Although a considerable portion of customer liabilities are short-term deposits and "on-demand" accounts, the diversification of these liabilities and VTB's past experience indicate that these liabilities are consistently refinanced by customers, and they are, for the most part, a stable source of funding. The stable element of short-term customer liabilities is determined for various currencies using a statistical trend analysis of the cumulative balances of these accounts over time.

Money-market instruments (interbank loans and deposits, repurchase agreements) are used to control short-term liquidity, and are not considered as a source of funding for long-term assets.

Methods for controlling and reducing liquidity risk include:

- Monitoring compliance with established internal limits and regulations, including appetite for liquidity risk;
- Analysing liquidity risk using a set of quantitative and qualitative indicators;
- Implementing forecasting, situational modelling and stress testing of the Bank's liquidity;
- Monitoring calculated gaps taking into account the scenario analysis of the Bank's liquidity for various time periods to identify disparities between receivables and payments;
- Identifying and analysing the impact of internal and external factors on the Bank's liquidity, and the forecast for changes;
- Adopting and implementing solutions for management of assets and/or liabilities of the Bank to maintain liquidity risk at a level that complies with internal and regulatory liquidity ratios;
- Developing a detailed plan of action for mobilisation of liquid assets by the Bank in the event of insufficient liquidity;
- Ensuring compliance with the Bank of Russia's mandatory liquidity ratios by monitoring actual and forecast values of intra-bank maximum permissible indicators for mandatory ratios.

Market Risk

Market risk is the risk of downward pressure on the Group's financial results or its capital base due to adverse changes in the value of the Group's assets/liabilities (claims/obligations) as a result of market conditions, i.e., risk factors.

VTB Group has a standing collective body within the Group Management Committee as part of its system for managing the Group's consolidated assets and liabilities: the VTB Group Assets and Liabilities Management Committee (ALMC). The ALMC's main objectives are:

- management of VTB Group's assets and liabilities;
- management of VTB Group's treasury risks;
- determining the principles for internal and external pricing within VTB Group;
- determining approaches to capital allocation within VTB group according to different types of risks;
- determining approaches to the redistribution of capital among VTB Group companies.

The Group's Coordination Commission on Assets and Liabilities Management and Interaction with Financial Institutions under the ALMC has been in operation since 2017. Its main objectives are:

- ensuring the effective functioning of common Group principles, procedures and limits in terms of the management of assets and liabilities;
- ensuring effective interaction within the framework of intra-group rules for conducting business with financial institutions.

The Risk Management Committee sets operational and portfolio limits for market risk and distributes the risk appetite for the trading book among VTB Group members and business lines.

The Regulation on the Procedure for Managing Market Risk in VTB Group (hereinafter, the "Regulation") establishes procedures for identifying and monitoring market risks, the structure and hierarchy of market risk limits from the level of VTB Group to the level of Group members and individual divisions, procedures for monitoring compliance with limits and restrictions and for responding in case they are exceeded, and it also specifies the procedure for preparing reports on the Group's market risk.

Market risk is assessed and managed in the context of the following types of books:

- A trading book consisting of operations carried out in order to extract profits through their revaluation or hedging of other elements of the trading book;
- A portfolio of Treasury debt securities consisting of operations conducted by the Treasury Department and revalued at fair value.

A bank book consisting of interest-sensitive instruments that are revalued at amortised cost or instruments used to hedge elements of the bank book. Loans that do not pass the SPPI test are counted in the bank book.

Based on an analysis of VTB Group's portfolio, the following areas of market risk can be identified:

- Interest-rate risk of the Bank's book;
- Currency risk of the Bank's book and the Treasury debt securities portfolio. Depending on the nature of the operations bearing currency risk, the Group's entire currency position is attributed to either the Trading book or the Bank's book;
- Market risk of the trading book and the Treasury debt securities portfolio.

Interest-rate risk of the Bank's book

Interest-rate risk management is based on VTB Group's bylaws and includes:

- Setting standard interest rates for deposits and internal rates for financing, taking into account current market conditions;
- Calculating interest-rate risk (ECap, etc.);
- Setting capital limits for covering the interest rate risk for the Group and individual banks;
- Establishing an indicator for the Bank book's appetite for interest-rate risk – the signal value of the sensitivity of net interest income to a change in interest rates.

The main parameters used to assess interest-rate risk are:

- The sensitivity of the Group's interest position to a change in interest rates, measured in terms of (1) the size of the reduction in the net present value of the interest position; and (2) the net interest income under an unfavourable change in interest rates, as well as a parallel movement of the yield curves by 100 and 400 basis points;
- The capital for covering interest-rate risk, measured by assessing reductions in the net current value of the Bank's interest-rate position in the event of likely unfavourable interest-rate movements.

Currency risk of a structural open currency position

The Group uses internal regulations adopted by the Group's Management Committee to manage its currency risk. It also ensures that the currency of its assets matches that of its liabilities and maintains an open currency position (OCP) in each of the Group's banks within established limits, including internal OCP limits and the capital limit to cover the currency risk of structural OCP, as well as regulatory OCP limits.

Approved stress scenarios are used to calculate the capital required to cover VTB Bank's currency risk stemming from structural OCP.

The following are the main parameters used to assess the currency risk of the Group's structural OCP:

- Calculation of open currency positions in the context of individual currencies and VTB Group companies;
- Calculation of the OCP sensitivity to changes in foreign currency exchange rates of 1 RUB and 1%;
- Capital to cover the currency risk of structural OCP.

Market risk of trading operations

VTB Group is exposed to market risk regarding its trading book and its treasury debt securities portfolio associated with a negative revaluation of instruments due to changes in the values of various risk factors, including bond prices, stocks, commodity instruments, exchange rates, interest rates, credit spreads, risk volatility factors and correlations between them.

Although the treasury bond portfolio is separate from the trading book due to the different objectives in conducting transactions involving these portfolios, market risk management for treasury debt instruments is carried out in the same way as for the trading book.

To limit market risk within VTB Group, a set of limits is used. All limits can be divided into the following two groups: portfolio limits (VaR limits, stop-loss limits and stress limits) and operational limits that limit the concentration of individual indicators or types of assets in the portfolio (DV01, FX delta, etc.).

The Risk Department (since 20 November 2018, the Integrated Risk Management Department) performs the following market risk management functions for trading operations:

- evaluates and reports on the Group's market risk profile, reviews the structure of limits and prepares proposals for reducing and managing market risk for the trading book and the treasury debt securities portfolio;
- monitors on a weekly basis compliance with Group market risk limits; local market risk limits are monitored by the risk divisions of subsidiary banks on a daily basis;
- informs business units on a weekly basis about compliance with Group limit discipline, provides the ALMC with a monthly report on compliance with limits.

The results of stress testing are used to assess the market risk of the trading book and the treasury securities portfolio. The methodology used to assess these risk metrics is submitted to the Risk Management Committee for consideration and is communicated to VTB Group companies.

Stress testing: the result of the revaluation of the Group's trading book and Treasury debt securities portfolio is modelled on the basis of historical changes in risk factor values (observed under conditions of significant changes in macroeconomic indicators), as well as hypothetical changes in risk factors.

A scenario analysis showed that, in 2018, the greatest impact on market risk would have corresponded with a significant increase in risk-free rouble-denominated interest rates and the widening of credit spreads.

VaR: VaR is calculated based on the following parameters:

- historical period: two years;
- forecasting horizon: one trading day;
- confidence interval: 95%
- method used: historical modelling.

Operational Risk

Operational risk is the risk of loss resulting from flaws in the type and scale of the Group's operations, internal processes and procedures for carrying out banking operations and other transactions, the violation thereof by staff or other individuals (due to unintentional or intentional acts or omissions), the inadequacy or lack of functionality of IT and other systems and/or the failure (breakdown) thereof, as well as damaging external events. Operational risk includes legal risks but does not include strategic or reputational risks.

VTB Bank's operational risk management system is designed to minimise incidents of operational risk, including reducing the likelihood of business process failures, the inability to provide high-quality services to the Bank's clients caused by staff errors, system breakdowns, internal or external fraud, breaches of client obligations or violations of contractual obligations, and incurring possible losses from taking on such risk.

In managing operational risk, the Bank adheres to the Bank of Russia's regulations, as well as the recommendations of the Basel Committee on Banking Supervision.
To implement its operational risk strategy, VTB carries out regular procedures to identify, assess, monitor, control and minimise operational risk. All significant deficiencies from a risk perspective that are identified within the internal control system are subjected to detailed analysis. Based on this analysis, mitigation measures are taken in order to eliminate the causes and sources of the risk.

To manage operational risk, the Bank has implemented the following unified mechanisms to identify, assess and monitor the level of operational risk: a centralised process to collect information on incidents of operational risk and related consequences; control over the level of key indicators related to operational risk, and procedures to minimise operational risk. The application of the above-mentioned mechanisms makes it possible to carry out a quantitative assessment of operational risk indicators in relation to the Bank's products, processes and systems, including in the context of individual risk categories and the Bank's activities, the identification of sources of risk, the development and adoption of mitigating measures and the generation of management reports.

The Bank uses the following methods to respond to operational risks:

- Minimising risk: developing and implementing the necessary corrective measures to reduce identified risks;
- Taking risk: questions related to whether or not to take a certain risk are subject to approval by the authorised bodies/individuals within the Bank in the event that measures aimed at minimising the risk are not economically feasible;
- Avoiding risk: refusal to carry out a business operation subject to an identified risk if the potential losses as a result of the risk would be critical for the Bank and/or if carrying out the operation in question could jeopardise the economic feasibility of the activity associated with the risk, and if measures aimed at minimising the risk are not economically feasible;
- Transferring risk (risk insurance): risk insurance involves those operational risks that the Bank is unable to manage and that exceed the Bank's direct control (including the risk of the loss of collateral pledged to the Bank to secure credit, the risks associated with the transportation and storage of valuables and cash, property risks, etc.).

The Bank uses the following key methods to reduce and limit its operational risk:

- Maintaining an integrated system of ongoing and follow-up internal controls that cover all of the Bank's divisions and operations;
- Regulating all key operations using internal standards and codes of practice;
- Registering and documenting banking operations and transactions, and maintaining consistent control over primary documents and operating accounts;