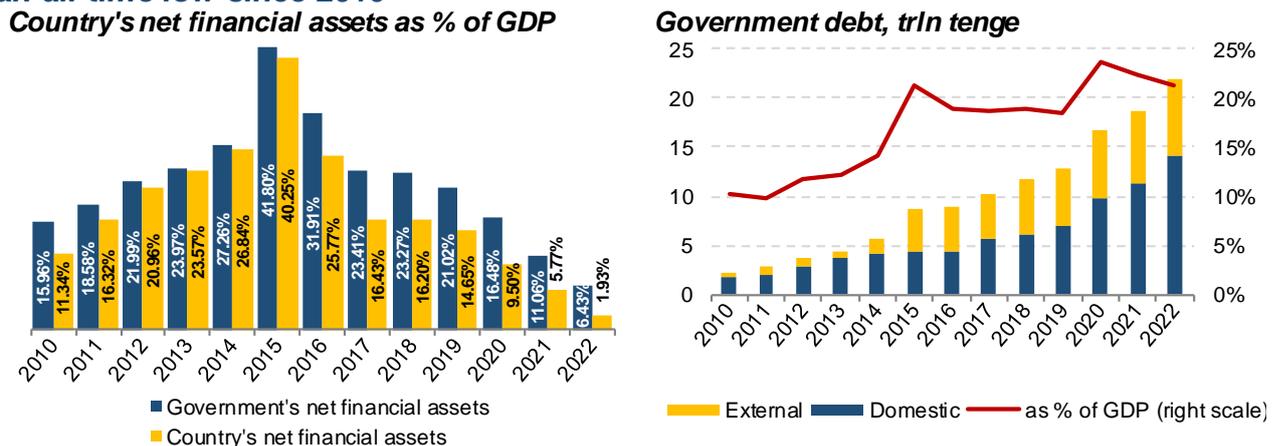


Source: MF RK

Attracting government debt also counts towards repaying the principal debt of the Government, which in 2022 amounted to 1,574.3 bln tenge, an increase of 43% compared to 2021. In 2021 and 2022, the volume of repayment of domestic loans in nominal terms boosted.

The growth in debt burden and a large spread between the budget expenditures and revenues creates pressure on Government net assets (Figure 1.51). Thus, at the end of 2022, Government net assets to GDP amounted to 6.4%. The National Fund assets at the end of 2022 equaled 28.6 trln tenge, or 27.8% κ GDP.

Figure 1.51 Country's net financial assets as % of GDP are decreasing and reached an all-time low since 2010



Source: MF RK, BNS RK, National Bank computations

Note: (1) Government net assets are calculated as the National Fund assets minus government debt. (2) The country's net assets are calculated as the National Fund assets minus debt, incl. public debt, state-guaranteed debt and debt under the state's surety

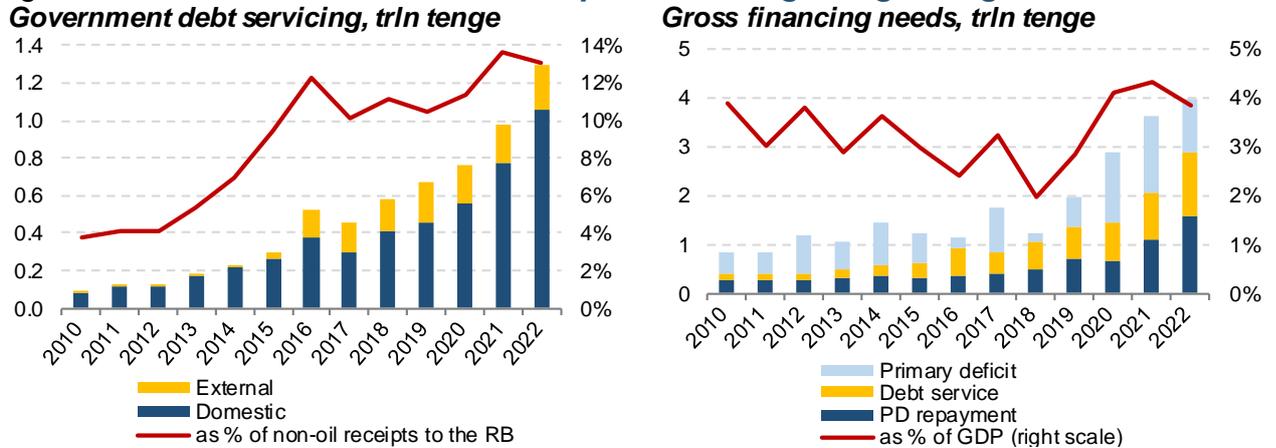
From 2023, the budget rule will be applied, which is enshrined in the Budget Code and consists of two elements. According to the first element of the budget rule, the size of the guaranteed transfer will not exceed the forecast level of revenues to the National Fund from oil sector organizations at the cut-off price. The second element of the fiscal rule limits the growth rate of republican budget expenditures at the long-term economic level increased by the inflation target.

The fiscal rule aims to achieve a balance between sufficient conservatism and flexibility, as well as between ensuring fiscal discipline and stimulating the economic growth. In the medium term, compliance with fiscal rules will ensure the balance of public finances and the sustainability of fiscal policy. However, in the long term, the implementation of

measures aimed at increasing non-oil budget revenues, primarily due to the increase in tax collection by eliminating ineffective tax breaks and improving tax administration, will remain as the main priority of fiscal policy.

The dynamics of government debt remain stable. At the end of 2022, the ratio of Government debt to GDP was 21.4%, decreasing by 0.9% compared to 2021. The gross need in debt financing of the republican budget has increased significantly since 2018. If in 2020 this was caused by the need to expand the fiscal stimulus, in 2021 and 2022, it is largely related to record volumes of repayment of the government principal debt.

Figure 1.52 The debt burden on the republican budget is growing



Source: MF RK, BNS RK, National Bank computations

Note: The gross financing needs is calculated as the sum of the budget deficit, consisting of the primary deficit and loan servicing costs, and the repayment of the principal debt for the period.

Another key determinant in the growth of gross financing needs is the increase in the cost of government debt servicing, which at the end of 2022 amounted to 13% of non-oil revenues to the republican budget and 1.26% of GDP. During 2022, the government of Kazakhstan spent 1.3 trln tenge on debt servicing, which is by 32.7% higher than a year earlier. This increase in servicing costs was driven by both the growth in borrowings and a rise in interest rates in the primary market. Thus, interest expenses on government debt amounted to 32.15% in relation to the raised debt (Figure 1.52). Thus, given the increasing volumes of repayments and debt servicing, the low level of participation of market investors in the government securities market and its low liquidity, there is a risk of the domestic market being unable to meet the growing need for financing of the republican budget. If this risk materializes, the fiscal policy would become even more dependent on declining assets of the National Fund and external debt financing.

II Government Securities Market

In 2022, high inflation expectations in an unstable geopolitical situation directly affected the price of securities and the maturity structure of their offering. The investment horizon of market participants has shifted to the short and medium term. Despite the presence of demand from voluntary market participants, the decrease in their risk appetite for purchasing “long” securities led to an increase in the required return, which the government did not want to satisfy. Thus, the share of participation of market investors in the primary market of government securities of the MF RK decreased to 24.47% in 2022. In turn, captive participants significantly enhanced the level of their activity, investing 3 trln tenge in the primary government securities market in 2022. Thus, the need in debt financing of the MF RK in 2022 was realized mainly through captive investors.

The market for Kazakhstani government securities is characterized by low liquidity and inefficiency, which limit the ability of government securities to act as a benchmark in the assessment of other tenge-denominated financial instruments. In particular, this impedes the normal development of not the securities market only, but also of the financial market as a whole.

A unified approach and the lack of competitive environment in the management of pension assets restrains the development of the government securities market. As a result, there is a vicious circle where potential investors are unwilling to invest their funds in an illiquid market, and the government securities market becomes more dependent on the investment decisions of the NBK. Moreover, the low level of development and lack of a sufficient number of active institutional investors, the absence of interest from international investors contribute to the formation of a homogeneous investor base, which negatively affects the market efficiency. Thus, the government securities market needs decentralization and expansion of the perimeter of investors with different investment opinions.

The reduction in the share of market investors in the government securities market led to the emergence of a yield curve that did not meet the expectations of market participants. Thus, the prices determined by the yield curve were higher than the prices at which market participants were willing to buy them. As a result, a gap between the supply and demand prices appeared which, in turn, restrained the execution of new transactions with government securities.

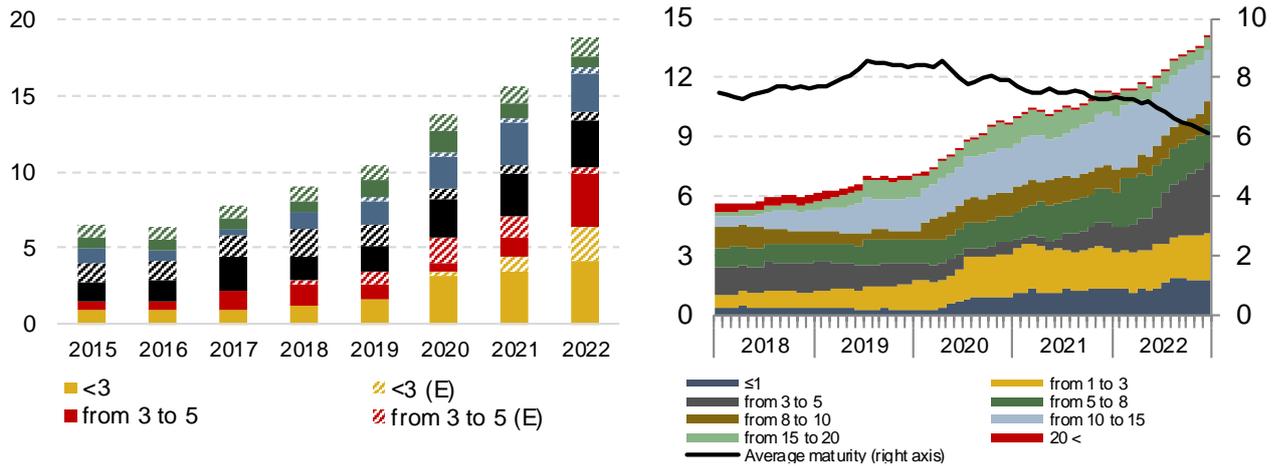
2.1 Government Debt

In 2022, amid high uncertainty in global markets and a widespread rise in interest rates, the public debt management policy showed flexibility and refocused on domestic short-term securities, which made it possible to optimize the structure of costs for servicing debt obligations. Thus, the average maturity structure of the government securities of the MF RK decreased significantly in 2022. In particular, if at the end of 2019 government securities with maturity of up to 3 years accounted for 15.4% of the portfolio, then at the end of 2022 their share reached 33.9% (*Figure 2.1*). Since 2019 to 2022, the weighted average maturity of government securities has decreased from 8.3 years to about 6 years. The decrease in the weighted average maturity is also related to the approaching maturity of the MF RK debt securities.

Figure 2.1 The share of short-term securities in MF RK debt obligations is growing

Term structure of MF RK government securities and Eurobonds, trln tenge

The share of short-term securities in the Ministry of Finance's debt obligations is growing, trln tenge

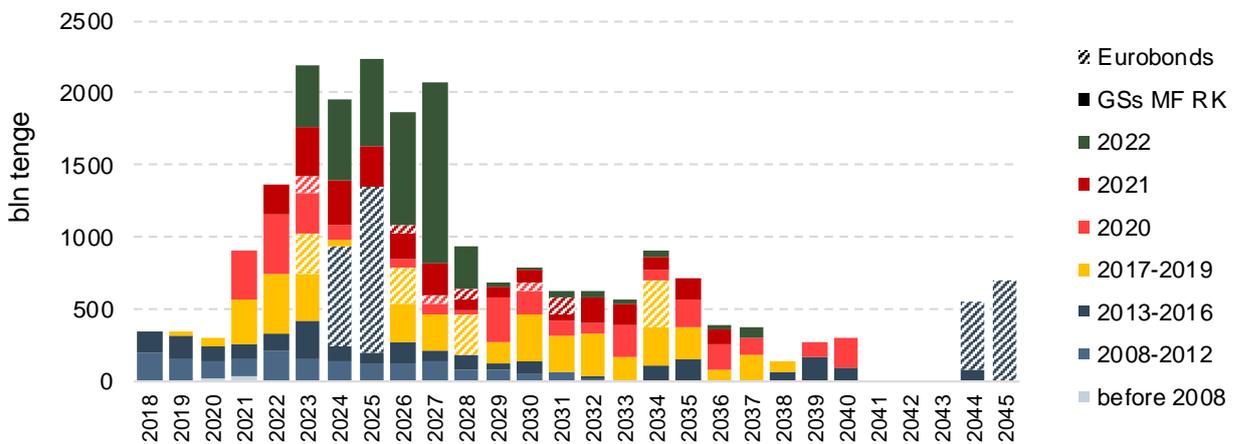


Source: CSD, NBK, NBK computations

Note: 1) E – the MF RK eurobonds; 2) a principal debt amount on Eurobonds was converted into the tenge at the official exchange rate as at the end of the reporting period

Due to the growth in the share of short-term securities placed in 2022, the volume of redemptions during the next five years has increased significantly (Figure 2.2). The main volumes of repayment of accumulated domestic debt in 2023 were caused from large issuance of government securities from earlier years; (1). In 2017, when emergency assistance was provided to a systemically important bank as part of measures to improve its financial rehabilitation; (2) in 2020, when increasing fiscal pressure in the context of the COVID-19 crisis caused an increase in short- and medium-term government securities, and also (3) for 2021-2022, when market demand was focused on a short-term investment horizon.

Figure 2.2 Redemption profile of GSs of the MF RK and Eurobonds, by placement period



Source: CSD, NBK computations

Note: 1) the legend indicates the years of government securities issue; 2) the amount of the principal debt on government securities in national currency is represented by a solid fill, the amount of the principal debt on Eurobonds is represented by a patterned fill; 3) the amount of repayment of the principal debt on Eurobonds was converted into tenge at official rates as of December 31, 2022

Given an unbalanced repayment schedule, a rapid and noticeable increase of the government debt, mainly of a short- and medium-term nature, had a significant effect on the growth of refinancing risk, which represents the likelihood that the issuer will not be able to bring new borrowings on acceptable terms to repay the accumulated debt. In other words, the concentration of principal repayments in specific periods can increase the potential cost

of new issues. In turn, given a limited investor base in the local government securities market, a high cost of attraction may lead to the fact that the MF RK will have to replace internal debt by attracting external debt and increasing transfers from the NFRK.

2.2 Microstructure of the Government Securities Market

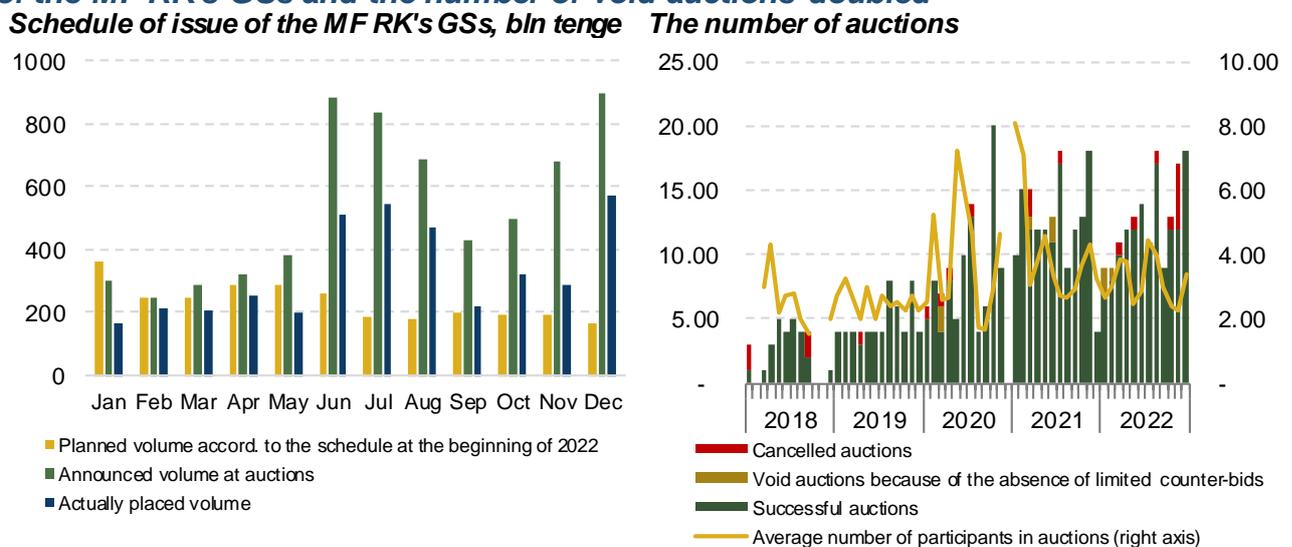
Securities Auctions

In 2022, a significant deviation from the placement schedule was driven by the heightened uncertainty in the global markets and its impact on domestic macroeconomic conditions. At the same time, the return to keeping up with the placement schedule is one of the conditions for increasing attractiveness for market investors.

According to the issuance schedule of government securities for 2022, the MF RK planned to issue government securities worth 2.82 trln tenge (*Figure 2.3*). The announced volumes in the auctions were far above the planned issuance volumes. If until May 2022, the announced volumes reflected an amount that was equal to the sum of the planned volume and the shortfall in previous auctions, then, starting from June, significant adjustments were demonstrated, being associated with the MF RK's decision to reduce the attraction of foreign capital and a corresponding increase in the domestic debt raising. This was a forced measure on the part of the MF RK driven by the tense geopolitical situation and economic instability of global markets.

It should be noted that in a situation when the economy operates without significant fluctuations and crises, such violations in the execution of government securities issues may lead to a reduction in potential demand for government securities due to uncertainty and the decreased ability of investors to plan their cash flows. The development of the government securities market requires the presence of trust in their issuer on the part of financial market participants. In addition to pursuing a rational and sustainable fiscal policy, and creating an adequate regulatory and legal framework, the Government needs to provide timely and relevant information on the strategy of issuing government securities. The strategy should be based on a comprehensive assessment of the country's macroeconomic conditions, take into account the preferences of market participants and be published on a regular basis.

Figure 2.3 *Starting from mid-2022, there were significant adjustments in the offering of the MF RK's GSs and the number of void auctions doubled*



Source: KASE

Note: the average number of participants is calculated as the ratio of the number of auction participants to the number of auctions

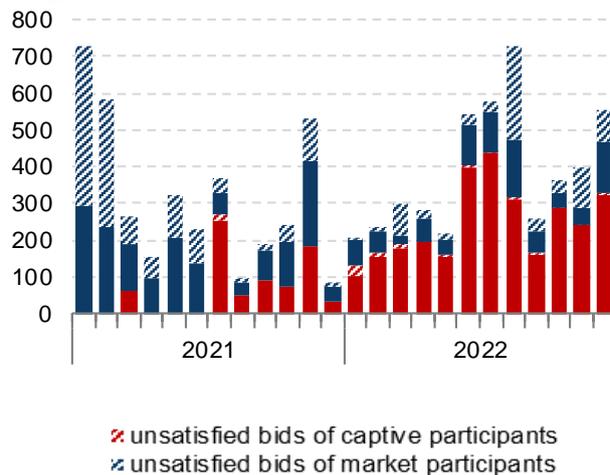
In 2022, 12 auctions out of 154 auctions held did not take place, which is twice as much as a year earlier (6 and 12, respectively). Of these, 9 auctions were canceled by the MF RK because of unsatisfactory price parameters in the submitted bids. In addition, in

January-February 2022, 3 the auctions did not take place due to the lack of limited bids, which was explained by low demand for issues of long-term government securities (Figure 2.3).

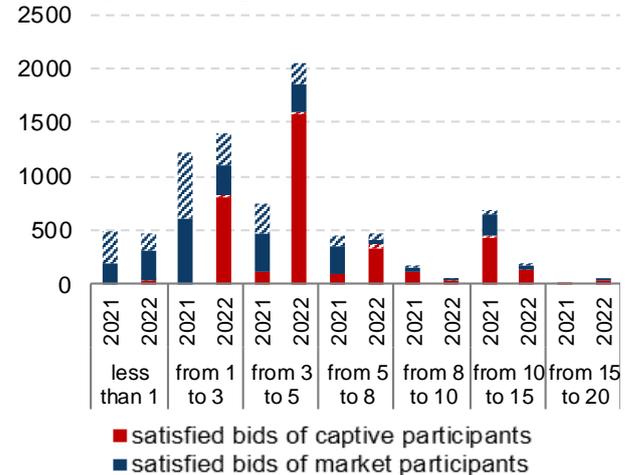
At end-2022, participants submitted bids for the purchase of government securities in the primary market in the amount of 4.67 trln tenge, which exceeds the amount in the previous year by 22.38%. However, this growth was driven by a four-fold increase in the participation of captive investors. In turn, market participants reduced participation in auctions by 45.95% compared to the previous year (Figure 2.4 a). In particular, their activity was limited to securities with a shorter- and medium-term investment horizon (Figure 2.4 b).

Figure 2.4 The intensity of participation in GSs auctions by market participants notably decreased

a) Satisfied and unsatisfied applications, bln tenge



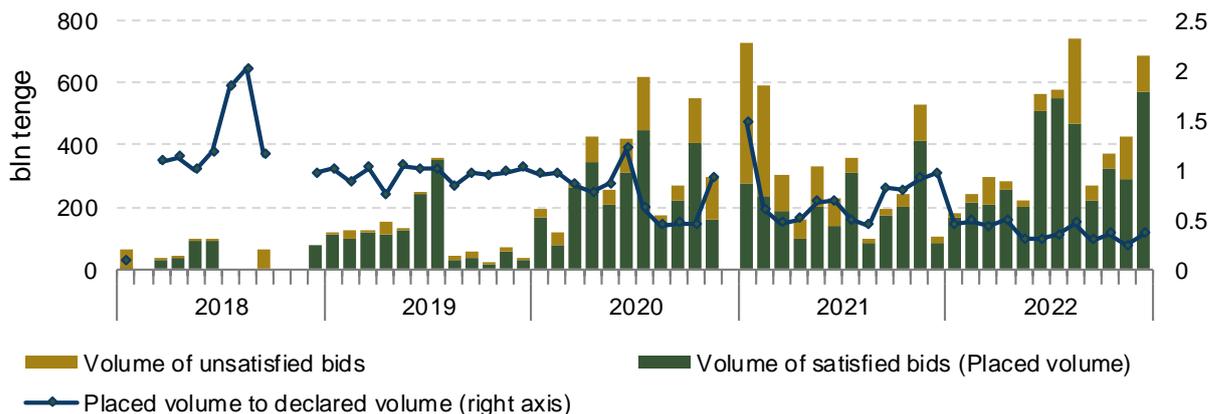
b) Satisfied and unsatisfied applications by urgency, mln tenge



Source: KASE

The average bid rate in the primary market increased from 63.5% in 2021 to 82.8% in 2022 (Figure 2.4 a). However, the degree of satisfaction of bids from market investors was quite different from that of captive investors. Thus, in 2022, only 56.2% of bids from market participants were successful, while 97.3% of the total volume of bids submitted by captive investors were satisfied (Figure 2.4 a). However, the degree of satisfaction of bids from market investors was quite different from that of captive investors. Thus, in 2022, only 56.2% of applications from market participants were successful, while 97.3% of the total volume of bids submitted by captive investors were satisfied (Figure 2.4 a). At the same time, the MF RK did not achieve the planned attraction indicators. Specifically, throughout 2022, the monthly ratio of the placed volume and the announced volume in auctions did not exceed 50% (Figure 2.5).

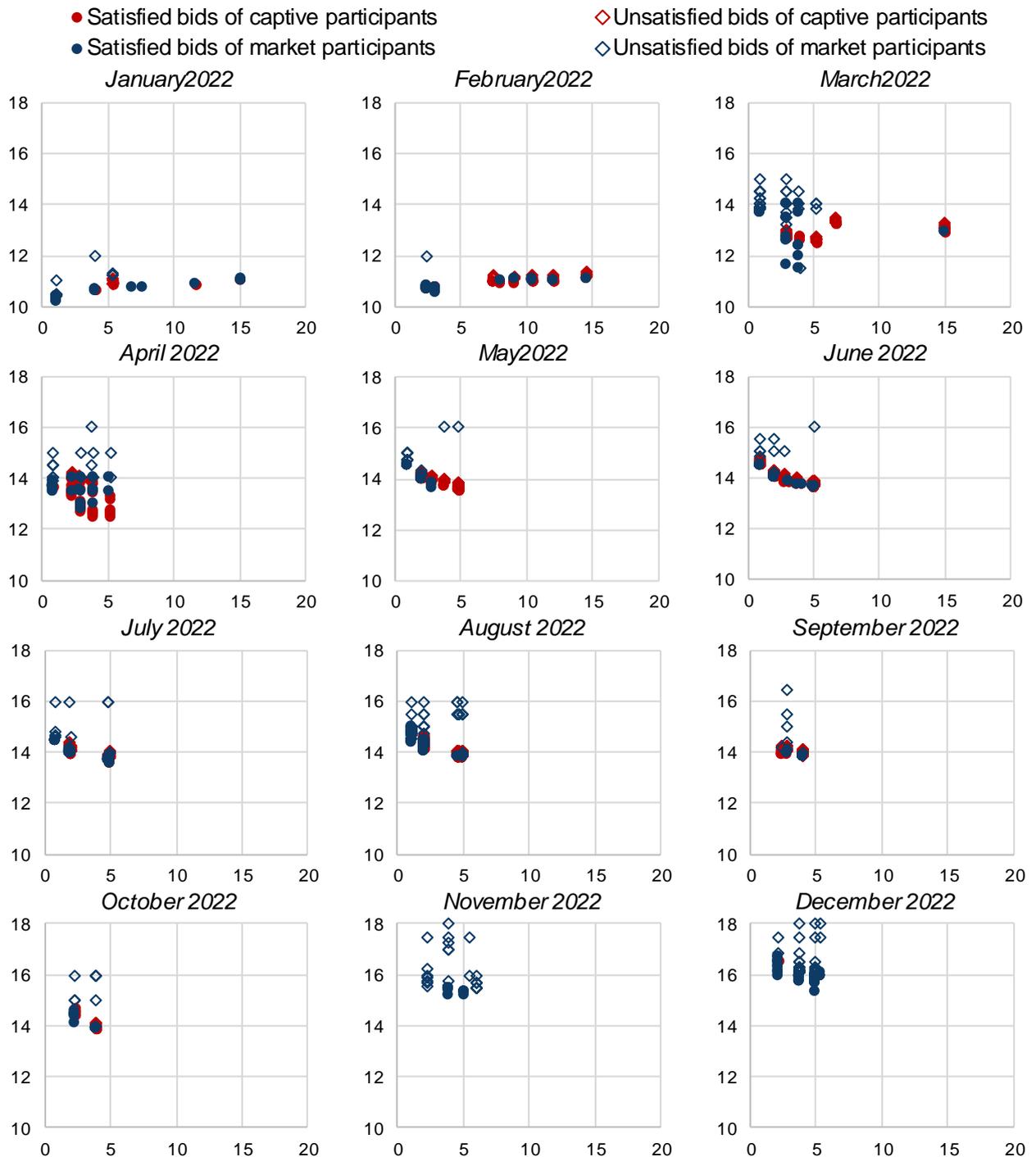
Figure 2.5 The successfulness level of bids increased in 2022



Source: KASE

The success of a bid depended on the rates of return requested by the market. In particular, market players demanded higher yields on government securities, while the MF RK did not satisfy bids with high yields, since it did not want to pay a higher interest rate on securities, which could lead to an increase in the cost of its borrowings (Figure 2.6).

Figure 2.6 Market participants wanted to secure high returns on the primary market
Satisfied and unsatisfied limited bids in the primary auction of government securities with fixed income



Source: KASE

The mechanism of an auction offering government securities of the MF RK differs from the standard practice of conducting a treasury auction in other countries. According to a standard auction design, the cut-off price is defined as the maximum bid at which the entire declared volume can be satisfied. In turn, the volume of placement announced in advance by the MF RK has virtually no influence on the decision-making about the bid. Thus, the

availability of alternative sources of financing, a focus on reducing the cost of debt servicing, and the absence of an obligation to place the declared volume make the cut-off price as the main criterion when deciding on the volume to be placed. This method of pricing, which is not based on market mechanisms, increases the level of uncertainty for market participants and reduces their interest in active participation in auctions.

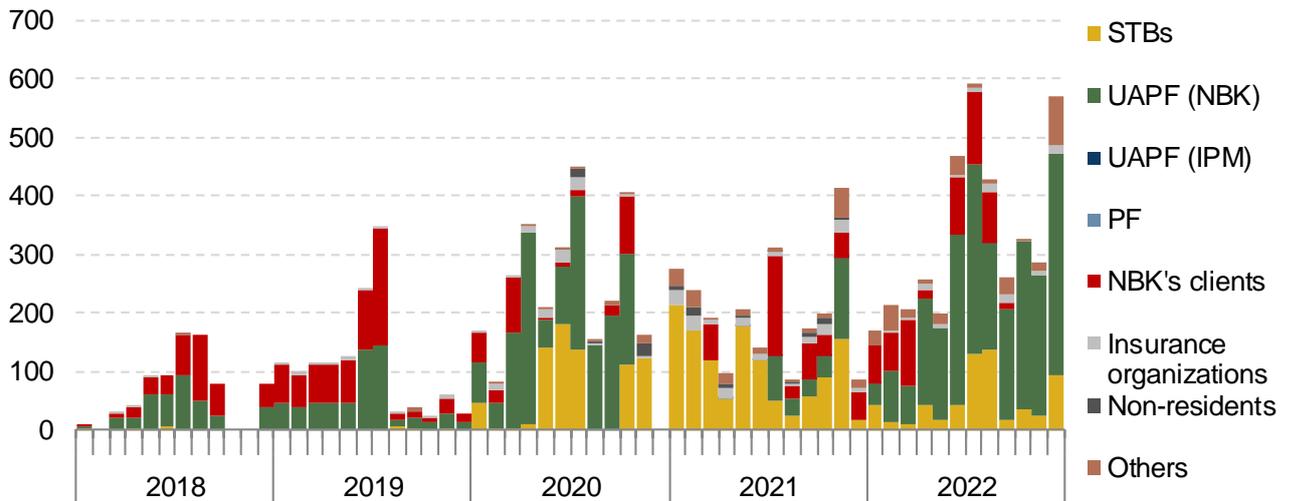
Investor Base in the Government Securities Market

Due to a reduction in declared volumes by market participants and disagreements on interest rates between the MF RK and the market, the share of participation of market investors in government securities placements decreased from 68.76% in 2021 to 24.47% in 2022 (Figure 2.7). Among market investors, banks remained the main buyers at auctions of the MF RK government securities, but their share plummeted from 51.31% in 2021 to 15.13% in 2022.

In the last 2 years, the activity of clients of brokers in the primary and secondary government securities markets increased, which is associated with the activation of brokerage activities in Kazakhstan. From 2012 to 2020, the share of government securities placements in the primary market among other broker clients did not exceed 2% of the total volume of placements, and in 2021 and 2022 their shares amounted to 7.96% and 7.16%, respectively.

In the context of low-liquid government securities market, the increased political instability on the global stage led to an outflow of non-residents from the government securities market. The outflow of non-residents was manifested both in their complete absence in the operations of the primary placement of government securities of the MF RK, and in the sale of their assets in the secondary market. Thus, the share of non-resident holders of government securities issued by the MF RK cut by half from 3.23% in 2021 to 1.63% in 2022.

Figure 2.7 *In 2022, the share of participation in the initial offering of the MF RK's GSs by banks decreased from 51.31% in 2021 to 15.13%*
Initial offering of the MF RK's GSs, by holders, bln tenge



Source: CSD

Note: 1) The investor type “Other” includes broker-dealers, investment funds, individuals, government organizations, other legal entities and the own assets of pension funds; 2) IO - insurance organizations; 3) UAPF (IPM) – individual portfolio managers

Since January 2021, the people had been given an opportunity to transfer a part of their pension savings exceeding the minimum adequacy threshold to investment managers. At the end of 2022, pension assets managed by five investment managers amounted to 0.064% of all pension savings. This low figure is explained by the established limits on the

amount of transfer of pension savings to investment managers, a low level of financial literacy of the population, as well as the possible preference of people for the state-owned structure of pension asset management, which provides for a government guarantee of the safety of pension savings.

Thus, the pension asset management reform on transferring a part of pension assets to a competitive environment did not reduce the level of monopolization in the market for pension asset management services.

A unified approach and the lack of a competitive environment in the management of pension assets limits the development of the government securities market. As a result, there is a vicious circle where potential investors are unwilling to invest their funds in an illiquid market, and the government securities market becomes even more dependent on the NBK’s investment decisions.

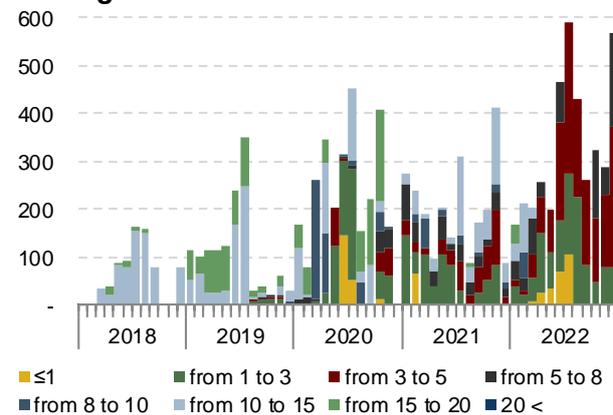
A low level of development and a shortage of a sufficient number of active institutional investors, the lack of interest from international investors contributes to the formation of a homogeneous investor base, which negatively affects the efficiency of the market. Thus, the government securities market needs decentralization, competition of opinions among market investors, including improvement of mechanisms for transferring the UAPF assets to private management companies.

Maturity Structure and Types of Government Securities

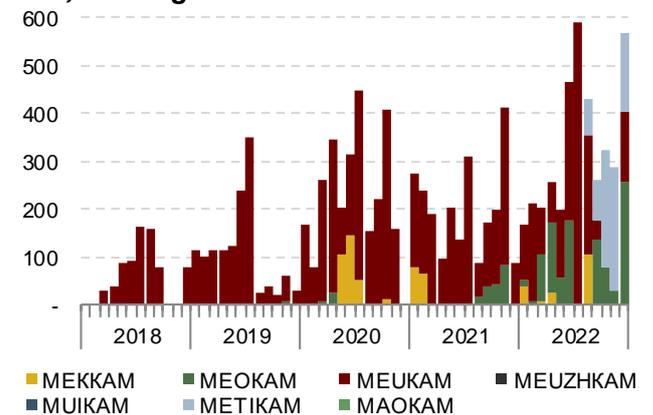
The focus of demand on short- and medium-term government securities caused the shift in the maturity structure of government securities placement. In 2022, the volume of placement of government securities with maturity of up to 1 year tripled compared to 2021, and their share amounted to 6.2% (in 2021 – 2.67%). Also, the share of placed medium-term government securities (from 1 year to 5 years) increased from 49.22% in 2021 to 70.88% in 2022 (Figure 2.8). Thus, in 2022, the weighted average maturity of issued securities was 4.19 years, which is a historical minimum over the past 14 years.

Figure 2.8 Investment horizon of market participants shifted to a short- and medium term investing horizon

Initial offering of the MF RK's GSs, by maturities, bln tenge



Initial offering of the MF RK's GSs, by types of GSs, bln tenge



Source: CSD

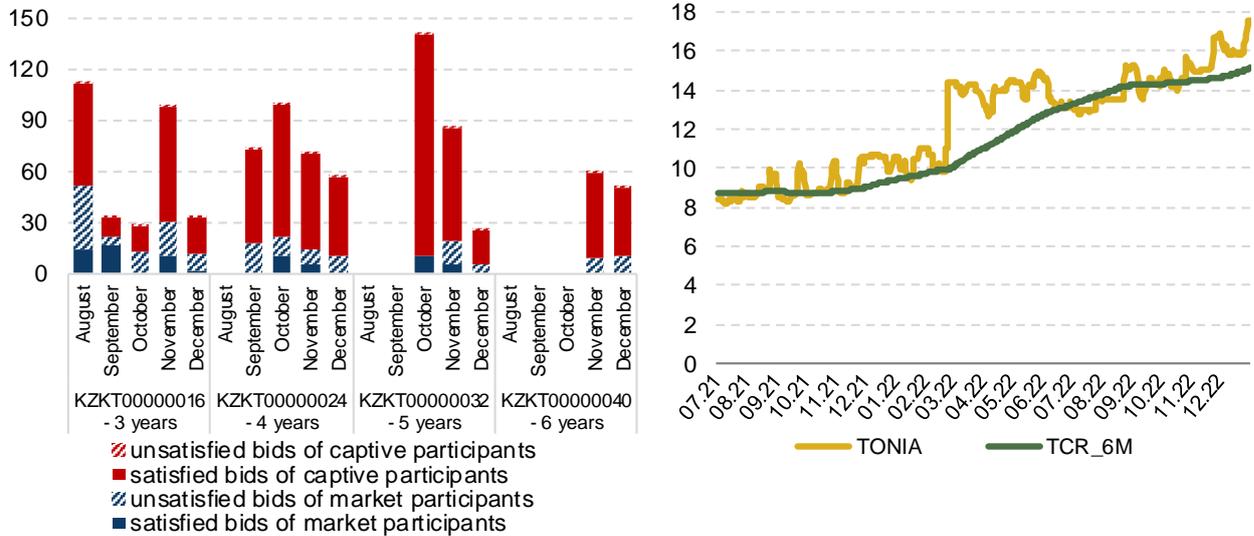
Given the increasing refinancing risk, the MF RK intended to extend the placement period, and government securities with a floating rate – METIKAM (liabilities indexed to the TONIA rate)¹¹ – were designed as a tool to increase longer-term market demand. Such securities began to be issued in August 2022, and during 2022 issues with maturities of 3, 4, 5 and 6 years were placed (Figure 2.9).

The share of METIKAM holding by market participants at the end of 2022 was 9.42%, the remainder was in the UAPF portfolio. Despite the fact that METIKAM as government

¹¹ Government Decree of the RK No. 469 dated July 8, 2022

securities with a floating rate hypothetically simplified the interest rate risk management for market participants, the market demand for these securities was extremely limited (Figure 2.9). During 2022, only 5 market participants out of 42 KASE members in the stock market demonstrated activity in the primary market, and there were no trades in the secondary market. Moreover, the activity of market investors was not uniform; the total share of participation in auctions of three out of five participants was 6.2%

Figure 2.9 The market demand for METIKAM was extremely limited
Initial offering of METIKAM, by each issue in 2022, bln tenge **Dynamics of TONIA and TCR_6M, pp**



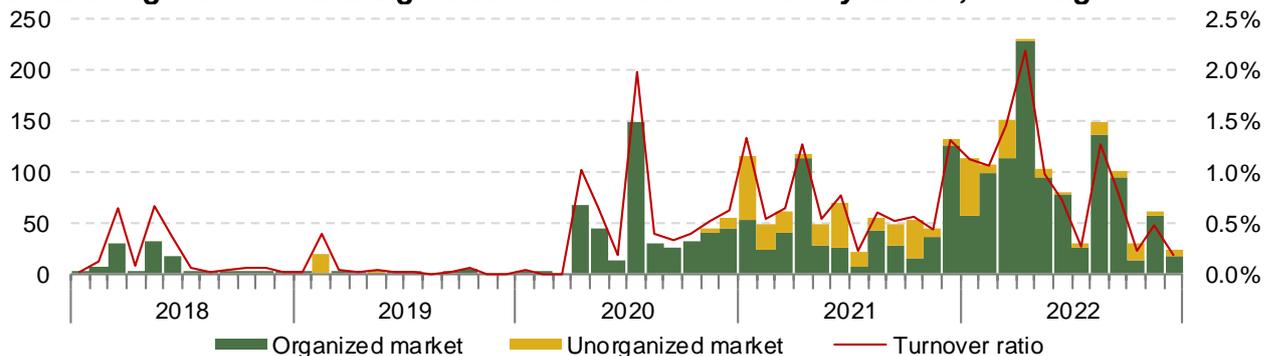
Source: KASE

Low interest on the part of market participants in government securities indexed to the TONIA rate could be associated with a number of factors. One of the factors may be shortcomings in the METIKAM calculation method, which do not allow transactions to be concluded in the T+2 regime in re-listing operations in the primary market and purchase and sale in the secondary market, which limits the ability to conduct transactions via the Central Counterparty.

Secondary Government Securities Market

In 2022, the volume of transactions in the secondary market of the MF RK government securities increased by 43% and amounted to 1.17 trln tenge, and the average monthly turnover increased from 0.72% in 2021 to 0.9% in 2022 (Figure 2.10). The stock exchange market remains as the main platform for the purchase and sale of government securities, where the trading turnover in 2022 increased by 87.7% compared to 2021.

Figure 2.10 Transaction volumes in the secondary market went up by 43%
On-exchange and off-exchange transactions in the secondary market, bln tenge

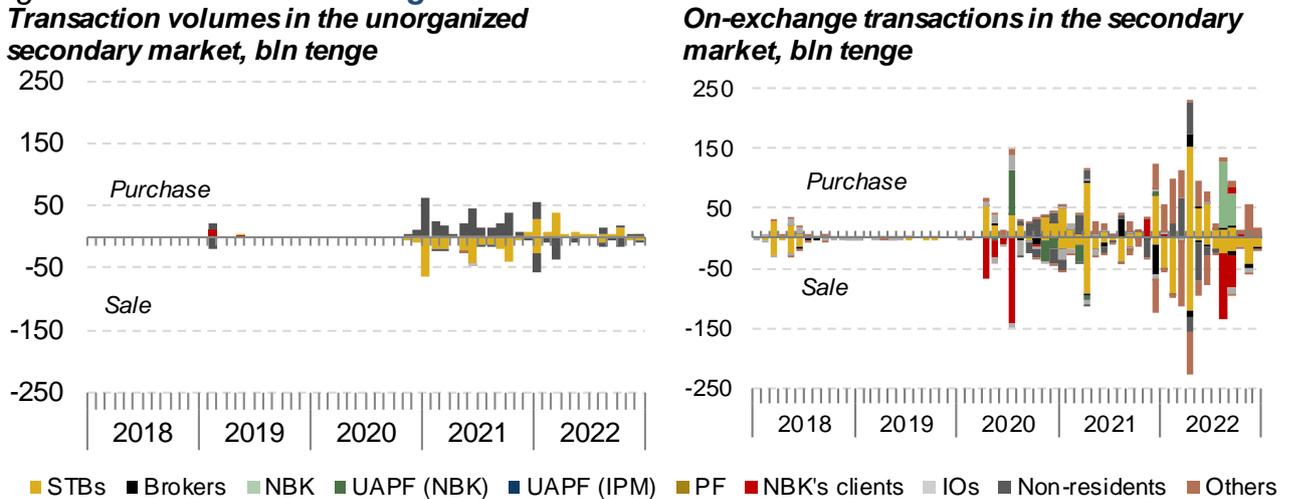


Source: CSD

Note: the turnover ratio is computed as the ratio of GSs turnover in the secondary market and their volume in circulation

The volume of transactions in the unorganized market decreased by 41.54%, there was a tendency for non-residents to exit, i.e. 71% of the total volume of transactions were sold by non-residents (Figure 2.11). The main market driver of the secondary exchange market was other clients of professional participants in the securities market and banks (Figure 2.11). Particular trading activity on the part of banks was demonstrated in April, when subsidiaries of Russian banks experienced a lack of liquidity due to outflows of deposits during the period they were exposed to sanctions.

Figure 2.11 The off-exchange market had a trend of non-residents' withdrawal

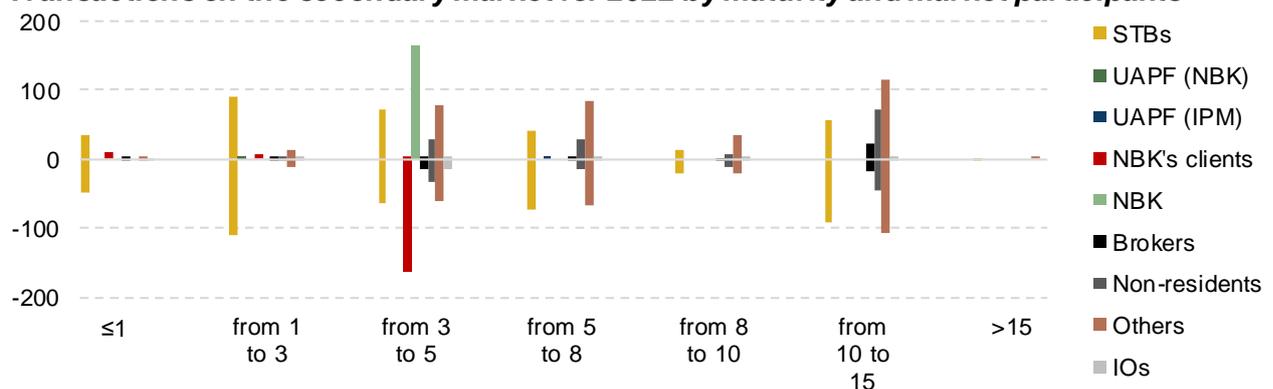


Source: CSD

Note: 1) The investor type "Other" includes broker-dealers, investment funds, individuals, government organizations, other legal entities and the own assets of pension funds; 2) IO - insurance organizations; 3) UAPF (IPM) – individual portfolio managers

Banks participated primarily in trading in securities that have maturity of up to 3 years. Broker clients traded longer-term securities (Figure 2.12). Despite the fact that the increase in activity in the volume of transactions is a positive trend, for 44.16% of transactions from the total trading volume, brokerage activities for the buyer and seller of government securities were carried out by the same organization. In turn, such transactions could to some extent distort prices in the market and not fully reflect the real price preferences and expectations of market participants. The possibility of concluding such transactions is not explained by shortcomings of the trading system but rather by the sporadic nature of events in the secondary market.

Figure 2.12 High activity of broker clients was observed on the organized market
Transactions on the secondary market for 2022 by maturity and market participants



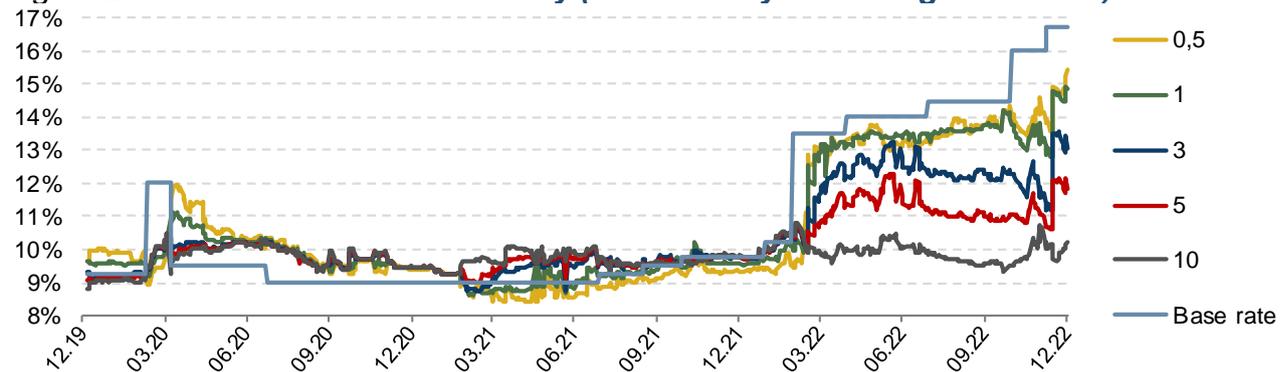
Source: KASE

Note: 1) The investor type “Other” includes broker-dealers, investment funds, individuals, government organizations, other legal entities and the own assets of pension funds; 2) IO - insurance organizations; 3) UAPF (IPM) – individual portfolio managers

Additionally, in the secondary government securities market there is a high concentration among market participants. In 2022, 64.62% of transactions were carried out by a single market participant. High concentration makes the market susceptible to manipulation and limits its information efficiency, since, hypothetically, prices will reflect the opinion of a limited number of people.

Erratic, irregular and eventful nature of transactions in the secondary market led to the fact that the yield on government securities in the secondary market was lower compared to the primary market. Thus, starting in March 2022, given the existence of transactions with interest rates below market rates and an increasing base rate, and the activation of the MF RK in the placement of short-term government securities, the yield curve began to take on an inverse shape. Despite the rapid growth of government securities yields, as the maturities of securities lengthened, the speed and level of growth of their yields decreased.

Figure 2.13 Yield on GSs to maturity (a section by remaining maturities)



Source: KASE

Thereby, starting from March 2022, the difference between the rates of medium- and long-term securities and short-term securities showed a negative value. The spread widened throughout 2022, and in December, the spread between 10-year and 1-year notes was -507 bp, which is an all-time high (*Figure 2.13*).

A high share of non-market transactions reduces the meaningfulness of information and adequacy of the yield curve. In turn, distortion of prices in the government securities market limits the efficiency of functioning and slows down the development of other capital markets. One of the necessary conditions for increasing liquidity is the solution of problems associated with the high concentration of government securities holdings among captive investors, a poorly diversified investor base, fragmentation and lack of benchmark issues in the government securities market, as well as irrational government debt management policies.

III Residential Real Estate Market

In 2022, real estate prices kept hiking in both the primary and secondary markets. The average number of purchase and sale transactions completed per month decreased by approximately a quarter compared to 2021, but exceeded the 2020 figures by 1.5 times. Given the increasing cost, a heightened demand for real estate and geopolitical uncertainty, the annual growth in the cost of renting a comfortable housing accelerated and amounted to 45% at the end of 2022. A significant reduction in the number of transactions in the real estate market is mainly driven by an increase in housing prices. The “7-20-25” concessional lending program had a positive impact on the consumer demand of the population who are purchasing their first home, but distorted market pricing, crowding out mortgage lending at market rates.

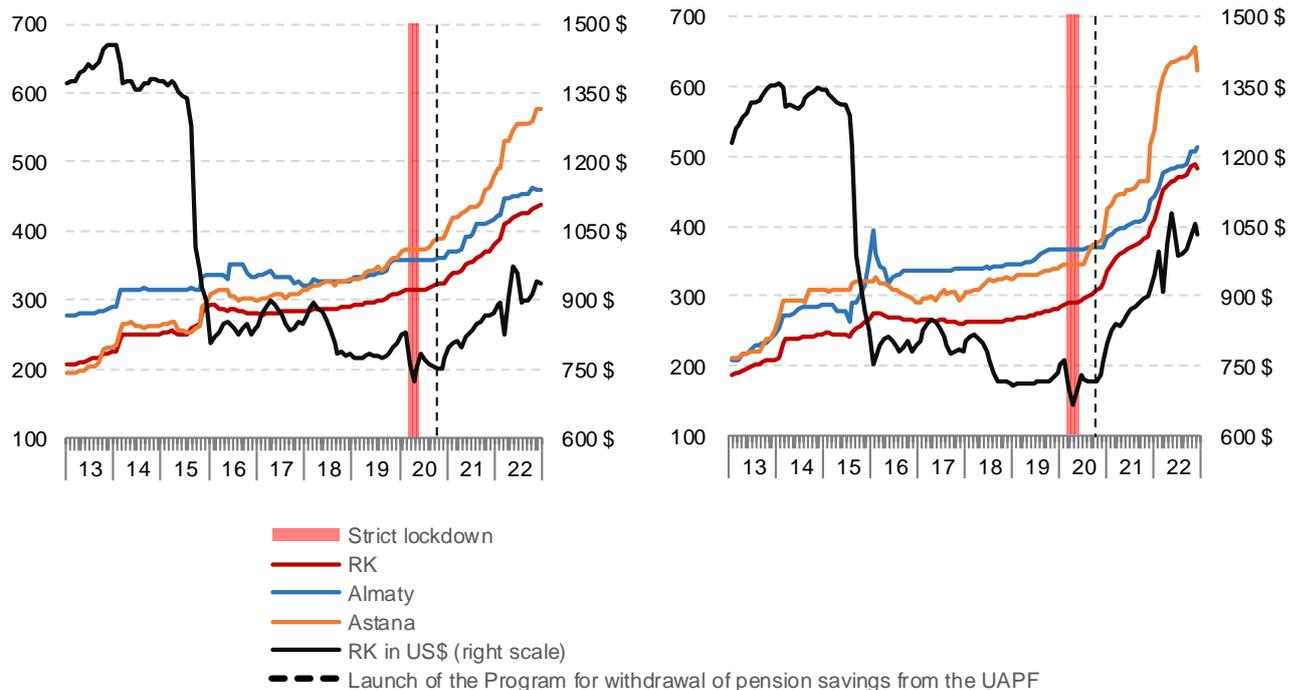
3.1 Price Dynamics in the Real Estate Market

In December 2022, compared to the same period of the last year, resale prices of comfortable housing increased by 21.6%, sales of new housing increased by 15.6% (Figure 3.1). In nominal values, at the end of 2022, the price of 1 sq. m of primary housing in Kazakhstan reached 437.5 thousand tenge, 460.5 thousand tenge in Almaty, and in the capital – 575.4 thousand tenge. Despite the fact that the dynamics of real estate sales had decreased compared to 2021, it remains higher than in prior periods. At the same time, real estate prices in the secondary market in the cities of Astana and Almaty were by 15% and 11% higher than in the primary market. Meantime, during 2022 on average, the price of new housing in Astana was higher by 21% and 30%; the price of secondary housing was 29% and 35% higher compared to prices in Almaty and the RK.

Figure 3.1 During 2022, average prices in the real estate market went up significantly, both in the national currency and in foreign currency

Prices in the primary market, thous. tenge per sq.m

Prices in the secondary market, thous. tenge per sq.m

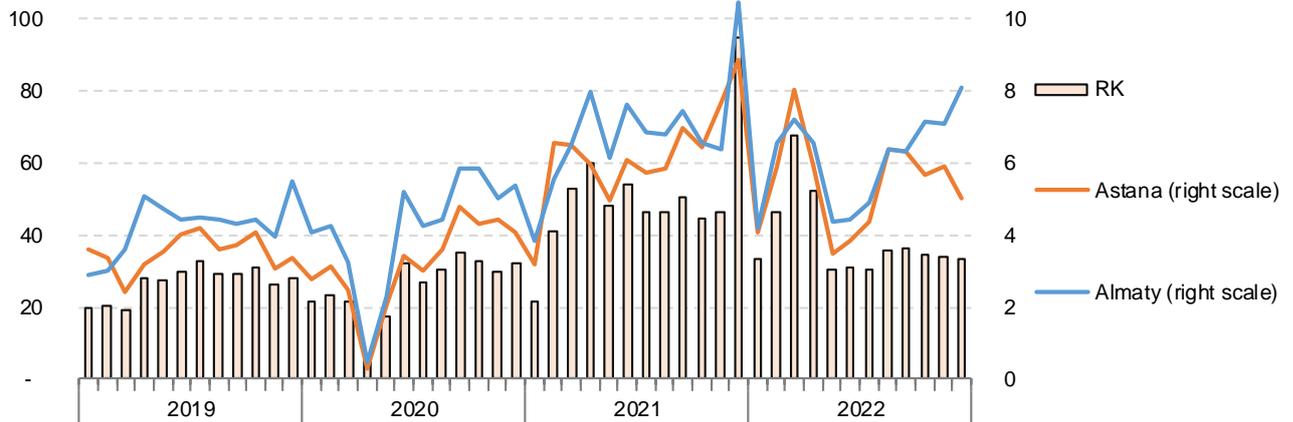


Source: BNS ASPR RK, NBK computations

Compared to 2021, in 2022, the average number of purchase and sale transactions completed per month decreased by approximately a quarter, from 50.5 to 38.8 thousand (Figure 3.2). A drop in the number of transactions was caused by the virtually non-existent

possibility of early withdrawal of a part of pension savings from the Unified Accumulative Pension Fund that exceed the threshold values in order to improve living conditions, and the completion of the “Baspana Hit” concessional mortgage program in 2021 with a targeted volume of 600 bln tenge.

Figure 3.2 *The number of transactions dropped in the second half of 2022*
Dynamics of the number of purchase/sale transactions in the real estate market, in thous.



Source: BNS ASPR RK, NBK computations

Volatility in the quantity of transactions in the first quarter of 2022 was driven by the announcement about the extension of the previous adequacy thresholds for withdrawing pension savings from January 1 to April 1, 2022. Meantime, the number of completed transactions across the country reached its peak in March 2022 with a value of about 68 thousand.

3.2 Residential Construction

In January – December 2022, about 2.7 trln tenge was allocated for residential construction, which exceeds the amount in 2021 by 12.2% (Figure 3.3). About 15.4 million square meters of total area of residential buildings and 131 thous. apartments were commissioned, which is by 8.8% and 12.6%, respectively, less than in 2021. More than 26% of the total area of commissioned residential buildings is in the cities of Astana and Almaty, 15.4% and 11.2%, respectively. Aktobe region ranks third with 8.1%.

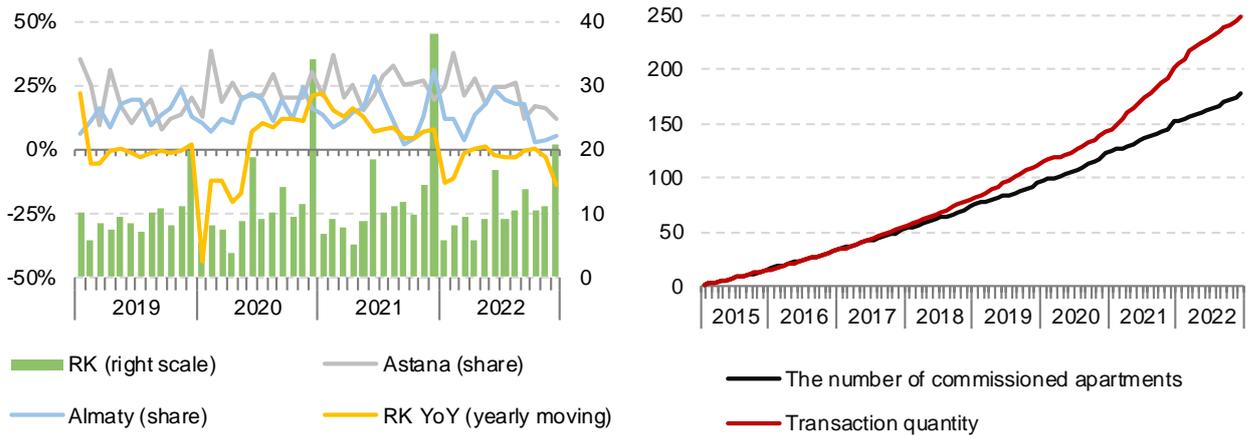
Compared to the 2021 data, the average actual construction costs of 1 sq. m. of total residential area, including private houses, reached 148.4 thous. tenge in January – December 2022. Of the total number of residential buildings, 36,365 individual and 1,540 apartment buildings were put into operation. About a third of the apartments are in the cities of Astana and Almaty, about 26.4 and 16.1 thous. apartments, respectively. Shymkent ranks third with 9 thous. commissioned apartments.

To analyze the balance in the residential real estate market, the dynamics of supply and demand for homes in apartment buildings were analyzed. The accumulated amount of transactions since the beginning of 2015 is used as a metric of demand. Similarly, the accumulated sum of the number of apartments in commissioned apartment buildings since the beginning of 2015 is used as a measurement of the supply metric. Until the end of 2018, the increase in the number of transactions was accompanied by a commensurate increase in the number of apartments, which maintained the balance of supply and demand. However, since 2019, the discrepancy between supply and demand metrics has expanded, leading to an increased imbalance in the housing market (Figure 3.3).

Figure 3.3 Since 2019, there has been imbalance in the demand and supply in the real estate market

Dynamics of the number of commissioned apartments in residential buildings, in thous.

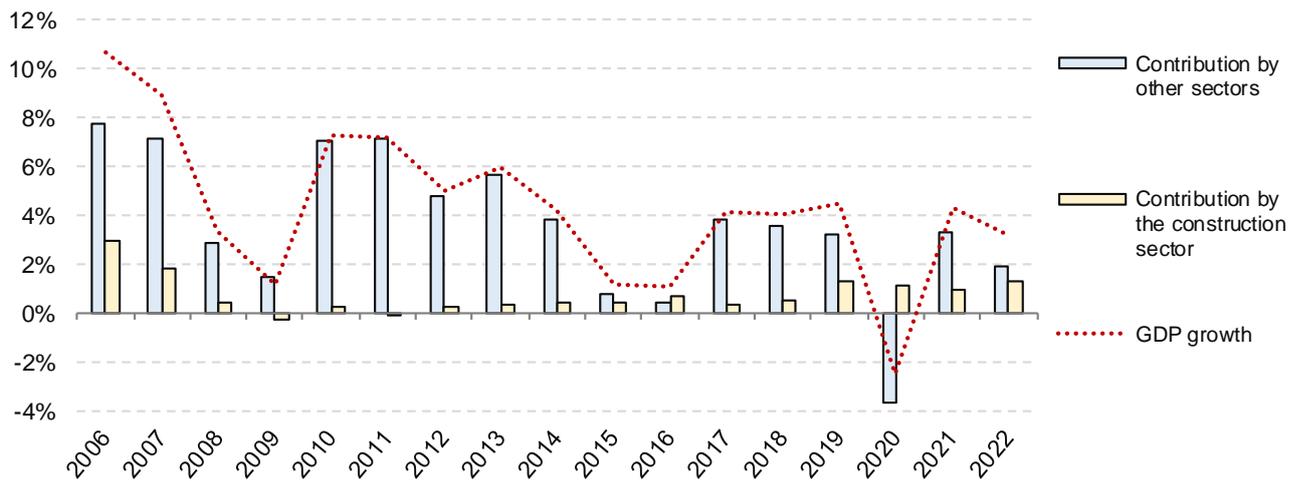
Accumulated quantity of transactions and the number of commissioned apartments in terms of January 2015



Source: BNS ASPR RK, NBK computations

The growth of real GDP in 2022 amounted to 3.2%, which is slightly lower than the levels of 2017–2019 and 2021. Starting from 2019, the construction sector has made a significant contribution to the growth of real GDP and is about 1.1% (Figure 3.4). The contribution of other sectors of the economy decreased to 2%. However, the observed contribution of the construction sector has increased significantly since 2009, but does not reach the pre-crisis levels of 2006 and 2007.

Figure 3.4 Contribution by the construction sector increased from 0.9% to 1.1%

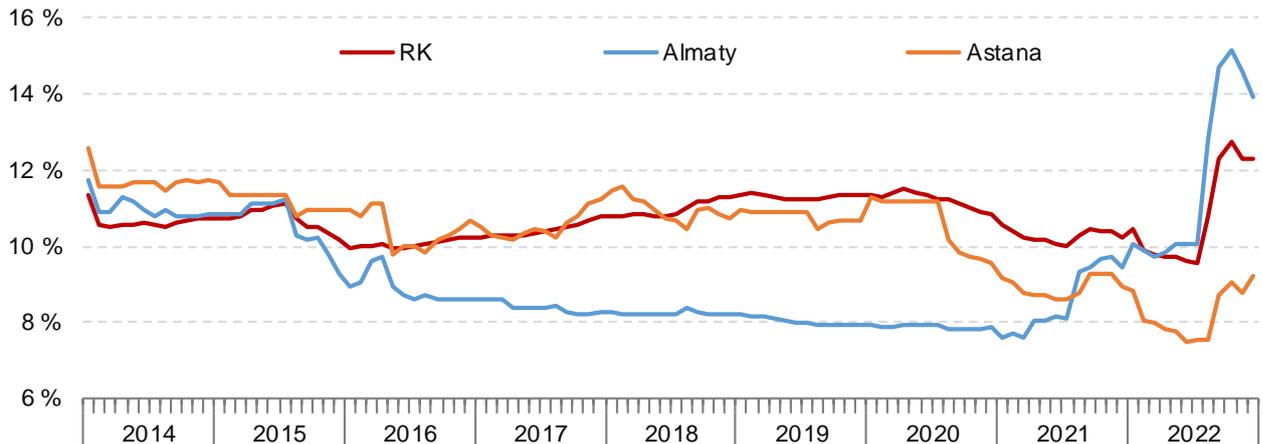


Source: BNS ASPR RK

Note: Real GDP is GDP in prices of 2005

In the third quarter of 2022, rental yield of residential real estate ratcheted amid the growing demand from Russian citizens after the announcement of partial mobilization. Thus, the annual increase in the rental cost of comfortable housing reached peak values in September and October 2022, amounting to 47.2% and 54.2%, respectively (Figure 3.5).

Figure 3.5 Residential rental yields increased significantly in Q3 2022



Source: BNS ASPR RK, NBK computations

Note: Rental yield was calculated excl. utility expenses and related expenses..

3.3 Mortgage Lending

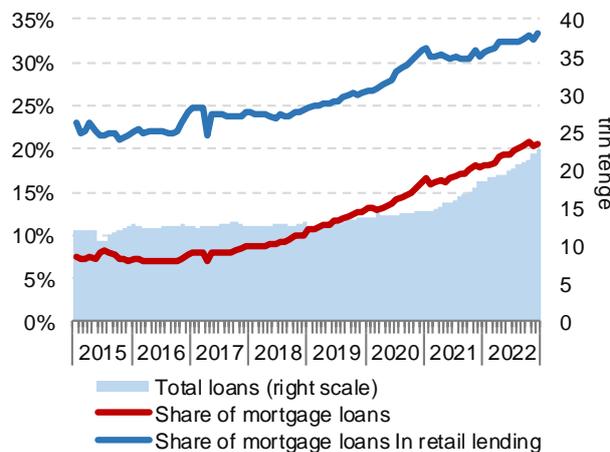
By the end of 2022, the share of mortgage lending in the total share of loans originated by second-tier banks reached an all-time high of 20.6%, while the total volume of mortgage lending continues to grow. The growth in the share of mortgage loans to individuals in the total volume of lending is predicated by higher rates of mortgage loan disbursements under concessional mortgage programs and, accordingly, a higher level of retail lending compared to corporate loans.

The share of mortgage lending in the volume of total bank loans to individuals increased to 32.3%, while in absolute terms the total volume of mortgage loans is growing (Figure 3.6).

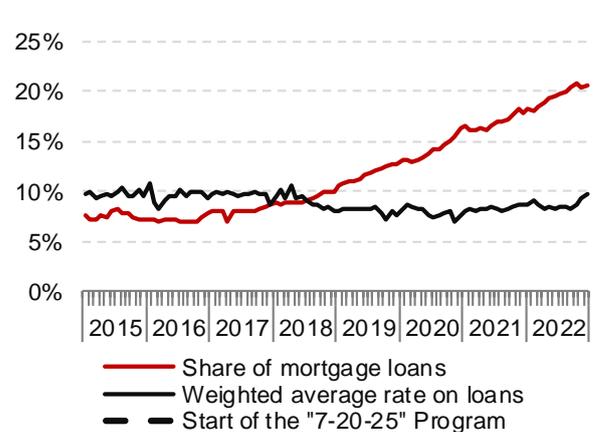
Since government concessional housing programs were underway as well as owing to the possibility of using people’s pension savings to improve living conditions until April 2022, the volume of mortgage loans at the end of 2022 almost reached 2.3 trln tenge, which is by 80% higher than in December 2015. At the same time, the share of mortgage lending in the total volume of bank lending to individuals increased from 21.6% in 2015 to 32.3% by the end of 2022.

Figure 3.6 The lowering of interest rates on mortgage loans led to the upturn of mortgage lending

Mortgage lending volumes in the context of total retail lending in the RK



Weighted average interest rates on mortgage loans provided



Source: NBK, bank reports, NBK’s computations

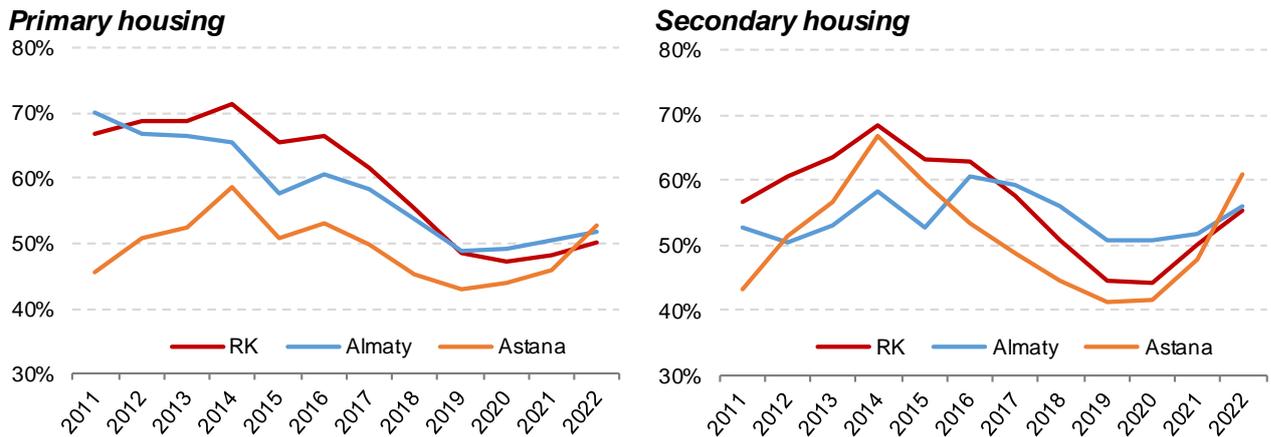
Note: weighted average rates include interest rates both on loans provided under market terms and concessional mortgage loans.

Since the beginning of 2018, the share of mortgage loans has increased dramatically, from 8.8% to 20.6% by the end of 2022. A drop in rates during the same period from 10.2% to 9.7%, reaching the lowest of 6.9% in November 2021, contributed to the growth of the share of mortgage loans in the STB loan portfolio.

Over the recent 3 years, given the launch of government concessional mortgage lending programs, there has been a decline in mortgage rates to all-time lows, which had an adverse impact on the mortgage market and crowded it out. However, the completion of the “Baspana Hit” program in 2021 and the gradual raising of the base rate influenced the growth of loan rates at the end of 2022. The ratio of mortgage payments for housing in both the primary and secondary markets to household disposable income increased significantly in 2022, exceeding 50 % of nominal household disposable income in all regions (Figure 3.7).

Starting from 2019, the ratio of mortgage payments to disposable income has been growing significantly in both the primary and secondary markets. The main factors for such growth are a dramatic increase in the cost of real estate despite the increasing household income in nominal terms and low rates on mortgage loans issued.

Figure 3.7 A mortgage payment/household disposable income ratio in 2022 exceeded 50%



Source: Bank reports, ASPR BNS RK, NBK's computations

Note: a mortgage payment was calculated as average housing prices of 54 sq.m., down payment 30%, average rates of STBs, for a term of 20 years. Disposable income is calculated as nominal cash income of households minus taxes, payments and other payouts, and current transfers to other households.

An increase in mortgage rates and a concomitant rise in prices in the real estate market will reduce the affordability of housing, increasing the growth of the population's debt burden. However, significant growth in mortgage lending carries potential risks to financial stability.

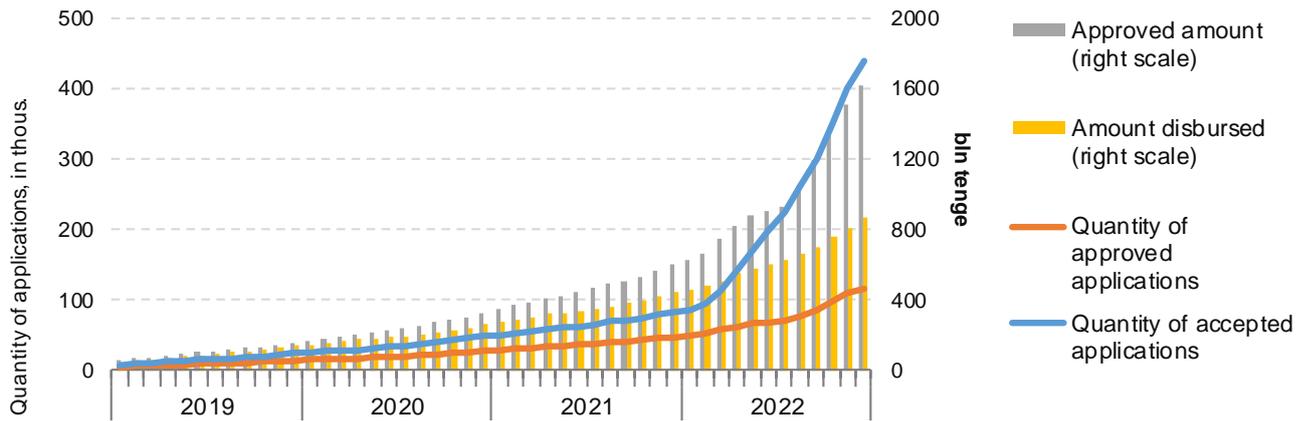
3.4 Government Programs

The “7-20-25” government concessional lending program makes it possible to obtain a mortgage loan at a rate below the market rate. However, the program does not provide the opportunity to purchase housing in the secondary market and has a maximum limit of 25 mln tenge.

By the end of 2022, more than 438 thousand applications had been received, which is 5 times higher than during the previous year (Figure 3.8). Of these, about 116.5 thousand applications were approved, which is almost 2.5 times higher than their number at the end of 2021. The amount of loans issued totaled 870.6 bln tenge. The sharp increase in the number of applications is due to the closure of the “Baspana Hit” program, an increase in market rates, the raising of sufficiency thresholds for the withdrawal of pension savings and the expiration of the program.

Figure 3.8 The demand for "7-20-25" concessional mortgage program has growth significantly in 2022

Dynamics of total quantity of applications under the "7-20-25" program, by months



Source: KSF

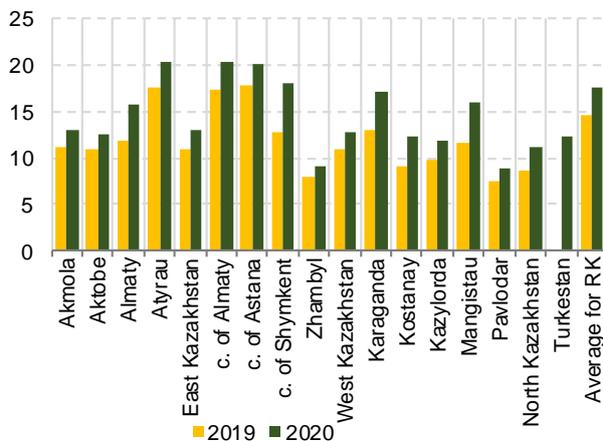
However, from 2019 to 2022, the ratio of mortgage payments to household income under the “7-20-25” program increased from 24.3% to 28.7% across the country (Figure 3.9). The share of mortgage payments under the “7-20-25” program exceeds 30% of the population’s income in East Kazakhstan, Shymkent, Akmola and Kyzylorda regions, being largely driven by the growing share of large cities in the disbursement structure.

Compared to 2019, the cost of housing purchased in 2022 went up by 20.5% and reached 17.5 mln tenge. Thus, a surge in housing costs increased mortgage payments under the “7-20-25” program by 16.8%.

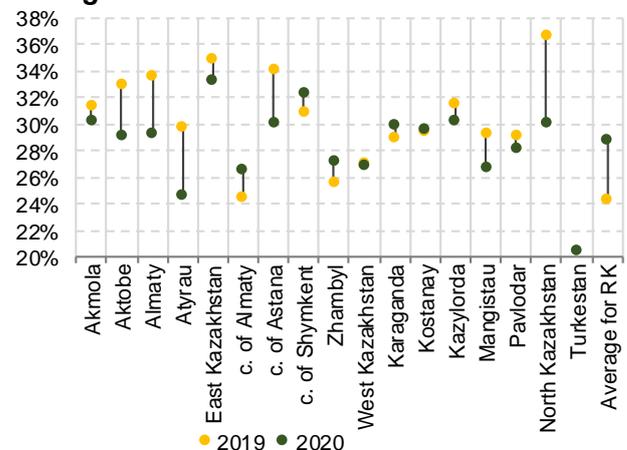
The most expensive housing under the “7-20-25” program was purchased in the Atyrau region, the cities of Almaty and Astana. At the same time, the most affordable housing was purchased in Pavlodar, Zhambyl, Kyzylorda and Kostanay regions.

Figure 3.9 The ratio of a monthly mortgage payment and average household income under the "7-20-25" program

Average cost of housing, in mln tenge



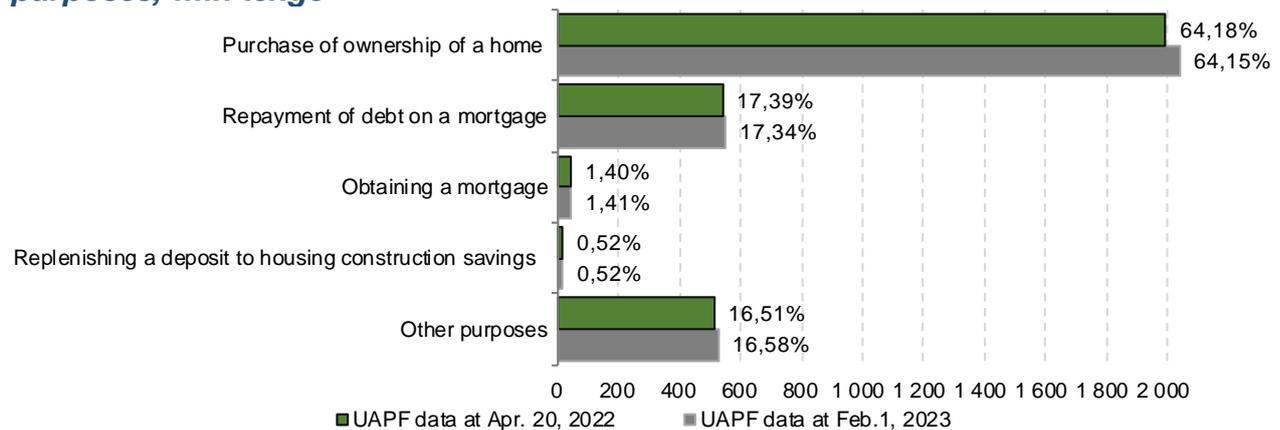
The ratio of a monthly mortgage payment and average household income



Source: KSF

In 2021, one of the main drivers of prices in the real estate market was the possibility of withdrawing pension savings to improve the people’s living conditions. As at 04/20/2022, about 2 trln tenge from the UAPF was used to purchase residential property, which accounted for about 64% of the volume of 3.1 trln tenge of all one-time pension payouts (Figure 3.10).

Figure 3.10 The distribution of the amount of one-time pension payouts, by purposes, mln tenge



Source: UAPF data at Apr. 20, 2022 and Feb. 1, 2023

By February 1, 2023, the volume of all one-time pension payouts went up to 3.18 trln tenge, having increased by 70 bln tenge only. Out of 28.7 thousand new applications from 04/2022, 11.6 thous. applications were sent for the purchase of residential property in the amount of about 44 bln tenge. About 7.6 thous. applications amounting to about 10.8 bln tenge were submitted for full repayment of mortgage loans, while more than 1.2 thous. applications in the amount of 6.1 bln tenge were submitted for making an initial mortgage payment. About 9.1 thous applications were for replenishing savings accounts and other purposes, amounting to 13.2 bln tenge. Thus, the impact of the pension savings withdrawal program on the real estate market ceased almost completely by the end of 2022.

Box 3.1 Housing Risks May Spread Across to the Chinese Banking Market

Given the size and global importance of China's economy, macroeconomic turmoil in the real estate market could have a significant impact on the global economic slowdown and oil price dynamics, increasing financial stability risks worldwide.

In 2022, China's economy has faced challenges such as the fight against the pandemic and the crisis in the real estate market, which accounted for up to 30% of GDP in the last decade. At the same time, according to Bloomberg, in 2022 industrial production growth showed significant deceleration. China's major economic centers have been hit hard by complete lockdowns due to the COVID-19, with the construction sector being especially strongly affected by the restrictions. Housing pre-sales (the purchase of unbuilt properties) have become the main means of financing for developers in China in recent years, accounting for about 90% of total sales, according to the IMF. However, at the beginning of 2021, in order to reduce systemic risks, Chinese regulators set debt limits for the 12 largest developers using a set of measures dubbed the “**Three Red Lines**”¹². However, the balance sheet of most Chinese developers did not fit into at least one of these standards and, according to Reuters, developers began to look for ways to circumvent the rules and shift debt to off-balance sheet accounts.

The liquidity crisis in the Chinese real estate market was provoked by the **Evergrande** development company, which ranked second in the market in terms of sales volume. Chinese banks actively provided loans to Evergrande, relying on the reputation of the founder. However, Evergrande missed several deadlines for restructuring of liabilities worth \$300 bln, and as a result became the record holder in terms of the level of debt among developers in the world by the time it officially declared default in December 2021. Evergrande's default became a trigger for the fall of the Chinese developer bond market.

A drop in home sales during the quarantine period has exacerbated the lack of liquidity for developers and reduced their ability to complete the construction in progress. In

¹² When attracting borrowed funds, developers had to comply with three conditions: the debt-to-asset ratio must be at least 70%, the debt-to-capital ratio must be at least 100%, and cash and cash equivalents to short-term debt must be at least one.

the first nine months of 2022, developers raised 21% less funds than in the same period of 2021. The concern is that home buyers may stop making mortgage payments on previously purchased properties. Severe liquidity squeeze raises concerns about broader solvency risks for property developers.

Uncertainty in the real estate market could further undermine market confidence and limit developers' access to future loans. In turn, developer defaults could spill over into the banking sector, affecting smaller banks and domestic systemically important banks in light of their lower capital reserves and higher concentration risk associated with real estate.

Thus, both the likely defaults of developers and the potential risk of default on mortgage payments by home buyers will have a significant impact on bank balance sheets. At the same time, the implementation of macroeconomic shocks may affect the global economy and the economy of Kazakhstan through reduction in the global demand and slowing economic growth rates in China.

IV Development and Risks of the Banking and Microfinance Sectors

4.1 Lending Activity of Banks

Escalation of the geopolitical crisis led to the exit of a number of subsidiaries of the largest Russian banks from the Kazakh market. Despite the increased uncertainty, the Kazakh banking sector has shown resilience to external shocks.

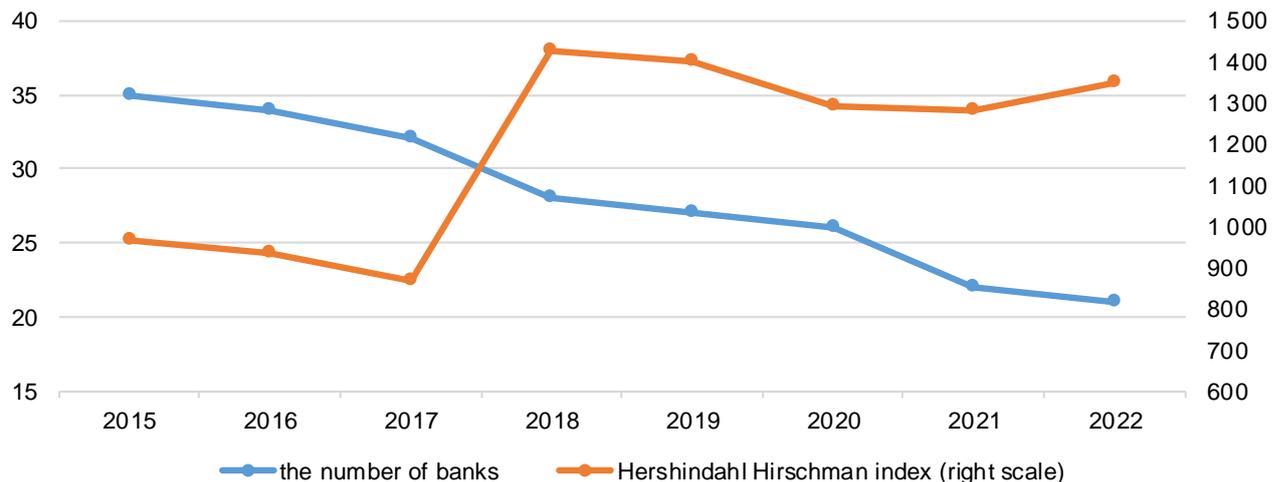
During 2022, the loan portfolio of banks continued to grow. Individuals were the main borrowers of banks, and the growth in loans to individuals over the year significantly exceeded the growth in loans to legal entities. In the retail lending segment, consumer and mortgage loans showed the largest volumes.

The events that took place during 2022 had a significant impact on the state of the banking sector. The tragic January events associated with large-scale social protests in the country paralyzed business activity in a number of cities, including the financial center of the country, Almaty. The impact of this shock on the financial system was quickly neutralized, and within a short period the financial system was brought back to normal. Borrowers have the opportunity to defer loan payments, similar to measures taken during the pandemic.

More significant pressure on the country's financial sector was exerted by escalation of the geopolitical crisis, resulting in reduction of the presence of subsidiary Russian banks in the Kazakhstan market (*Box 4.1*).

The exit of two Russian banks from the Kazakhstan market, including one of the largest in terms of assets, "Sberbank" SB JSC, led to a further reduction in the share of foreign banks in the local market and an increase in concentration in the banking sector (*Figure 4.1*).

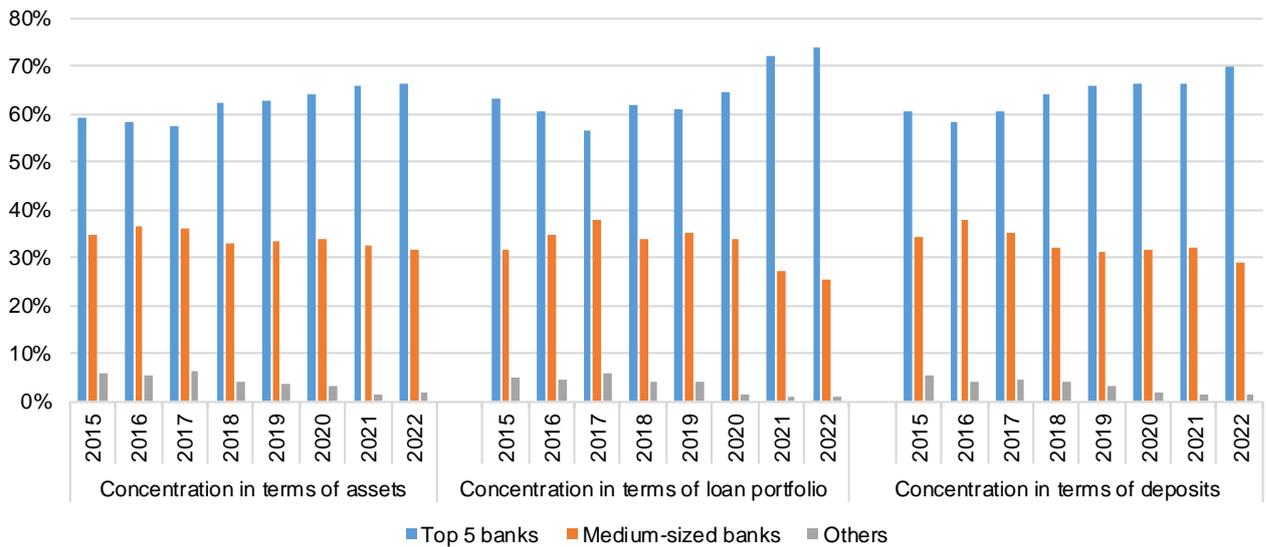
Figure 4.1 The concentration of the banking sector remains high



Source: bank reports

A noticeable increase in the concentration of the top 5 banks and a decrease in the share of medium-sized banks is observed in terms of bank lending activities as of the end of 2022 (*Figure 4.2*). Over the recent years, the active development of retail lending has led to both an increase in the assets of some of medium-sized banks and their movement into the group of large banks, and to the strengthening of the existing positions of large banks. The offer of more advanced banking products by large banks, a high level of service and modern technological solutions determine the choice of clients in their favor. On the other hand, a reduction in the market share of medium-sized banks occurred due to the exit of two medium-sized banks ("ATF Bank" JSC, "Alfa Bank" SB JSC) from the market in 2020-2022, alongside with banks with a low market share.

Figure 4.2 The largest concentration of the top five banks is observed in the loan portfolio



Source: bank reports

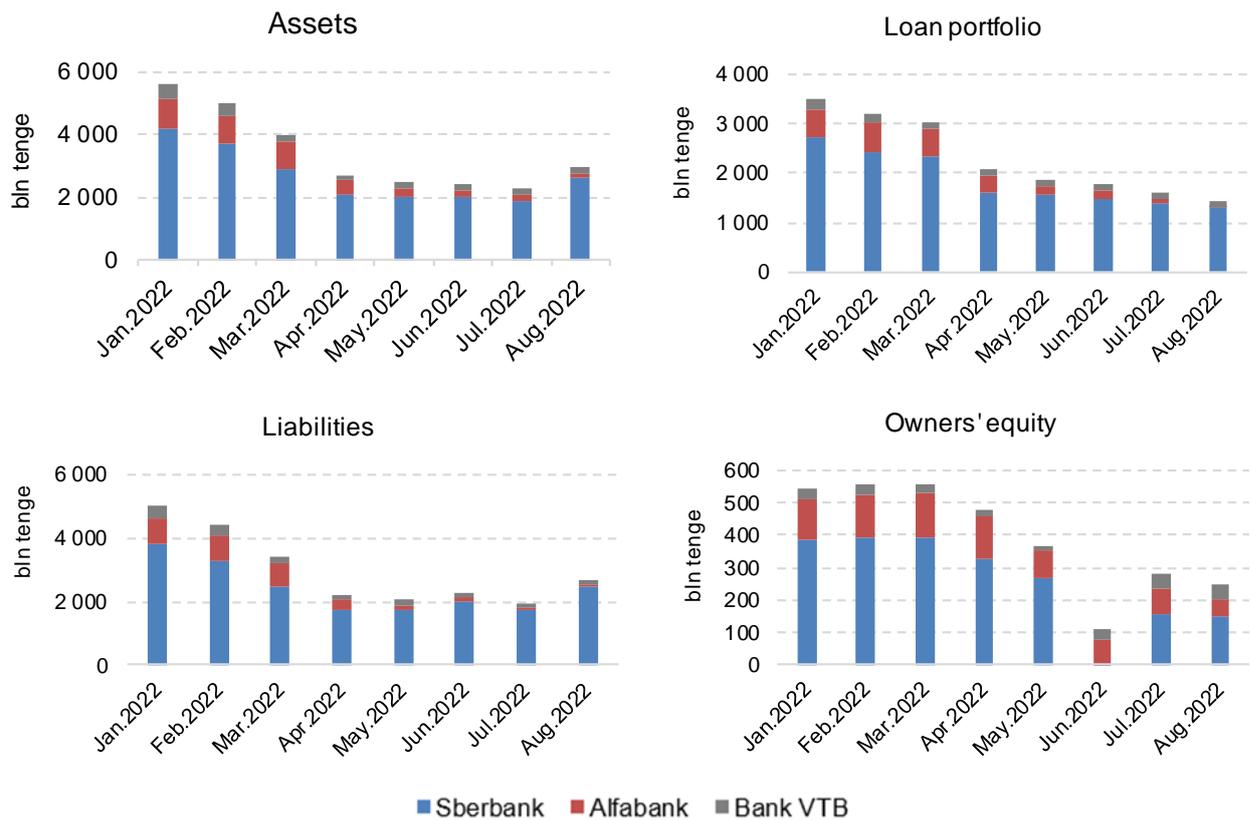
Note: 1) concentration indicators are calculated based on the market shares of banks on respective indicators, 2) the composition of the top 5 banks is formed for each reporting date.

Box 4.1 The Impact of Anti-Russian Sanctions on the Kazakh Banking Sector

The geopolitical shock at the beginning of 2022 and the subsequent anti-Russian sanctions affected both the structure of the banking sector and the conditions in which it functions.

The imposition of sanctions against the Russian Federation by the United States and the EU in 2022 led to restrictions on the operations of Kazakhstani banks, which are subsidiaries of large Russian banks. The main restrictions that were imposed as a result of the sanctions affected transactions with payment cards of the international payment systems VISA and Mastercard, blocking of correspondent accounts in foreign currency, as well as transactions on transfers and payments in foreign currency. Restrictions on the activities of banks resulted in a significant and rapid outflow of customer deposits and a reduction in the assets of these banks. Thus, in 2022, during February-August, the assets and deposits of the “Bereke Bank” JSC (“Sberbank” SB JSC) dropped by 37.4% and 64.4% respectively, from February to May the assets and deposits of the “Eco Center Bank” JSC (former “Alfa Bank SB JSC) – by 73.5% and 85.8% respectively, from February to December assets and deposits of the “VTB Bank Kazakhstan” SB JSC decreased by 59.3% and 84.5%, respectively. At the same time, during the most acute phases of stress that Russian subsidiaries faced, there was no significant reduction in the loan portfolio and deposits at the systemic level. Thus, subsidiaries of Russian banks sold their loan portfolios to local large and medium-sized banks. Depositors of subsidiaries of Russian banks also mainly redistributed their funds to other Kazakhstani banks.

Dynamics of financial indicators of subsidiaries of Russian banks that have been sanctioned



Source: bank reports

Note: due to the change of shareholders of “Sberbank” SB JSC and the transfer of assets and liabilities of “Eco Center Bank” JSC (former name of “Alfa-Bank” SB JSC) to “Bank CenterCredit” JSC in September 2022, the financial indicators of the banks are indicated as of 09/01/2022.

In order to be excluded from the sanctions lists and to preserve their business in Kazakhstan, banks that were subject to sanctions were forced to look for new shareholders. In May 2022, the “Alfa-Bank” SB JSC was purchased by the “Bank CenterCredit” JSC and changed its name to the “Eco Center Bank” JSC. Eco Center Bank was excluded from the sanctions list in July 2022, and in September 2022, it was reorganized through a merger with the “Bank CenterCredit” JSC. In turn, in September 2022, the “Sberbank” JSC was acquired by the “Baiterek National Holding Company” JSC and renamed as the “Bereke Bank” JSC. At the same time, in March 2023, the US Department of the Treasury excluded the “Bereke Bank” JSC from the SDN sanctions list of the Office of Foreign Assets Control (OFAC). At the end of June 2022, shareholders of the “VTB Bank (Kazakhstan)” subsidiary carried out additional capitalization of the subsidiary bank in the amount of 43.8 bln tenge for its further operation¹³. Timely measures taken enabled to stop the negative consequences of the imposed sanctions against Russian banks on the banking sector of Kazakhstan.

Despite a geopolitical turmoil, the banking sector of Kazakhstan has shown its soundness. Thus, as of 01/01/2023, the banking sector has a sufficient capital reserve with a Tier 1 capital adequacy ratio (k1) of 18.6% against the regulatory requirement of 7.5%.

Payment Card Issuance

The 2022 events also affected the activities of banks in issuing payment cards. In certain moments of the reporting period, there was a relatively active growth in the issuance

¹³ Source: <https://kase.kz/ru/news/show/1484554/>

of payment cards. Thus, the largest number of cards, in particular, 50.7% of the total number of new cards for 2022, were issued in June and July 2022, which may be associated with the phenomenon of “card tourism” caused by the demand from Russian citizens.

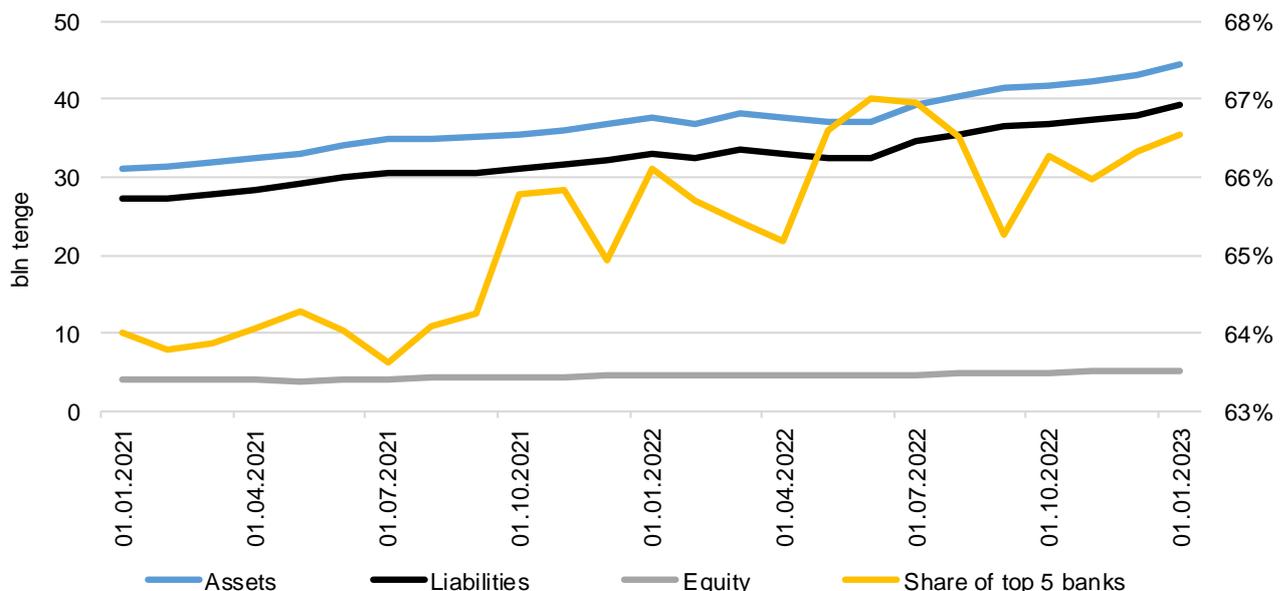
As of 01/01/2023, there were 65.1 mln payment cards in circulation (growth over the year – 9.8%). In 2022, 49,595 MIR payment cards were issued by the “VTB Bank Kazakhstan” JSC and the “Bereke Bank” JSC, which amounted to an insignificant 0.9% of the total number of new cards. At the same time, in general, the number of bank cards opened during the year went down by 48.4% (5.8 mln payment cards in 2022 versus 11.3 mln cards in 2021).

Changes in Payments and Transfers to (from) the RF

Ruble money transfers and payments also demonstrate an intensification of transactions with the Russian Federation. This was especially evident in the growth of transactions on transfers and payments from the Russian Federation to Kazakhstan, which showed a more than three-fold increase compared to 2021 (in money terms, the growth was 13%). At the same time, the growth of transactions on transfers and payments from Kazakhstan to the Russian Federation in 2022 was insignificant – at about 2%. However, in money terms, the amount of transactions almost doubled, from 17.3 trln tenge in 2021 to 34.0 trln tenge in 2022.

Overall, in 2022, despite the heightened uncertainty amid unfavorable internal and external shocks, the banking sector of Kazakhstan kept growing. Thus, during the reporting period the banking sector assets went up by 18.4% and equaled 44.6 trln tenge. During the same period, bank liabilities increased by 18.9% to 39.3 trln tenge, and owners’ equity – by 15.3% and 5.2 trln tenge, respectively (*Figure 4.3*).

Figure 4.3 The currency of bank balance sheets kept increasing, despite geopolitical shocks

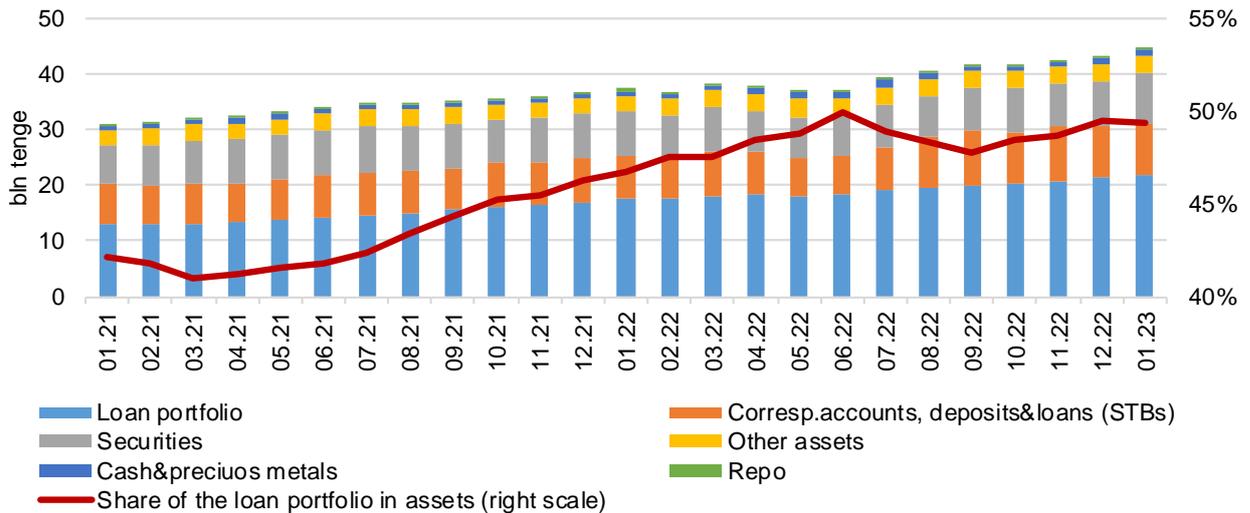


Source: bank reports

The largest part of the banking sector assets is represented by originated loans, whose share is 49.4%. In addition, the structure of assets is dominated by securities with a share of 20.3% (9.0 trln tenge), balances on accounts and deposits at the National Bank with a share of 10% (4.5 trln tenge) and correspondent account balances, deposits and loans from other banks, with a share of 10.7% (4.8 trln tenge) (*Figure 4.4*). The largest

growth in 2022 in the structure of bank assets occurred in the loan portfolio, which grew by 20.3% and amounted to 22.6 trln tenge (less reserves).

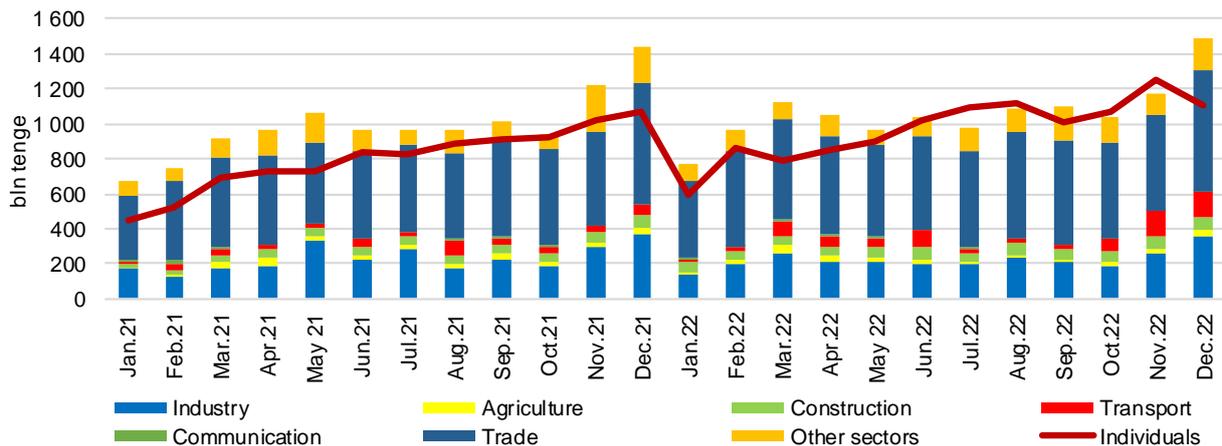
Figure 4.4 Share of the loan portfolio remains high in the structure of bank assets



Source: bank reports

In 2022, banks provided loans in the amount of 24.1 trln tenge, which is by 2.6 trln tenge, or 12.0%, larger than in 2021 (21.5 trln tenge) (*Figure 4.5*). In the structure of disbursements, loans to individuals show growth for the second consecutive year, and their share kept growing in 2022 and amounted to 51.5% (in 2021 – 48.4%). At the same time, in 2022, the growth in loans to individuals significantly exceeded the growth in loans to legal entities – 19.3% (2.0 trln tenge) versus 5.1% (571.2 bln tenge), respectively.

Figure 4.5 Individuals are the main borrowers of banks, and their share in total disbursements continued to grow



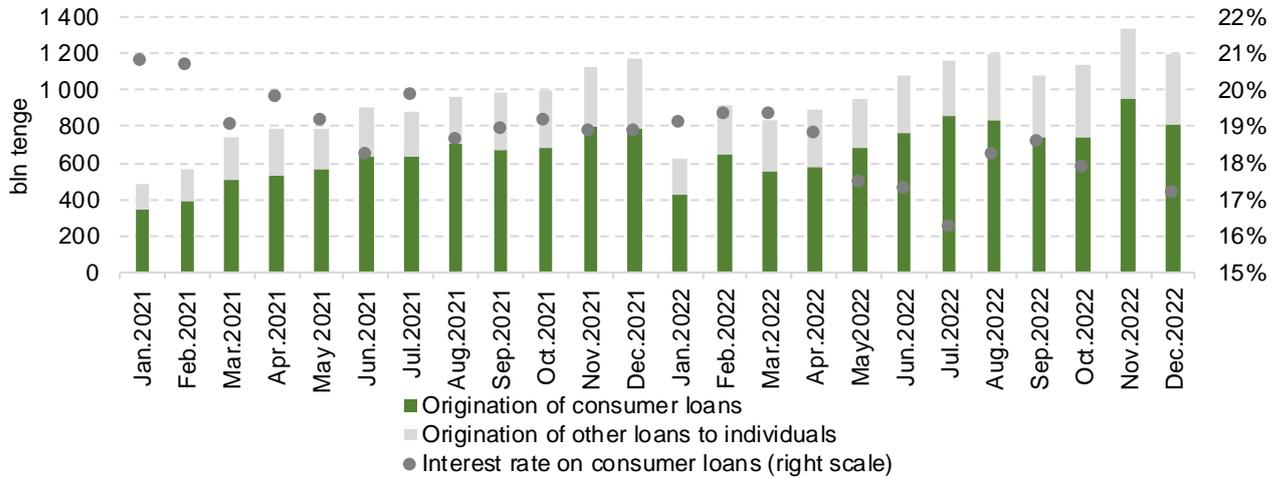
Source: bank reports, loan issuance volumes for the period

Compared to 2021, there were no significant changes in the structure of loans to legal entities by economic sectors. The largest volumes of loans provided fell on the trade sector (52.9%, or 6.2 trln tenge, of loans originated to legal entities), industry (22.4%, or 2.6 trln tenge) and other sectors (10.2%, or 1.2 trln tenge).

In the structure of loans to individuals, in the reporting period, consumer loans predominated. Thus, out of 12.4 trln tenge of loans issued in 2022 to individuals, 69.2%, or 8.6 trln tenge, were consumer loans. At the same time, a large share of provided consumer loans is represented by loans with a tenor of more than 1 year (76.3% of provided consumer loans, or 6.5 trln tenge).

In 2022, the origination of consumer loans slowed down, increasing by 1.3 trln tenge, or 17.9%, compared to 2021. At the same time, in 2021, the growth in disbursements amounted to 3.4 trln tenge, or 89.9%, which was largely stemming from the realization of pent-up demand in the post-pandemic period (Figure 4.6).

Figure 4.6 *The growth rate of consumer lending remains high*

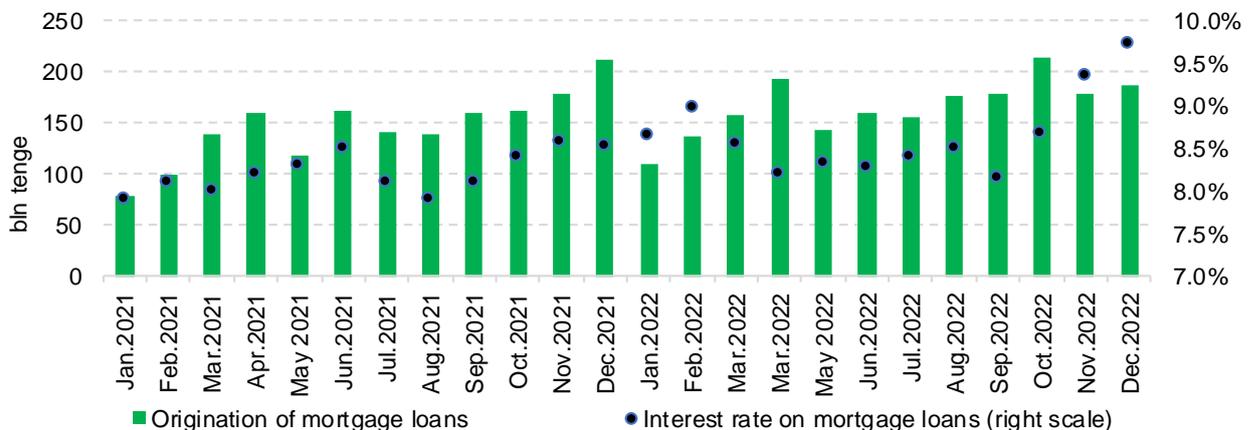


Source: bank reports

As at end-2022, the mortgage loan portfolio grew up to 4.7 trln tenge, having increased by 42.4% (2021 – 39.4%). During the reporting period, banks provided mortgage loans worth 2.0 trln tenge, exceeding the amount of 2021 by 246.5 bln tenge or 14.1% (Figure 4.7).

Increased interest from the population in mortgage products of banks in 2022 was supported by the “7-20-25” government mortgage program as well as by mortgage lending programs of the “Otbasy Bank” JSC, whose interest rates remain below market rates. Detailed information on mortgage lending is provided in the “Real Estate Market” section.

Figure 4.7 *Origination of mortgage loans showed high values despite the increase in interest rates at the end of 2022*



Source: bank reports

4.2 Loan Portfolio Quality

In 2022, according to the National Bank, there was a moderate decline in the quality of bank loan portfolios due to the growth of problem loans. The share of doubtful loans in the corporate portfolio increased, and both the share of non-performing and doubtful loans in the retail portfolio has gone up. At the same time, a reduction in the loan loss provisioning ratio against this background increases the vulnerability of the banking sector.

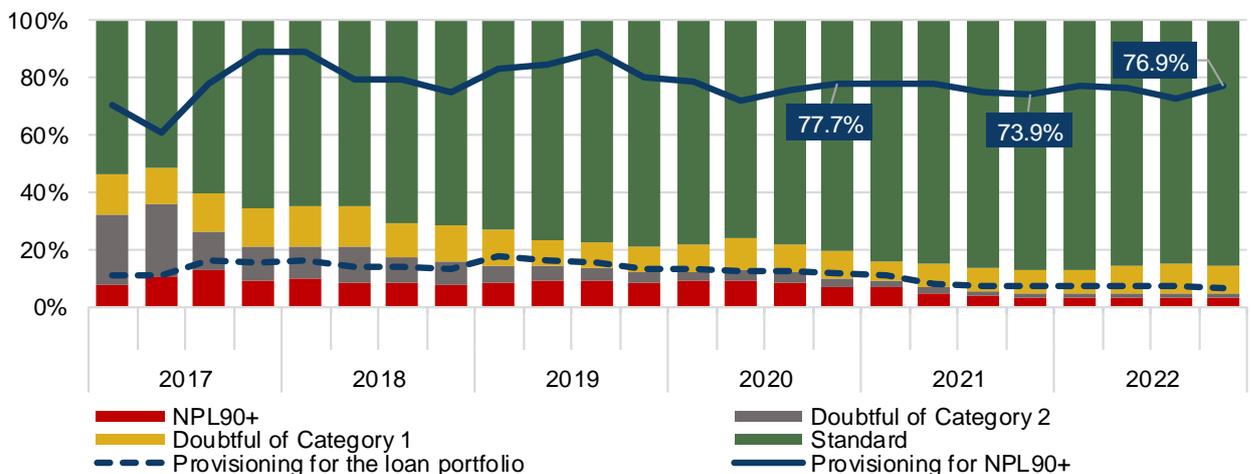
The buildup of doubtful loans in the corporate portfolio occurred mainly in terms of loans provided in 2021, which may indicate the accumulation of risks and requires additional monitoring. The volume of doubtful loans among loans provided in 2021 increased significantly in the first half of 2022 being caused by the state of emergency in January, the uncertainty about the impact of sanctions against the Russian Federation on Kazakhstan in March, as well as subsequent logistics problems in the world and rising prices.

Risks associated with the concentration of large borrowers and dollarization of the loan portfolio are gradually decreasing. However, the quality of loans of the largest borrowers of the banking sector is worse than that of other borrowers, especially in relation to loans issued in foreign currency.

In 2022, the share of problem loans, including non-performing loans (NPL90+) as reported by banks and doubtful loans as assessed by the National Bank¹⁴, slightly increased (Figure 4.8). The assessment is based on the National Bank’s own analytical approach, which takes into account signs of loan default and is not a regulatory or supervisory metric. The share of problem loans in the loan portfolio increased from 13.0% to 14.4% due to a build-up in doubtful loans in the portfolio from 9.5% to 11.0%. At the same time, the share of NPL90+ remained virtually unchanged and amounted to 3.5% (2021 – 3.4%). The bulk of doubtful loans is concentrated among business entities (74%), while the majority of non-performing loans are in the retail portfolio (61%).

Figure 4.8 The share of NPL90+ decreased but doubtful loans somewhat increased

Loan portfolio structure



Source: Bank reports, Credit Register, NBK’s evaluation

Note: NPL90+ are non-performing loans according to bank reports; Doubtful loans – loans with signs of low repayment according to the NBK, excl. NPL90+

The level of coverage of the loan portfolio with provisions formed for expected and existing credit losses on provided loans in accordance with IFRS requirements decreased slightly from 7.0% to 6.8%. At the same time, the provisioning ratio for non-performing loans increased from 73.9% to 76.9%. Given the growth of doubtful loans, the volume of provisions created in the loan portfolio of banks may be insufficient to cover expected and existing credit losses on problem loans. Thus, the provisioning ratio for problem loans in the loan

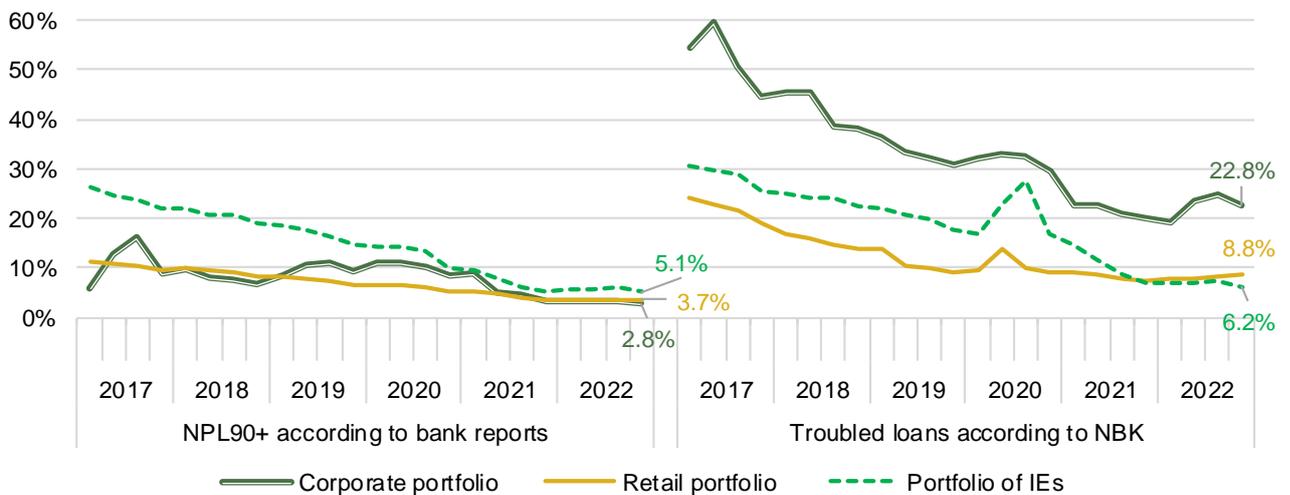
¹⁴ For the purposes of credit risk analysis, loan quality indicators were used (excluding repo transactions and loans provided to other banks), calculated by the National Bank based on data from the Credit Register at the loan level. Thus, the following denotations apply: NPL90+ – loans according to bank reports with past due debt over 90 days; doubtful loans (categories 1, 2) - loans, according to the National Bank, with signs of non-recoverability, for which there are no cash flows on the principal debt and there is a high accumulated accrued interest; doubtful loans of category 2 have signs of lower quality; problem loans – total volume of NPL90+ and doubtful loans; standard loans – loans not classified as listed above

portfolio during 2022 decreased by 3.7 percentage points to 22.6%. Meantime, at the end of 2022, the share of collateral in the corporate portfolio of banks decreased slightly. A decline in the provisioning ratio of the loan portfolio and collateral given an increase in problem loans may indicate the growth of risks for the banking sector.

A reduction in the share of non-performing loans in the loan portfolio, according to bank reports, in 2022 was mainly driven by a decline in the share of NPL90+ in the corporate portfolio against its growth (Figure 4.9). Thus, because of the growth of the corporate portfolio (15%) and reduction in their non-performing loans (-3%), the share of NPL90+ decreased from 3.3% to 2.8%. A decline in the share of NPL90+ was also observed among loans to individual entrepreneurs, while the growth rates of non-performing loans and debt were comparable. At the same time, the share of NPL90+ in the retail portfolio of banks increased by 0.2 percentage points to 3.7%. The share of retail loans in the total NPL90+ volume approached two thirds (61%) by the end of 2022 from half (53%) at the beginning of the year, which also indicates increased risks of retail lending.

The quality of bank corporate portfolios, which are dominated by doubtful loans, is significantly lower compared to the retail portfolio, despite the gradual decline in non-performing loans. Three quarters (76%) of the volume of doubtful loans were provided to business entities¹⁵, mainly legal entities. At the same time, 70% of the volume of doubtful loans of the banking sector is concentrated on the balance sheets of several large banks.

Figure 4.9 The quality of corporate and retail portfolios somewhat declined in 2022, and that of individual entrepreneurs is improving



Source: Bank reports, Credit Register, NBK's evaluation

Note: NPL90+ are non-performing loans according to bank reports; troubled loans are loans with signs of low repayment, incl. NPL90+

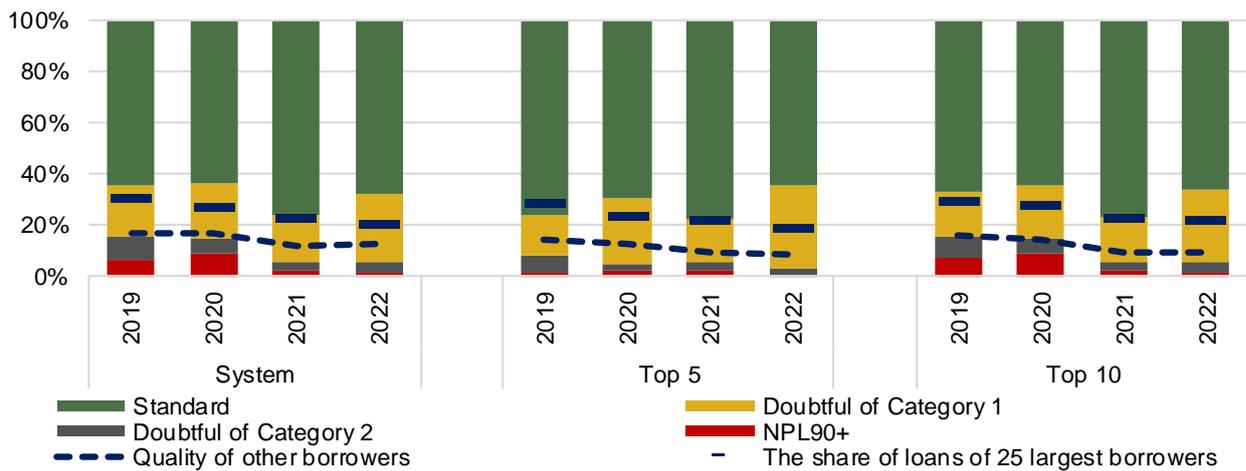
According to the National Bank, one third of loans (34%) falling into the doubtful category were issued in 2021 mainly to legal entities with a debt balance of over 10 bln tenge. The deterioration in the quality of loans provided in 2021 could be driven by the high pace of bank lending during the period of easing of quarantine restrictions and measures to stimulate lending by the government. The main period of deterioration in the quality of loans issued in 2021 was in the first half of 2022, a period of worsening geopolitical situation in the world. During this period, banks faced an increase in the number of customer requests for deferrals as a result of the imposition of the state of emergency in January, uncertainty associated with the effects of anti-Russian sanctions on Kazakhstan in March, as well as subsequent logistics problems and rising prices worldwide.

¹⁵ Business entities include legal entities and individual entrepreneurs.

The banking sector’s vulnerability associated with the concentration of the largest borrowers is gradually decreasing. A reduction in the concentration of the loan portfolio is observed across all groups of banks (Figure 4.10). Loans from the 25 largest borrowers of each bank altogether account for 20.3% of the loan portfolio of the banking sector as of the end of 2022. At the same time, the 25 largest borrowers of the banking system account for 9.9% of the loan portfolio.

In the groups of top 5 and top 10 banks, the share of the largest borrowers decreased, respectively, by 10 percentage points to 19% and by 8 pp to 22%. Reduction in the concentration of the bank loan portfolio can be explained by the launch in 2020 of online credit products for small and medium-sized businesses based on scoring models in many banks. In addition, some banks, as part of a bank survey on lending¹⁶ mentioned about their intention to lend to small and medium-sized businesses rather than to large ones in order to diversify their portfolios.

Figure 4.10 Overall quality of the largest borrowers deteriorated at end-2022. At the same time, the share of NPL90+ decreased



Source: Credit Register, NBK’s evaluation

Note: The total debt of the 25 largest borrowers of the loan portfolio of each bank for both corporate and retail loans of banks of the corresponding groups. The quality of other borrowers is the share of troubled loans, borrowers not included in the top 25

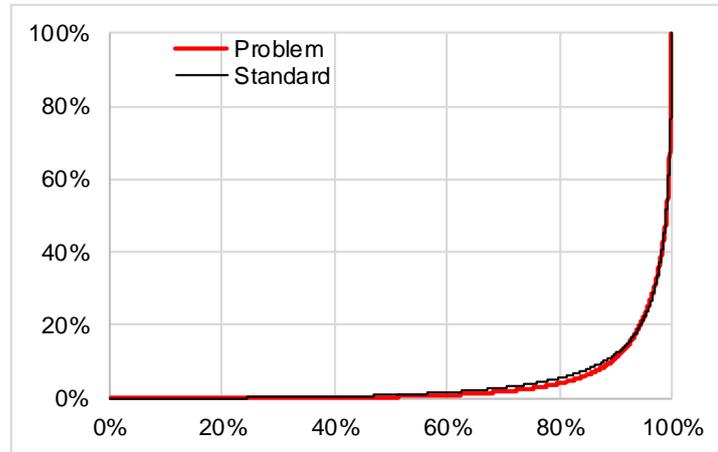
The quality of loans of the largest borrowers deteriorated in 2022 compared to the previous year across all groups of banks. The level of problem loans of the 25 largest borrowers of the top 5 banks reached its highest level since 2019. At the same time, across the system and the top 10 banks, the share of problem loans among the largest borrowers approached the levels of 2019. The top 25 largest borrowers of each bank account for more than half (58%) of all doubtful loans in the banking system, which, in addition to the existing concentration, also indicates the low quality of credit decisions on loans provided in relatively large volumes. The provision of large loans with signs of non-service may be an indirect sign of the borrower’s connection with the bank.

The bulk of loans from the 25 largest borrowers of each bank were originated primarily to legal entities (97%). However, the Herfindahl-Hirschman Index (HHI) at the end of 2022 shows a low level of concentration of bank debt per borrower in the corporate portfolio (HHI=40). The low concentration of bank debt by borrower is explained by a larger share of small loans, especially among standard loans (HHI=36). The observed concentration of problem loans of legal entities (HHI=258) is higher than among standard loans, but remains in the category of low concentration level. At the same time, the Lorenz curve shows an

¹⁶ The bank survey on lending is conducted by the National Bank on a quarterly basis with an aim to assess changes in the demand and supply of credit resources

insignificant difference between the concentration in standard and problem loan portfolios of legal entities (*Figure 4.11*). The top 10% of borrowers in the portfolio of standard corporate loans account for 88% of the debt, and the top 10% of borrowers in the category of problem loans account for 89% of the debt.

Figure 4.11 *The degree of concentration in the corporate loan portfolio is the highest among problem loans*



Source: Credit Register, NBK's evaluation

Note: Corporate loan portfolio of banks as at 01.01.2023

Dollarization of the loan portfolio decreased significantly from 40.4% in 2016 to 9.6% in 2022. Almost all foreign currency loans in the loan portfolio of banks (99%) at the end of 2022 were issued to legal entities, mainly large borrowers. The bulk of foreign currency loans had been originated in 2020-2022. The share of problem loans in the foreign exchange portfolio of banks amounted to 36%, of which two thirds accounted for loans issued in 2020-2022. At the same time, during this period foreign currency loans issued to non-residents increased from 6% (in 2020) to 15% (in 2022) of the total foreign currency portfolio of banks.

4.3 Corporate Portfolio¹⁷

Loans provided in 2021 where small enterprises are prevailing¹⁸ mainly demonstrate deterioration in the loan quality of the corporate portfolio.

The quality of loans to small businesses is the lowest among business entities; they also become bankrupt more often. Historically, small businesses are the riskiest borrowers for banks. According to the BNS ASPR RK, 98% of registered legal entities are small businesses, of which only 2.5% have bank loans. However, the bulk of loans in the corporate loan portfolio of banks was provided to small businesses.

The further growth of corporate lending largely depends on the increase in credit penetration among small businesses. However, this growth is limited to a narrow circle of solvent small businesses. This is confirmed by the data from financial statements and economic reports of the real sector, where the bulk of bank borrowers among enterprises with inadequate or negative capital are small businesses. Accordingly, the profitability of a business with an excessive debt load, especially among small businesses, is negative. Still, banks, regardless of the capital structure, give preference to entities with relatively high levels of sales and cash flows, among which there may be entities with inadequate or negative capital.

In 2022, the share of non-performing loans in the corporate portfolio of the banking sector continued to decline, the level of NPL90+ among legal entities and individual

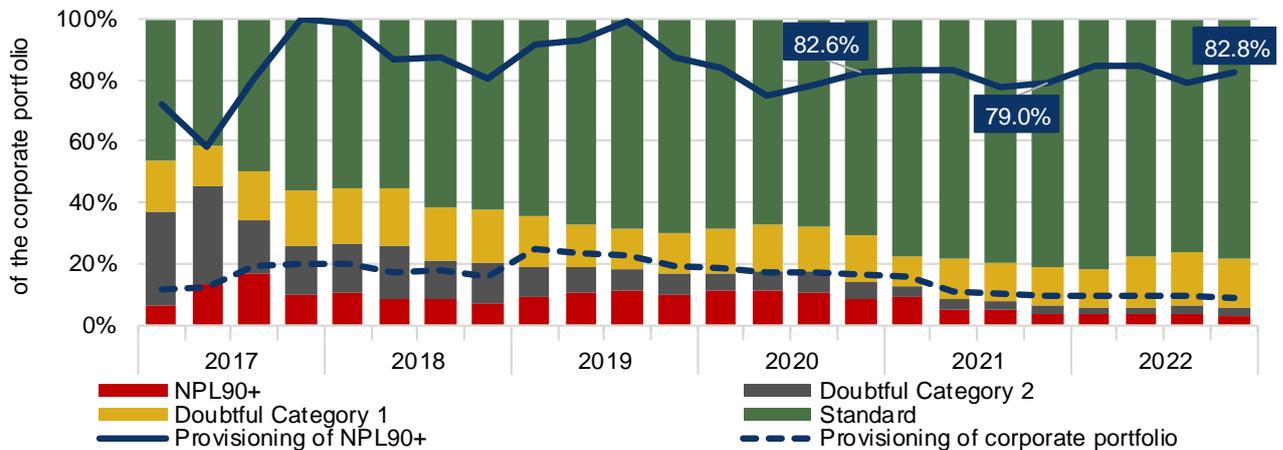
¹⁷ The corporate portfolio includes loans to legal entities and individual entrepreneurs

¹⁸ Legal entities with the number of staff up to 100 persons are included into the small business category in this section

entrepreneurs amounted to 3% by the end of the year (-0.4 percentage points during the year) (Figure 4.12). The share of NPL90+ reduced during the year mainly due to the growth of the loan portfolio. At the same time, in absolute terms, NPL90+ increased to 321 bln tenge, or by 2%.

Nevertheless, the overall level of credit risk, according to the National Bank, remains high. Despite the growth of the corporate portfolio in 2022 (17%), doubtful loans (37%) showed outstripping growth rates that have become the main factor in increasing the risk in the portfolio. Thus, the share of doubtful loans has increased over the year by 2.7 percentage points to 18.3%. The corporate loan portfolio accounts for a major share among such loans.

Figure 4.12 *The quality of corporate portfolio somewhat deteriorated*



Source: Bank reports, Credit Register, NBK's evaluation

Note: The corporate portfolio includes loans to legal entities and individual entrepreneurs. NPL90+ - non-performing loans according to banks' reports, doubtful loans - loans with signs of low repayment according to the NBK, excluding NPL90+

The problems of Russian subsidiaries that were subject to the US and EU sanctions in 2022 did not affect the quality of the total corporate portfolio of the banking sector. The main increase in doubtful loans in the corporate portfolio during 2022 was observed in large banks, in particular in the portfolio of small business legal entities, both in terms of the volume of principal debt and the number of loans.

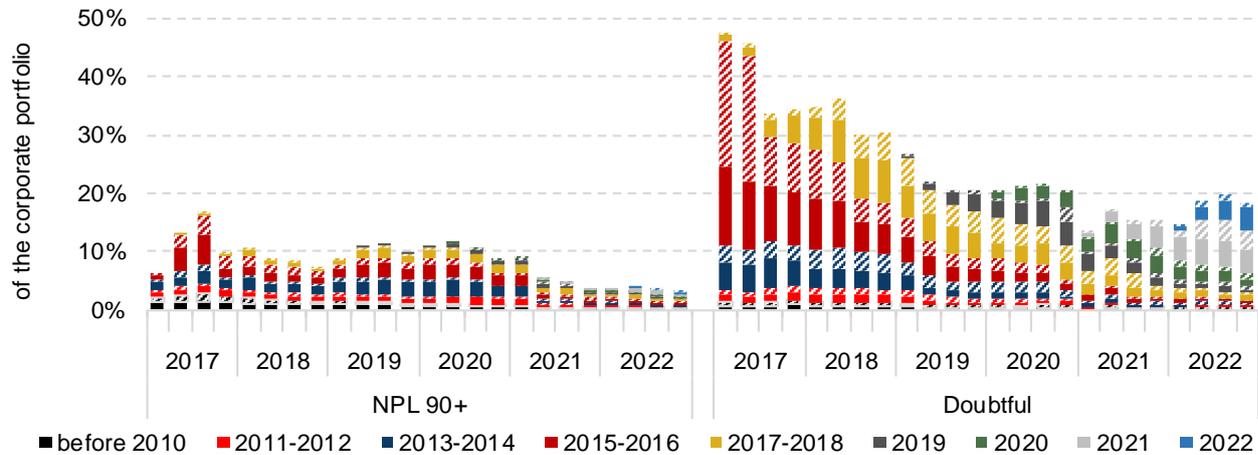
Despite the growth in doubtful loans, provision coverage of corporate loans of banks during the year decreased from 9.7% to 8.5%. At the same time, the provisioning ratio for problem loans in the corporate portfolio has decreased over the year from 26.2% to 22.2%. Reducing the level of provisioning for problem loans by making biased assessments of loans with low recoverability may increase pressure on banks' capital and the ability to lend to businesses in the future.

At the end of 2022, bank portfolios still contained non-performing loans originated before 2012 (15% of NPL90+) (Figure 4.13). At the same time, a third of NPL90+ is taken up by loans provided in 2013–2016, during the period of the country's economic slowdown. Since then, a significant portion of non-performing loans have been collected or written off by banks. At some banks, the share of non-performing loans provided more than 10 years ago still accounts for more than half of the NPL90+ volumes at these banks. The high concentration in NPL90+ of loans provided before 2016 by some banks is associated with a significant share of secured loans, for which collection procedures are long and complex, especially if banks are not the only creditors.

There has been a sharp decline in the quality of loans issued in 2021, mainly to small businesses. Thus, the volume of non-performing loans issued in 2021 increased, mainly in

the sectors of wholesale and retail trade¹⁹, milk processing, freight forwarding services, and construction of residential buildings. Loans issued in 2021 served as the driver of growth in doubtful loans in the corporate portfolio, by year of origination. Most of these loans relate to enterprises producing fertilizers, electricity, copper, meat and eggs, as well as in the branches of communication sector, real estate transactions and residential construction buildings. The deterioration in the quality of loans during this period could have been driven, on the one hand, by regulatory easing²⁰, that were in effect during this period, and on the other hand, by the aggravation of geopolitical risks in 2022, the volatility of the national currency and rising inflation.

Figure 4.13 *The main portion of doubtful loans was originated in 2021*



Source: Credit Register, NBK's evaluation

Note: Patterned filling corresponds to loans in foreign currency

In terms of loan volume, loans to small businesses with no more than 100 employees account for a half (52%) of the corporate portfolio at the end of 2022 (Figure 4.14). The portfolio of this group of borrowers constitutes the bulk of non-performing (82%) and doubtful loans (51%). At the same time, almost half of the NPL90+ corporate portfolio (46%) relates to loans to small business legal entities with no more than 20 employees. On the contrary, the quality of loans to individual entrepreneurs is relatively better. The share of problem loans among individual entrepreneurs was 6% compared to 27% in the portfolio of small business entities.

The quality of the portfolio of medium-sized businesses, in contrast to small businesses, is much better, although the volume of the portfolio among these business entities is the smallest. The share of problem loans of medium-sized businesses decreased from 38% in 2018 to 15% in 2022. Among loans to large businesses, the share of non-performing loans is the lowest (1%), with a high share of doubtful loans (22%). The increase in doubtful loans in the portfolio of large businesses was mainly due to particularly large businesses (>1000), for which the loan portfolio has doubled over the past 5 years. The bulk of loans to the largest borrowers with signs of doubtful loans were also provided in 2021 and 2022.

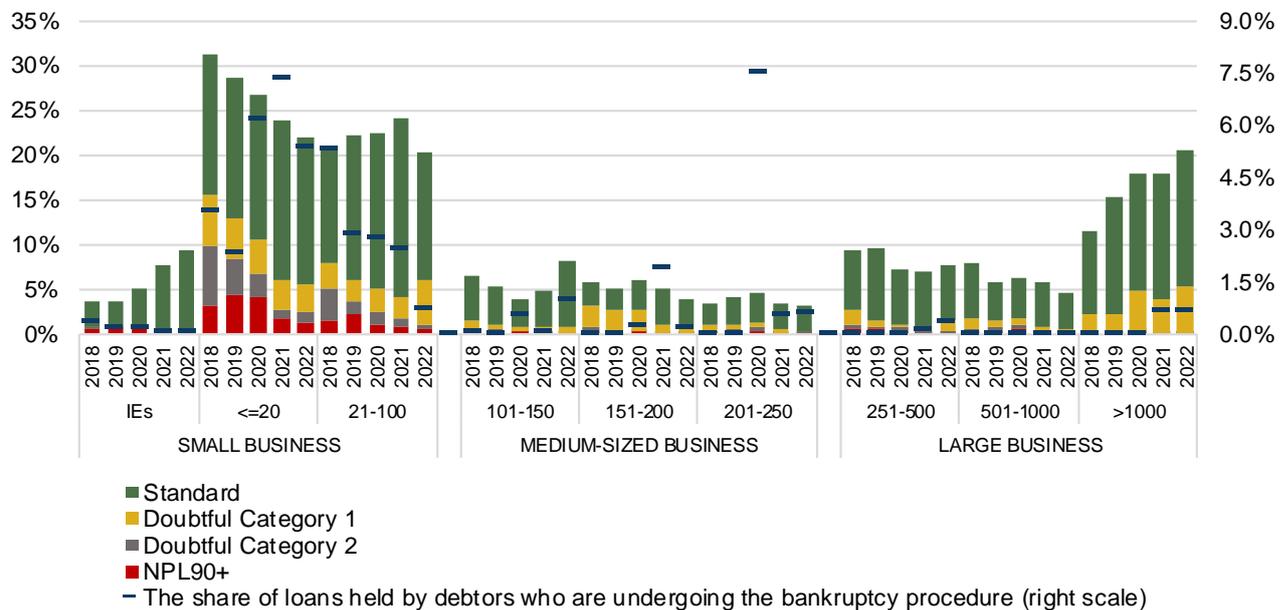
The willingness of banks to lend to business entities largely depends on their financial solvency. Bankruptcy levels among a particular category of entrepreneurs can be used as one of the indicators of solvency. On average, the highest share of bankrupts among registered entrepreneurs is among small business entities: 98% of legal entities in

¹⁹ Wholesale trade of a wide range of goods without any specification, Wholesale trade of diesel fuel, retail trade of furniture in specialized stores that are retail facilities with a sales area of less than 2000 sq. m.

²⁰ Certain regulatory easing measures have been extended until the end of 2021. In particular, measures were retained to reduce the values of risk-weighting coefficients for loans and guarantees issued to SMEs and syndicated loans, as well as to expand the list of "hard" collateral

bankruptcy²¹ are small businesses (*Figure 4.15*). Credit penetration²² among legal entities – small businesses – is the lowest (2.5%). Meantime, large and medium-sized businesses have low bankruptcy rates and high bank loan coverage (16% and 13%, respectively) compared to small businesses. It is noteworthy that the share of bankrupts in small businesses is gradually decreasing, while, on the contrary, it is growing among large and medium-sized entrepreneurs. Moreover, following the results of the pandemic year 2020, bankruptcies among large and medium-sized businesses ratcheted.

Figure 4.14 *Loans to small businesses have the lowest quality but constitute the bulk of banks' loan portfolio*



Source: Credit Register, Business Register, SRC MF RK

Note: Data on loans to unique borrowers (BIN/IIN) is linked to the business register. The data does not include bank debt of non-residents. IEs mean individual entrepreneurs. Next <=20, 21-100, etc. denote groups of borrowers with the corresponding number of employees

Credit penetration among individual entrepreneurs has been actively growing since 2020 and has reached the level of large businesses against the online lending by banks to micro-business entities, including within the framework of government programs. Such credit products, mostly short-term, are provided for the purpose of replenishing working capital, and decisions regarding their origination are based on scoring models. Thus, the share of individual entrepreneurs with loans increased from 1% in 2019 to 16% in 2022. The quality of loans issued to individual entrepreneurs since 2020 has been better than the overall portfolio of individual entrepreneurs. Thus, the share of NPL90+ among loans issued in 2020-2022 was 3% by the end of 2022, while for the portfolio this figure was 5%. At the same time, the share of loans issued in 2020-2022 in the portfolio of individual entrepreneurs approached 93%. At the same time, the share of insolvent debtors among individual entrepreneurs is significantly lower than among legal entities and does not exceed 0.1%.

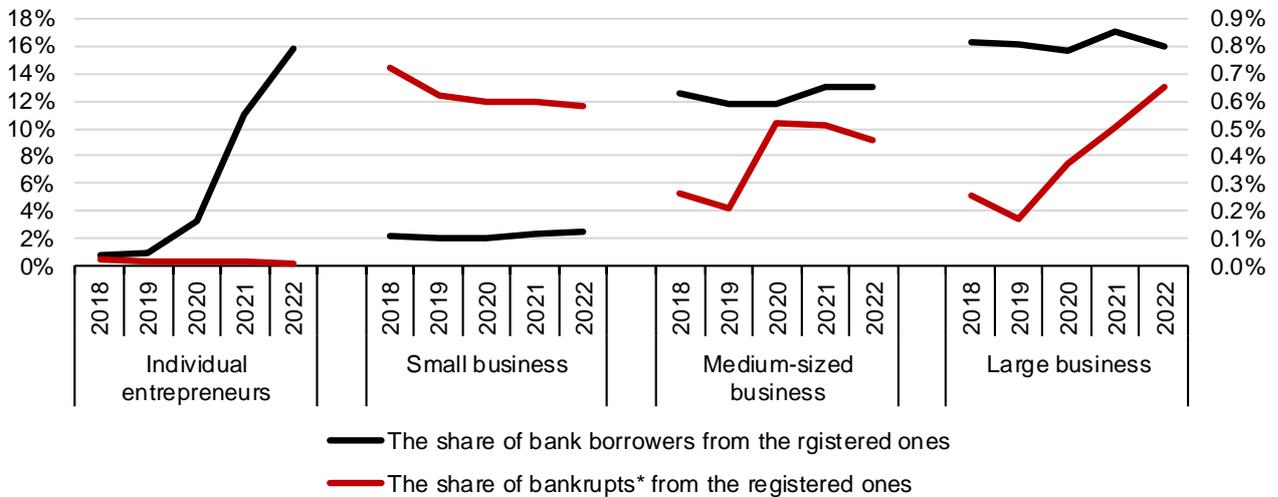
The total debt to banks from debtors at the stage of bankruptcy or rehabilitation at the end of 2022 is 0.6% of the corporate loan portfolio (*Figure 4.14*). This figure, for comparison, reached 1.1% by the end of 2020 amid the pandemic. Most of the bank debt of insolvent debtors is NPL90+ loans. Still, a third of the bank debt from insolvent debtors is in the portfolio of standard loans, the bulk of which are on the balance sheets of debtors for whom rehabilitation procedures have been applied. In practice, the rehabilitation procedure

²¹ As of 01.01.2023, the procedures for rehabilitation and forced liquidation of a debtor without initiating the bankruptcy procedure are included in the list of bankrupts.

²² Credit penetration is the share of business entities with bank loans of the overall registered quantity.

periodically turns into a bankruptcy procedure as a result of the subsequent deterioration in the financial stability of the debtor. Thus, from the list of rehabilitated debtors at the end of 2020, one fifth went bankrupt during the two subsequent years.

Figure 4.15 Credit penetration in small businesses, with the exception of individual entrepreneurs, is the lowest. At the same time, the share of bankruptcies among them is relatively high



Source: Credit Register, Business Register, SRC MF RK

Note: Data on loans of unique borrowers (BIN/IIN) is linked to the business register. The data does not include bank debt of non-residents.

The solvency of bank borrowers, on the other hand, can be assessed by the structure of their financial statements and economic reports collected by the BNS ASPR RK²³. An important feature of bank borrowers, which was previously mentioned in the FSRs of prior years, is the debt burden of enterprises with low or negative capital. Thus, according to the BNS ASPR RK, 56% of bank debt at the beginning of 2022 was on the balance sheets of enterprises with low or negative capital, with the share of assets of such enterprises being 35% of the total assets of enterprises (Figure 4.16). Small businesses comprise the main share of bank borrowers among enterprises with inadequate or negative capital. Lending to organizations with high leverage and low creditworthiness, including within the framework of government programs, significantly increases the risk of credit losses for the banking sector and the government.

Insolvent and undercapitalized²⁴ enterprises, both with and without bank loans, continue to concentrate relatively large volumes of receivables and payables on their balance sheets. This feature is probably due, on the one hand, to the specific type of economic activity (trade and construction) of a large number of enterprises, and on the other hand, to ineffective management of working capital. Excessive volumes of receivables and payables on the balance sheets of such enterprises increase the risks of non-repayment of funds for enterprises and default on obligations. Thus, enterprises with inadequate or negative capital, which account for a third of the assets of the corporate sector, concentrate more than half of the accounts payable. 83% of the total volume of accounts payable of enterprises that do not have bank debt falls on enterprises with inadequate or negative

²³ As part of reports of the BNS ASPR RK “1-PF: Profit and Loss Statement of an Enterprise” and “2-MP: Report on the Operations of a Small Enterprise”

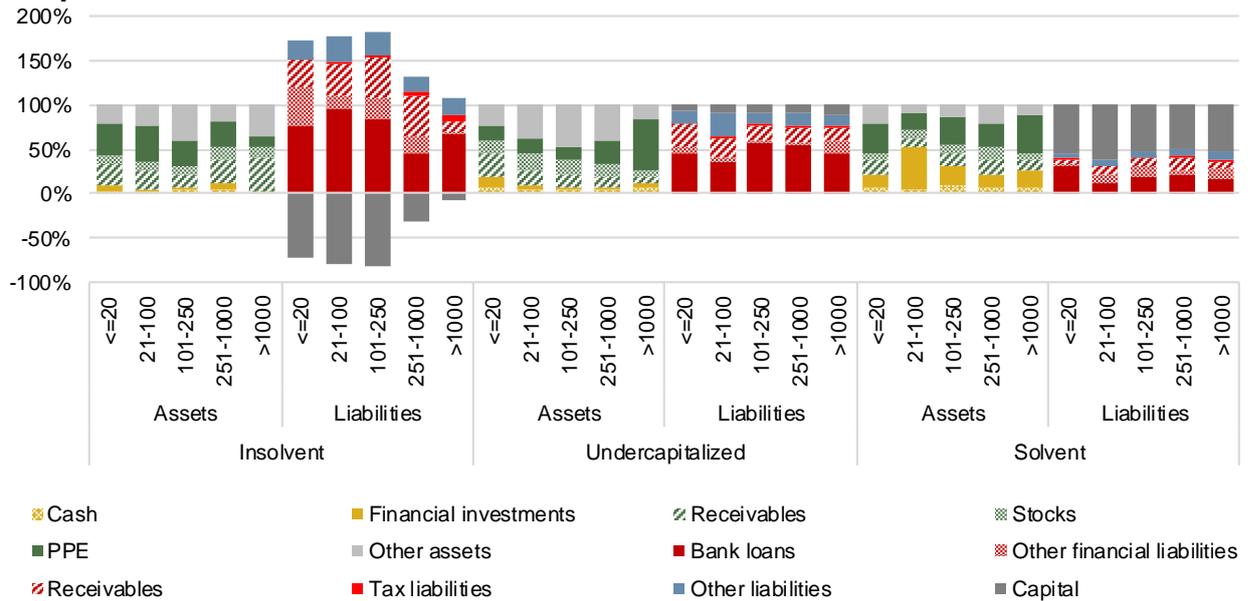
²⁴ Henceforth in the section, for the purposes of analyzing the real sector, enterprises with positive capital but a high debt burden (more than 80%) are defined as *undercapitalized*; enterprises with negative capital are defined as *insolvent*, and those with the capital exceeding 20% of assets are defined as *solvent*.

capital. At the same time, the share of accounts payable of similar enterprises is 51% of the balance of enterprises with bank debt.

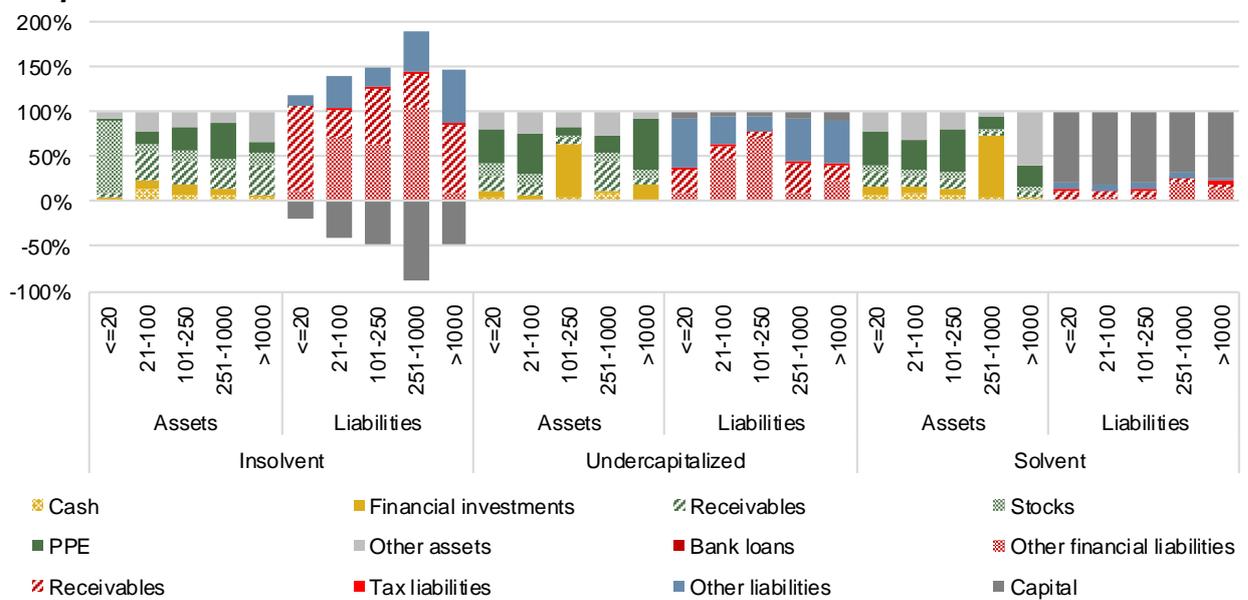
Solvent borrowers, on the contrary, have more liquid assets. At the same time, bank loans are not the main source of their funding. Solvent borrowers are, to a greater extent, not interested in obtaining bank loans, since they finance the bulk of their assets with their own capital. Enterprises whose assets are mainly financed by liabilities have insignificant amounts of liquid funds. Thus, the group of enterprises with insignificant and negative capital has only 23% of all cash and financial investments. During periods of crisis, financial losses are most likely to be incurred at less liquid enterprises with a high debt load. To minimize the risk of credit losses, banks should continue to improve their borrower selection practices.

Figure 4.16 Bank loans account for the bulk of liabilities in the balance sheets of enterprises with low or negative capital

Enterprises with debt on bank loans



Enterprises with no debt on bank loans



Source: BNS ASPR RK

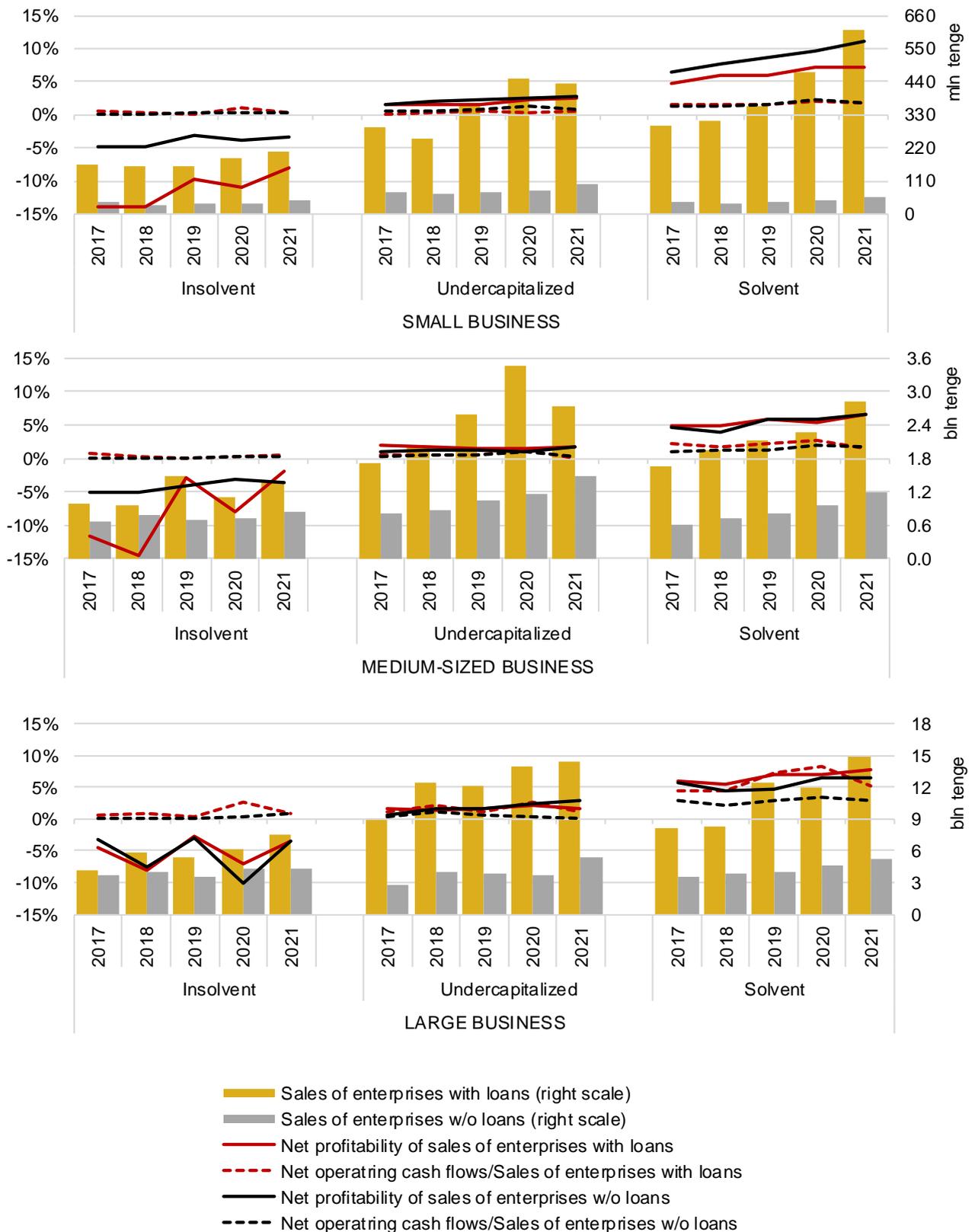
Note: Data at the beginning of 2022. Based on the annual P&L statements of enterprises. The aggregate balance sheets of small enterprises are presented based on data extended to the general population, for medium-sized and large businesses - based on the general population. The data does not include information on individual entrepreneurs.

Despite the low quality of the balance sheet structure of enterprises with inadequate or negative capital, their levels of profitability, cash flows and cost effectiveness have some differences depending on the presence or absence of a bank loan (*Figure 4.17*). Thus, the income (sales) of enterprises with bank debt, on average, is significantly higher than that of enterprises without it, regardless of the capital structure. In addition, the ratio of net cash flows from operating activities and sales for enterprises with bank debt is higher or almost at the same level as for enterprises without bank loans. Thus, on average, the absolute values of net operating cash flows were almost always higher for enterprises with bank debt. However, the observed difference in the median net profit margin on business sales (the ratio of net profit and sales) between enterprises with and without bank debt is often negative among small and medium-sized enterprises, but positive among large enterprises. On average, SMEs with bank loans are less profitable than their competitors without loans.

Considering the observed difference in income, cash flows and net profit between groups of enterprises with and without bank debt, it is obvious that banks, when providing loans to enterprises, including those with low and negative capital, take into account the turnover and cash flows of borrowers rather than the level of their debt burden and net profit. The reason for this may be that loans to businesses are often provided to replenish working capital and are serviced using funds received from sales to the client's account. If the loan is serviced from the borrower's proceeds, then its final profit will be of less importance to the bank. This practice, given the development of high-margin digital credit products, in our opinion, has recently become increasingly common.

It must be taken into account that providing an additional loan to enterprises with a high debt burden reduces their solvency and, accordingly, increases the risk of bankruptcy. Prolonged low profits of enterprises with low or negative capital, especially during periods of crisis, will require additional injections from their shareholders or owners; otherwise, the loans of such borrowers will need to be refinanced in the future, which may lead to further losses for the bank. Therefore, banks should also take into account the potential risks associated with the viability of the business over a horizon of more than one year.

Figure 4.17 The income of enterprises with bank loans is, on average, significantly higher than that of other respondents



Source: BNS ASPR RK

Note: Average indicators of sales (income), net cash flows to sales and profitability of sales of enterprises are calculated as the median values of the respondents that provided their reports. Annual data from enterprises was used for a sample of small enterprises, and for the general population of medium-sized and large enterprises. Net cash flow from operating activities is equal to the difference between cash inflows and cash outflows. The data does not include information on individual entrepreneurs.

4.4 Retail Loan Portfolio

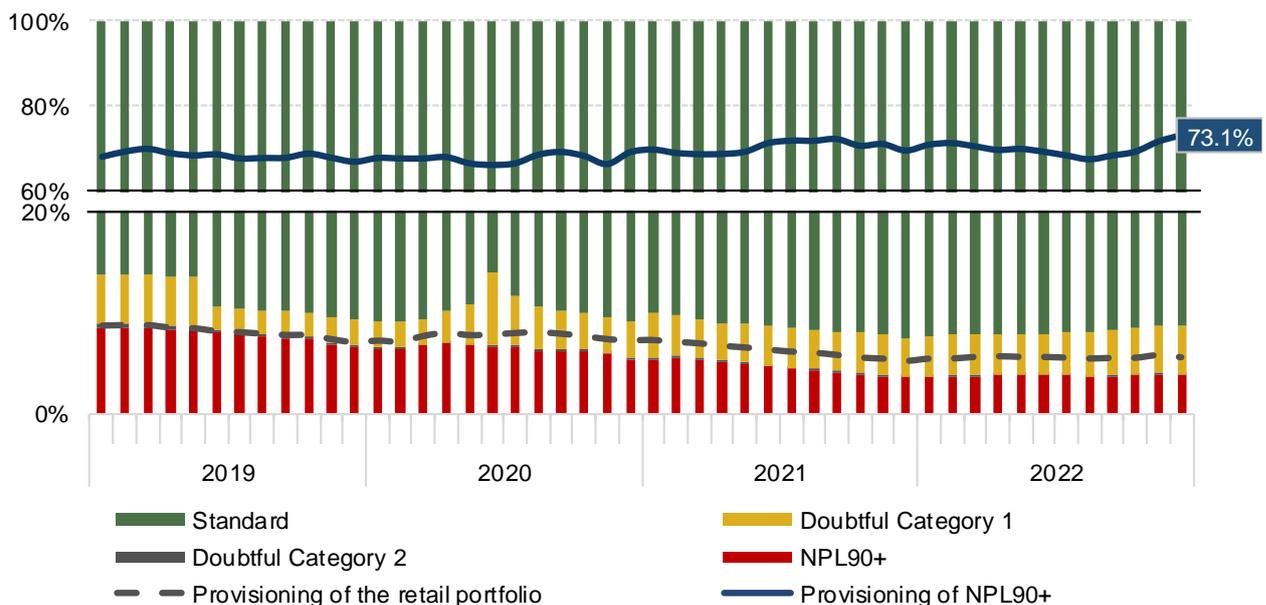
The slowdown in the growth of the largest segment of the retail portfolio – the consumer unsecured portfolio – contributed to a slight decrease in the growth rate of the retail portfolio compared to the previous year. The second most important segment of retail lending, the mortgage portfolio of banks, continued its dynamic growth. The quality of loans in the retail lending portfolio continued to remain high. At the same time, there has been a slight increase in problem loans. The growth of NPL90+ loans is observed in loans issued in 2021, which results from realization of pent-up demand after restrictions during the pandemic. The January events led to an increase in the default on the first payment and default on the second payment, whose level returned to low values in the subsequent months of 2022.

In 2022, banks continued to expand their retail portfolio, with the growth rate slowing down compared to 2021. Thus, the growth of the retail portfolio at the end of 2022 amounted to 31.3% (in 2021 – 40.9%). At the end of 2022, the retail portfolio was dominated by unsecured consumer loans and mortgage and home loans, whose shares amounted to 51.8% and 34.3%, respectively. These retail lending segments made the largest contribution to the buildup of retail portfolio, accounting for 49.1% and 41.3% of portfolio growth, respectively.

The quality of the retail portfolio remained high in 2022. At the end of the year, the share of loans more than 90 days past due in the retail portfolio remained relatively low (3.7%). Faster retail portfolio growth masked an increase in non-performing retail loans. At the same time, during the year, problem loans, according to the National Bank, increased by 53.7%, with their share amounting to 8.8% of the retail portfolio at the end of the year (at the end of 2021 – 7.5%). In particular, the share of doubtful loans of category 1 increased from 3.9% to 5.0%.

As at the end of the reporting year, the provision coverage of the retail portfolio remained the same as in the previous period (5.5%). However, the provisioning coverage ratio for NPL90+ increased from 69.3% to 73.1% due to the growth in provisions by 47.5%, or by 116.3 bln tenge (Figure 4.18).

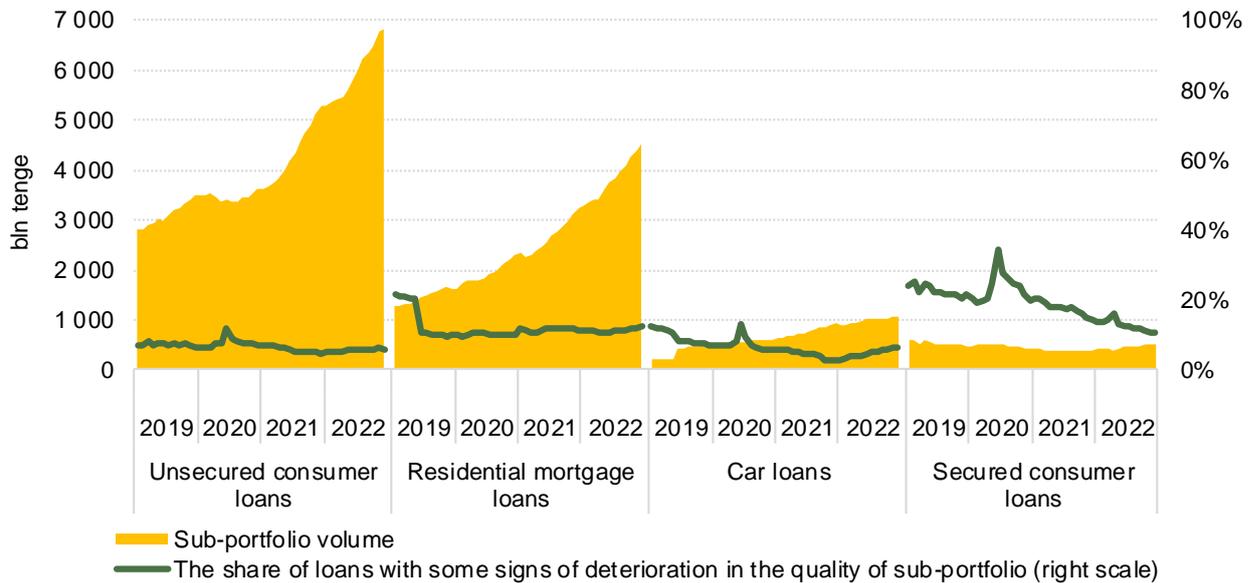
Figure 4.18 *The share of NPLs in the retail portfolio remains low, largely due to a high growth of the portfolio. Meantime, doubtful loans of Category 1 are growing*



Source: Credit Register, National Bank's evaluation

In the reporting period, the growth of unsecured consumer loans slowed to 29.2% (46.3% in 2021) (Figure 4.19). At the same time, during 2022 the approval rate of loan applications decreased, despite the growing number of received loan applications for unsecured loans²⁵. Meanwhile, the quality of this sub-portfolio has decreased slightly compared to the previous period. At the end of 2022, the share of problem loans in unsecured consumer lending, according to the National Bank, increased to 6% (at the end of 2021 – 4.7%), namely, the shares of doubtful loans of category 1 and NPL90+ loans increased – to 0.6% and 5.3%, respectively (at the end of 2021 – 0.4% and 4.3%, respectively).

Figure 4.19 The share of problem loans in retail lending went down in the secured consumer loan segment whereas it somewhat increased in the rest of the segments



Source: Credit Register, National Bank's evaluation

Note: except loans not included in a certain group in line with the lending purpose

The growth of the portfolio of home mortgage loans (HML) remained at the level of 2021 (40%), thus leading to an increase in their share in retail lending to 34.3% by the end of 2022. In 2022, the number of received loan applications for HML increased, but their approval rate decreased to 29.7% by the end of the year (at the end of 2021 – 56.3%). The quality of the sub-portfolio remains high: the share of non-performing loans (NPL90+) was 0.4%. However, the share of problem loans went up, in particular, due to an increase in the share of doubtful loans of category 1 from 10.6% in 2021 to 12.1% in 2022.

In 2022, the total volume of sub-portfolio of secured consumer loans expanded by 32.7%, or up to 514.9 bln tenge. Despite the increase in the number of received loan applications and the increase in their average size, the segment's share remained at the level of 2021, amounting to 3.9% of the retail portfolio. The quality of this sub-portfolio improved at the end of the reporting period, specifically, the share of NPL90+ loans decreased from 12.1% in 2021 to 8.5%, and the share of problem loans – from 14.5% to 10.5%.

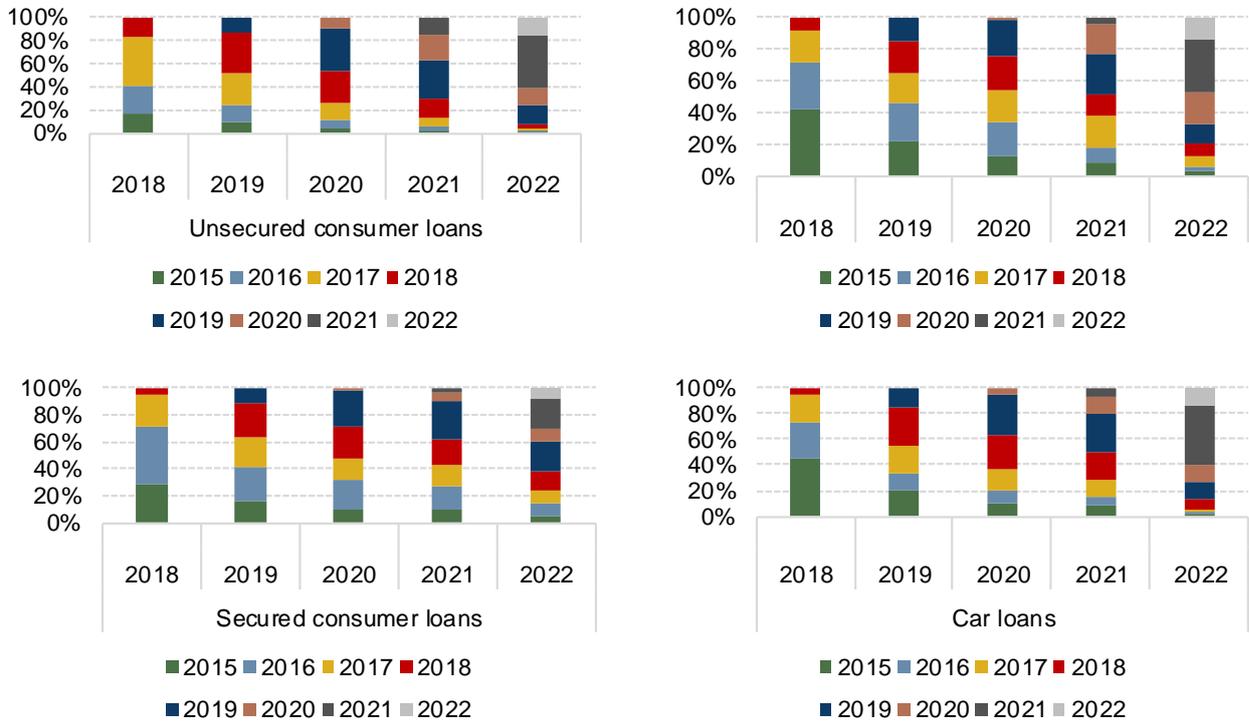
In the reporting period, the growth of the car loan portfolio slowed to 13% versus 53.9% in 2021. At the same time, while the number of received loan applications increased during the year, the approval rate for them remained the lowest among all retail lending segments. In 2022, the quality of the car loan sub-portfolio decreased, namely, the share of problem loans increased to 6.2% (at the end of 2021 – 2.7%). In particular, the shares of

²⁵ National Bank's publications based on quarterly bank surveys on lending in 2022

doubtful loans of category 1 and NPL90+ loans grew to 1.9% and 4.1%, respectively (at the end of 2021 – 0.2% and 2.5%).

It is worth mentioning that in 2022, the quality of loans in the retail portfolio provided in 2021 deteriorated (Figure 4.20). According to the results of a bank survey on lending, deterioration in the quality of loans could be caused by banks easing requirements to solvency of clients after the restrictions in force during the pandemic, as well as a drop in real household income in 2022.

Figure 4.20 Loans originated in 2021 serve as the main reason for deterioration in the quality of retail portfolio and growth of NPL90+ Loans NPL90+ as of the end of the reporting year



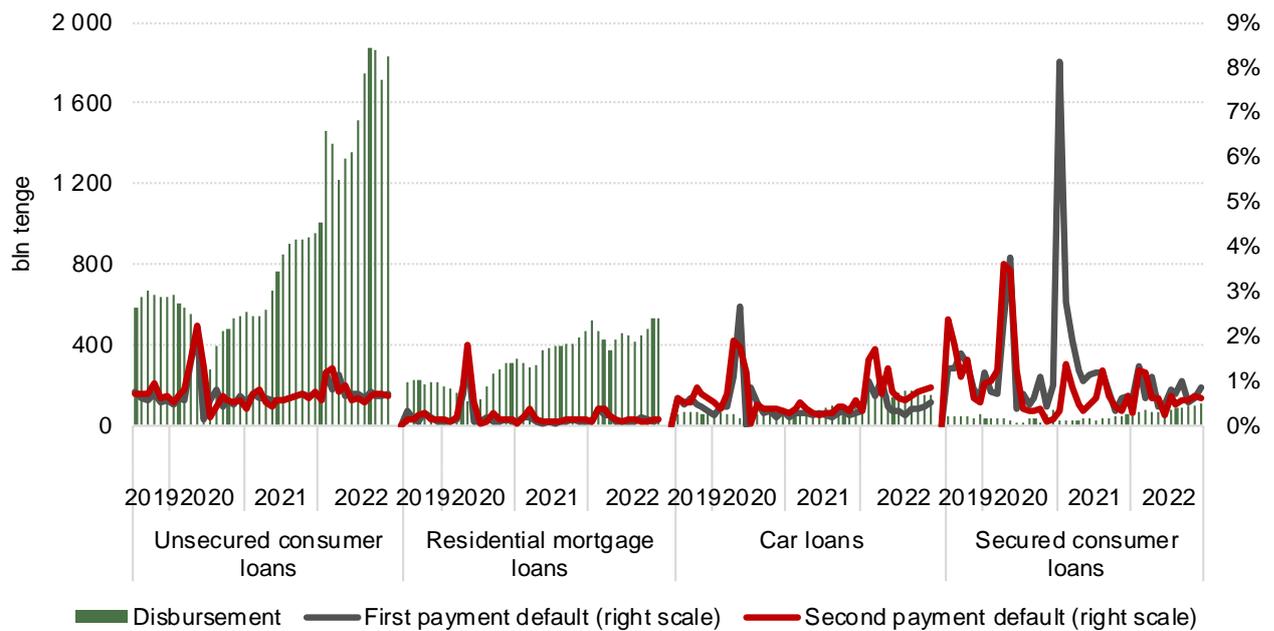
Source: Credit Register

Note: except loans originated before 2015

The suspension of activities of business entities under the state of emergency imposed at the beginning of 2022 caused an increase in the rates of default on the first payment and default on the second payment for all types of retail loans in this period (Figure 4.21). In subsequent periods of 2022, default rates on the first payment and second payment decreased and remained stable. Thus, at the end of the year, the default on the first and default on the second payments in mortgage and home loans remained at the level of 0.1%, and in unsecured consumer loans – 0.7% and 0.6%, respectively. In the car loan segment, the default rate on the first payment was 0.5%, while the default on the second payment was 0.8%. At the same time, in secured consumer loans, the first payment default and second payment default rates were slightly higher, specifically 0.8% and 0.6%, respectively.

Figure 4.21 Internal and external shocks of the beginning of 2022 caused the increase in the first payment and second payment defaults in all segments of retail lending

First payment default and second payment default



Source: Credit Register

4.5 Unsecured Consumer Lending

The high level of digitalization of banking services has simplified the procedure for unsecured consumer lending to the population. Quick loan processing, convenience of receiving services without leaving home nurtured a heightened demand for this type of product from the population. Accordingly, the high profitability of this product resulted in a revision of the business models of most banks and their further reorientation towards unsecured consumer lending.

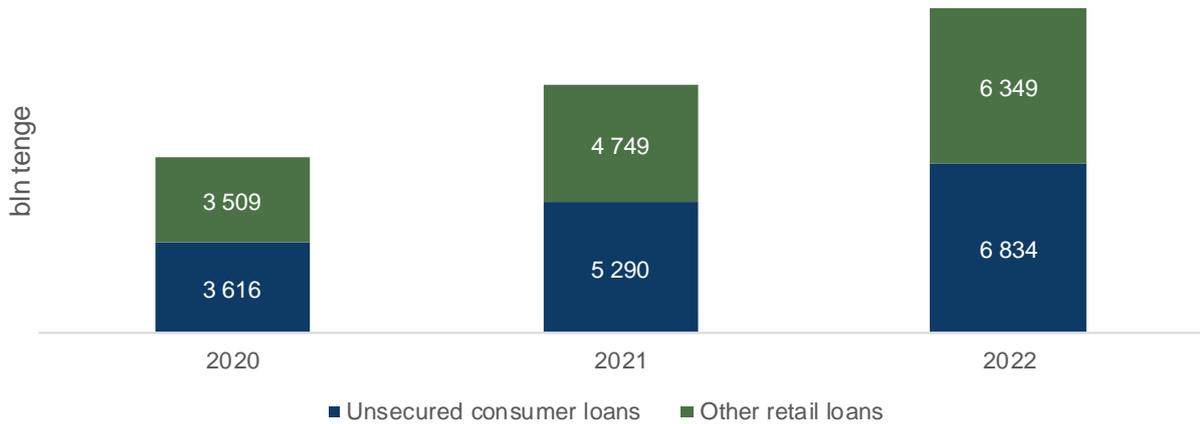
In 2022, the growth of the unsecured loan portfolio slowed down amounting to 29% versus 46% in 2021. As of January 1, 2023, this portfolio totaled 6.83 trln tenge (*Figure 4.22*) (in 2021 – 5.3 trln tenge; in 2020 – 3.6 trln tenge), against a 31% growth of the retail portfolio (in 2021 – 41%; in 2020 – 13%).

The growth of the portfolio of unsecured consumer loans was accompanied by an increase in its various metrics related to the debt of borrowers. Thus, as of January 1, 2023, the highest average debt on unsecured consumer loans is observed in the age groups of 29–34 years, 35–44 years and 45–54 years. The average debt in these age groups is about 1.1-1.2 mln tenge per person (in 2021 - about 1 mln tenge); in 2022, the debt on average increased by 165 thous. tenge. The lowest average debt is among the least economically active groups of the population: in the age groups of 18–24 years and over 65 years, the average debt of borrowers is 468 thous. tenge and 623 thous. tenge, respectively (*Figure 4.23*).

Median debt also increased across all age groups. Thus, as of January 1, 2023, the median debt on unsecured consumer loans in the groups of 29–34 years old, 35–44 years old and 45–54 years old was about 620 thousand tenge (in 2021 – about 533 thous. tenge). In the 18–24-year-old group, the median debt is 286 thous. tenge (in 2021 – about 257 thous. tenge), in the group of borrowers over 65 years old, the median debt was 416 thous. tenge (in 2021 – about 396 thous. tenge).

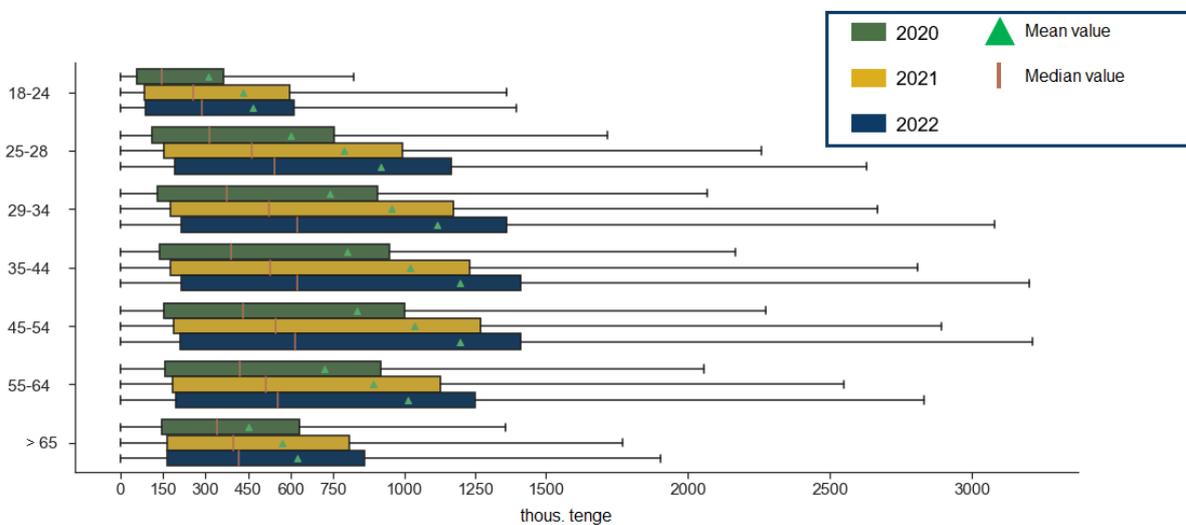
Figure 4.22 Growth rates of the unsecured consumer loan portfolio slowed down in 2022 but continue to remain significant

Structure of the retail loan portfolio, end-of-period



Source: Credit Register, National Bank's computations

Figure 4.23 Average and median debts on unsecured consumer loans increased in 2022

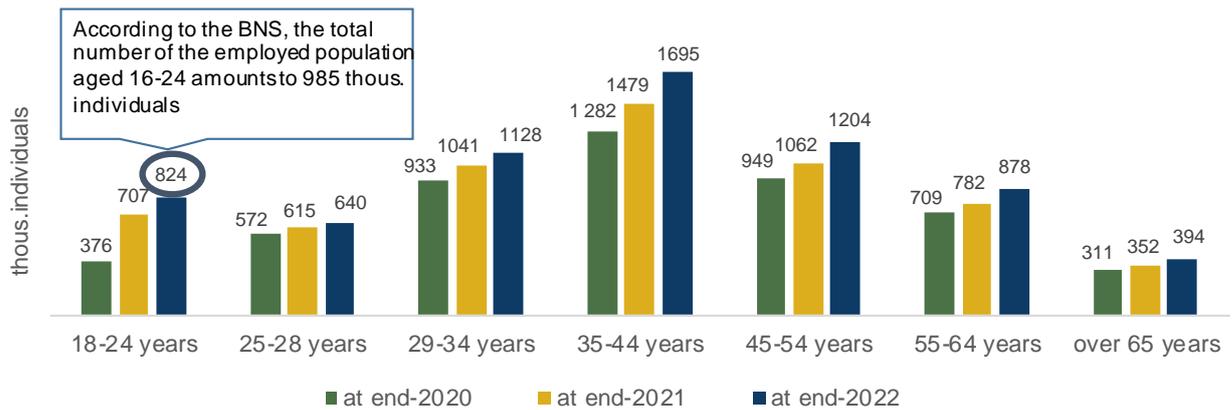


Source: Credit Register, National Bank's computations

Note: When calculating the average and median debt, the sum of unpaid principal balances on all loans of each borrower was used.

In 2022, the number of borrowers in the segment of unsecured consumer loans increased. Thus, as of January 1, 2023, with 24 million contracts for unsecured consumer loans, the number of unique borrowers reached 6.76 million people (*Figure 4.24*) (in 2021 – 6.03 mln; in 2020 – 5.13 mln). (in 2021 – 6.03 million; in 2020 – 5.13 million). The greatest growth is observed in the age groups 35–44 years, 45–54 years and 18–24 years, the increase over the year was 216 thous., 143 thous. and 117 thous. people, respectively (197 thous., 113 thous. and 331 thous. people in 2021).

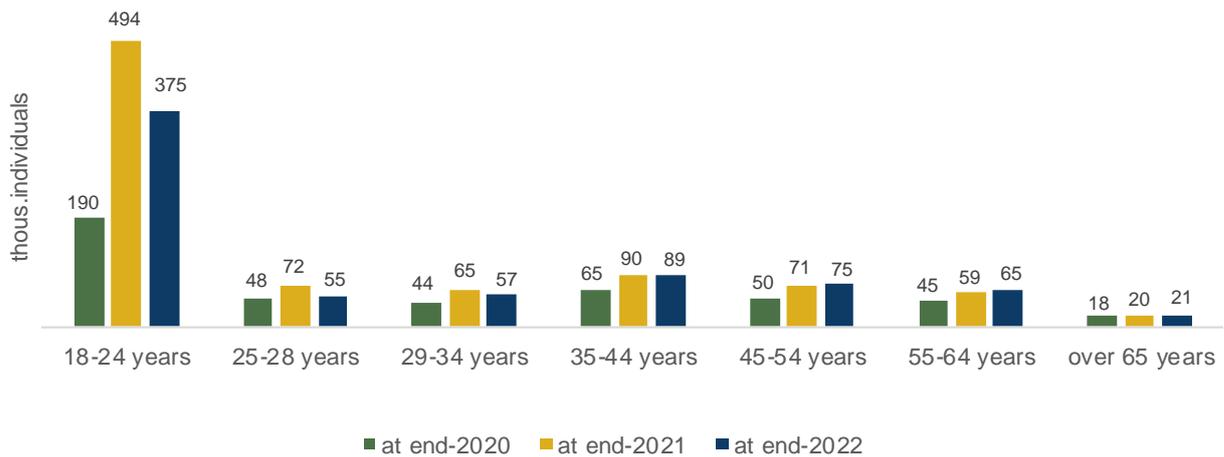
Figure 4.24 The number of borrowers aged 18-24 more than doubled compared to 2020



Source: Credit Register, BNS ASPR RK, NBK computations

One of the reasons for the increase in the number of borrowers was the active penetration of banking services into everyday life. The use of smartphones and mobile banking applications continued to gain popularity among the population, leading to an increase in the number of their users and new borrowers who previously did not have unsecured consumer loans. The increase in the number of new borrowers (who had not previously had unsecured consumer loans) in 2021 also confirmed the deeper penetration of online banking services.

Figure 4.25 Among new borrowers who did not have unsecured consumer loans before the largest growth was observed in 2021



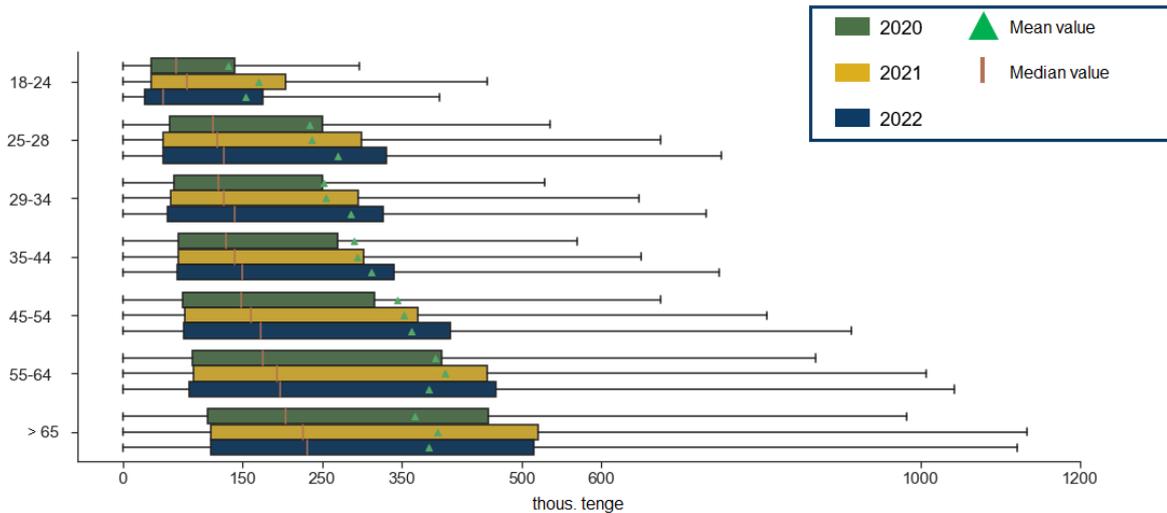
Source: Credit Register, National Bank's computations

In 2022, 737 thous. new borrowers who had not such loans before appeared in the unsecured consumer loan portfolio (Figure 4.25) (in 2021 – 872 thous.; in 2020 – 459 thous.). The year 2021 saw a boom in the popularity of digital banking services, with the young population demonstrating the greatest activity: 494 thousand new borrowers aged 18–24 years old, 72 thous. borrowers aged 25–28 years old and 65 thous. borrowers – in the age group of 29–34 years old were registered in the banking system. One of the additional incentives for such growth may be a pent-up demand formed during the coronavirus pandemic of 2020 and realized through obtaining consumer loans.

In 2022, the number of new borrowers decreased compared to 2021. One of the reasons may be the achievement of a high level of penetration of banking services among

the population – at the end of 2022, the number of unique borrowers of unsecured consumer loans reached 6.76 million people, or 75% of the economically active population of Kazakhstan (8.96 million people according to the BNS data for the fourth quarter of 2022).

Figure 4.26 Average debt balance of new borrowers correlates with their age, and median debt retains its historical stability



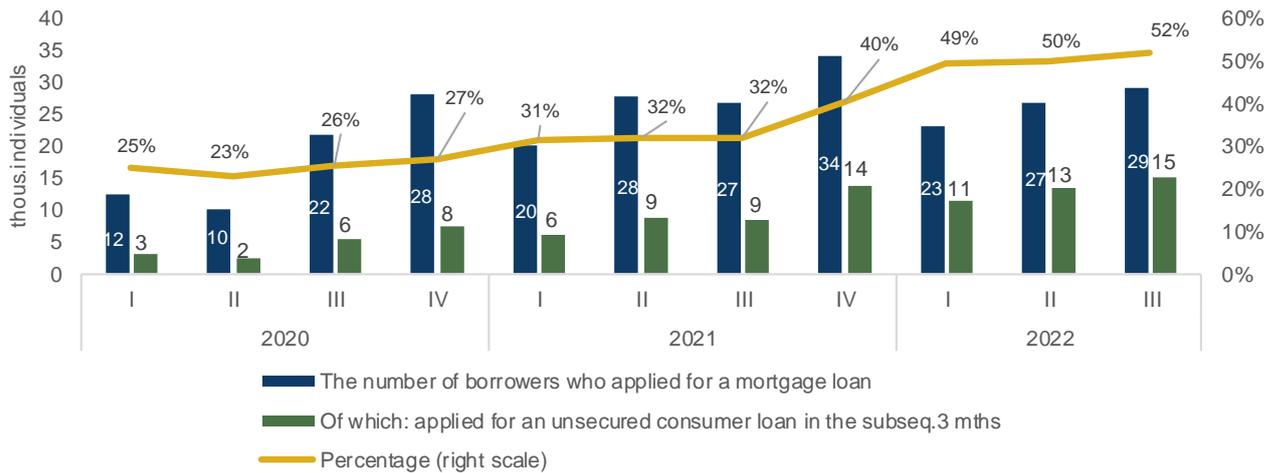
Source: Credit Register, National Bank's computations

The average debt of new borrowers has remained stable for three years. Moreover, the age of the borrower and his/her average debt are correlated – the older the borrower, the greater the amount of his/her debt (*Figure 4.26*).

A similar picture is observed also in the size of the median debt of new borrowers. The low level of average and median debt of new borrowers suggests that the majority of new borrowers purchase goods in installments.

At the same time, the expansion of consumer lending was affected by the growth in purchases and sales of real estate, including through mortgage lending. The purchase of real estate involves the need to purchase durable goods (household appliances, furniture, etc.), which, as a rule, is arranged in installments given significant expenses for the down payment and repairs of the property. So, in the third quarter of 2022, 29.2 thous. people received mortgage and home loans, of which 51.7%, or 15.1 thous. people obtained unsecured consumer loans during subsequent three months (*Figure 4.27*). Meantime, during the first quarter of 2020, out of 12.4 thous. borrowers who obtained a mortgage, only 25%, or 3 thous. people took an unsecured consumer loan. These unsecured consumer loans increase borrowers' debt burden in addition to their existing mortgage loans.

Figure 4.27 Over a half of borrowers who applied for a mortgage loan take an unsecured consumer loan in the next 3 months

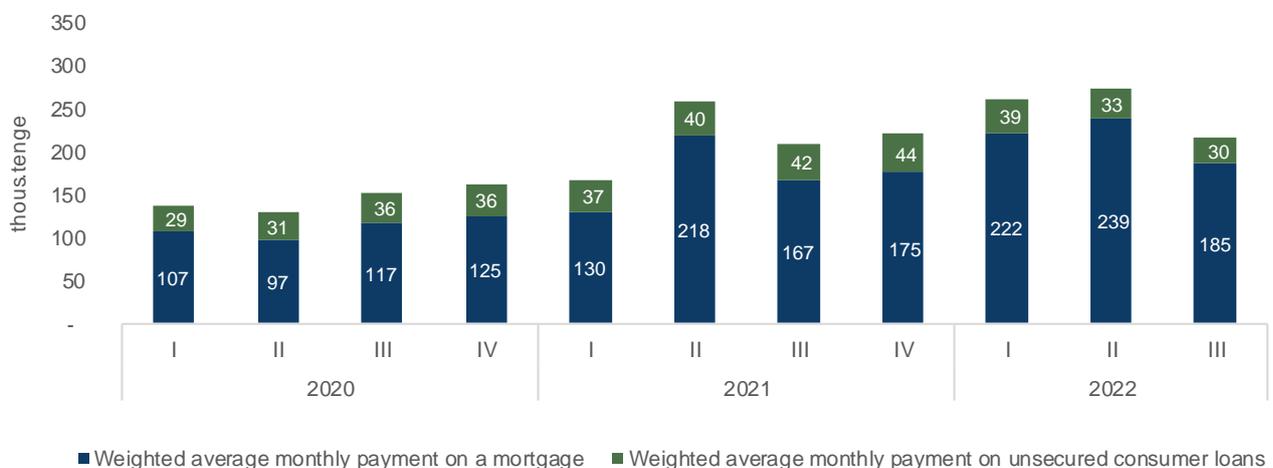


Source: Credit Register, National Bank's computations

Note: For calculation purposes, borrowers who took out mortgage loans in a certain quarter were grouped into a sample by unique identifiers, then this sample was compared with a group of borrowers who took out an unsecured consumer loan during the next quarter

For borrowers who took out a mortgage in the first quarter of 2020, the average monthly mortgage payment was 107 thousand tenge, and the average payment on a subsequent unsecured consumer loan is 29 thous. tenge. For borrowers who took out a mortgage in the third quarter of 2022, average payments increased to 185 thousand tenge and 30 thousand tenge, respectively (Figure 4.28). Despite the fact that average payments on unsecured consumer loans have not increased, the number of applications for mortgage loans followed by obtaining a consumer loan is growing. In this regard, the purchase of real estate, and in particular obtaining a mortgage under concessional mortgage programs, can directly affect the growth of the portfolio of unsecured consumer loans.

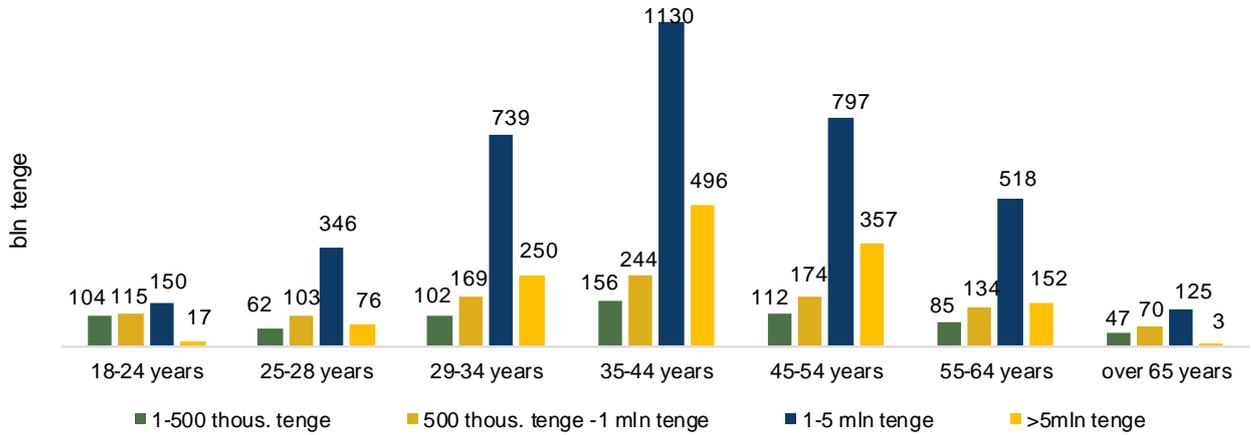
Figure 4.28 Taking out unsecured consumer loans together with mortgage loans increases the debt burden



Source: Credit Register, National Bank's computations

The largest segment of the portfolio of unsecured consumer loans includes loans with an outstanding debt of 1 to 5 mln tenge. This segment accounts for more than 55% (3.81 trln tenge) of the total loan portfolio (*Figure 4.29*).

Figure 4.29 Over a half of the unsecured consumer loan portfolio is concentrated in the group of 1 to 5 mln tenge

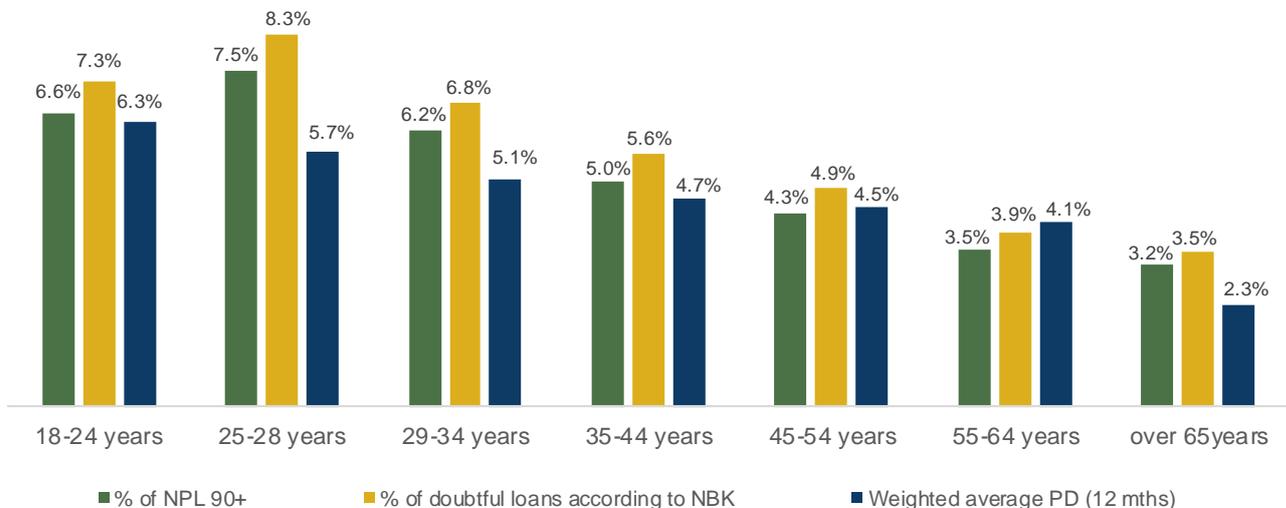


Source: Credit Register, National Bank's computations

In this segment (an outstanding debt balance from 1 to 5 mln tenge), 5.12% of loans (195 bln tenge) were classified as NPL90+, with the share of NPL90+ in the total retail portfolio being 3.7%, or 493.5 bln tenge. The quality of loans in the segment is slightly lower compared to the overall retail portfolio, but provisioning coverage for NPL90+ loans in this loan segment is high and amounts to 82.2%, which indicates timely recognition of credit losses by banks. However, the quality also varies noticeably depending on the age of the borrowers – on average, the higher the age of the borrowers, the better the quality of the loans.

Figure 4.30 The level of credit risk in the largest segment is moderate

Loans where borrowers' outstanding debt balance is in the range of 1-5 mln tenge



Source: Credit Register, National Bank's computations, banks' computations

The highest share of NPL90+ loans (7.5%) is observed in the group of borrowers aged 25–28 years, the lowest (3.2%) – in the segment of borrowers over 65 years old. The picture is similar for the weighted average PD over a 12-month horizon, as assessed by

banks – the highest PD among borrowers aged 18–24 years reaches 6.3%, while among borrowers over 65 years old – 2.3% (Figure 4.30).

Given the size of the debt and the significant concentration of the unsecured loan portfolio in the segment from 1 to 5 mln tenge, banks are required to conduct a better analysis of the financial condition of borrowers with large debts both before originating a loan and during regular monitoring. Despite the fact that the level of credit risk in this segment currently remains moderate, it is still quite sensitive to changes in household income.

Box 4.2 Macro-Stress Testing of the Banking Sector

Geopolitical risks in 2022 have become one of the main challenges for global financial markets. Tensions between the United States and China, instability in Europe due to migration crises, and rising global commodity prices all created uncertainty and increased risks for investors and banks. Sanctions imposed by the US and EU against Russia could lead to significant losses for investors and banks related to Russian companies.

To assess the impact of risks, in mid-2022 the National Bank conducted stress testing of the banking sector, which is a key tool for assessing the resilience of the financial system to the existing crisis situations.

In the baseline and stress scenarios of stress testing, the National Bank was “shocked” by such macro indicators as the oil price, GDP growth, TONIA rate, tenge exchange rate and inflation rate. Macro scenarios reflect the hypothetical development of the economic situation to assess soundness of banks and are not official forecasts of the National Bank. A stress scenario describes a hypothetical crisis and is used to assess resilience of the financial system in adverse conditions.

According to the results of stress testing, the increase in expected losses does not lead to a violation of prudential standards, the level of capital adequacy remains above the established ratios, which indicates that banks have a sufficient capital buffer to absorb external shocks, which could lead to deterioration in the quality of the loan portfolio.

Stress Testing Methodology

To assess the probabilities of default, metrics developed by the National Bank (“the NBK Methodology”) are used. Based on the Credit Register data, loans are identified for which there are no signs of repayment of the principal debt and/or accrued interest.

Doubtful Loans of Category 1 and Doubtful Loans of Category 2 are combined with NPL90+ into the Problem Loans group.

Under the Macro stress testing methodology, the share of problem loans in sector *i* for the corporate portfolio or the purpose of lending *i* for the retail portfolio at time *t* is defined as:

$$d_{i,t} = \frac{\text{Doubtful Loans of Category 1}_{i,t} + \text{Doubtful Loans of Category 2}_{i,t} + \text{NPL}_{i,t}}{\text{Standard Loans} + \text{Doubtful Loans of Category 1}_{i,t} + \text{Doubtful Loans of Category 2}_{i,t} + \text{NPL}_{i,t}},$$

where *Doubtful Loans of Category 1*_{*i,t*}, *Standard Loans*_{*i,t*} etc. – are the sums of balances of principal debt on loans placed into a respective category.

In the corporate loan portfolio, borrowers are grouped into 11 separate sectors of the economy based on five features of the Common Classifier of Economic Activity (CCEA). In the retail loan portfolio, borrowers are grouped into 4 separate groups according to the purpose of lending: 1) car loans; 2) mortgage and home loans; 3) secured consumer loans; 4) unsecured consumer loans.

The dependent variable is the logarithmically transformed share of non-performing loans for a particular industry or a purpose of lending:

$$y_{i,t} = \log\left(\frac{1-d_{i,t}}{d_{i,t}}\right),$$

where $d_{i,t}$ – is the share of problem loans at time t . This logarithmic transformation is necessary so that the estimated values cannot go beyond the interval (0%-100%). Therefore, $y_{i,t}$ is looked at as the loan quality index since $d_{i,t}$ and $y_{i,t}$ have reverse causality, and a higher value of $y_{i,t}$ speaks for an improvement in the loan quality.

Loss given default (“LGD”) for each sector of the loan portfolio is defined as follows:

$$LGD = 1 - \text{Recovery Rate}$$

To calculate the recovery rate for 2022, the value of collateral recorded by banks in the Credit Register was used, assuming that in the event of default, the bank would be able to compensate for losses owing to collateral. The collateral value has been reduced in line with the AQR's 2019/20 results.

In the retail portfolio, LGD for car loans; mortgage and home loans; secured consumer loans was equal to 50%. For unsecured consumer loans, the LGD value was equal to 100%. LGD also increases with PD growth during stress scenario realizations.

The resulting time series of default probabilities and default rates by economic sectors and purposes of lending are used to calculate the expected loss (EL):

$$EL_{i,t+1} = PD_{i,t+1} * LGD_{i,t+1} * EAD_{i,t+1}$$

Expected losses of each sector and purposes of lending are summed up to determine total loan losses:

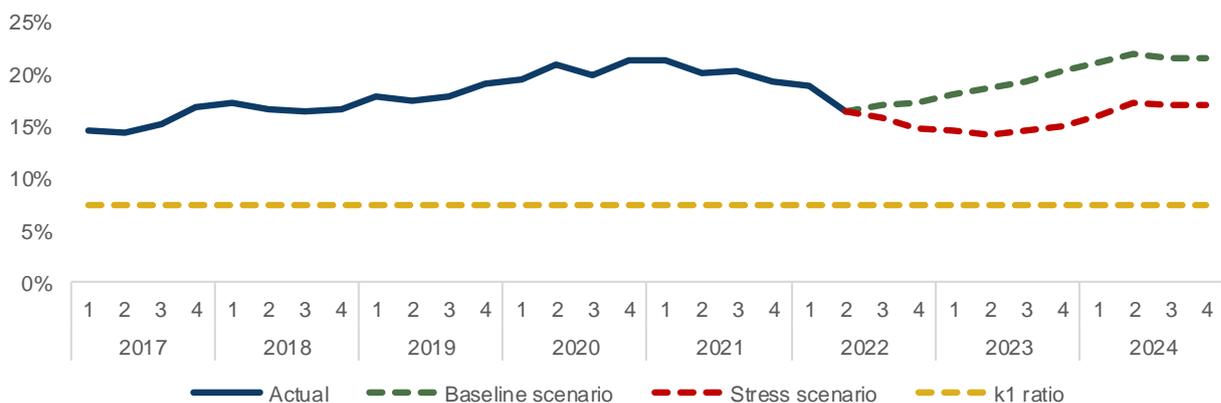
$$EL_{total,t+1} = \sum EL_{i,t+1}$$

Stress Test Results

As a result of realization of the stress scenario, the share of Problem Loans in the corporate portfolio would increase from 19% to 23.2% at the end of 2023, and then would recover to the level of 22.2% by the end of 2024. Under the baseline scenario, the share of problem loans in the corporate portfolio will gradually decrease to 18% by the end of 2024 (Figure 1).

Despite the sharp decline in real GDP and the weakening of the tenge exchange rate in the stress scenario, the capital adequacy ratio k1 of banks in the stress scenario would decrease by approximately 2.2 percentage points (to 14.25%) in mid-2023, during the peak of the economic shock, and then would recover to 17% by the end of the scenario period (Figure 1). In the baseline scenario, the capital adequacy ratio k1 would increase to 21% by the end of 2024.

Figure 1 Capital adequacy ratio k1 at the banking system level based on the results of stress tests is complied with both in the baseline scenario and in the stress scenario



The stress test results show that the Kazakh banking sector has an adequate capital buffer to absorb external shocks, which lead to deterioration of the loan portfolio quality.

It is important to note that the purpose of this exercise is primarily to assess the resilience of the Kazakh banking sector to hypothetical adverse economic conditions. Stress testing is not an accurate prediction of future conditions, so the historical testing process does not include a threshold for accepting or rejecting the models.

4.6 Microfinance Organizations

There has been a significant growth in microfinance market assets in recent years. The main growth driver for organizations engaged in microfinance activities (OEMFA) are microfinance organizations (MFOs), providing mainly loans for consumer purposes. The development of the microfinance market has increased the debt burden of borrowers, as evidenced by the outstripping growth in the number of loans provided over the growth in the number of borrowers. Particular attention should be paid to the decline in the quality of the microloan portfolio. These trends have led to increased regulation of this type of activities with an aim to reduce risks and maintain market stability.

As a result of the ongoing strengthening of prudential standards and other mandatory ratios and limits for compliance with OEMFA, and the entry of such organizations into the perimeter of government regulation (*more details are provided in Box 4.3*), the number of participants in the microfinance market decreased as at end-2022 (*Table 4.1*).

Table 4.1 The number of participants in the microfinance market by type of OEMFA

OEMFA type	01.01.2020	01.01.2021	01.01.2022	01.01.2023
Microfinance organizations	202	230	242	235
Credit partnerships	0	216	219	214
Pawnshops	0	664	605	555
Total	202	1 110	1 066	1 004

Source: Agency

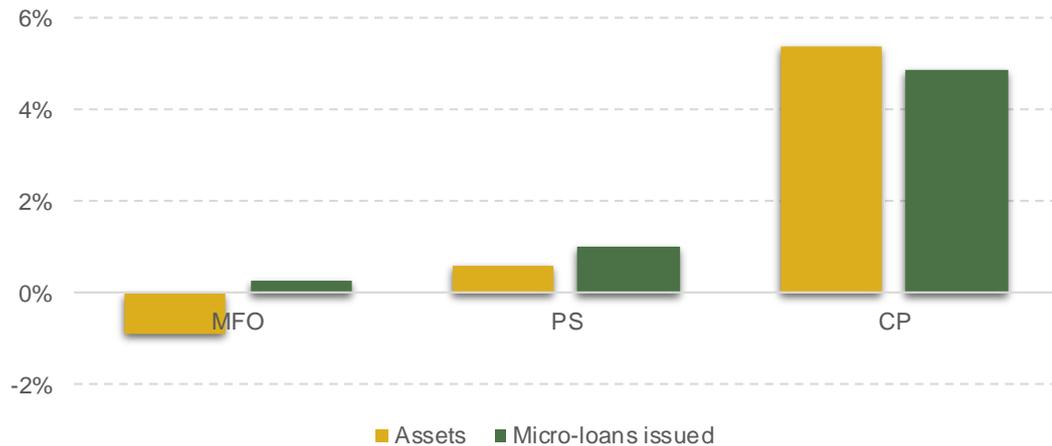
Note: the number of CP and PSs has been presented since 2021 due to their initial account registration in 2020.

Despite the reduced number of market participants, the concentration in the microfinance market has not undergone significant changes. When considering the five largest participants for each type of OEMFA, as of January 1, 2022, the concentration of assets and microloans provided by MFOs and pawnshops (PSs) remains at the level of July 1, 2021²⁶ (*Figure 4.31*). At the same time, the share of assets and provided microloans of the 5 largest credit partnerships (CPs) increased by an average of 5% during the period from July 1, 2021 to January 1, 2023. Limited opportunities to attract financing for operations and strengthened government regulation of the market filter out unstable OEMFAs, thereby helping to strengthen their leading positions and maintain a significant weight of large participants in the microfinance market.

²⁶ The data is provided starting from July 1, 2021 due to the entry of OEMFAs into the regulatory perimeter and the initiation of a reporting requirement from this date (with the exception of MFOs that have been providing reports since the beginning of 2018). In this regard, further analysis for the period 07/01/2021-01/01/2023 is presented

Figure 4.31 The concentration in the microfinance market among the five largest OEMFAs for each type has not undergone significant changes

Change in the share of indicators of five large companies for each type of OEMFA for the period 01.07.2021 – 01.01.2023



Source: National Bank

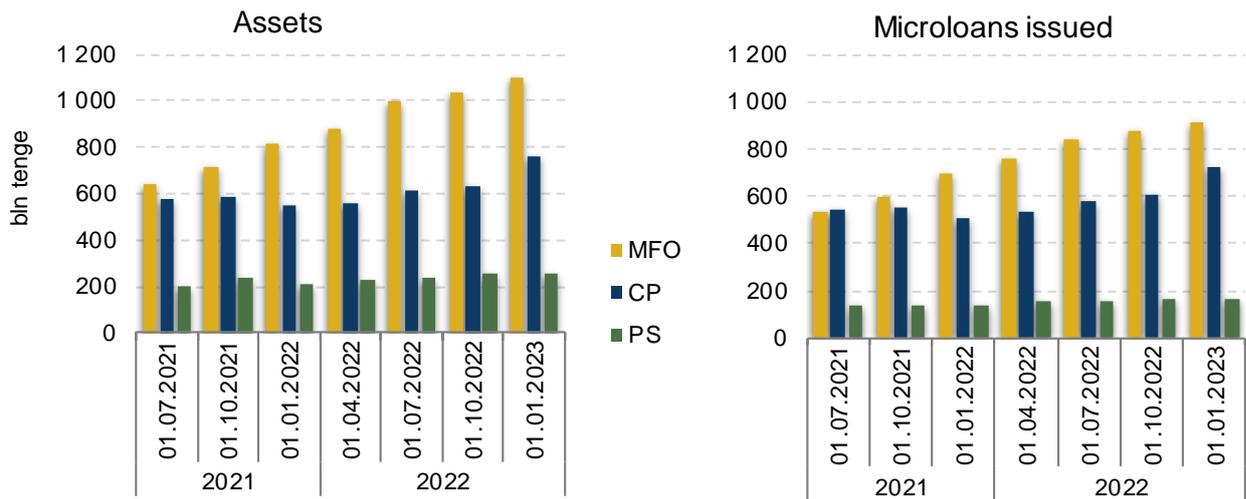
OEMFA Assets

The rapidly growing demand of the population for products of microfinance market entities ensured the persistence of positive growth dynamics of OEMFA assets throughout 2022. There is an active involvement of individuals in the microfinance market and an increase in the number of loans per borrower. However, the average contract term is decreasing as a result of the predominance of PDL loans in the structure of their disbursements. Despite a slight positive adjustment by the end of 2022, the quality of the loan portfolio remains low.

During the period from July 1, 2021 to January 1, 2023, OEMFA assets collectively showed significant growth, mainly due to MFO assets. Thus, during the specified period, the assets of CPs and PSs increased by 31.7% and 29.9%, respectively, while the assets of MFOs increased by 71% (Figure 4.32). This growth is driven by a combination of several factors, such as the increased transparency of OEMFAs' financial position owing to the increased regulation; the development of online lending services; an expanded list of products and services; an eased procedure and more simplified requirements to lending compared to banks; and the access to the organized bond market and high demand for microloans because of the declining purchasing power of the population.

The growth of OEMFA assets is driven by the growth of microloans provided, which amounted to 86% of assets as of the end of 2022. Thus, during the reviewed period, OEMFA microloan portfolio increased by 48.5% and amounted to 1,805.8 bln tenge: including in MFOs – by 72.7% (916.8 bln tenge), CPs – by 31.9% (721.5 bln tenge) and PSs – by 22.3% (167.6 bln tenge).

Figure 4.32 The total volume of assets and microloans issued by microfinance organizations continued to grow in 2022



Source: National Bank

On average, as of January 1, 2023, there have been two loans per one borrower on each type of the OEMFA: MFOs – 2.2; CPs – 1.9; and PSs – 2.4.

Table 4.2 The number of borrowers and loans of all OEMFA types in aggregate show significant growth from July 1, 2021 to January 1, 2023

OEMFA type	Increase in the number of	
	Borrowers	Loans
Microfinance organizations	65%	101%
Credit partnerships	64%	64%
Pawnshops	1%	9%
Total, compound growth rate	31%	47%

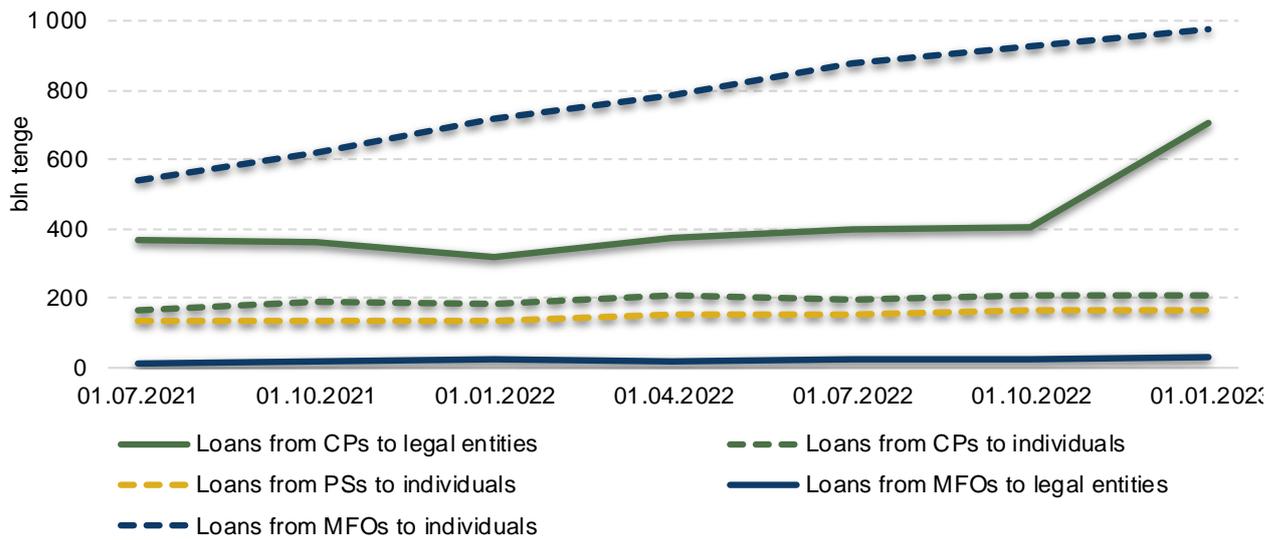
Source: State Credit Bureau JSC ("the SCB")

Note: NBK's evaluation

The main users of OEMFA services are individuals, most of whom receive microloans through microfinance organizations (72.5% of the total volume of microloans to individuals as of January 1, 2023). At the same time, 96.2% of the total volume of microloans to legal entities comes from CPs.

It is worth mentioning that in the fourth quarter of 2022, the share of individuals in the microloan portfolio decreased to 64.8% (Figure 4.33). Such drop stems from a significant increase in the origination of microloans to legal entities by a certain CP (by 127.2 bln tenge, or 89%), the share of this CP was 37.4%.

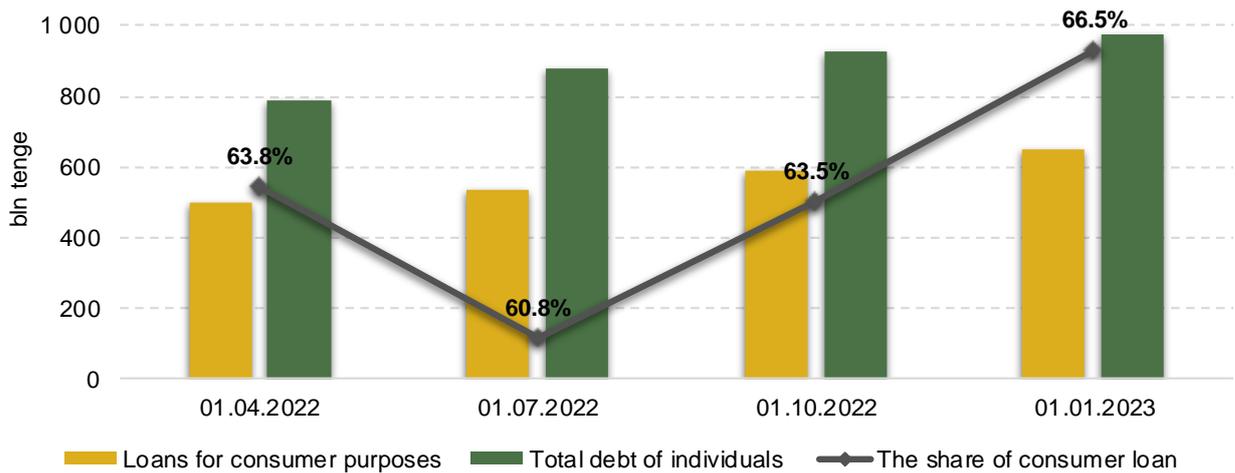
Figure 4.33 Microloan portfolio of OEMFA continued to grow due to lending to individuals who accounted for a major share in the structure of OEMFA loans



Source: National Bank

Loans for consumer purposes account for a significant share in the structure of microloans provided to individuals by microfinance organizations. Their share increased noticeably in the second half of 2022 (Figure 4.34). This trend may be associated with the accelerated growth in prices for food and non-food products in the third quarter of 2022.

Figure 4.34 As at the end of 2022, loans for consumer purposes account for an average of about 66.5% of loans from MFOs

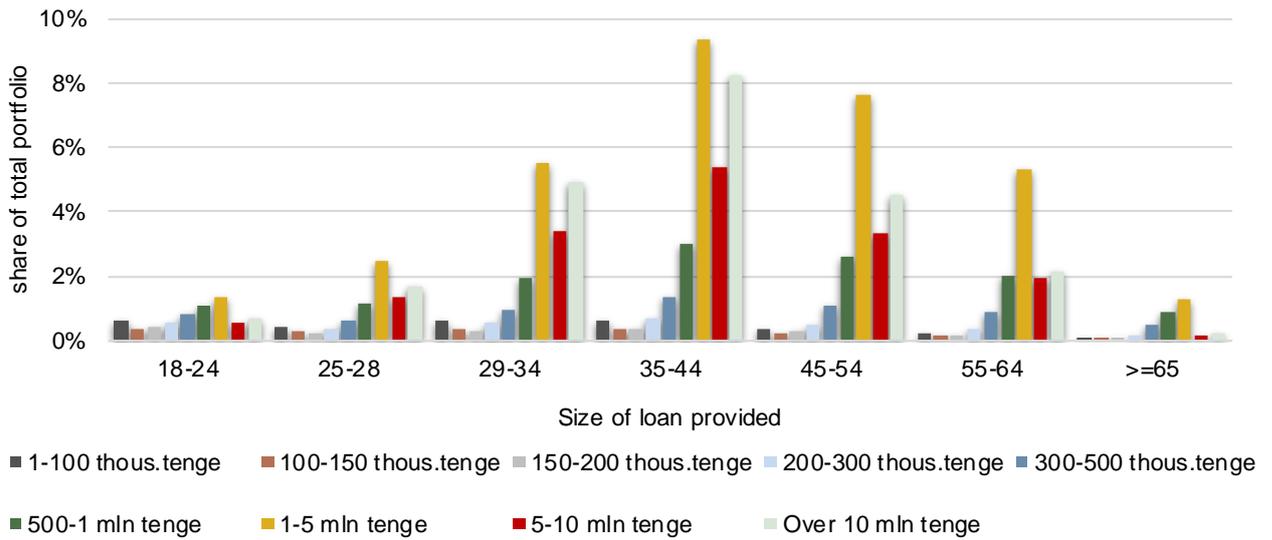


Source: National Bank

As of January 1, 2023, the structure of loans provided by MFOs by age category of the population shows a significant share of clients aged 35 to 44 years in the total volume of loans provided (Figure 4.35). High attractiveness of small loans among the young population is noteworthy, while a significant part of large loans was received by the population in the age category over 35 years. The share of the population in the age category of 65 years and older takes an insignificant part of the volume (within 1–7%) of received microloans, regardless of the volume of loans.

Figure 4.35 Structure of loans provided by MFOs by age category is changing visibly depending on the volume of microloan

As of 01.01.2023



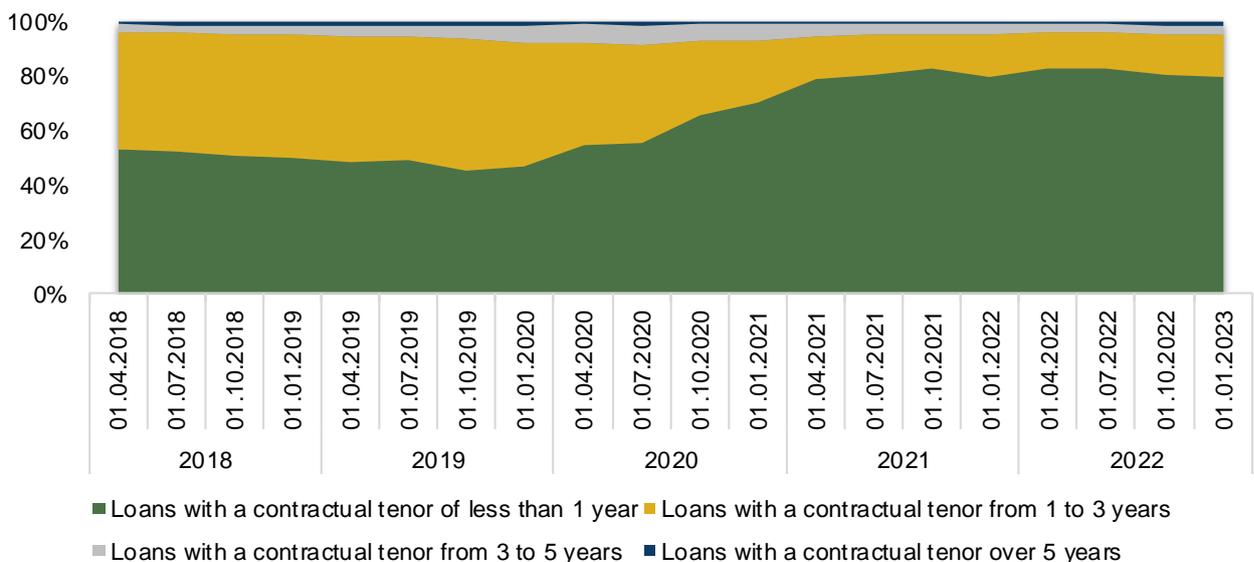
Source: SCB

Note: NBK's evaluation

Over the past five years, the most popular among MFO products are microloans with a tenor of up to 1 year and from 1 to 3 years, which together account for more than 90% of all concluded microloan agreements (Figure 4.36). At the same time, since the beginning of 2020, the share of agreements on loans with a tenor of up to 1 year has increased significantly (which also includes the increasing share of payday loans) and at the end of 2022 amounted to about 80% of all microloan agreements of MFOs.

Figure 4.36 Microloans with a tenor of less than 1 year account for a significant part of loan agreements entered into by MFOs over the last 5 years

In terms of the number of loan agreements



Source: SCB

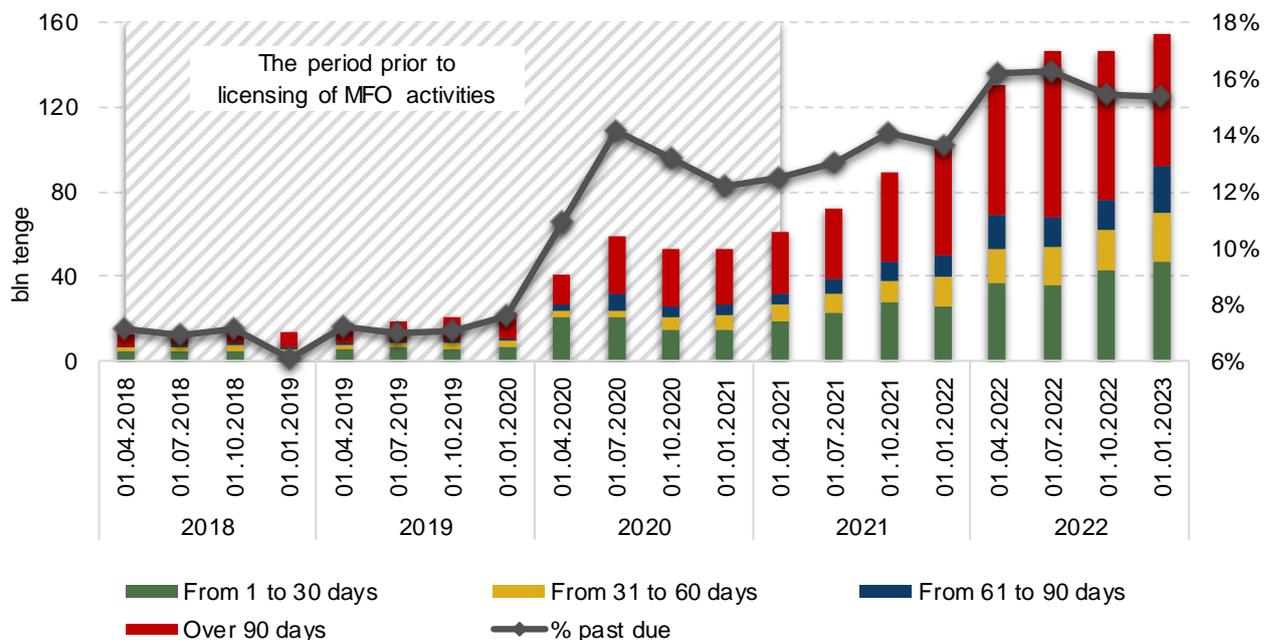
Note: NBK's evaluation

The average tenor of loans provided by microfinance organizations as of January 1, 2023 was 7 months compared to 14 months as of January 1, 2018. However, the weighted average maturity of the portfolio shows a slight increase over the period from 27 months to

29 months. Such different trends have developed due to an increase in demand for short-term loans with a small volume, which leads to reduction in the share of the volume of short-term loans despite an increase in the share of their number.

The quality of OEMFA loan portfolio is gradually declining, mainly because of the MFO portfolio. Thus, at the end of 2022, the quality of the loan portfolio of microfinance organizations remains at the level of the first half of 2020, when the share of past due microloans increased sharply during the pandemic. Despite the decrease to 12.2% by the end of 2020, the share of past due loans from microfinance organizations reached its maximum in mid-2022 at 16.3% of the total volume of microloans provided (*Figure 4.37*). The growth in past due loans is caused by an increase in the availability of microloans (including for persons who do not have a permanent source of income) and a noticeable decrease in real income of the population. As a result of tightening regulation by the Agency (lowering the maximum interest rate, strengthening the requirements to the debt ratio, amending prudential standards and writing off debts to the MFO borrowers), this indicator had adjusted to 15.4% at the end of 2022.

Figure 4.37 The share of past due loan in total loans provided by MFOs reached 16.3% in the first half of 2022, having slightly improved in the subsequent periods



Source: National Bank

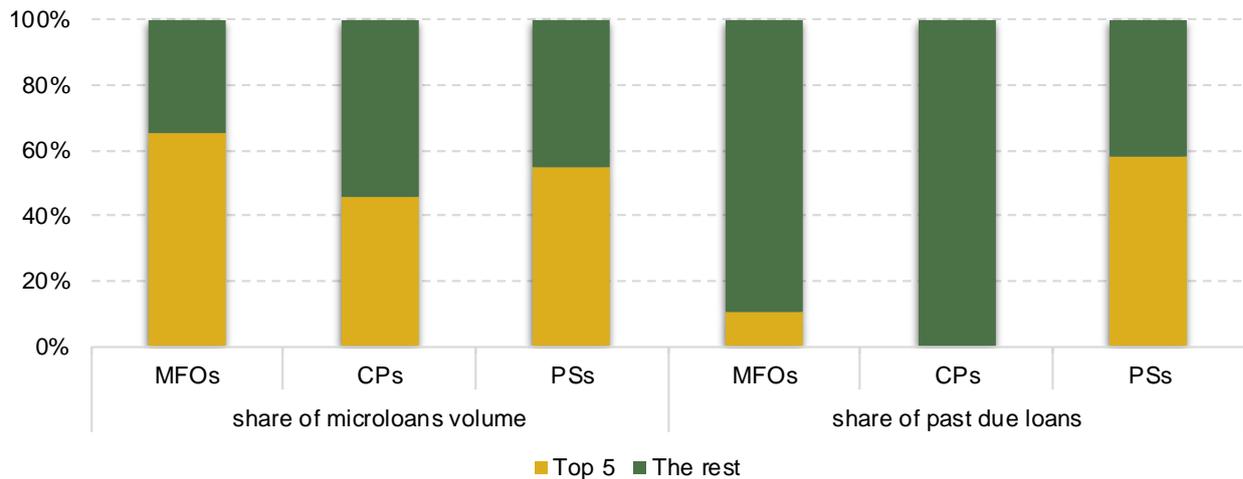
Over the past five years, in the structure of the loan portfolio of all MFOs, the level of NPL90+ has increased significantly from 3.0% to 6.2% (maximum 8.7% as of 07/01/2022), which indicates a decline in the quality of the MFO portfolio.

In turn, from July 1, 2021, the share of past due loans of CPs and PSs did not undergo significant changes and remained at the level of 1-2% and 27-28%, respectively.

In the structure of past due microloans of CPs as of January 1, 2023, the largest share belongs to microloans more than 90 days past due (80.6%), whereas a significant part of past due microloans of PSs falls on loans past due up to 30 days (64.4%), which is related to the specifics of their business.

Figure 4.38 *The share of past due loans in the portfolio of the five largest MFOs is well below than in the rest of MFOs, whereas borrowers of top 5 CPs have no past due debt*

As of 01.01.2023



Source: SCB

Note: NBK's evaluation

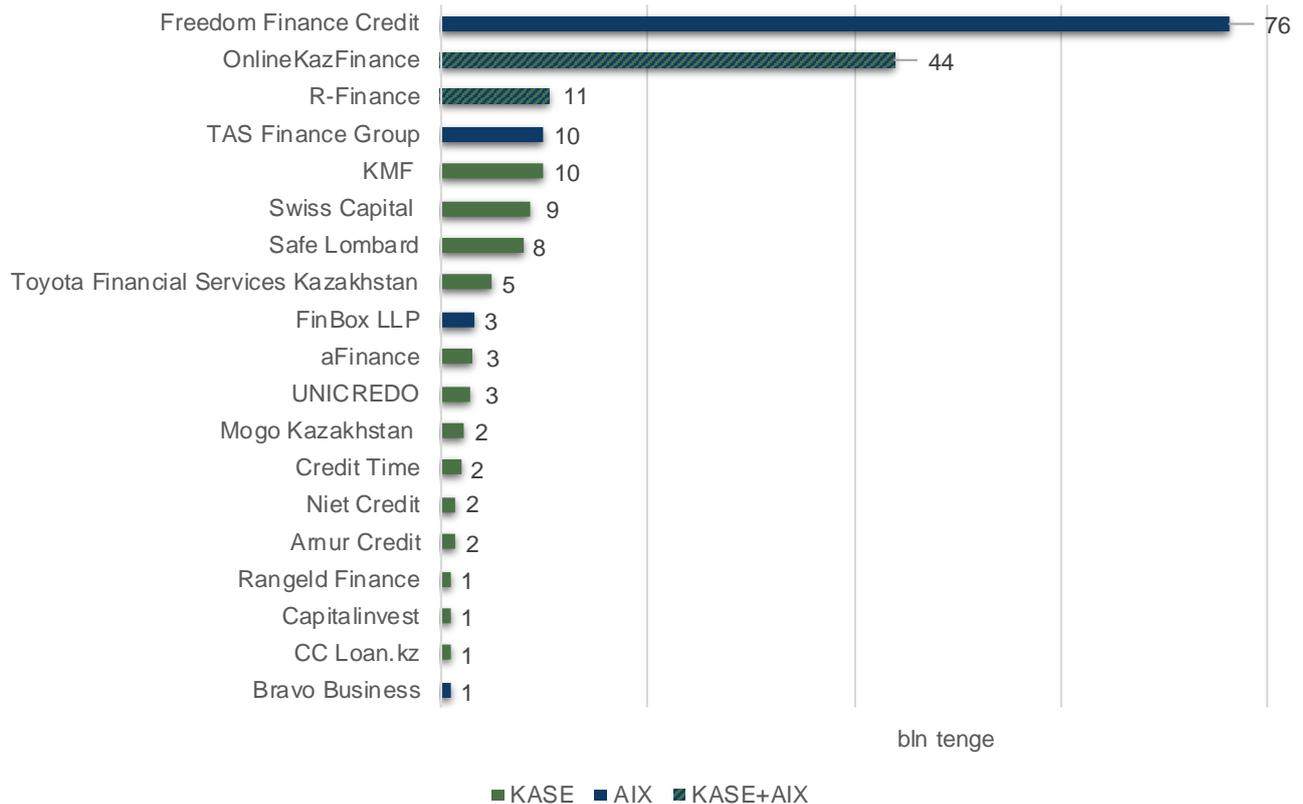
It is worth mentioning the portfolio quality of the 5 largest MFOs and CPs (Figure 4.38). Thus, as of January 1, 2023, the share of the 5 largest (in terms of assets) microfinance organizations in the total volume of past due loans of microfinance organizations was 11%, with a share of 65.4% of the total volume of microloans provided by microfinance organizations. At the same time, as of the specified date, there are no overdue debts among the 5 largest CPs. At the same time, the share of past due debt of the top (in terms of assets) five PSs in the total volume of past due debt was at the level of their share of the total volume of PS assets of about 55%.

Funding of OEMFAs

The problem of OEMFAs funding remains relevant due to the limited number of fund raising instruments. Measures taken by the government gave OEMFAs access to the organized securities market and were aimed at developing and implementing programs for an active involvement of microfinance market entities in the SME development through lending.

Unlike banking activities, which are mainly financed by attracting customer funds (deposits, current accounts), borrowed capital, which is mainly formed through loans received from the third parties (more than 80% liabilities as of January 1, 2023) takes up a significant share in the OEMFA funding structure. Such source of financing of the operations affects the cost of OEMFA products, since debt capital is a more expensive source of funding.

Figure 4.39 The total volume of bond issuance by microfinance organizations at January 1, 2023 equaled 193.2 bln tenge



Source: KASE and AIX

Note: NBK's evaluation

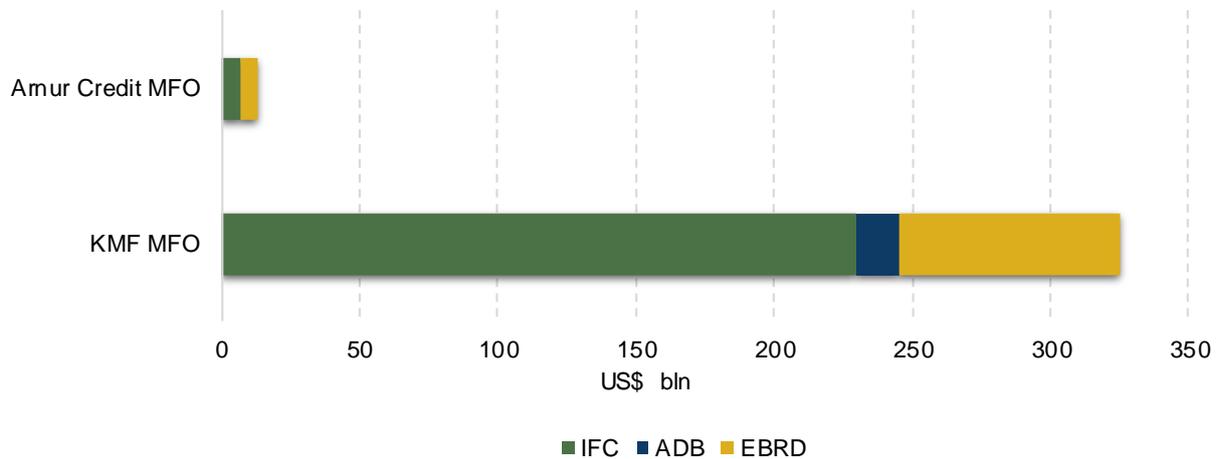
It is important to point to the increasing involvement of microfinance organizations in the organized securities market due to changes made to the legislation in 2020²⁷, whereby microfinance organizations received the right to issue bonds for placement in this market. This right enables the microfinance market entities to attract borrowed capital through the issue of bonds as an additional source of financing their operations. As of January 1, 2023, 18 MFOs and 1 PS participate in the organized securities market (15 MFOs and 1 PS on the KASE and 5 MFOs on AIX); the total volume of bonds issued by these issuers amounted to 193.2 bln tenge (Figure 4.39). The bulk of bond issues falls on large microfinance organizations due to the investment attractiveness of these companies. Therefore, the securities market provides an opportunity for the largest participants in the microfinance market to attract financing through the issuance of debt securities.

In addition, investments from international financial organizations such as the European Bank for Reconstruction and Development, the Asian Development Bank and the International Finance Corporation are a significant source of financing for some MFOs. Thus, over the past few years, these organizations have collectively supported a number of projects of the "KMF" MFO LLP (KMF) and the "Amur Credit" MFO LLP for 338 million US dollars (Figure 4.40). The support includes origination of loans to MFOs, risk management solutions and advisory services to improve corporate governance. These projects are financed with an aim to develop micro, small and medium-sized businesses, provide financing for businesses in hard-to-reach and remote areas of the Republic of Kazakhstan, as well as to support women entrepreneurship.

²⁷ Par. 2 Article 11 of the Law of the Republic of Kazakhstan "On Microfinance Activities"

Figure 4.40 The major share of international investments in the microfinance market was attracted by the "KMF" LLP (US\$325 mln) largely from the International Finance Corporation (70.8%)

As of 01.01.2023



Source: IFC, ADB and EBRD

An apex organization is also a potential source of funding. A number of MFOs mention the need to create an apex organization in Kazakhstan to facilitate in addressing the funding problems. According to international experience, the main task of an apex organization is to attract financing for several MFOs by establishing a connection between investors and the MFO as an agent - manager of the investor's capital, distributing it among several MFOs. Thus, the apex organization, to a certain extent, resolves the problem of MFO funding, regardless of the entity's size. The lack of research into the activities of an apex organization and its advantages for the microfinance market leaves the question of creating such a funding source in Kazakhstan open. In addition, the lack of legislative regulation of activities of such organization also complicates the process of its creation. At the same time, the establishment of an institute of apex organizations, whose activities will be aimed at attracting "wholesale" financing is being considered as part of the implementation of the Concept for the Development of the Financial Sector of the Republic of Kazakhstan until 2030²⁸; this will enable the microfinance sector entities to attract funds from international financial organizations, banks, and insurance organizations and other institutional investors.

Moreover, OEMFAs are participating in the government programs aimed at SME development in Kazakhstan. Thus, in accordance with the Concept for the Development of Small and Medium-Sized Enterprise in the Republic of Kazakhstan until 2030²⁹, conditions must be created to involve microfinance organizations in lending to micro and small businesses, especially in the territories where there are no bank branches. Such goal is determined by the attractiveness of MFO loans for micro and small businesses owing to an eased procedure for obtaining loans and relatively simplified requirements. However, the Concept requires a thorough analysis of the microfinance market for the effective implementation of its goals. For example, despite the possibility of raising funds through guarantee and subsidy projects within the framework of the national enterprise development project for 2021–2025³⁰, cap interest rates on micro loans of 28% in such projects are not

²⁸ Presidential Decree of the Republic of Kazakhstan dated September 26, 2022 No. 1021 "On Approval of the Concept for the Development of the Financial Sector of the Republic of Kazakhstan until 2030"

²⁹ Government Decree of the Republic of Kazakhstan dated April 27, 2022 No. 250 "On Approval of the Concept for the Development of Small and Medium-Sized Enterprise in the Republic of Kazakhstan until 2030"

³⁰ Government Decree of the Republic of Kazakhstan dated October 12, 2021 No. 728 "On Approval of the National Enterprise Development Project for 2021–2025"

attractive for MFOs. Unattractiveness may also be stemming from restrictions for MFOs in the form of a list of priority sectors of the economy. In addition, the origination of microloans within the framework of simplified requirements can also negatively affect the quality of the microloan portfolio. In this regard, OEMFAs should strike a balance between providing riskier microloans and developing a culture of risk management.

Box 4.3 Regulation of Microfinance Activities

The rapidly growing microfinance market, on the one hand, is a consequence of the growing inclusion of the financial market in response to an increased demand for OEMFA products. On the other hand, easier requirements to lending as compared to banks create conditions for the transition of borrowers from the banking sector to the microfinance sector. This advantage of OEMFA creates regulatory arbitrage and leads to the risk transfer from the banking sector. The government, therefore, continues to take measures to strengthen supervision and regulation of this market in order to reduce risks and maintain the sustainable functioning of this segment of the financial market.

The most significant legislative changes in terms of strengthening government regulation for the microfinance market in recent years are:

- including OEMFAs of all types into the list of regulated entities (a mandatory record registration of all types of OEMFA);
- licensing of microfinance activities;
- tightening of prudential ratios;
- a possibility of reorganizing a microfinance organization into a bank.

Thus, from 2020, the record registration regime was extended to CPs and PSs (previously it was valid only for MFOs), and from 2021 all microfinance market entities were included in the regulatory perimeter.

From January 1, 2021, licensing of microfinance activities was introduced, which implies the need to comply with the requirements to the minimum equity and registered capital, the presence of rules for microlending, an information system that ensures automation of accounting, and compliance with the requirement to join a unified information system in the field of anti-money laundering and terrorism financing, as well as requirements to the reputation and education of executive officers and founders (participants) of a microfinance organization.

As a result of the above measures, CPs and PSs were included into the list of regulated entities and from the 2nd quarter of 2021 they started to submit quarterly reports alongside with MFOs.

With the introduction of licensing, prudential ratios and other mandatory ratios and limits to be complied with by OEMFAs were also strengthened, including enhanced requirements to the minimum amount of registered capital and owners' equity³¹. As of January 1, 2023, the minimum amount of **registered capital** and **owners' equity** on each type of OEMFA was increased as follows.

³¹ Resolution of the Board of the National Bank of the Republic of Kazakhstan dated November 14, 2019 No. 192 "On Approval of Prudential Ratios and Other Mandatory Ratios and Limits for an Organization Engaged in Microfinance Activities, and Methods of their Calculations"

Table 1 Requirements to the amount of registered capital and owners' equity of OEMFAs

(in mln tenge)

OEMFA type	at 01.01.2020		at 01.01.2023	
	RC	OE	RC	OE
MFO	30	30	100	100
CP	10*/5**	10*/5**	50/25**	50/25**
PS	10	10*/5*	70/30***	70*/30**

Source: National Bank

Note:

* for those who passed the state registration before January 1, 2020 and operate in the cities of Astana, Almaty, Shymkent or a regional center

** for those who passed the state registration before January 1, 2021 and operate outside the cities of Astana, Almaty, Shymkent or a regional center

*** for those who passed the state registration before January 1, 2020

From October 1, 2021, a unified mandatory legal regime for resolution of past due debts came into effect. MFOs are required to provide credit bureaus with information on nominal rates and the effective annual interest rate (EAIR) on loans provided with an aim to prevent excessive growth of the population's debt burden on consumer loans.

From 2022, the microfinance market entities were given the opportunity to be reorganized into a bank under a simplified procedure, with the overall duration of such license not exceeding one year. This simplified mechanism will help reorganize activities without suspending the existing business pending a banking license and to avoid losses.

In addition, it is necessary to mention the introduction of requirements to calculation of the OEMFA borrower's debt ratio³²; according to the ratio, the maximum value of the borrower's debt ratio is set at 0.5, the same as for banks. Moreover, according to the amendments made to the legislation³³, microfinance organizations are prohibited from setting and collecting any payments from a borrower (an applicant), with the exception of interest and cancellation fee (fine, penalty) on a microloan. This requirement was aimed to limit the types of payments charged, ensure transparency of the debt calculation procedure on microloans provided and simplify it.

The stage-by-stage strengthening of regulation of the activities of the microfinance market entities is intended to improve the quality of microloans, increase transparency of their activities, protect consumer rights and promote an appropriate culture of financial services and communication with clients.

³² Resolution of the Board of the National Bank of the Republic of Kazakhstan dated November 28, 2019 No. 215 "On Approval of the Rules for Calculation and the Maximum Debt Ratio of a Borrower of an Organization Engaged in Microfinance Activities"

³³ Sub-paragraph 1-2) Paragraph 3 Article 7 of the Law of the Republic of Kazakhstan "On Microfinance Activities"

V Risks of Liquidity, Funding, Dollarization, Foreign Exchange and Interest Rate Risks

At the end of 2022, the volume of highly liquid assets went up by 20.7% (YoY), and the liquidity ratios of most banks remained at the levels exceeding the standard ones. The structure of allocation of liquidity surplus by banks is represented mainly by a portfolio of government securities and accounts at the NBK. Despite the geopolitical shocks, liquidity risks for most banks continued to remain at a moderate level due to a significant reserve of highly liquid assets, accounting for about a third of total banks assets.

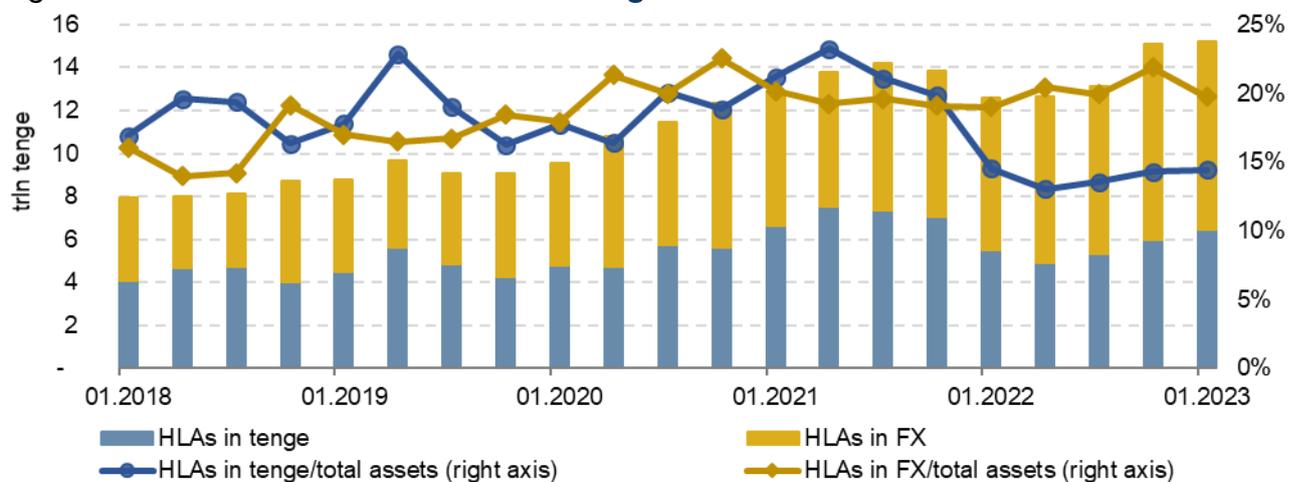
The measures taken to stabilize the situation in the banking sector, including the Tenge Deposit Protection Program, made it possible to partially offset the negative effect of heightened geopolitical risks and volatility in financial markets. On the funding side, the share of effectively term deposits and average maturities of most types of deposits decreased. This was, among other things, caused by the grown share of deposits from non-residents who preferred more flexible conditions for placement of funds. At the same time, in 2022, diversification of the funding base continued due to the reduced share of the QPS.

The dynamics of the decline in dollarization levels have slowed, but the share of foreign currency deposits remains significant, leading to the persistence of foreign exchange risks, especially during the periods of increased external shocks and growing uncertainty. The net open foreign currency position in the banking system was under pressure, but did not exceed upper limits.

5.1 Liquidity Risks

In 2022, a significant liquidity cushion was maintained in the banking sector. The volume of highly liquid assets³⁴ (HLA) of the banking sector amounted to 15.3 trln tenge, or 34.2% of total assets, having increased by 20.7% (YoY). There was still an excess of HLAs in foreign currency over HLAs in the tenge, which amounted to 8.8 trln and 6.4 trln tenge, respectively. Meantime, an increase in the volume of HLAs was observed both in the tenge and in the foreign currency component, with their growth rates being comparable (17.5% and 23.1%, respectively) (Figure 5.1).

Figure 5.1 HLA volumes demonstrated growth in 2022



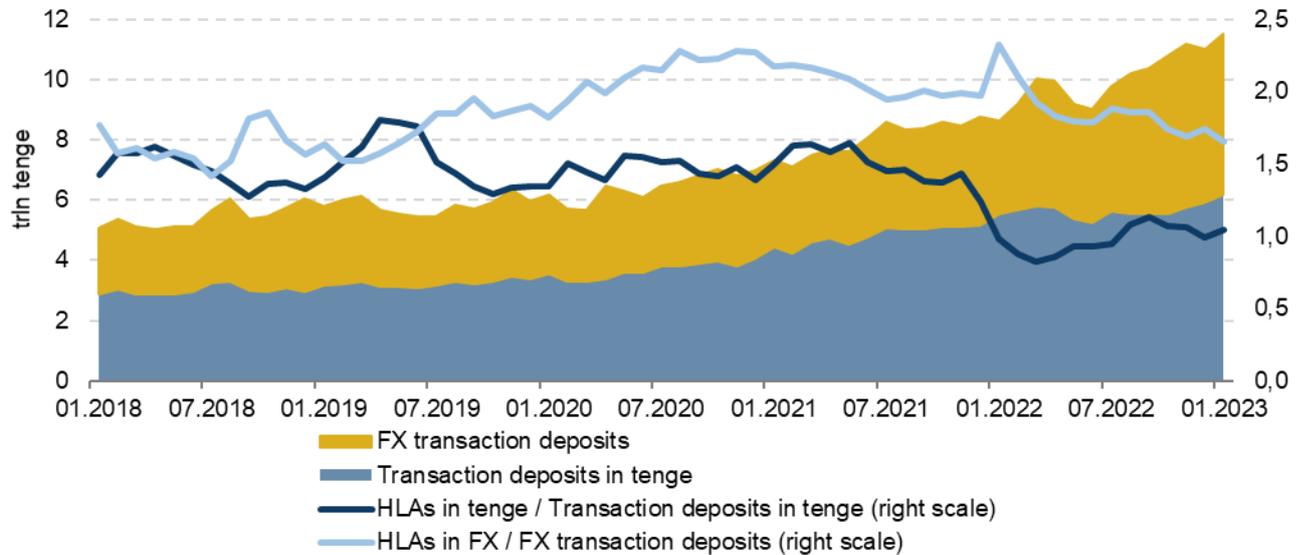
Source: STB reports

Note: HLAs include: cash, precious metals, corresp. accounts, interbank deposits and GSs (excl. encumbered ones); end-quarter data

³⁴ Excluding encumbered HLAs

As of January 1, 2023, the total volume of HLAs in the banking sector exceeded total liabilities on transaction accounts of individuals and legal entities by 1.3 times, which indicates the ability of banks to cover potential outflows if necessary. The excess of HLA volumes over transaction accounts was observed both in the national currency – by 1.04 times, and in foreign currency – by 1.65 times. (Figure 5.2).

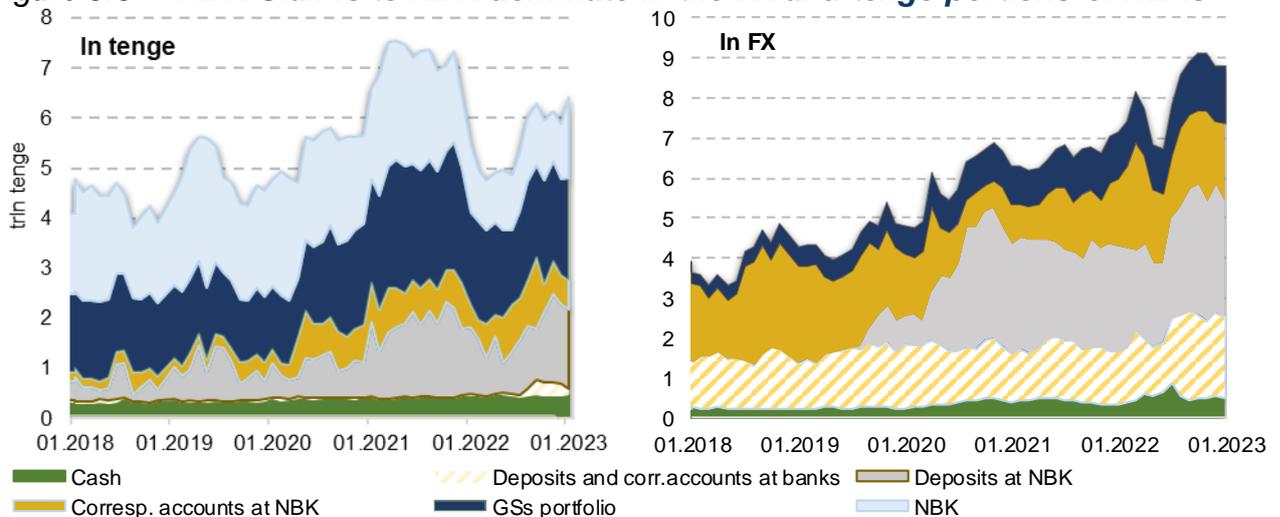
Figure 5.2 The current level of HLAs covers potential outflows of the STBs in the form of transaction accounts



Note: Transaction accounts include current accounts and demand deposits of legal entities and individuals, including interbank correspondent accounts.

During 2022, the National Bank continued to absorb excess liquidity via standing facilities operations. The tenge liquidity was placed by banks mainly in the government securities portfolio (31.6%) and in accounts at the National Bank (notes – 25.1%, deposits – 24.7%), the foreign currency portion – on deposits (32.8%) and correspondent accounts (21.8%) of the National Bank and second-tier banks (23.3%), as well as the government securities portfolio (16.6%) (Figure 5.3).

Figure 5.3 NBK Claims to NBK dominate in the FX and tenge portions of HLAs



Source: STB regulatory reports

Note: HLAs include cash, precious metals, correspondent accounts, interbank deposits and GSs, excluding encumbered ones; end-month data

During the year, the dynamics of HLAs in the banking sector were multidirectional. In the middle of the year, there was a period of significant decrease in HLAs in the tenge, which was also reflected in the structure of HLA allocation. The reduction of HLAs in the tenge was

accompanied by the migration of assets to more liquid correspondent accounts of the National Bank (the share increased to 23%). By the end of the year, as uncertainty decreased, the structure of the tenge liquidity allocation returned to a more conventional distribution. In the foreign currency component of HLAs, assets were reallocated to correspondent accounts of the National Bank, as well as to cash.

Figure 5.4 Banks continued to meet minimum reserve requirements with a significant margin



Source: STB data

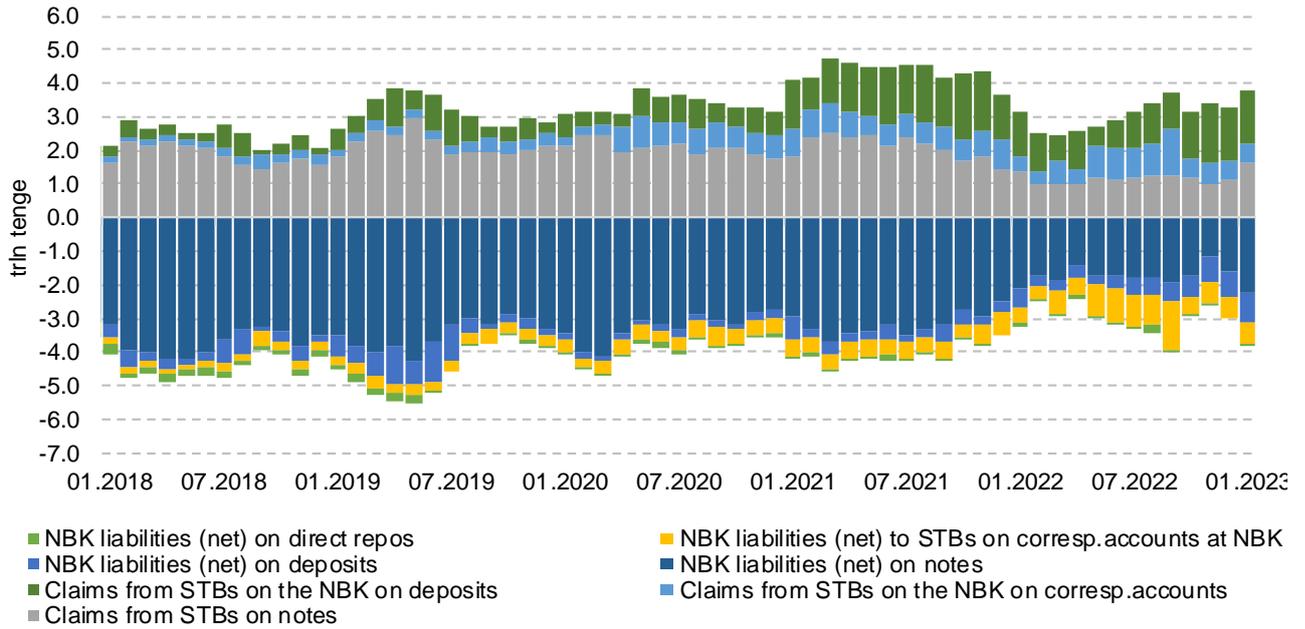
Note: Reserve assets – the averaged balances in the national currency at correspondent accounts of banks at the NBK and cash (cash in hand, cash in transit, ATMs, terminals). Reserve requirements - the minimum amount of funds, required to be held by banks on correspondent accounts in the national currency at the NBK. Data on MRRs, reserve assets and claims on the NBK are reported as average for the period.

The periods of reduced liquidity surplus in 2022 did not affect the compliance with minimum reserve requirements by banks (Figure 5.4). Banks continued to meet minimum reserve requirements with significant margins. At the end of 2022, the gap between reserve assets and reserve requirements remained virtually unchanged (1.2 times).

By the end of 2022, volumes of primary liquidity in the form of cash on hand and funds in the national currency on correspondent accounts at the NBK significantly exceeded (by 1.7 times) reserve requirements, amounting to 1,058 bln tenge against the required level of 607 bln tenge. At the same time, the tenge liquidity placed in deposits and the NBK notes exceeded reserve requirements by 5.3 times.

Banks' claims on the NBK increased by 20.6% (YoY), amounting to 3.8 trln tenge at the end of 2022. The total volume of the tenge liquidity absorbed by the National Bank instruments exceeded 59% of highly liquid assets of banks in the tenge (Figure 5.5).

Figure 5.5 Liquidity surplus was mainly withdrawn via notes and NBK deposits

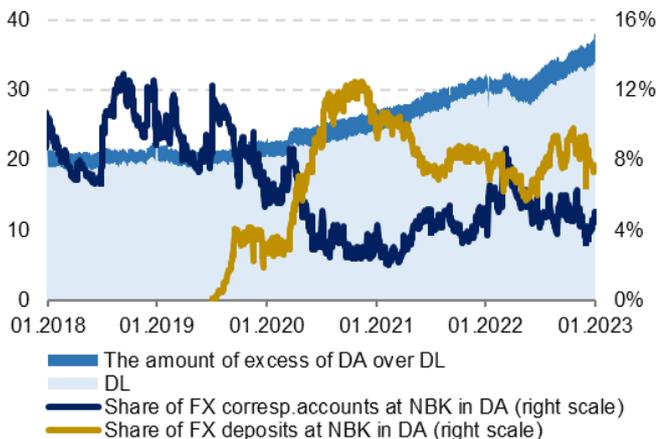


Source: STB reports, NBK

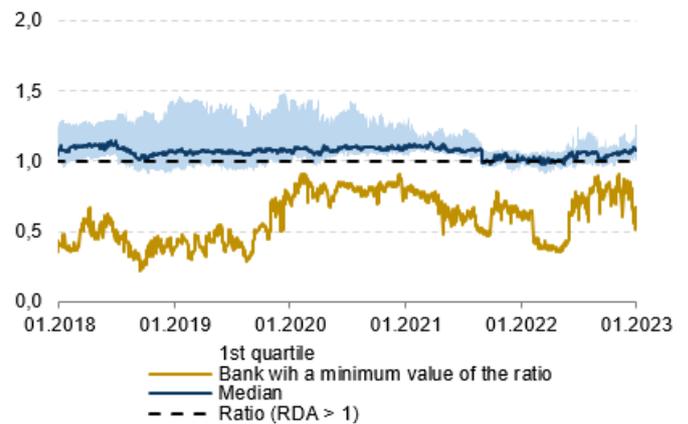
At the end of the year, domestic assets and domestic liabilities of banks increased by 17.3% and 12.6%, reaching the levels of 38 trln and 33.9 trln tenge, respectively. At the same time, the shares of correspondent accounts in foreign currency and foreign currency deposits at the NBK in domestic assets slightly decreased to 5% and 7.6% (Figure 5.6)

Figure 5.6

A. The share of FX correspondent accounts and deposits at the NBK slightly decreased



B. Most banks are capable of meeting the RDA even excluding FX correspondent accounts at the NBK



Note: DA – domestic assets, DL – domestic liabilities, which are calculated as the sum of average monthly values of subordinated debt, bonds issued, except Eurobonds, domestic liabilities to residents of Kazakhstan and a part of owners' equity. RDA – is ratio of placing part of the bank's resources in domestic assets (>=1). Interquartile interval – banks included in the 2nd and 3rd quartiles

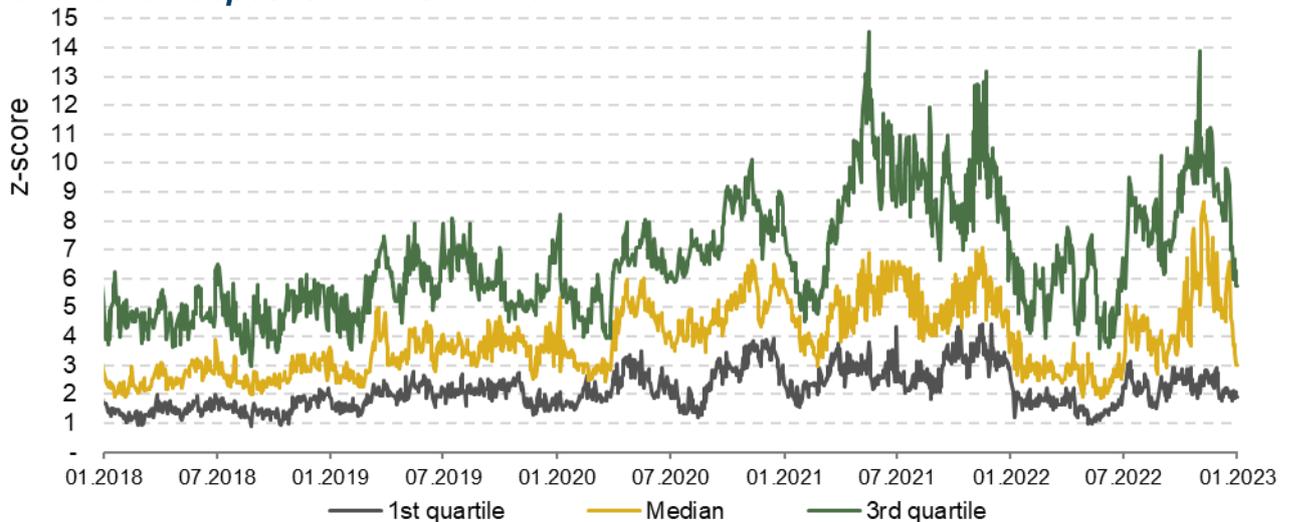
It is worth saying that during the year the dynamics of the shares of foreign currency correspondent accounts and foreign currency deposits at the NBK in domestic assets was multidirectional. Banks quickly responded to changes in market conditions, adjusting the level of foreign exchange liquidity based on their expectations. In the first quarter of the year, the share of foreign currency deposits was replaced by more liquid foreign currency correspondent accounts in response to the growing level of uncertainty caused by external

factors. As risks decreased in the second half of 2022, the share of foreign currency deposits at the NBK increased to 10% of foreign currency assets.

Despite a 35.5% (YoY) increase in the volume of funds at foreign accounts to 1.6 trln tenge, most banks continued to comply with the prudential ratio for placing a part of their funds in domestic assets (RDA), even without taking into account funds at foreign currency accounts of the National Bank. Banks preferred to place funds within the country, as evidenced by the expansion of the interquartile range of compliance with the RDA by the banks. Minimum RDA values were observed among several foreign banks due to the specifics of their business model (Figure 5.6B).

Analysis of intraday liquidity showed that most banks have a sufficient level of funds in the tenge required to cover one standard deviation in the volume of bank deposits for 3 months. In the first half of 2022, banks showed reduction in the indicator in all quartiles; this was associated both with withdrawals and with a slight decrease in the underlying liquid assets³⁵ of banks that was caused by the influence of geopolitical risks and increased uncertainty. Despite this, during the reviewed period, banks maintained a sufficient level of liquidity, preserving the ability to satisfy the need for loans in the tenge (Figure 5.7).

Figure 5.7 The level of tenge funds of STB is sufficient to cover one standard deviation on deposits in most banks

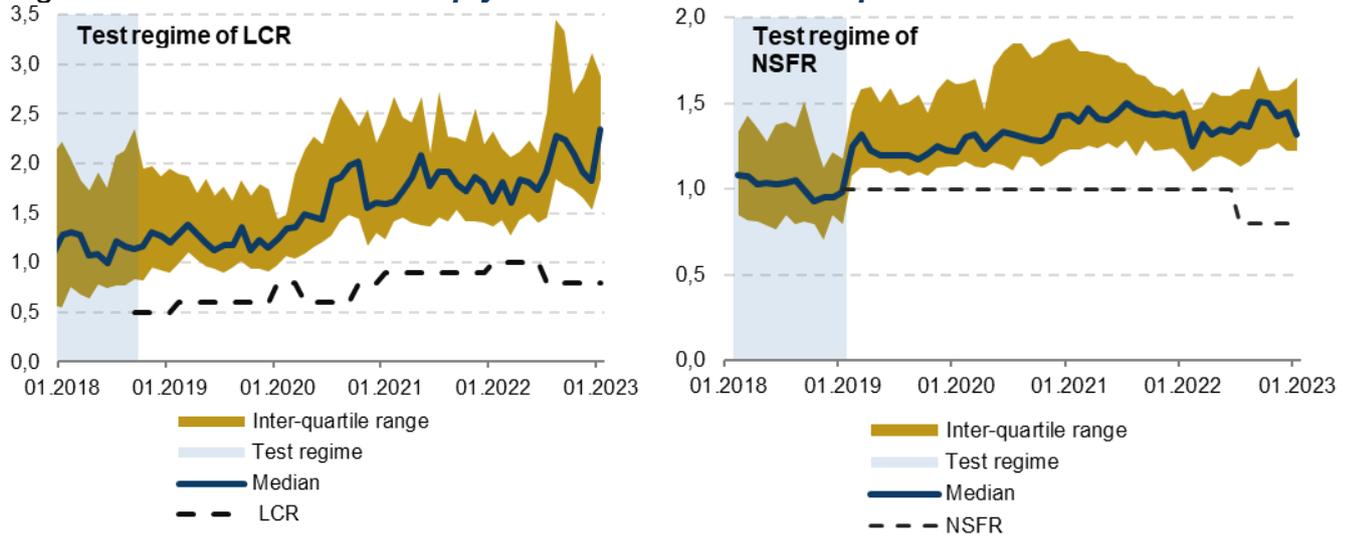


Source: STB reports

Note: Basic liquidity ratio is calculated as the ratio of basic liquid assets of banks (cash on hand, precious metals, monies on correspondent accounts and deposits with the NBK/STBs) and standard deviation of deposits in the national currency for 3 months equivalent to 1 day (Z-score). Daily data is used.

The analysis performed shows an upward shift in the interquartile range, as well as in the median values of banks for liquidity coverage ratios (LCR) and net stable funding ratios (NSFR). During 2022, most banks met the minimum LCR and NSFR requirements. A decrease in the ratios under consideration below standard values was observed among banks that are subsidiaries of Russian banks due to sanctions imposed on parent companies or transactions to acquire them, as well as some small-sized Kazakh banks that do not have an impact on the system (Figure 5.8).

³⁵ Cash on hand, precious metals, balances of correspondent accounts and deposits at the NBK/STBs

Figure 5.8 Most banks comply with LCR and NSFR requirements

Source: STB reports

In order to mitigate the impact of global challenges, some regulatory requirements have been eased, providing, in particular, for a temporary reduction in the minimum regulatory values of the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) from May 2022 to 0.8 with their subsequent return to the level recommended by the Basel Committee on Banking Supervision (from January 1, 2024 – 0.9, from July 1, 2024 – 1.0).

5.2 Funding Risks

The main risks in the funding structure associated with the low share of effectively term sources of funding have persisted. The level of concentration of the largest sources of financing in the liabilities of the banking sector did not change compared to the previous year. Dependence on the public sector is decreasing. At the same time, the share of external borrowing increased.

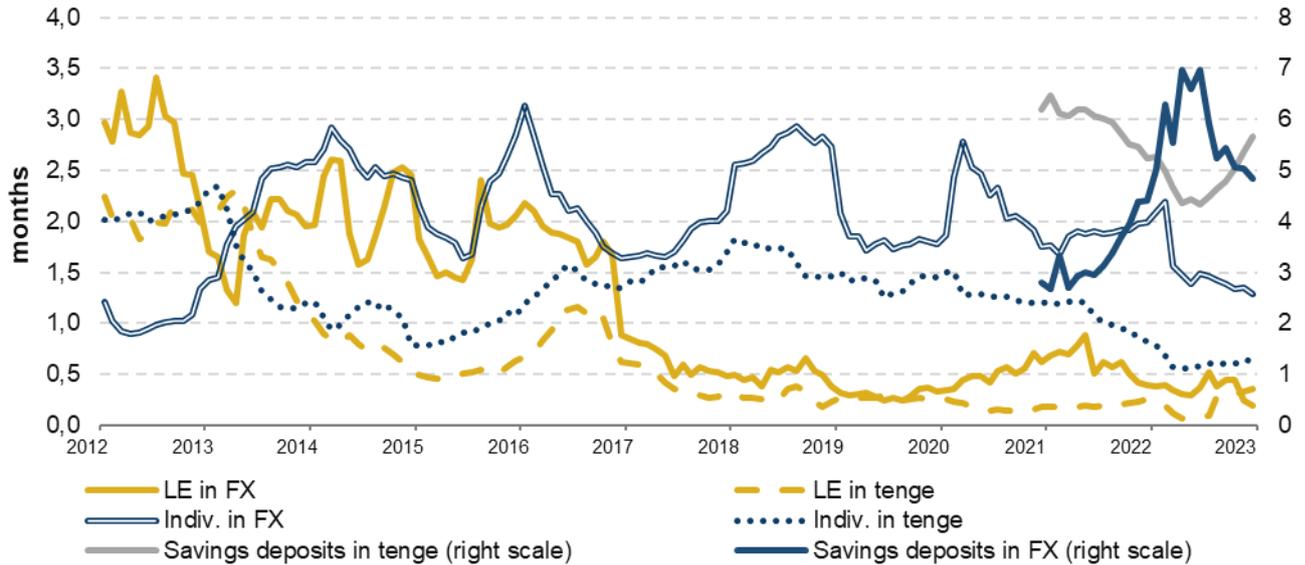
Sustainability of Funding

At the end of 2022, the share of deposits amounted to about 80% of bank liabilities, while their stability is at a low level, both in terms of the holding period and in terms of the low share of sustainable long-term deposits.

In 2022, average holding period of deposits with contractual term from 1 to 5 years remains low. At the same time, the average holding period of retail deposits in foreign currency was decreasing almost throughout the entire year, with the exception of the beginning of the year, which could be related to the increased uncertainty and the revaluation effect due to the growing tenge exchange rate in February.

Average holding period for deposits in the tenge continued to decline in the first half of 2022. By the middle of the year, due to the launch of the Tenge Deposit Protection Program (*Box 5.1*), it was possible to stabilize the holding period of retail deposits in the tenge at the end of 2022 (*Figure 5.9*).

Figure 5.9 Average term of deposit holding with a contractual term of 1-5 years does not exceed three months



Source: STB reports

Note: Average turn-around is determined under the modified formula of the days receivable outstanding including turnovers of deposit attractions and withdrawals. Monthly data is used. Average term of deposit holding with a contractual term of 1-5 years does not exceed three months

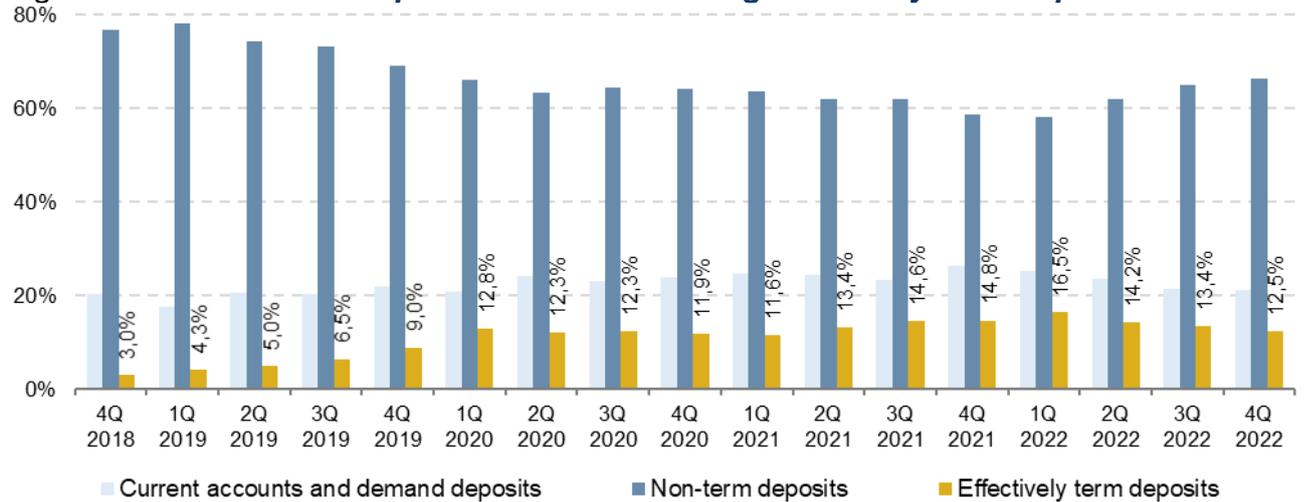
The effect from the Tenge Deposit Protection Program is particularly visible in the dynamics of the holding period of household savings deposits in the national currency. Despite the low attractiveness of savings deposits due to less flexible conditions, especially in the periods of increased uncertainty, the announcement of the Tenge Deposit Protection Program and the growth of interest rates in 2022 allowed not only to stabilize but also to increase the holding period of these deposits. Thus, one of the key conditions of the Program was to keep the deposit in the bank for the whole period of its duration. As a result, the average holding period of this type of deposits increased by 1.3 times.

Due to the nature and purpose of placement, the average maturity of corporate deposits is traditionally lower than that of retail deposits. In general, temporarily free business cash is required for settlement operations with counterparties or temporary holding during the periods of business downturns.

The dynamics of the average holding period of corporate deposits during the year was multidirectional. In the first half of 2022, the average holding period of corporate deposits was decreasing both in the national and foreign currencies, which could be associated with active withdrawal of money from accounts due to the growing uncertainty and volatility in the global financial markets, including because of the disruption in operations of a number of subsidiaries of Russian banks. By the end of the previous year, given relative stabilization of the situation, the holding period of corporate deposits in the national currency slightly increased.

In 2022, sustainability of funding declined. This was mainly driven by a faster growth in the share of non-term deposits relative to savings deposits, including due to an increase in the share of non-residents who prefer more flexible terms of placement of funds. Over the year, the share of effectively term deposits had decreased by 2.3 pp (to 12.5% at the end of the year). At the same time, the share of non-term deposits also had gone up by 7.5 pp (66.3% at the end of the year). At year-end, the share of current accounts and demand deposits amounted to 21.1%, having decreased by 5.3 pp over the year (Figure 5.10).

Figure 5.10 Non-term deposits were substituting effectively term deposits in 2022

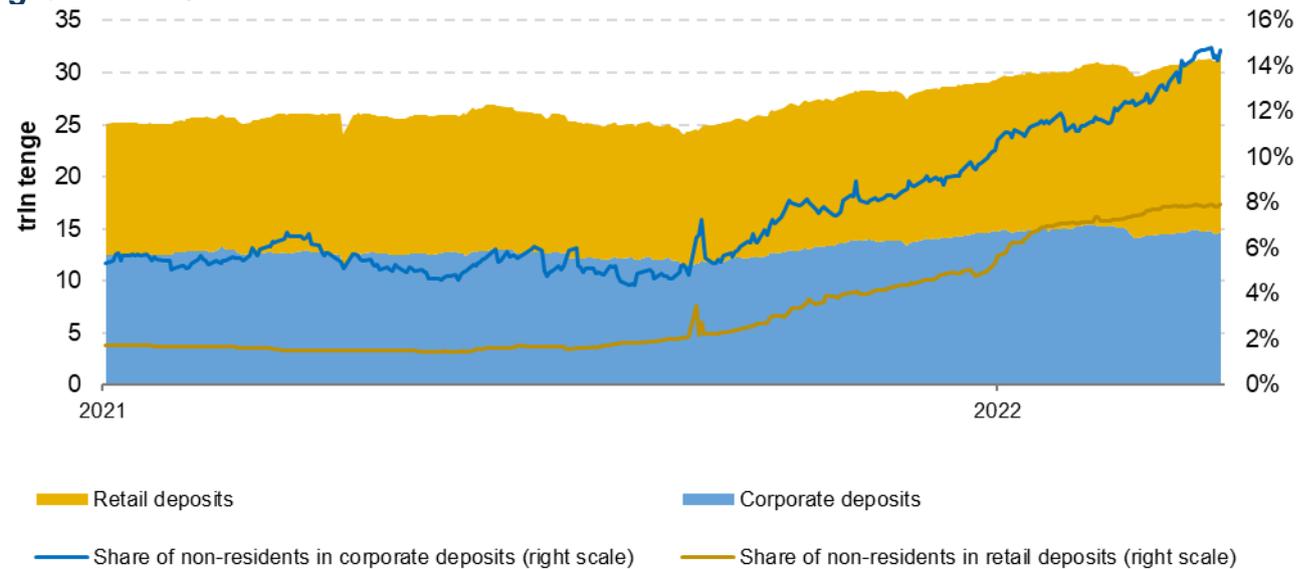


Source: KDIF

This trend was developed as a result of increased volatility in financial risks and the growing uncertainty since the beginning of 2022. People preferred to hold a cash reserve at non-term deposits. In order to prevent the intensification of risks threatening financial stability, among other measures, the Tenge Deposit Protection Program was launched.

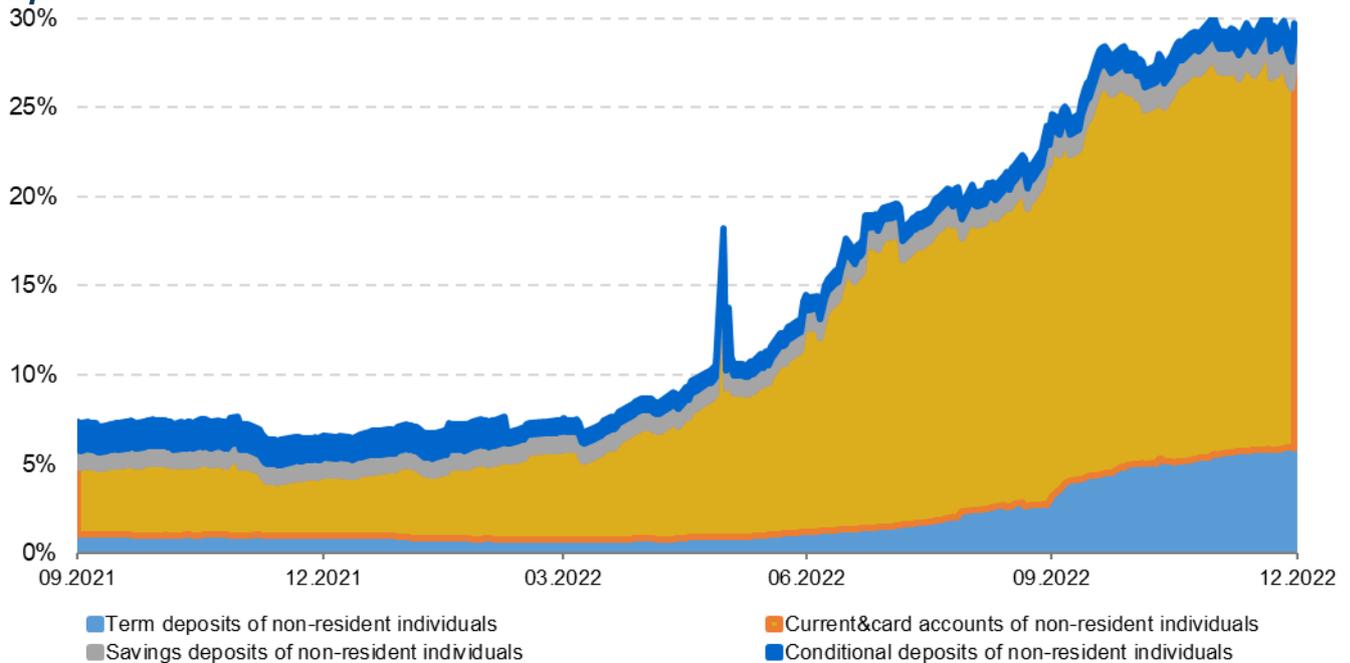
The growth of non-term funding was accompanied by an increase in the share of non-residents (from 2.9% to 7.5%), mainly concentrated in the most unstable forms of deposits, which reduces the sustainability of the funding base and creates channels for spreading external financial shocks (Figure 5.11). Thus, the share of non-resident individuals in current and card accounts grew by 6.3 times from 3.4% to 21.3%, and their share in non-term deposits showed a six-fold increase – from 0.9% to 5.9%.

Figure 5.11 The share of funds held by non-residents on bank accounts showed growth in 2022



Source: STB reports

Figure 5.12 Non-residents placed funds primarily on current accounts and term deposits



Source: STB reports

It should be noted that the extent of attracting liabilities from non-residents is limited by the prudential standard – the ratio between bank capitalization and liabilities to non-residents. This ratio implies a transfer of potential risks to the bank's shareholders through obligations of capital injection in case of an increase in external funding (Figure 5.12).

Box 5.1 The Tenge Deposit Protection Program

Against the background of increased geopolitical risks and volatility in the financial markets, with an aim to ensure stability of the financial market and maintain attractiveness of the tenge deposits, the National Bank, jointly with the Government, elaborated and adopted the Tenge Deposit Protection Program (“the Program”) as an urgent and temporary anti-crisis measure. The Program provides for a lump-sum compensation (premium) of 10% of the amount of the tenge deposit that meets the Program terms and conditions. The Rules for payment of compensation (premium) on retail deposits in the national currency – the tenge (hereinafter – the Rules) define the criteria of retail deposits eligible for the payment of compensation (premium).

Compensated deposits in the tenge include savings deposits, term deposits, including educational savings deposits, and home building savings. Compensation is payable if the deposit is available at the close of business on February 23, 2022 and has been held with the bank for 12 months. At the same time, the compensation shall be paid on the minimum balance fixed at the end of the operational day for the period from February 23, 2022 to February 23, 2023 inclusive.

According to the Rules, second-tier banks notify depositors about the possibility of receiving compensation (premium) and the need to express consent by means of a statement of consent in accordance with the relevant paragraph of the Rules.

In turn, a depositor needs to submit an application to the bank for payment of compensation (premium) and consent to the terms and conditions of the Rules, as the Program implies a declarative nature.

In addition, the Rules provide for a mechanism of financing of compensation payments on deposits of individuals in the tenge, whereby 50% of funds were allocated from the republican budget and the remaining 50% - from the “Kazakhstan Sustainability Fund” JSC, which is a subsidiary of the National Bank of the Republic of Kazakhstan.

At the time of Program completion (February 23, 2023), the second-tier banks accepted applications from more than 2.6 mln depositors. In order to implement the Program, in March 2023, the government transferred 306.65 bln tenge to the banks to organize the payment of compensation to depositors.

Thus, in connection with aggravation of the geopolitical situation and significantly increased pressure on the financial market, the implementation of the Program is a timely and necessary mechanism for neutralizing risks to the banking sector. This measure had a positive impact on strengthening the stability of funding and preserving the banking sector's liquidity as well as increasing attractiveness of the tenge deposits, and was rated by the Fitch Ratings international rating agency as a positive measure to strengthen confidence in the national currency.

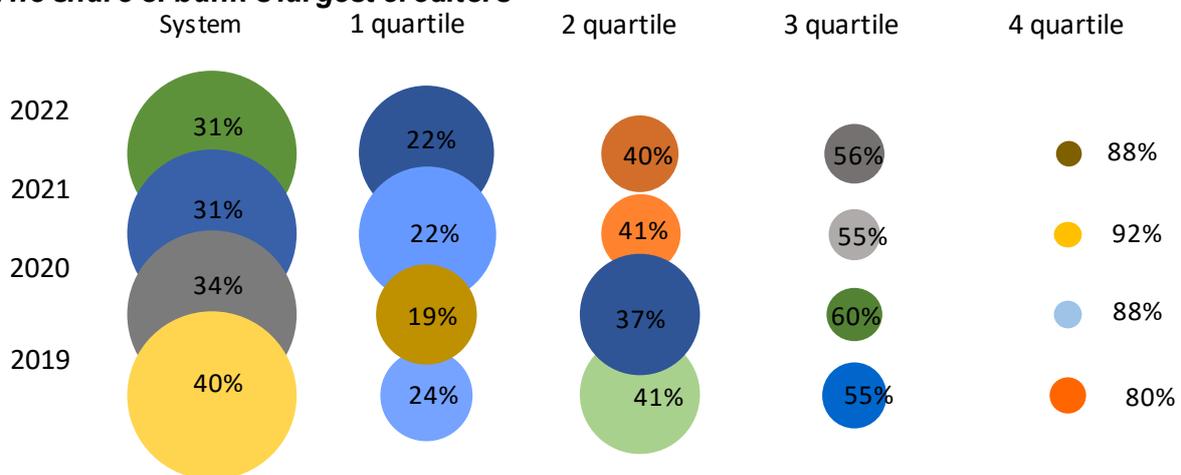
Concentration of Funding

The level of concentration of the largest funding sources in the banking sector's liabilities has not changed compared to the previous year. Meantime, the share of non-residents in the retail funding increased.

The share of the largest creditors in the banking sector's total liabilities remained at the level of 31% (Figure 5.13). In large banks, the share of liabilities to the largest creditors did not change and amounted to 22% at the end of the year. Medium-sized banks still are the most exposed to concentration risk. In this group, the share of the largest creditors in liabilities averages 88%.

Figure 5.13 *High levels of concentration were observed in several small banks*

The share of bank's largest creditors



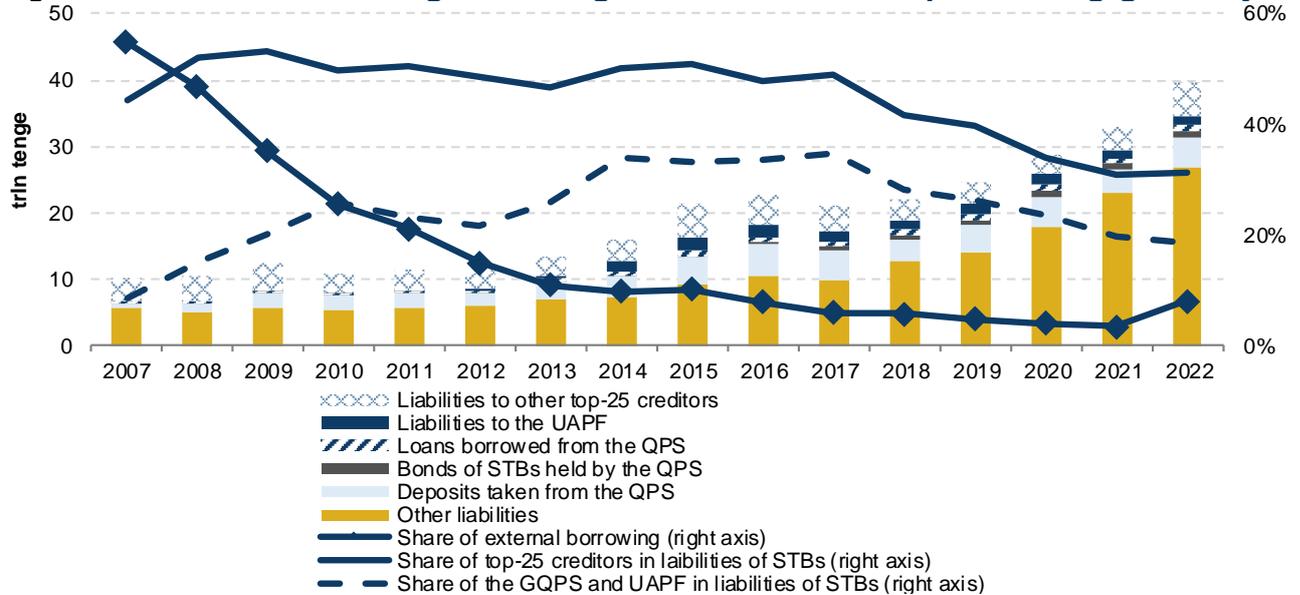
Source: STB

Note: Ranking and distribution into quartiles is carried out according to the share of the 25 largest creditors for this bank in the bank's liabilities: 1 quartile – banks with the smallest share of largest creditors, 4 quartile – banks with the largest share. The area of bubble is proportional to the share of liabilities of banks in the quartile in liabilities of the sector. The share of largest creditors (quartile average) is shown inside the bubble.

Dependence on State-Owned Companies

In 2022, the trend of decreasing dependence of the banking sector on funding from state-owned companies persisted; however, the risks associated with the concentration of the government sector remain.

Figure 5.14 Share of funding from the government sector kept declining gradually



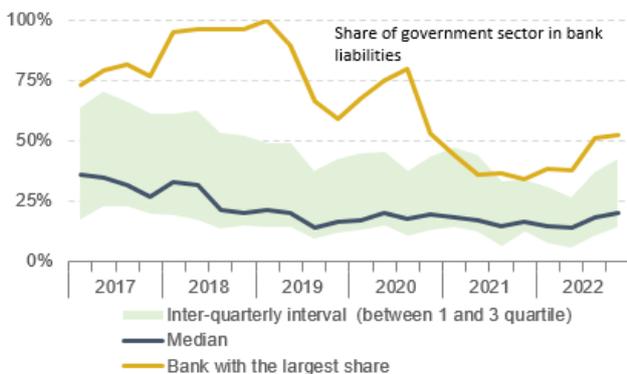
Source: STB reports, UAPF

Note: QPS - quasi-public sector. Liabilities to the UAPF include liabilities on deposits and placed securities. Other liabilities include liabilities to other entities that are not QPS or largest creditors.

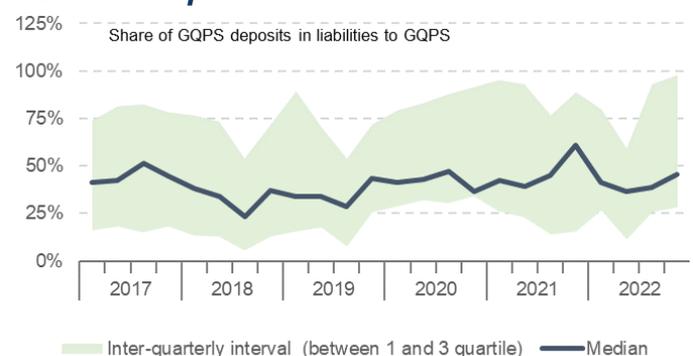
The share of the government sector and quasi-government sector in the bank funding decreased by 1 pp and amounted to 18.6% at end-2022 (Figure 5.14). However, the volume of retail funding, which includes corporate deposits of non-government sector went up by 18%, to 26.9 trln tenge. Funds are attracted mainly in the form of non-term deposits

Figure 5.15

A. Funding at the bank level increased



B. Funds are attracted mainly in the form of non-term deposits



Source: STB reports, UAPF

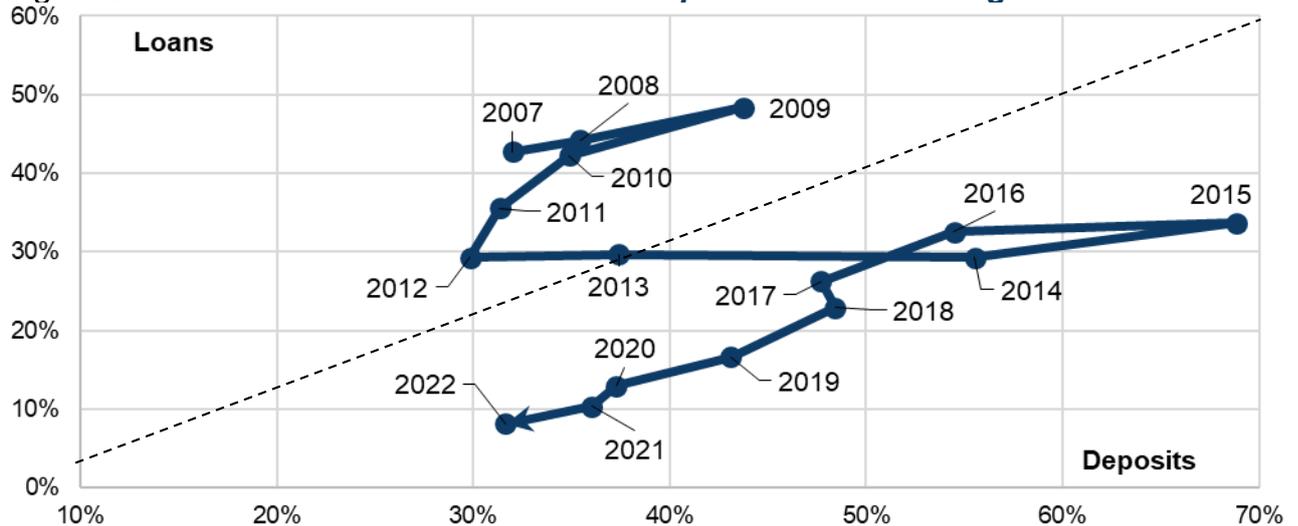
With a breakdown by banks, the share of government sector in liabilities (Figure 5.15A) in an individual bank was 53%. Deposits remain as the main instrument of placing liabilities of the government and quasi-government sectors (Figure 5.15B).

5.3 Risks of Dollarization

The level of dollarization in banks continued to decline, amounting to 9.9% of foreign currency loans and 36.7% of foreign currency deposits as at the end of 2022. The dynamics of decline in the level of dollarization slowed down. The share of foreign currency deposits remained significant, which keeps pressure on banks' balance sheets, especially in the periods of increased external shocks and the growing uncertainty.

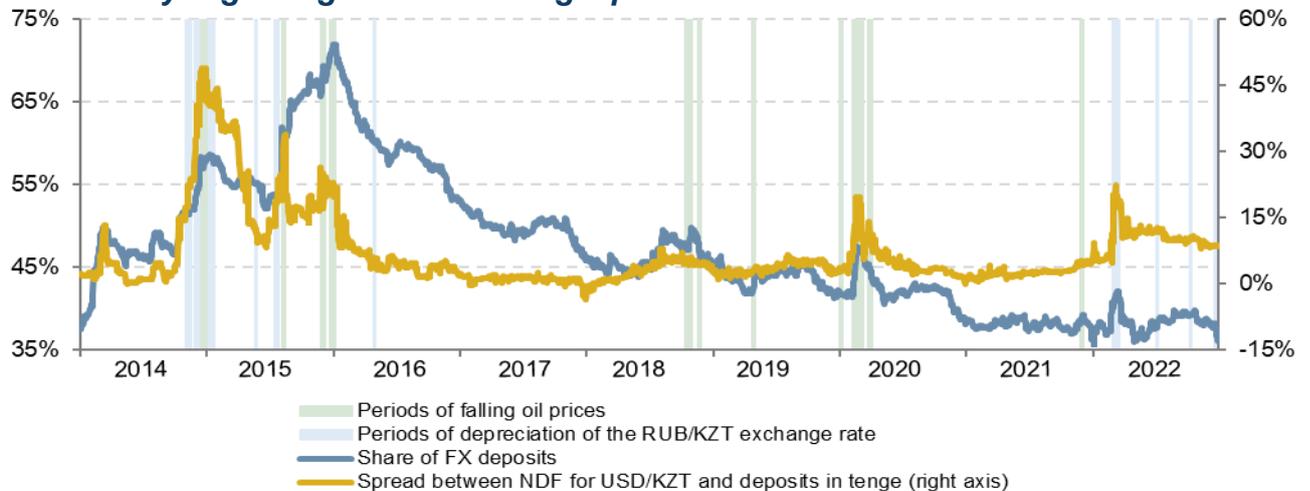
In 2022, the process of dedollarization was underway; the levels of foreign currency loans and foreign currency deposits decreased and at the year-end amounted to 9.9% and 36.7%, respectively. The trend of recent years towards slowing down the pace of dedollarization is persisting – the share of foreign currency loans decreased by 136 bp, and that of foreign currency deposits – by 40 bp (Figure 5.16).

Figure 5.16 *Dedollarization of loans and deposits is decelerating*



Source: STB reports
 Note: End-period data

Figure 5.17 *The level of dollarization demonstrated heightened volatility due to uncertainty regarding realization of geopolitical shocks in 2022*



Source: STB reports

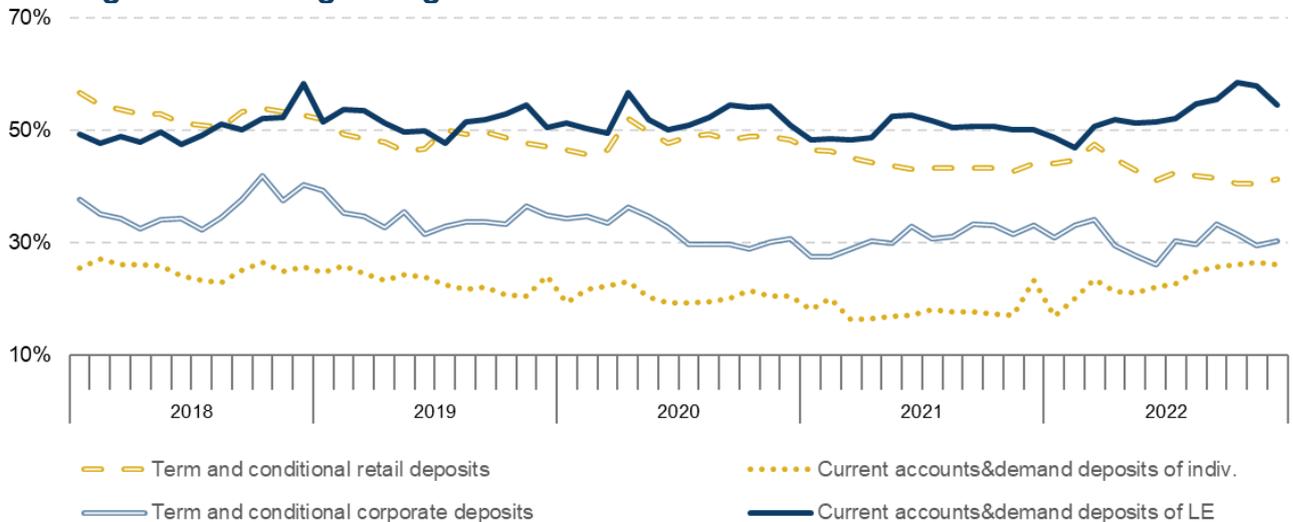
Note: Periods of depreciation of the RUB/KZT exchange rate – significant periods of depreciation of the ruble against the tenge

The variability in the share of foreign currency deposits was mainly caused by realization of geopolitical shocks. In the first quarter of 2022, as uncertainty was increasing, the spread between the USD/KZT non-deliverable foreign exchange forward (NDF) and weighted average rates on the tenge deposit ratcheted to 22.4%. With decline in dollarization, this indicator fell to 8.7% by the end of the year (Figure 5.17). In 2022, the level of dollarization demonstrated heightened volatility due to uncertainty regarding realization of geopolitical shocks.

As at end-2022, migration of foreign exchange deposits to more liquid types of accounts – current accounts and demand deposits – was observed. Such dynamics may be explained by the growing share of non-residents in the structure of depositors.

Thus, the traditionally high percentage of foreign currency in current accounts and demand deposits of the corporate sector grew by 8 pp, reaching 56% at year-end. At the same time, the level of dollarization of less liquid term deposits and conditional deposits of legal entities decreased by 6 pp to 25% of all deposits in this group. In the retail segment, the share of foreign currency deposits in current accounts and demand deposits went up by 9 pp, having increased from 17% to 26%. The level of dollarization of term deposits and conditional deposits went down from 44% to 40% (Figure 5.18).

Figure 5.18 *Level of dollarization of the most liquid types of accounts of individuals and legal entities is growing in 2022*

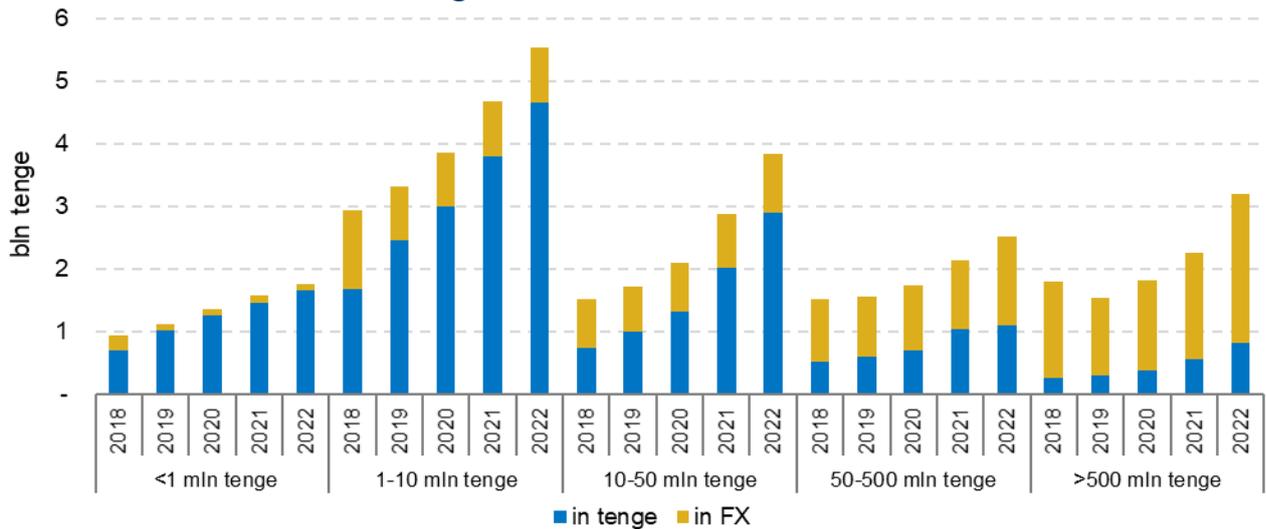


Source: STB reports

In terms of deposits by size, the level of dollarization was still positively correlated with the deposit size – the larger the amount at deposit, the higher the level of dollarization (Figure 5.19). The variation of dollarization by account size ranged from 74.3% for the largest accounts (over 500 mln tenge) to 6.4% for the smallest accounts (up to 1 mln tenge). Among the largest deposits, foreign currency in the accounts amounted to about 74.3%.

In spite of this, the dynamics of dollarization showed decline almost among all reviewed deposit groups. Thus, the largest drop in the level of dollarization was shown by deposit groups from 10 to 50 mln tenge (a 5.1 pp decline) and from 1 to 10 mln tenge (a 3.1 pp decline). The largest and the smallest deposit groups – over 500 mln tenge and less than 1 mln tenge – decreased by 0.5 pp and 0.1 pp, respectively. The growth of dollarization was observed only in the group of deposits from 50 to 500 mln tenge – by 4.9 pp.

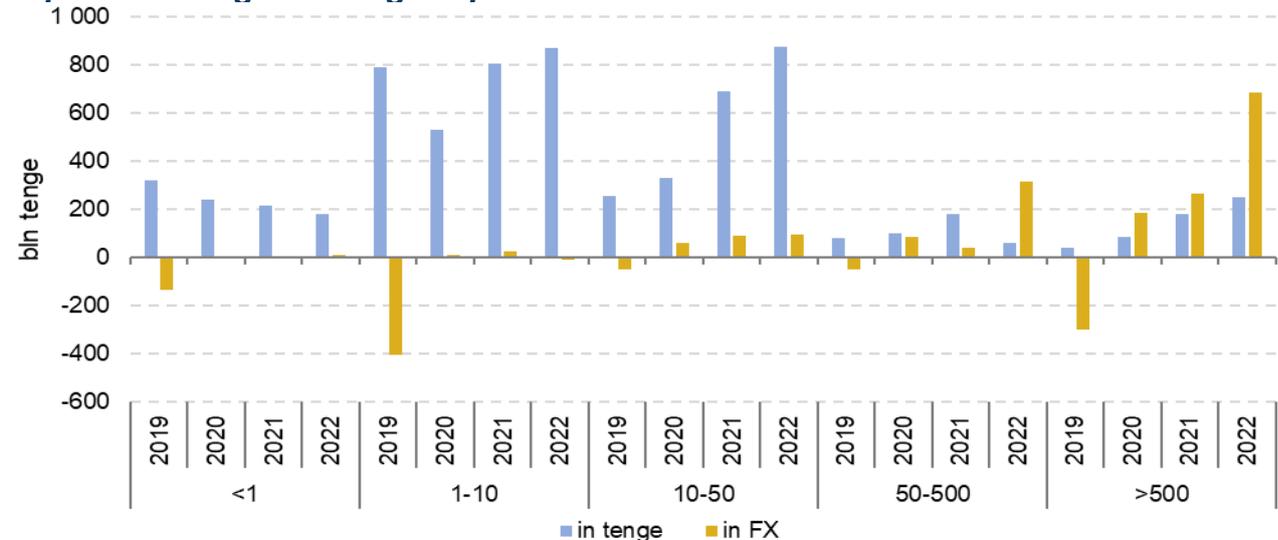
Figure 5.19 *The level of dollarization was declining virtually across all deposit groups in terms of the size, however, the share of FX was prevailing on accounts with the amount above 50 mln tenge*



Source: KDIF

During 2022, a net inflow of funds to retail deposits increased by 34%, or 841.4 bln tenge. The inflow of retail deposits in the tenge increased by 8% to 2,231.1 bln tenge and was placed mainly on deposits with amounts from 10 to 50 mln tenge (+26.4%, YoY) and over 500 mln tenge (+37.6%, YoY). A reduced inflow of the tenge was observed among deposits with amounts from 50 to 500 mln tenge (-65.3%, YoY) or less than 1 mln tenge (-15.3%, YoY). The inflow of foreign currency to deposits increased by 2.6 times and amounted to 1,093 bln tenge and was mainly placed on large deposits from 50 to 500 mln tenge and over 500 mln tenge (Figure 5.20).

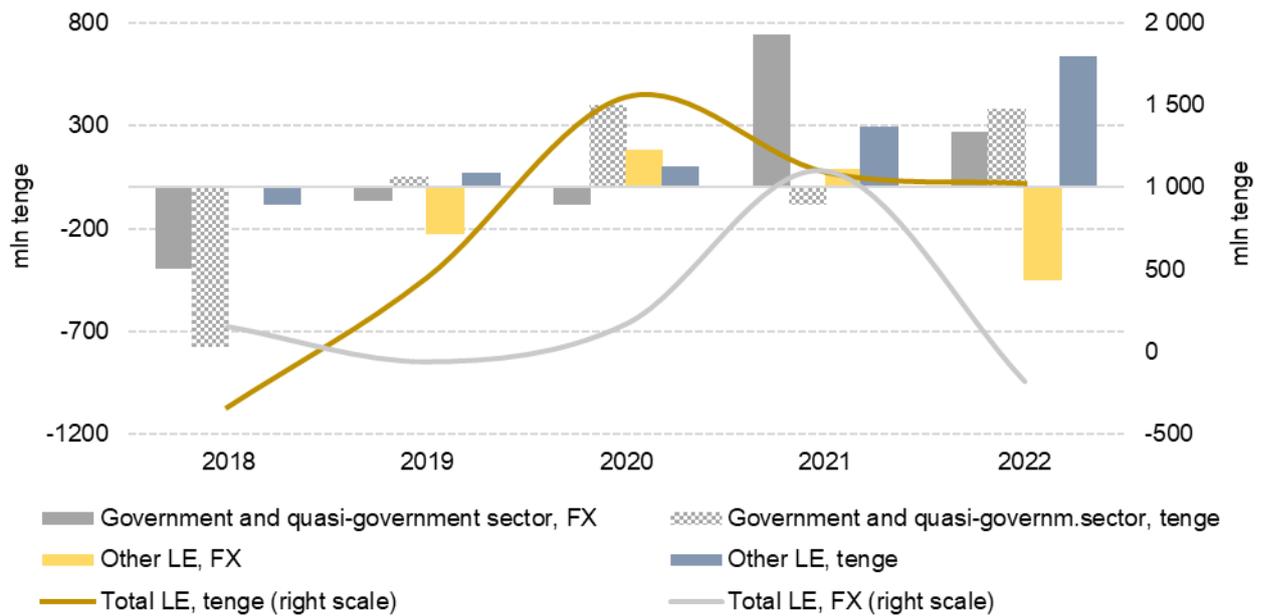
Figure 5.20 *A major inflow of retail deposits was secured by small and medium-size deposits in tenge and large deposits in FX*



Source: KDIF

Based on the data from the top 25 lenders in 2022 (YoY), the inflow of money to deposits in the corporate sector went down by 61.5% compared to the previous year, amounting to 845.6 bln tenge. The drop is caused by an outflow of foreign currency deposits of other (non-government) legal entities worth 177.7 bln tenge. Deposits of legal entities in the tenge increased by 1,023 bln tenge, which corresponds to the receipt of funds during the last year (Figure 5.21).

Figure 5.21 A major inflow of corporate sector deposits in the tenge was primarily secured by other (non-government) legal entities among top 25 depositors



Source: STB reports

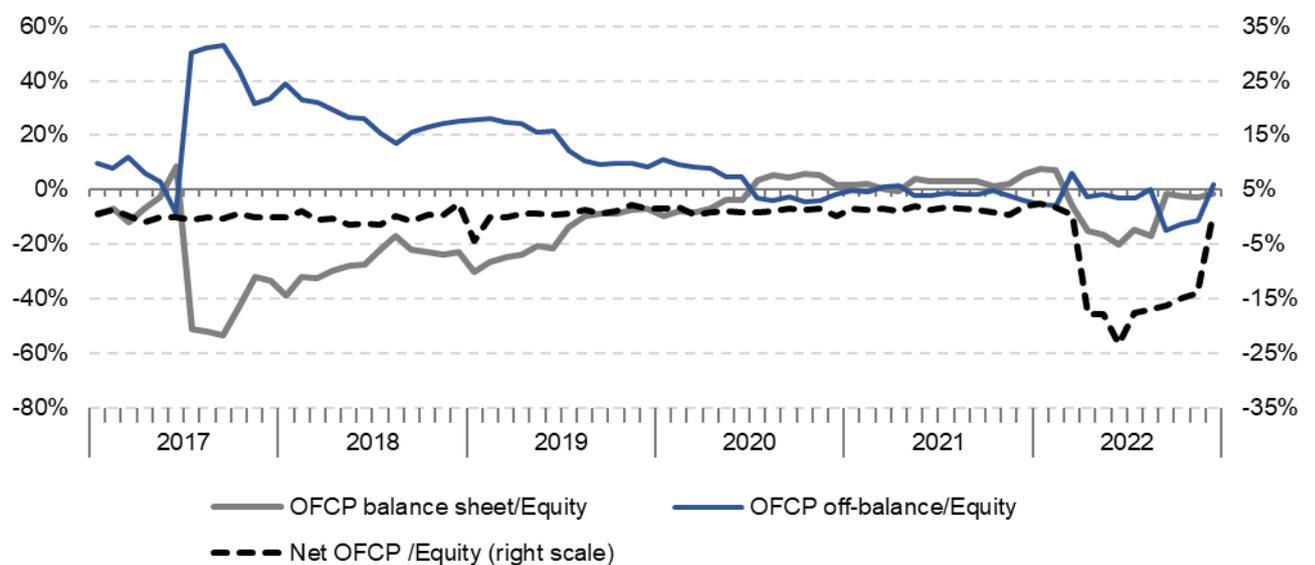
Note: NBK's assessment based on the data on top-25 creditors

Deposits of the government and quasi-government sectors in the national and foreign currency increased by 385 bln tenge and 271.7 bln tenge, respectively. The amount of money on deposits of other legal entities in the tenge went up by 638.3 bln tenge, while deposits in foreign currency went down by 449.4 bln tenge.

5.4 Foreign Exchange Risk

In the environment of heightened uncertainty against unfavorable internal and external shocks, net open foreign currency position in the banking system in 2022 suffered high volatility (Figure 5.22).

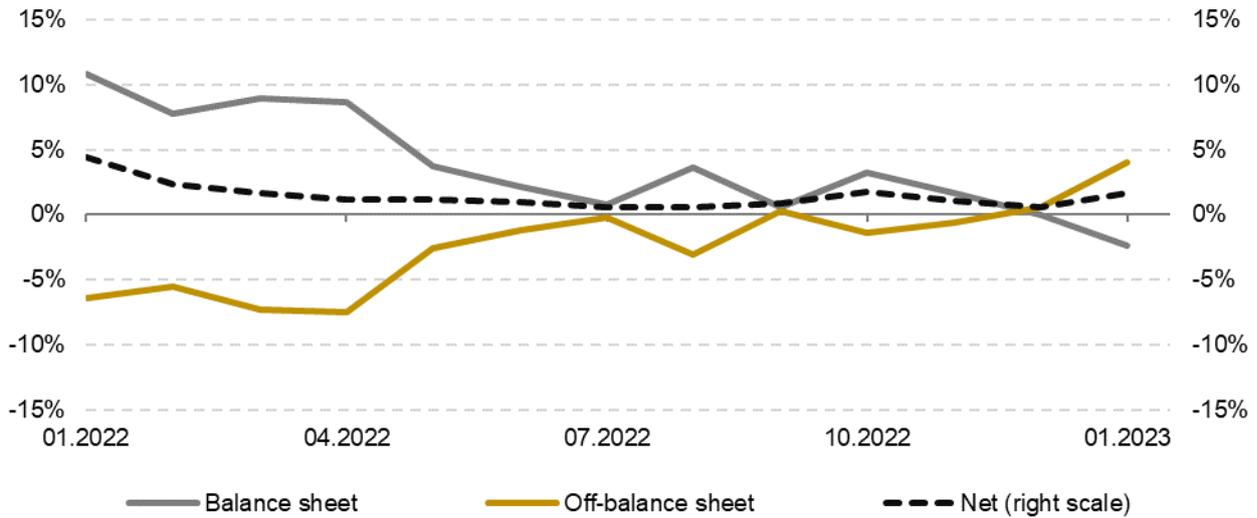
Figure 5.22 Net open foreign currency position of the banking sector was under pressure in 2022



Source: STB regulatory reports

This situation is driven by the sanctions pressure from developed countries on the largest Russian banks that significantly complicated the operations and position of their subsidiary banks operating in Kazakhstan at the beginning of 2022 (Figure 5.23).

Figure 5.23 The growth of FX risks in 2022 is related to subsidiaries of largest Russian banks



Source: STB regulatory reports

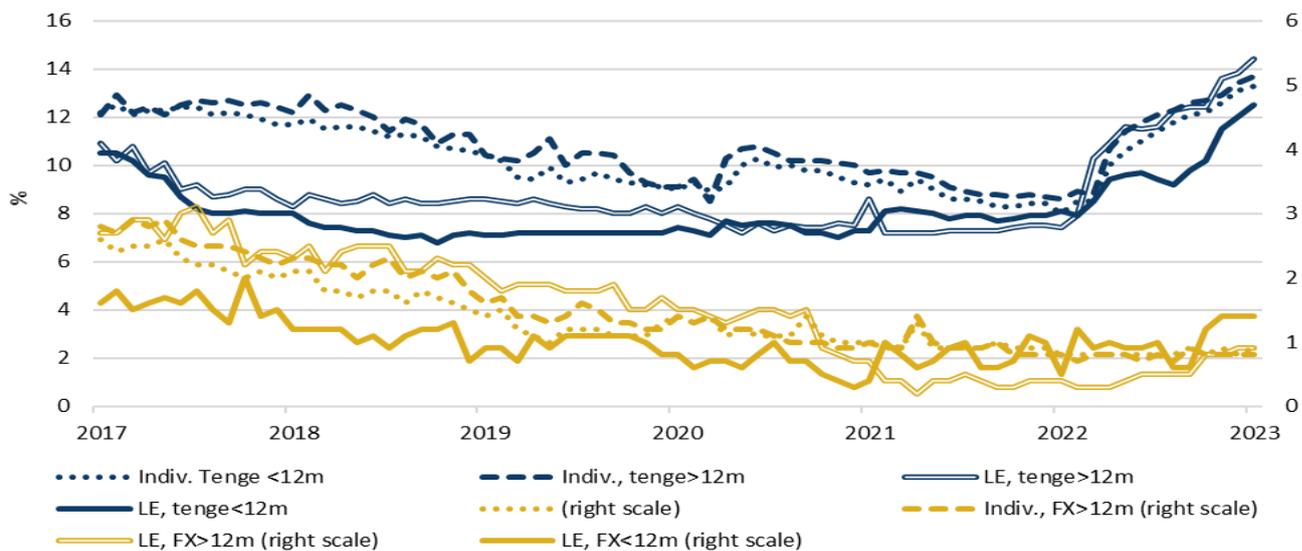
Note: excluding subsidiaries of Russian banks

At the same time, for the remaining banks, net open foreign currency position was close to a neutral position due to hedging of the open position with short-term financial derivatives on off-balance sheet accounts. Taking this into account, as well as the measures undertaken to offset the sanctions pressure on subsidiaries of Russian banks, the exposure of the banking system to foreign exchange risks is assessed as moderate.

5.5 Interest Rate Risk

Given the tightening of the National Bank’s monetary policy, the cost of funding of banks on deposits in the national currency increased, while the cost of foreign currency funding remained at the same levels due to the preservation of cap rates on foreign currency deposits by the KDIF (Figure 5.24).

Figure 5.24 The cost of attracting retail deposits in the tenge and FX continued to decrease gradually

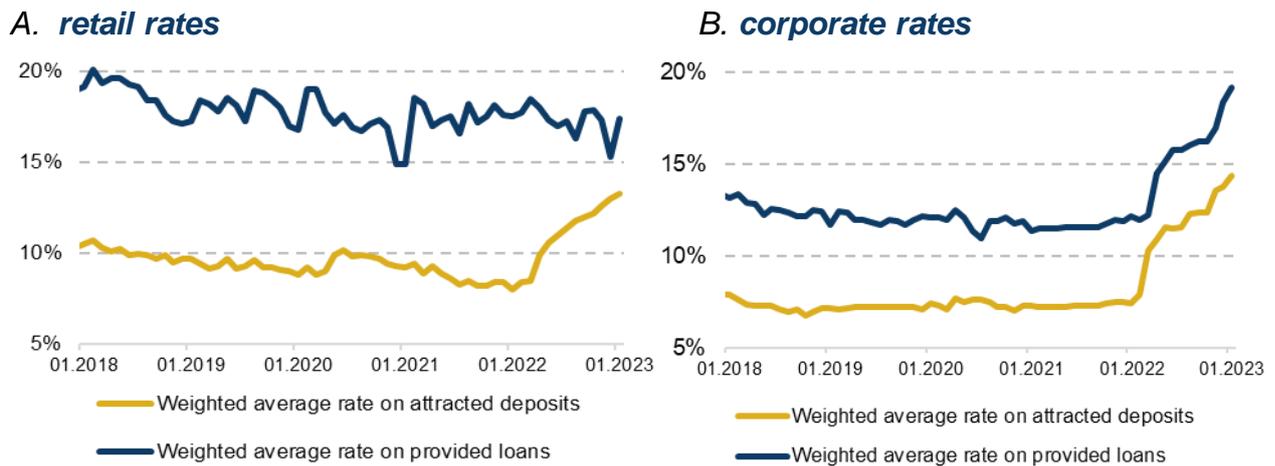


Source: STB reports

In 2022, among the reviewed deposits, the maximum increase in interest rates was demonstrated by deposits of legal entities with maturity of up to one year – by 6.4 percentage points to 14.4% in December, and deposits of individuals with maturity of up to one year – by 5.4 percentage points to 13.3%. Bank interest rates on deposits of individuals with maturity of more than one year and of legal entities with maturity of less than one year in the tenge increased by 4.8 percentage points and 3.9 percentage points, or to 13.7% and 12.5%, respectively.

As at end-2022, the weighted average rates on loans in the tenge originated in the corporate segment increased by 7 percentage points to 19.2%, while rates in the retail segment demonstrated a minor decrease of 0.1 percentage points to 17.4%, which is due to the issuance of interest-free loans (installment plans) (Figure 5.25A).

Figure 5.25 Weighted average interest rates on deposits and loans were growing, except for weighted average rates on deposits provided to individuals in 2022

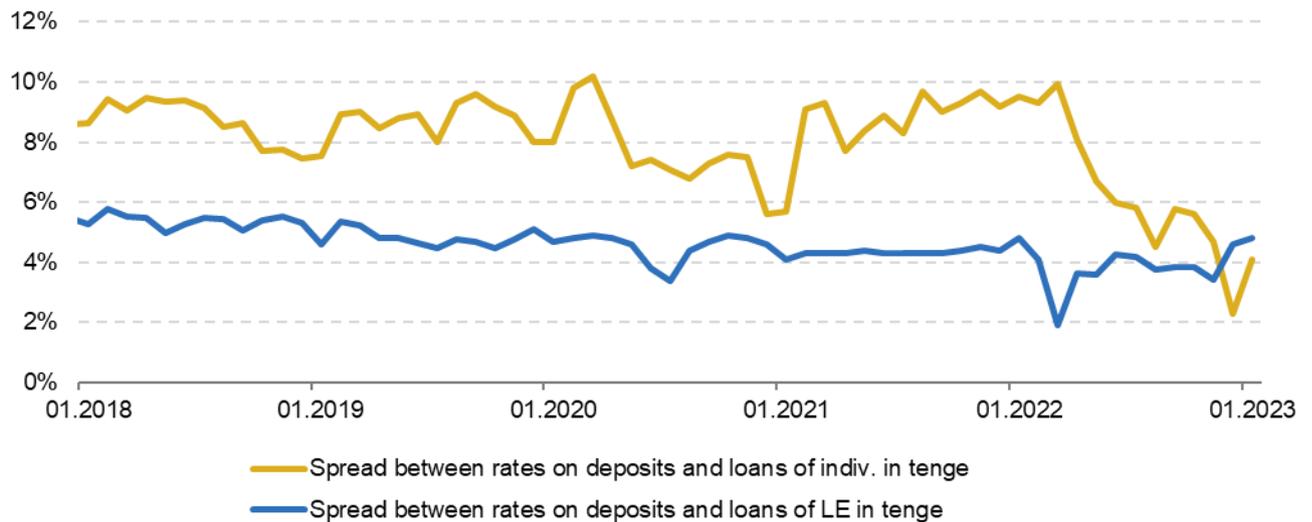


Source: STB reports

Note: Deposit rates - weighted average interest rates on deposits attracted during the reporting period (new deposits and replenishments of earlier opened deposits). Placement rates - weighted average interest rates on new bank loan agreements entered into during the reporting period. Retail segment – deposits and loans of individuals, corporate segment – deposits and loans of LEs. Monthly data is used.

Interest rates of banks on attracted deposits in the tenge grew in both the corporate and retail sectors. The weighted average cost of attracting deposits from legal entities increased by 7 percentage points to 14.4%, and from individuals – by 5.3 percentage points to 13.3% (Figure 5.25B). Factors contributing to the growth of interest rates include the raising of the National Bank’s base rate as well as the revision of cap deposit rates as recommended by the KDIF.

Figure 5.26 Spread in the retail sector was gradually contracting throughout the year, no dramatic changes in the corporate sector, except for the shock of February-March 2022



Source: STB reports

Due to this dynamics of interest rates, as at end-2022 the spread between interest rates on provided loans and deposits attracted from individuals narrowed by 5.4 percentage points to 4.1%, while in case of legal entities the spread remained virtually unchanged (Figure 5.26).

VI Activities of the Council for Financial Stability of the Republic of Kazakhstan

In 2022, the Council for Financial Stability of the Republic of Kazakhstan (hereinafter referred to as “the Council”) on a quarterly basis addressed the matters aimed at promoting stability of the financial system, reducing systemic risks and developing sustainability of the financial sector.

In 2022, several meetings of the Council were held, where current problems pertinent to the financial sector stability, ways to solve them and promising areas of development were discussed.

In particular, the members of the Council addressed the following issues and made decisions on them:

- **an extended list of banks to conduct regular asset quality reviews (AQR) and supervisory stress tests in 2022.** The Council approved an extended list of banks to conduct regular asset quality reviews and supervisory stress tests in 2022, and also approved changes to the Schedule of Asset Quality Reviews and supervisory stress tests, taking into account the current economic situation and the sanctions imposed;

- **preliminary findings of the Financial Stability Report for 2021.** The Council reviewed the preliminary findings of the Financial Stability Report for 2021 and agreed with the main recommendations on financial stability issues in terms of macro-fiscal risks, the condition and quality of the loan portfolio, the level of dollarization of banks and related risks;

- **countercyclical capital buffer: monitoring results.** The Council recommended that the National Bank get on with monitoring the indicators necessary to make a decision regarding the countercyclical capital buffer, as well as continue to improve the metrics for making a decision on the countercyclical capital buffer based on the experience of other countries, including studying the experience of applying sectoral countercyclical capital buffer;

- **adopting measures to limit interest rates in unsecured consumer lending.** The Council approved the approaches to the mechanism for determining the EAIR for unsecured consumer loans proposed by the Agency. The Council also instructed the Agency to continue working on strengthening the regulation of microfinance activities in order to reduce risks in retail lending;

- **implementing the Financial Sector Assessment Program (FSAP) in collaboration with the IMF and the World Bank.** The Council approved the proposed structure and schedule for conducting the FSAP mission and delegated government agencies with the establishment of an interdepartmental working group to coordinate the implementation of the mission and ensure high-quality elaboration of issues within the framework of the FSAP mission that fall within the competence of these government agencies;

- **constructing the Financial Stability Index.** The Council instructed the National Bank to continue working on the calibration of parameters of the financial stability index, taking into account the shocks that occurred in 2022, and also to conduct internal piloting of the proposed approach to constructing a financial stability index during 2023;

- **a project for the development of a mechanism for a special regulatory regime (“regulatory sandboxes”).** The Council approved the proposed set of immediate, medium- and long-term measures to remove barriers and improve the mechanism of the special regulatory regime (“regulatory sandboxes”).