

# **ANNUAL REPORT**

**of Central Counterparty National Clearing Centre  
for the Year 2018**

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## 1. Executive Summary

Central Counterparty National Clearing Centre ( hereinafter - “CCP NCC” or the “Company”) was established in 2005 as the Joint-Stock Commercial Bank “National Clearing Centre” (Closed Joint Stock Company)”, briefly the CJSC JSCB National Clearing Centre, by resolution of the General Meeting of Founders and registered with Interdistrict Federal Tax Service Office No. 50 for the City of Moscow on 30 May 2006 (Legal entity state registration certificate series 77 No. 010075586 of 30.05.2006, Primary State Registration Number (OGRN) 1067711004481).

CCP NCC was issued Credit Organization Registration Certificate No. 3466 by the Bank of Russia on 30 May 2006 and license No. 3466 for banking operations in rubles and foreign currencies (without a right to raise retail cash deposits) on 16 August 2006.

In 2014 CCP NCC was reorganized through merger with the Non-Banking Credit Organization “RTS Clearing House” Credit Organization (Closed Joint Stock Company) and the Closed Joint Stock Company RTS Clearing Center. CCP NCC is a legal successor to the above legal entities with all their rights and obligations transferred to it, including the those disputed by the parties.

By resolution of CCP NCC’s sole shareholder, in 2015 the names of the Company were made consistent with the applicable laws and changed accordingly to the “Bank National Clearing Centre (Joint Stock Company)” and “NCC Bank (JSC)”. On 17 March 2015 license No. 3466 for banking operations in rubles and foreign currencies (without a right to raise retail cash deposits) was renewed to reflect the name change, along with the license for raising and placing deposits in precious metals.

In 2015, CCP NCC was accredited by the Bank of Russia to perform functions of a Commodity delivery operator (hereinafter -“CDO”).

In 2017, based on the sole shareholder’s resolution, CCP NCC changed its status from the bank to the non-banking credit organization – central counterparty, and was renamed accordingly as credit organization Central Counterparty National Clearing Centre, briefly CCP NCC. Due to the status change on 28 November 2017, the Company obtained banking license No. 3466-IJK for non-banking credit organizations acting as central counterparties.

On 28 November 2017, CCP NCC was assigned the central counterparty status by the Bank of Russia.

Pursuant to the Federal Law on Clearing, Clearing Services and Central Counterparty, and for the purposes of its clearing activity, CCP NCC also maintains the clearing license dated 18.12.2012.

CCP NCC also holds the license for development, generation and distribution of encryption (cryptographic) tools, information and telecommunication systems protected with use of encryption (cryptographic) tools, works and services related to encryption of information, maintenance of encryption (cryptographic) tools, information and telecommunication systems protected with use of encryption (cryptographic) tools, except for maintenance of the encryption (cryptographic) tools for legal entities’ or individual entrepreneurs’ internal needs.

***Principal Place of Business:***

13, Bolshoi Kislovskiy pereulok, Moscow, 125009.

***Mailing address:***

13, Bolshoi Kislovskiy pereulok, Moscow, 125009.

During the reporting period, the following structural units were operating:

- Sredniy Kislovskiy Additional Office of CCP NCC at 1/13, Sredniy Kislovskiy pereulok, bldg. 8, Moscow;
- Spartakovskiy Additional Office of CCP NCC at 12, Spartakovskaya Street, Moscow.

***Management bodies.***

According to the Articles of Association, CCP NCC's management bodies are as follows :

- General Shareholders Meeting is a supreme management body;
- Supervisory Board as a management body responsible for overall supervision of CCP NCC's activities. Members of the Supervisory Board are elected by the General Shareholders Meeting to hold office until the next annual General Shareholders Meeting;
- Management Board (a collective executive authority) provides daily management of CCP NCC's operations; Members of the Management Board are elected by the Supervisory Board, each member's term of office being determined by resolution of the Supervisory Board but for not more than five years;
- CEO (hereinafter - the "sole executive body") provides daily management of CCP NCC's operations and is elected by the Supervisory Board for a term to be determined by the Supervisory Board but for not more than five years.

By resolution of the sole shareholder, Deloitte & Touche CIS were appointed an independent auditor of CCP NCC for the year 2018.

## **2. Authorized Capital and Shareholding Structure**

When establishing the Company, the General Meeting of Founders approved the Authorized Capital of the Company totaling RUB235,000,000.00 and divided into 235,000 registered ordinary shares with par value of RUB1,000.00 each.

Between 2006 and 2013, CCP NCC's authorized capital was increased from RUB235,000,000.00 to RUB15,170,000,000.00 via placement of additional of registered uncertified ordinary shares in NCC. Further increase of the authorized capital was connected with reorganization of CCP NCC in 2014 through merger and two additional issues of ordinary registered uncertified shares in CCP NCC in the aggregate number of 1,500,000 (not exceeding the number of authorized shares) through conversion of shares of the acquired entities: Non-Banking Credit Organization "RTS Clearing House" (closed joint-stock company) and closed joint-stock company RTS Clearing Centre.

As of the end of the reporting period, the authorized capital of the Company was RUB16,670,000,000.00 and divided into 16,670,000 registered uncertified ordinary shares with par value of RUB1,000.00 each.

### *Shareholding structure.*

As of 31 December 2018, the share register of CCP NCC contained entry of one shareholder only - Public Joint-Stock Company Moscow Exchange MICEX-RTS.

During the reporting period, CCP NCC register of shareholders was maintained by Joint Stock Company "Registration Company STATUS".

## **3. Industry Position of CCP NCC**

In 2018, Moscow Exchange remained one of the leading world trading venues thus obliging the Group and its subsidiary companies to maintain high pace of development in the strategic areas, including the clearing business and CCP NCC's acting as a central counterparty.

During the reporting period, CCP NCC remained one of the most highly capitalized and technological clearing organizations in the world. Continuing to carry out its activities in the Group's markets, the Company maintained high quality levels of services rendered to clearing members, being its clients, secured with its reliable risk management framework and in all lines of business acted in compliance with the regulator's requirements and the international standards to be met by CCPs and clearing organizations.

Projects and targets aimed at developing its clearing services and improving its risk management were implemented by CCP NCC during the reporting period against the background of the ongoing sanctions regime and inherent risks that created certain challenges for the Group as a whole. Number of significant objectives were traditionally related to implementation of new legislative requirements. The achievement of strategic goals was also impacted with the changed structure of clearing members' collateral due to introduction of a unified collateral pool for trades conducted by Moscow Exchange.

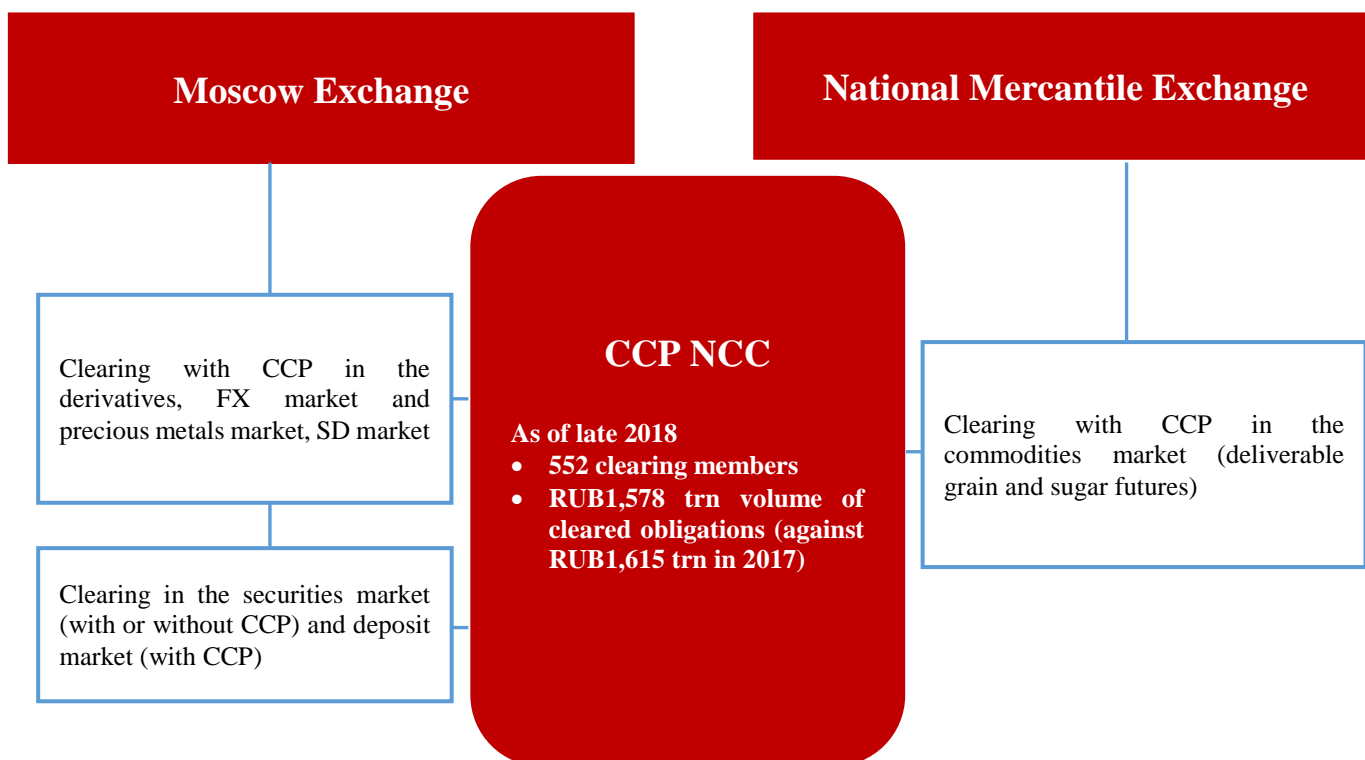
In 2018, special emphasis was given to reduction of clearing members' costs when operating in the markets of the Moscow Exchange Group due to use of the unified account, netting settlements and portfolio margining.

During the reporting year, CCP NCC managed to maintain the positive trends in the growing earning capacity of the business both due to the earned fee-based income and the interest income from transactions with idle funds and equity of the Group thus enabling it to form the suitable level of budget revenue of the Moscow Exchange Group as a whole.

During the reporting year, CCP NCC continued to be ranked well among TOP-10 credit organizations of Russia in terms of asset value which reached RUB3.87 trn as of 31.12.2018, having increased by RUB1 trn since 31.12.2017, when the recorded indicator was RUB2.82 trn.

In 2018, CCP NCC continued participating in development of international rules and standards for central counterparties as a member of the Global Association of Central Counterparties (CCP12) and the European Association of Central Counterparty Clearing Houses (EACH). At the same time, the Company was striving to use the facilities provided by EACH to press ahead with the solution of issues related to its interests in other jurisdictions.

During the reporting period, CCP NCC continued provision of clearing services in all markets of the Moscow Exchange Group – FX market and precious metals market, securities market, money market, deposit market, derivatives markets and standardized derivatives (SD) market and commodities market of the National Mercantile Exchange JSC. The general overview of CCP NCC's clearing operations in the on-exchange markets in late 2018 is shown in the figure below:



In 2018, in accordance with the approved Development Strategy and the goals set up for the organization for the next year as priority ones, CCP NCC focused its main efforts on implementing the following projects and objectives:

1. Implementing the projects of clearing business and services development; carrying out activities to improve the risk management processes; improving the quality of governance of CCP in compliance with the international standards.
2. Enhancing transparency of CCP NCC's activities for financial market participants and disclosing information on the Company's activities as a central counterparty in compliance with the Bank of Russia's requirements and in view of international recommendations.
3. Implementing the plans to generate CCP NCC's budget revenues by maintaining the positive trends in the growing earning capacity of the business both due to the earned fee-based income and the income from transactions with financial instruments.

***The past year's most important results and events worth mentioning include:***

- I. **Completing the Unified Collateral Pool Project. Phase II.** designed to reduce participants' costs when executing transactions in the Moscow Exchange Group's markets due to the unique clearing functionality provided by CCP NCC:
  - unified account;
  - unified collateral;
  - cross-margining;
  - netting of trades executed in the FX, securities, and derivatives markets.

### *Advantages of a Unified Pool*

- as regards the clearing collateral:
  - unification of the list of assets, accepted in order to secure fulfillment of obligations under trades, executed in the FX market and precious metals market, securities, money, and derivatives markets;
  - individual collateral for the fulfillment and guarantee of the fulfillment of obligations in all above markets can be deposited to a unified account (number of such unified accounts to be used is determined by a clearing member in view of the requirement to segregate proprietary and clients' funds of a clearing member);
- as regards settlements:
  - obligations and claims arising from trades executed in the FX and precious metals market, securities, money, and derivatives markets are net-settled from the assets recorded under the unified account.
- as regards calculation of the collateral required:
  - certain elements of cross-margining were introduced to allow cross-margining of obligations and claims arising from trades executed in different markets: between the FX market and precious metals market, the securities and money markets, and between the derivatives market and the securities and money markets.

As a part of the Unified Collateral Pool Project. Phase II, the facility to transfer assets profiles between the clearing systems of the securities, FX and derivatives markets thus enabling to implement the mechanisms to streamline the use of collateral between the above markets. The risk management framework of the derivatives market was also improved as regards risk parameter calculation and calendar spreads margining.

- II. Launching the Links with Foreign Liquidity Providers Project** designed to offer the OTC service enabling FX market participants to execute FX buy-sale trades with the major international banks via CCP NCC acting as a central counterparty. The facility to execute such trades in the currency pairs EUR/USD and GBP/USD was implemented during the reporting period. The project launch enables market participants to get access to the global liquidity of the international FOREX market and the best prices while keeping usual interfaces of the Russian infrastructure, advantages and convenience of dealing with CCP.

*This project is being implemented according to the following pattern:*

1. CCP NCC communicates quotations obtained from major foreign banks, while acting as a liquidity provider, to clearing members. Liquidity providers are not clearing members of CCP NCC, the relationships between the Company and liquidity providers are regulated by individual agreements.
2. Based on a clearing member's request for currency purchase and sale, CCP NCC enters two 'counter' trades at the available quoted price:
  - with a clearing member according to the procedure provided by the clearing rules of the Company;
  - with a liquidity provider.
3. Currency pair, price and settlement date of the above trades match.



4. When executing trades, CCP NCC acting as CCP according to the Federal Law 'On Clearing, Clearing Activities and the Central Counterparty'.

5. CCP NCC sets limit on each liquidity provider. Clearing members' requests that can give rise to trades in excess of limits are rejected.

**III. The regime of complete and detailed disclosure by CCP NCC of information on its activity in compliance with the Bank of Russia requirements**

In many respects, such requirements of the Bank of Russia are identical to the international recommendations of CPMI-IOSCO thus further increasing transparency of CCP NCC' activities for financial market participants and reinforces their confidence in reliability of CCP function performed by the Company.

**IV. Having implemented CCP NCC Reporting Project** designed to improve the process of generating statutory bank statements and tax returns; full-function implementation of tax monitoring; increasing the level and quality of automation of reporting to the Federal Financial Monitoring Service (Rosfinmonitoring) along with KYC (know your customer) procedures. Use of BIG DATA, state-of-the-art technologies, underpinning Neoflex Reporting system allows to streamline the above processes and make them more manageable.

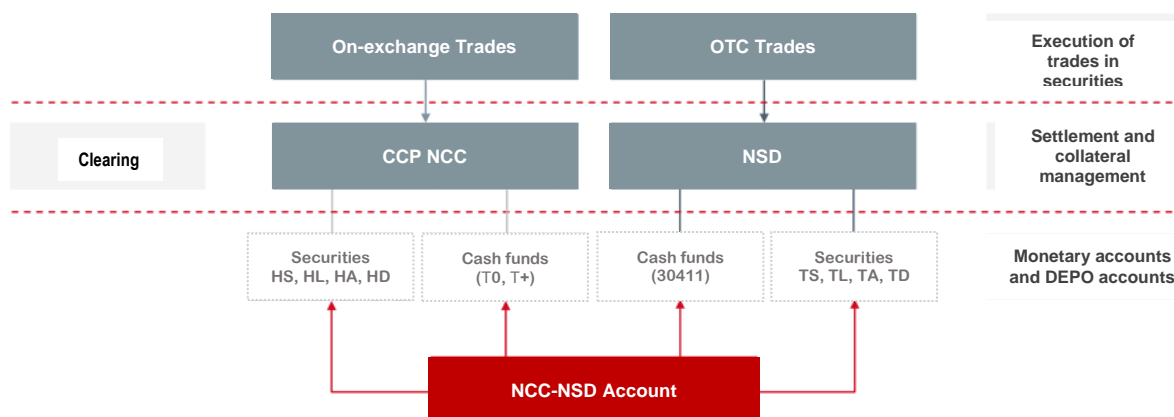
**V. *As a part of implementation of the Moscow Exchange Group's strategic projects aimed at clearing activity development, the following steps were taken:***

**1. The NCC-NSD Account service** between CCP NCC and NSD for funds and securities has been introduced. Such service uses the automated funds transfer technology and is based on the idea of all assets concentration in the Company, where they are used both for settlement of trades and as a collateral for open positions and for entering new trades. For settling in NSD's clearing, assets are selected from accounts with CCP NCC for the amount needed. Funds or securities received in NSD's clearing from counterparties will be returned to accounts with the Company.

The NCC-NSD Account service is profitable for a client as it saves time and, ideally, reduces excess funding to zero. The service design allows to take account of business specifics and to tailor automation to own needs: it is possible to automate one-way and two-way flows only for one of or several assets/accounts, to choose the transfer schedule and the procedure for calculating their amount. The Unified Account service allows to change settings quickly – for example, to exclude specific security issues/accounts from the automated funds transfer mode.

*Operation of the NCC-NSD Account Service:*

- clients' funds and securities concentrate in CCP NCC;
- for executing OTC trades within NSD, assets are selected from client accounts with CCP NCC;
- assets are returned automatically to accounts with CCP NCC upon execution of OTC trades;
- separate parts of the service can be enabled: NSD→CCP NCC or CCP NCC→NSD, securities or funds.



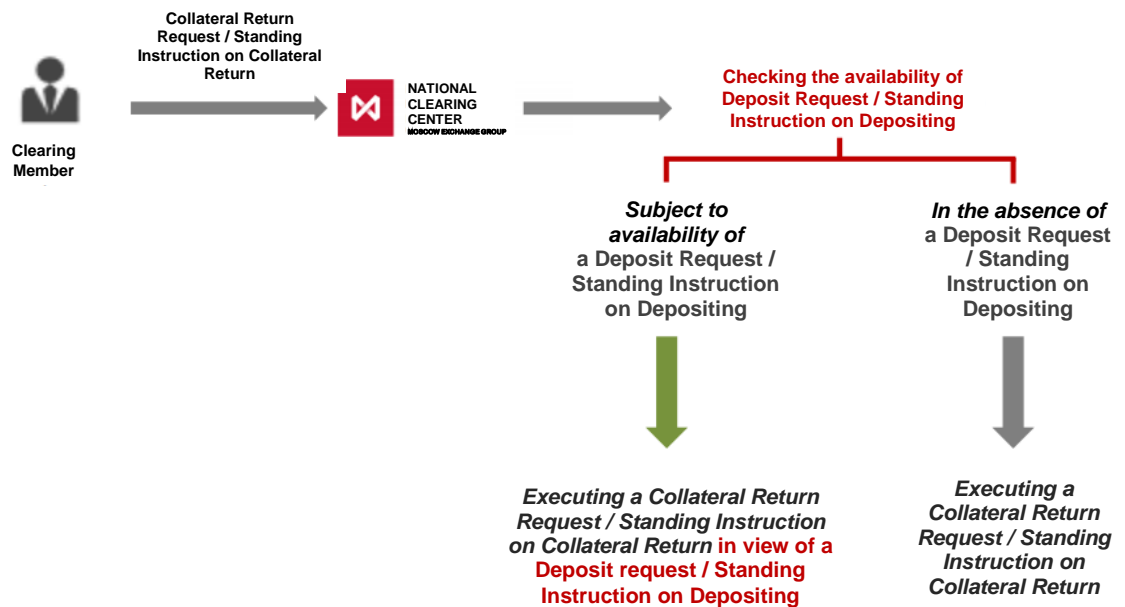
To use the NCC-NSD Account Service (cash funds), a request to change the settlement account parameters has to be sent to CCP NCC (in the form of a paper document or using Web clearing) and to register respective account 30411 with NSD as an account for collateral return with CCP NCC.

**2. Participants' capacity to manage liquidity when executing repo trades with general collateral certificates (GCC) are expanded:**

- New, GCC GC Expanded asset pool, which comprises all bonds eligible for REPO with CCP, including bonds not accepted as collateral by CCP NCC, has been created. GCCs of such pool are not included in single limit;
- new GCC OFZ asset pool, which comprises only OFZ and Russian Rubles, has been created;
- Facility to settle REPO trades with GCC in US dollars has been implemented. The new modes with settlement in foreign currency are available only to banks which use proprietary accounts.

**3. The Deposit Request Service, allowing to specify the cash amount to be retained as a part of collateral when CCP NCC executes requests for collateral return and/or standing instructions for collateral return, has been implemented.**

CCP NCC, when executing the 'Collateral Return Request' or 'Standing Instruction on Collateral Return', in case of availability of effective deposit request or standing instruction on depositing, refunds the whole available amount, except the amount specified in the deposit request / standing instruction on deposit.



In the event of lodging a request and effective standing instruction on depositing, the deposit amount is made up of the amounts specified in deposit request and standing instruction on depositing.

4. **The facility to place deposits with the central counterparty in US dollars** at market rates of on-exchange repo for Russian credit institutions having access to money market of Moscow Exchange **have been expanded**. Previously such deposits could be placed only in Russian Rubles.
5. **CCP NCC switched to the new payment system of the Bank of Russia** providing for creation of the unified expanded regulation on acceptance and processing of payment documents filed by participants of the regulator’s payment system as a part of building of the centralized payment infrastructure of its payment system.
6. **In connection with the amendments made by the Bank of Russia to Regulation No. 579-P and 446-P (International Financial Reporting Standard, IFRS-9)** and coming into effect from 1 January 2019, thus requiring to change the algorithm of execution of aggregate net claims/ net obligations, clearing reports were enhanced in 2018.

**VI. As a part of development of its risk management framework, CCP NCC:**

1. **Successfully performed operational audit of CCP NCC by Deloitte & Touche CIS in compliance with Bank of Russia Regulation No. 556-P** of 11.11.2016 ‘On the Procedure for Conducting Operational Audit by Central Counterparty’ covering such elements of the Company’s activity as CCP’s risk management and assessment of its model accuracy, stress testing of CCP’s risks, determining CCP’s allocated capital and restoring its financial sustainability.
2. **Enhanced CCP’s safeguard structure** by unification of the amount to be contributed by clearing members to the Guarantee Fund in all markets. In particular, the amount to be contributed by clearing members in SD market is increased to RUB10 mln.

3. **Developed the methodology for assessing expected losses driven by credit risk events related to** assets and provisioning to cover such losses according to IFRS-9 approaches.

**VII. International rating agency Fitch Ratings confirmed the long-term issuer default rating (IDR) of CCP NCC in foreign currencies** at BBB- with positive outlook and in domestic currency at BBB with stable outlook, being one point higher than the sovereign rating of the Russian Federation.

**VIII. The Analytical Credit Rating Agency (hereinafter ACRA) confirmed CCP NCC's national scale credit rating at AAA(RU) with Stable outlook.** According to ACRA experts, the credit rating and the outlook assigned to CCP NCC result from its strong and sound business profile, exceptional position in liquidity and capital buffer, which offset the credit organization's risk profile, and the Company's critical systemic importance in the Russian financial market also additionally contributes to the above rating.

**IX. Compliance with of the Quality Management System introduced in CCP NCC with the international standard ISO9001:2015 'Quality management systems – Requirements' (DNV GL Business Assurance Management System Certificate ISO 9001:2015) was confirmed.** The certificate of conformity was issued by Det Norske Veritas and Germanischer Lloyd, International Classification Society, based on the outcomes of the certified audit of CCP NCC carried out by it. The Certificate expires on 10 December 2021 for clearing services, including CCP function.

**X.** According to the financial statements as of 01.01.2019, CCP NCC's equity (capital) was RUB64.7 bln.

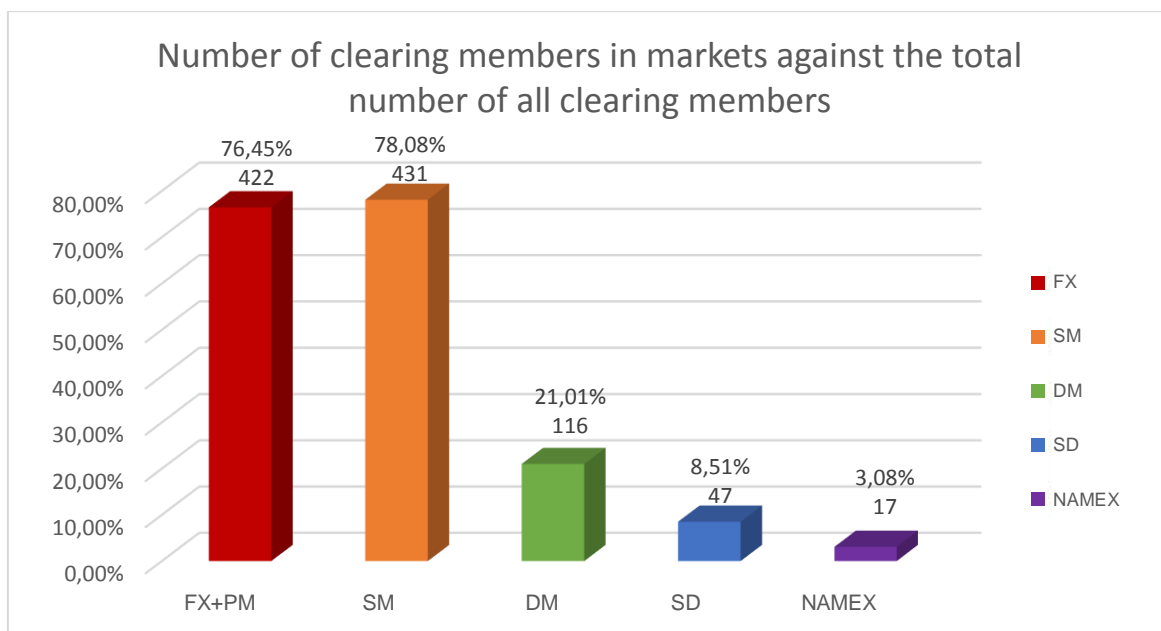
**XI. The Bank of Russia increased its limit on lending to CCP NCC to RUB60 bln** for loans secured with securities as a part of the process to control and provide potential refinancing sources in 2018.

*Reliable performance of its obligations to clearing members and successful implementation of business projects aimed to develop client-centered clearing services enabled NCC to ensure a substantial increase in the volume of services rendered to clearing members.*

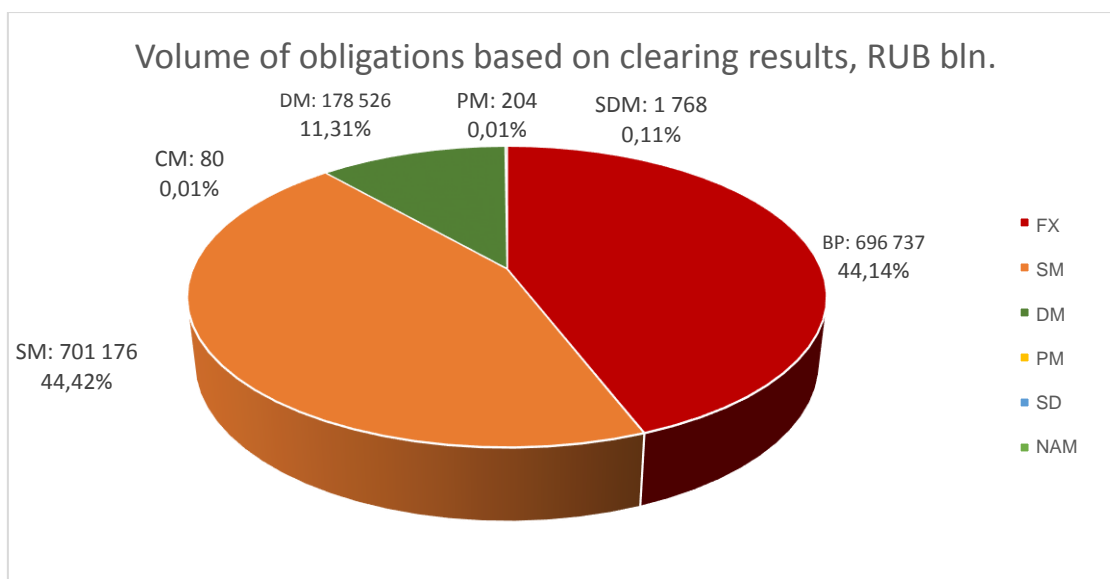
*As of 31 December 2018:*

- the total number of clearing members was 552 organizations;
- the volume of cleared obligations in 2018 was RUB1,578 trn;
- the number of trades cleared in 2018 was 806 mln (785 mln trades in 2017);
- commission income received in 2018 totaled RUB8,105 mln being 1.17 times higher the similar indicator for 2017 (RUB6,952 mln).

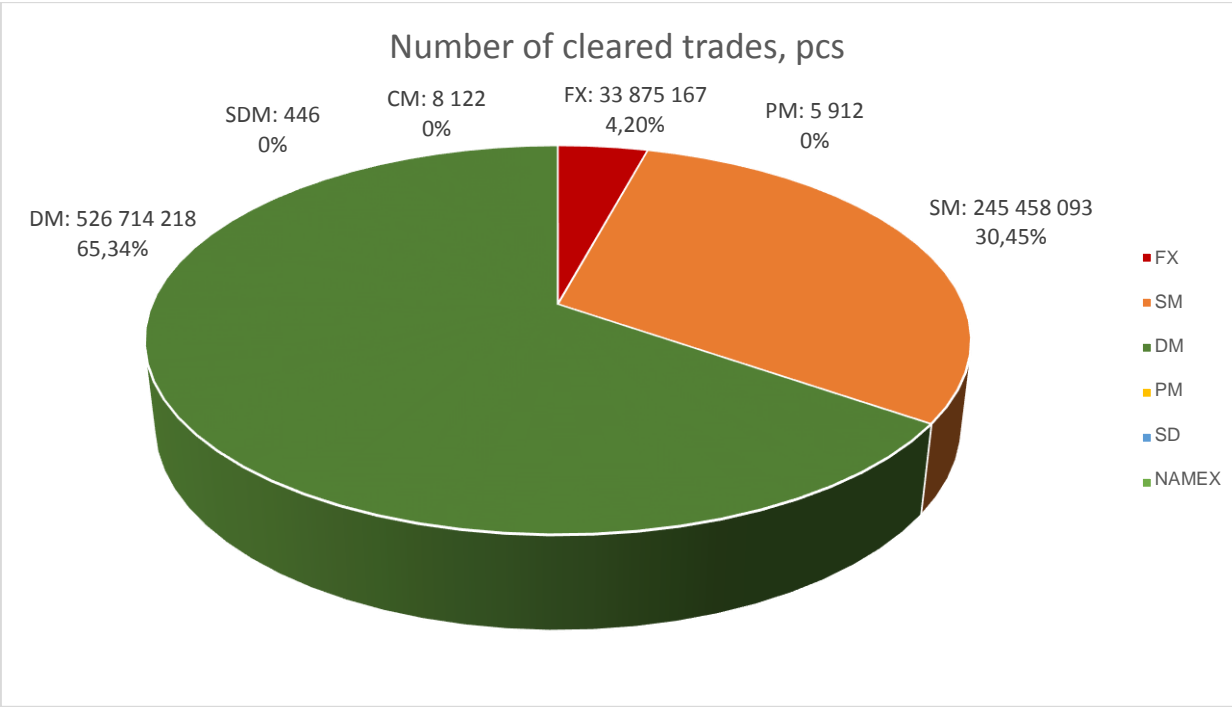
**Chart 1:** Number of clearing members in markets against the total number of all clearing members



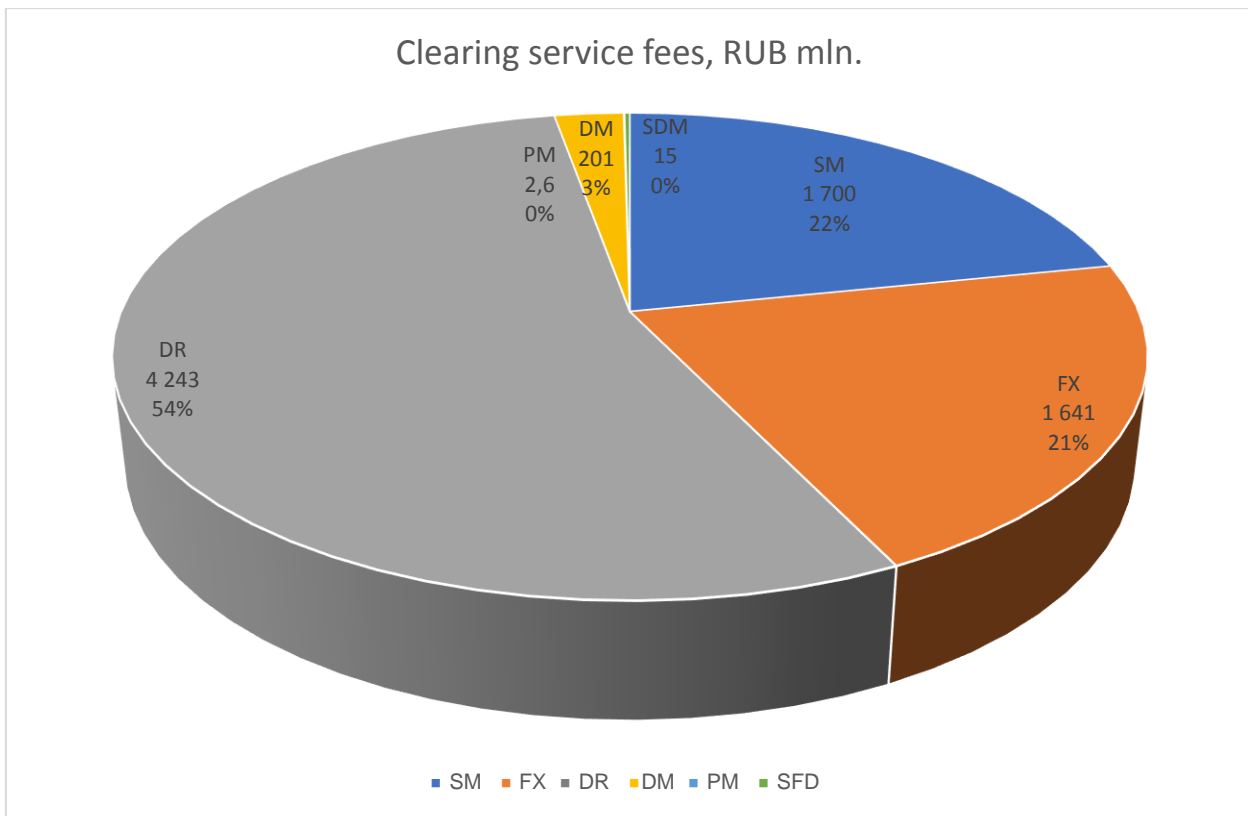
**Chart 2:** Volume of obligations based on clearing results, RUB bln.



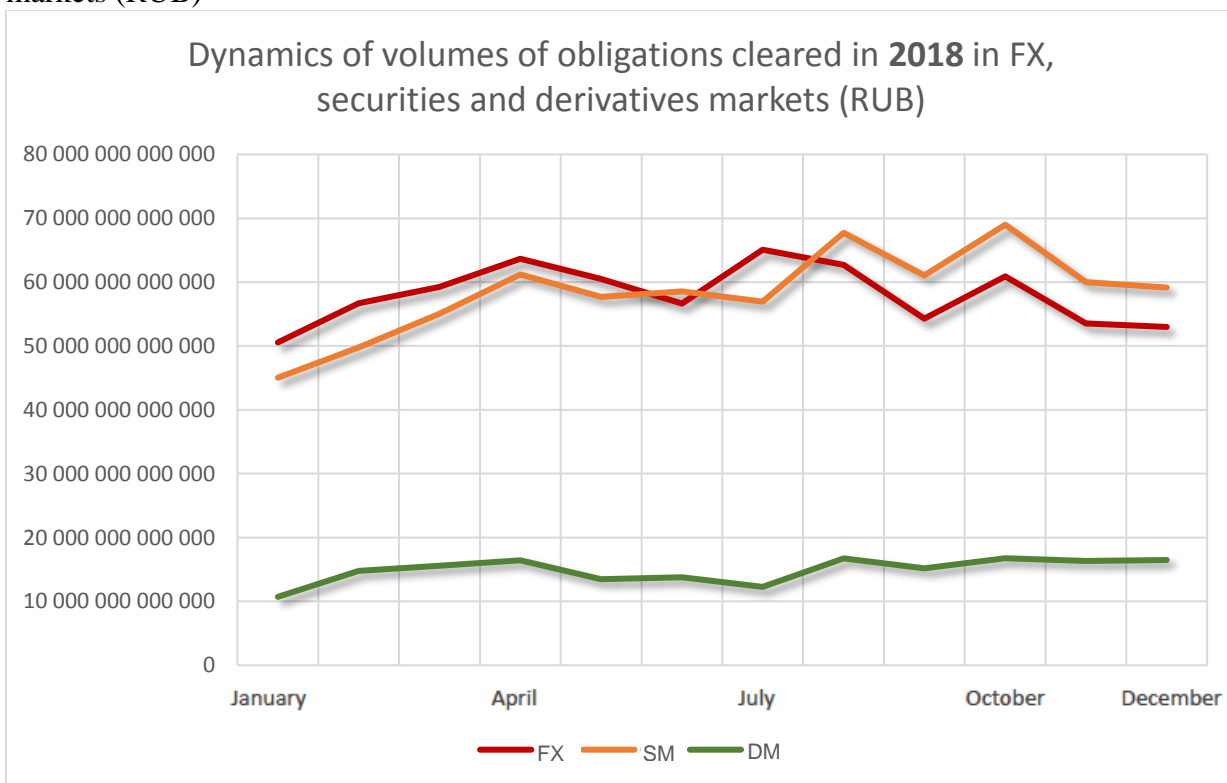
**Chart 3:** Number of cleared trades, pcs



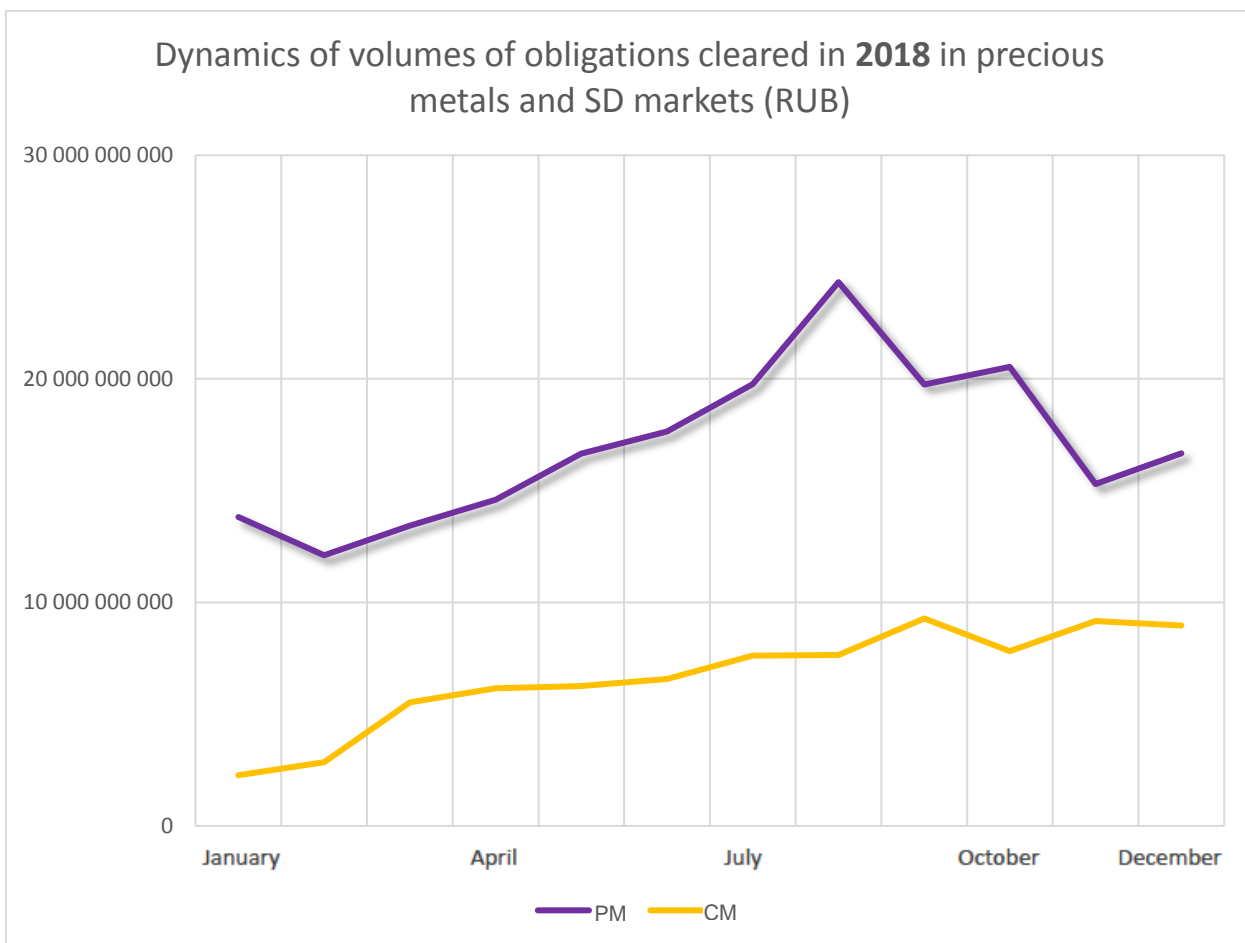
**Chart 4:** Clearing service fees, RUB mln.



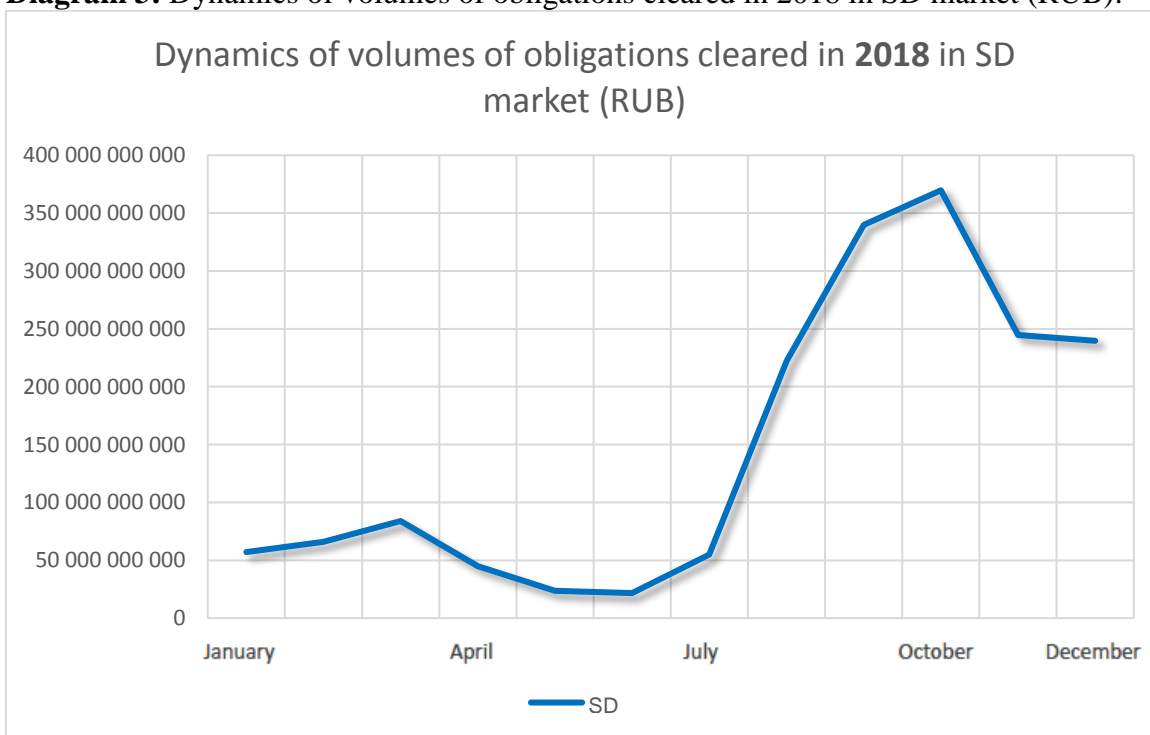
**Diagram 1:** Dynamics of volumes of obligations cleared in 2018 in FX, securities and derivatives markets (RUB)



**Diagram 2:** Dynamics of volumes of obligations cleared in 2018 in precious metals and SD markets (RUB).



**Diagram 3:** Dynamics of volumes of obligations cleared in 2018 in SD market (RUB).





## 4. Development Prospects of CCP NCC

In 2019, CCP NCC will continue implementing the strategic projects aimed at further developing the clearing activities, improving the risk management framework, and implementing measures necessary for maintaining the required revenue from transactions in financial markets.

The priority in clearing will be given to the achievement of targets leading to further unification of the process of clearing service rendering in all on-exchange markets of the Moscow Exchange Group. It will demand integrated implementation of a number of projects, which will result in enhancements in the IT systems both throughout the Group and in CCP NCC, and amendments to the clearing rules.

At the same time, much emphasis will be given to enhancing capabilities to assist the growth of profitability of the Group's business by increasing the number of clearing members. This will be done by providing non-resident clearing members with direct access to CCP NCC's clearing services. In 2019, this will be possible in all markets of the Moscow Exchange Group by implementing the projects for segregation of the statuses of trading participants and clearing members in the derivatives and securities markets.

Without expecting improvement of the unfavorable external factors in 2019 and predicting the continuation of the trend to rehabilitation of the banking sector by the regulator, impact on the business environment of other external and internal factors, CCP NCC will continue to focus on closer monitoring of the world situation and the Russian financial markets. Clearing members, partners, counterparties will be monitored directly in the same way. Such measures are aimed to encourage timely response to challenges and ensure continuity of the critical services performed by the Company in clearing and when acting as a central counterparty.

***CCP NCC's growth prospects in 2019 will relate primarily to the implementation of its significant business projects and performance of the top priority objectives, inter alia:***

### ***A. Creating a Unified Clearing Infrastructure Required for Building a Unified Clearing Platform***

In 2019, implementation of the following projects is planned: *Segregation of the statuses of clearing members and trading participants in the derivatives market, Segregation of the statuses of clearing members and trading participants in the securities market*, which will enable clearing members, who are not trading participants, including non-residents, to get access to clearing services, and enable trading participants, who are not clearing members, to get admission to trading.

*The project provides for implementation of the following objectives:*

- unifying the structure of accounts of the 1st, 2nd, and 3rd level of clearing members and their clients in the securities, FX and derivatives markets + creating the account management services for clearing members (for automated download of limits and risk parameter settings, etc.);
- unifying the structure of clearing membership in the securities, FX and derivatives markets:

- implementing the project for segregation of the statuses of clearing members and trading participants in the derivatives market (to be launched in the first six months of 2019);
- implementing the project for segregation of the statuses of clearing members and trading participants in the securities market (to be launched in the last six months of 2019).

The project for segregation of the statuses of market participants and clearing members was already successfully implemented in the FX and precious metals markets and SD market and allowed to enroll three international clearing members (Bank of America, ICBC, SOVA CAPITAL LIMITED).

### ***B. Integration of the SD Market into the Unified Collateral Pool Architecture***

The project implementation will enable participants and members to enjoy service convenience to the full while enhancing the possibilities to execute trades in any currencies other than RUB and USD and to manage the collateral while minimizing any transaction and other costs.

### ***C. Developing the Links with Foreign Liquidity Providers Project***

CCP NCC, together with Moscow Exchange, will continue developing this project regarding extension of the list of currency pairs of G10 countries and increase in the number of liquidity providers out among the major international banks, thus creating additional opportunities for Russian financial market participants.

### ***D. Implementing CCP NCC's Capabilities to Clear OTC Trades in the Securities and FX Markets***

Expanding capabilities to settle OTC trades on the securities and FX markets, that were executed outside of Moscow Exchange, via CCP NCC, thus enabling participants and members to use netting against on-exchange receivables and liabilities and to avoid extra transfers.

### ***E. Expanding Clearing Members' Capabilities in the Deposit Market***

Clearing members, also being trading participants in the deposit market, will get new possibilities to manage their liquidity, i.e.: the possibility of early withdrawal of cash funds from any deposits placed with the Central Counterparty (subject to depositing back of such withdrawn amount).

### ***F. Unifying the Procedure of Holding Clearing Mark-to-Market Sessions***

The procedure for holding mark-to-market clearing sessions in the derivatives, FX and securities markets, including synchronizing change of risk parameters in the above markets, unifying variation margin settlements, as well as the procedure for drawing and executing margin calls will be unified to provide additional tools for liquidity management.

### ***G. Unifying the Approaches to Protection of Clients' Funds***

In the derivatives, FX and securities markets, different unified default waterfalls for clients' funds will be implemented, including complete protection of segregated client's funds in case of bankruptcy or withdrawal of any clearing member's banking license. As a result, it will boost clients' confidence that the funds, allocated by them to the market for executing transactions, will be returned in the event of occurrence of any adverse scenarios related to clearing members.

#### ***H. Increased Transparency of CCP NCC for Clearing Members and Disclosure of Quantitative Indicators***

In 2019, CCP NCC will continue to improve its transparency for clearing members and to disclose its quantitative indicators of its business as a central counterparty, in view of the requirements imposed by the Bank of Russia on CCPs and the world's best practices.

#### ***I. Proprietary Operations in the Financial Markets***

In 2019, NCC's activities in the financial markets will be carried out with the aim to manage the liquidity with taking into account the clearing activities and a central counterparty's activities, proprietary operations in the markets; to perform the default-management procedures; to manage the assets portfolio for income generation according to the planned target of the shareholder.

In 2019, the main changes in treasury transactions will be related to new product launches in Moscow Exchange such as launch of trading in Turkish liras and Japanese yen with liquidity providers (major foreign banks). It will require configuration of the main business processes for the new currencies taking into account the significant time difference of settlements in Moscow and the regions where the relevant currencies are circulating. One more feature of the new products is the fact that the settlements on the basis of trading results are combined with the settlements of own treasury trades with banks who act as liquidity providers.

In 2019, the final transition of clearing members to the unified collateral pool in all markets trading at Moscow Exchange may exert additional influence on treasury transactions.

In 2019, the strategy to form the asset portfolio of CCP NCC provides for decreased activity of the Bank of Russia and the Federal Reserve System regarding the change in the key interest rates. Therefore the focus of transaction execution in financial markets will be on optimization of the balance between short- and medium-term assets to increase income while assuming the acceptable level of market risk and ensuring flexibility in case of significant changes in financial markets.

## **5. Development Results in Major (Priority) Operational Areas**

### **5.1. Clearing**

#### **5.1.1. FX and Precious Metals Markets Clearing**

The FX market of Moscow Exchange is the Russia's oldest organized on-exchange market, where the world's major currencies have been traded since 1992, and since 2013 there has been developing trading and clearing of precious metals transactions. The on-exchange FX market is the center of liquidity in cash operations and the most important segment of the national financial system. The Bank of Russia uses the on-exchange FX market to implement its monetary policy

and establishes the official exchange rates for USD and other foreign currencies against Russian Ruble based on the on-exchange trading results. The fixing of Moscow Exchange also serves as the basis for the calculation of the settlement price of futures contracts on the foreign currency exchange rate.

The FX market and precious metals market of Moscow Exchange is a modern on-exchange market meeting all regulatory and the most recent technological standards applying to the on-exchange market, which hosts the major volume of FX transactions. The convenience of the on-exchange FX market is provided by the unified trading and post-trading infrastructure of the Moscow Exchange Group, providing its clients with a full range of trading, clearing, settlement and information services/. Trades are executed in accordance with the rules of organized trading of PJSC Moscow Exchange in the FX market and Precious metals market in the double counter-auction mode. Trades are entered automatically, progressively as counter-orders with mutually satisfactory prices are entered into the system. Also, there is a separate mode for the execution of the off-the-book trades (two-sided deals). The functions of the trading organizer and technical center are performed by Moscow Exchange, and functions of the clearing organization and central counterparty are performed by CCP NCC.

The Company has been performing clearing in the FX market since 10 December 2007. Trades entered on this market are cleared and settled with the participation of CCP NCC acting as a central counterparty for all entered trades, securing obligations fulfillment of non-defaulting clearing members, thus significantly decreasing the risks of clearing members and relieving them from the need to set limits to each other. The FX market trading is conducted in a partially secured way, using a highly efficient and reliable risk management framework.

CCP NCC performs clearing in compliance with the Clearing Rules. The following currencies are traded in the FX and precious metals markets:

- US dollar (USD), euro (EUR), British pound (GBP), Swiss franc (CHF), Hong Kong dollar (HKD), Chinese yuan (CN), Japanese yen (JPY), Belarusian ruble (BYR), Kazakhstani tenge (KZT) and Turkish lira (TRY), gold (GLD) and silver (SLV) for Russian rubles (RUB);
- Euro (EUR), British pound (GBP), Swiss franc (CHF), Chinese yuan (CN), Kazakhstani tenge (KZT), Turkish lira (TRY) for US dollars (USD).

In the FX market and precious metals market, the Company clears spot and swap trades, and since 2014 it has been also clearing financial derivatives (swaps and futures) traded with or without full prefunding. The collateral may be posted in cash (Russian Rubles, US Dollars, Euro, Chinese Yuan, Hong Kong Dollars, British Pounds and Swiss Francs, and in precious metals (gold, silver). In the FX market and precious metals market, trades may be executed on the basis of on-order book orders (in “blotter”) or off-order book orders. The trades based on on-order book orders are partially secured.

Since 2013, CCP NCC has been clearing trades in precious metals for Russian Rubles, which can be settled in the following ways:

- at the expense of clearing members;
- at the expense of clients of clearing members;
- using cash funds in trust management of clearing members.

In December 2014, in the FX market and precious metal market there was established the institute of “general clearing member” – a clearing member entitled to act as a clearing broker and provide services to trading participants. According to this model, trading participants submit orders and execute trades, while clearing members become a party to such trades and make settlements under the obligations arising from the trade.

In 2016, there was a reduction of the collateral for offset positions under euro and US dollar in the risk management framework due to the introduction of intercommodity spread, which enables market participants and their clients to cut their expenses for operations funding. To unify the collateral calculation, assessment of the interest rate risk for the positions “tomorrow” and margining of the positions for overnight swaps similarly to long swaps was introduced.

For managing the client risks, there was implemented the possibility to register clients’ trade accounts of the 2nd and 3rd levels thus enabling market participants to use on-exchange risk management for managing the client positions. At the same time, they have a possibility for netting as to delivery and collateral within the settlement account, under which various client positions are kept. Withdrawal of funds in the amount of the settlement position enables members to be more flexible at managing the intraday liquidity without terminating trading in instruments with “today” settlements.

The Segregation up to the Final Client Project enabled the option for checking payment details for the matching of the beneficiary to the segregated client that makes it possible to protect cash funds of the segregated client.

In 2018 the toolkit of foreign exchange market was expanded. In this market, new currency pairs (none of which being Russian Ruble) were admitted to trading (GBP/USD, EUR/USD, USD/CHF, USD/CN, USD/KZT, USD/TRY). When implementing this objective for recording intercommodity spreads for calculating a unified limit, more flexible structure integrating previously used technologies was used: circle spread (circle) and group spread (group/supergroup).

New currency pairs with Russian Ruble were admitted: Japanese yen (JPY/RUB), Kazakh tenge (KZT) (KZT/RUB) and Turkish lira (TRY/RUB).

In 2018, CCP NCC also implemented the facility to convert the individual clearing collateral (hereinafter - ICC) to another collateral type in the securities and derivatives markets. The advantage of ICC conversion to another type is more rapid performance of payments.

Currently, in the FX market, foreign currency is credited to correspondent accounts of CCP NCC maintained with foreign banks and recorded as other collateral type, and foreign currency transferred to the securities and derivatives markets is recorded as the individual clearing collateral and is credited to the Company’s accounts maintained with NSD. In order to credit foreign currency to CCP NCC’s correspondent accounts maintained with foreign banks, an application for changing the collateral status has to be submitted.

Introduction of reliable and effective clearing service technologies and the qualitative expansion of the range of instruments of interest to investors contributed to greater attraction of the FX and precious metals market of the Moscow Exchange Group and exerted positive influence on CCP NCC’s performance in the said market. The fee earned by the Company for clearing service in 2018 was RUB1,640,938,000 in the FX market, – RUB2,577,000 in the precious metals market (in 2017: these indicators were RUB1,583,746,000 and RUB1,055,000, accordingly).

### **5.1.2. Securities and Deposit Markets Clearing**

The securities market of the Moscow Exchange Group is a modern market meeting all regulatory and technological requirements, hosting organized trading in major types of securities traded in Russia, and being based on the unified trading and post-trading infrastructure of the Group.

Since 2017, CCP NCC has been providing the centralized clearing services as a central counterparty under deposit agreements denominated in Russian Rubles. In the securities market and deposit market of the Moscow Exchange Group, the Company provides its clients with the most extensive range of services performing clearing of trades concluded in different trading modes, either with or without performance of the CCP's functions. CCP NCC has been carrying out its clearing activities in the securities market since 1 November 2011. Until 19 December, 2016 the trading organizer was CJSC MICEX Stock Exchange, and since December 19, 2016 - PJSC Moscow Exchange. Clearing settlements in the securities market are performed by the National Settlement Depository, a Non-banking Credit Organization (joint stock company) (hereinafter - "NSD").

In the securities and deposit markets, CCP NCC performs the following types of clearing:

- *clearing of partially secured trades:*
  - for buy/sell trades with CCP executed on the basis of on-order book orders with the settlement T+2 (equities, depositary receipts, mortgage participation certificates, ISU, ETF) and with the settlement T+1 (government bonds), as well as for the trades in the above securities entered on the basis of off-order book orders with the settlement from T+0 to T+2;
  - for REPO trades with CCP, including REPO trades in general collateral certificates, executed on the basis of off-order book order and on-order book orders; and
  - for deposit agreements;
- *clearing of fully secured trades:*
  - for buy/sell trades with CCP entered on the basis of orders (off-order book and on-order book) with settlement T+0 (corporate, regional and municipal bonds), as well as the first parts of REPO trades executed on the basis of off-order book orders with T+0 execution;
- *clearing of non-secured trades:*
  - for REPO trades and buy/sell trades without CCP executed on the basis of off-order book orders, with settlement of buy/sell trades from T+0 to T+30 T+0 to T+2 (for the first parts and REPO trades from T+0 to T+365 (for the second parts of REPO transactions).

Methods used by CCP NCC to secure the fulfillment of obligations admitted for clearing include the individual clearing collateral of clearing members in Russian Rubles, foreign currencies or securities, and it also uses the collective clearing collateral (default fund) for clearing of partially secured trades.

The Company provides clearing as CCP for the following trades executed with or without full prefunding:

- securities buy/sell trades with the settlement code T0 (except placement and redemption trades), K0, Yn;
- REPO trades with the settlement code T0/Yn, Ym/Yn; and
- deposit agreements with the settlement code Ym/Yn.

CCP NCC provides clearing without performing CCP's functions for the following trades:

- securities buy/sell trades with the settlement code Bn, B0-B30, Z0;
- REPO trades with the settlement code Rb, Sn, Z0;
- placement and redemption trades with settlement accounts T0; and " placement trades with the settlement code X0.

In the securities market, trades may be executed on the basis of on-order book (in “blotter”) or off-order book orders. The trades based on on-order book orders can be executed only with or without full prefunding.

Settlements based on results of the clearing carried out by CCP NCC are performed both during and after the trading day, with the following options:

- at the expense of clearing members;
- at the expense of their clients;
- using cash funds in trust management of clearing members.

The implementation of reliable and efficient clearing service techniques, instruments attractive to investors had a positive impact on CCP NCC’s business results in this market segment. In particular, the clearing service fees received by the Company in the securities and deposit markets in 2018 were RUB5,943,543,000, which is 1.13 times higher than in 2017 (RUB5,272,378,000).

### 5.1.3. Derivatives Market Clearing

Since 2012, CCP NCC has been providing clearing services in the derivatives market of the Moscow Exchange Group for a broad range of financial derivatives, such as futures with their underlying assets being indices, equities, currency pairs, interest rates, commodities, as well as options on such futures. Moscow Exchange is a leading platform for trades in derivative financial instruments over the CIS and Eastern European countries and is ranked among TOP 8 world derivative trading exchanges<sup>1</sup>.

Today, the range of financial derivatives traded in the derivatives market includes 105 derivative contracts of which 67 are futures and 67 are futures options.

The underlying assets of financial derivatives traded in the derivatives market sections of Moscow Exchange are indices, currency pairs, equities of Russian and foreign issuers, interest rates, and commodities:

Securities section	Money section	Commodities section
<p><b>Futures:</b>  RTS and MICEX indices, blue chip indices (Russian* and foreign issuers  Russian market volatility index (RVI)</p>	<p><b>Futures:</b>  Currency pairs: USD/RUB, EUR/RUB, CNY/RUB, EUR/USD, AUD/USD, GBP/USD, USD/CHF, USD/JPY, USD/UAH, USD/CAD, USD/TRY  Interest rate: MosPrime, RUONIA  Federal Loan Bonds*</p>	<p><b>Futures:</b>  Oil: BRENT  Precious metals: gold, silver, platinum, palladium, copper  Raw sugar</p>

<sup>1</sup> Source: Futures Industry Association (FIA) Annual Report 2017 published on 24.01.2018 at fia.org

<b>Futures options:</b> Shares of Russian issuers RTS and MICEX indices	<b>Futures options:</b> Currency pairs: USD/RUB, EUR/RUB, EUR/USD, GBP/USD, USD/JPY	<b>Futures options:</b> Precious metals: gold, silver, platinum Oil: BRENT
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*Note: The contracts marked with asterisk “\*” are deliverable, while all other contracts are settlement ones.*

Since 2018, American issuers’ stock index futures (US500) have been traded at Moscow Exchange. Trading in the derivatives market is conducted both in an anonymous and addressed (negotiable) modes.

When clearing and settling financial derivatives (including variable margin), CCP NCC also acts as CCP and thereby considerably reduces risks of clearing members and releases them from costly procedure of setting limits for each other.

In the derivatives market, CCP NCC clears trades executed:

- at the expense of clearing members;
- at the expense of their clients;
- using cash funds in trust management of clearing members.

The functions of settlement depository and settlement organization are performed by NSD, which is responsible for the following:

- recording clearing collateral in cash funds on the CCP NCC's clearing accounts maintained with NSD;
- recording clearing collateral in securities on DEPO trading accounts of clearing members maintained with NSD.

The range of acceptable collateral assets comprises Russian Rubles as well as foreign currencies and securities on the list approved by the resolution of CCP NCC and compiled in accordance with the Company’s approved Guidelines for selection and assessment of foreign currencies and securities acceptable as collateral.

***In 2018, CCP NCC took measures to further develop its clearing services provided to clearing members in the derivatives markets, in particular:***

1. CCP NCC continued enhancing the risk management framework in the derivatives market of Moscow Exchange and related services. In particular, there has been implemented the possibility to enter into asset sales contract with a reduced collateral for a position, if such asset is available as collateral (covered sales) and the changed model for establishing limits on brokerage firms, i.e. the possibility to establish ‘virtual’ limits at such level is provided (limits may not be linked with actual funds).
2. Emergence of liquidation sections in brokerage firms’ special sections, namely for each settlement account in the respective section of special brokerage firm ,the liquidating clearing ledger of XXYYLIK type will be created for recording in the event of the forcible closing of positions of any participant by CCP NCC.
3. Technical implementation of the projects for segregation of the statuses of market participants and clearing members in the derivatives market has started thus allowing to provide direct access to this market by organization, who are not interested (due to the specifics of their business model) to act as market participants or who may not legally act as market participants due to legal restrictions. For resident clearing



members such separation of statuses will provide them with additional benefits through margining of several market participants they render services to and the performance of net-based obligations. For market participants, who perform functions of clearing members at the same time, the existing procedures of rendering clearing services and trade organization services will remain unchanged.

The project is designed to unify the services in all on-exchange markets and will provide additional possibilities to non-residents (including with use of SMA-access to trading) and major local brokers, and will enable small local brokers to cut their costs due to cancelation of contributions to the default fund and non-application of clearing fees.

The first phase of implementation is schedule for the 1Q2019.

4. The technology of supply of precious metals to the market under futures contracts on gold is implemented thus establishing links between the precious metals market and the derivatives market as delivery is made to the spot precious metals market of Moscow Exchange. Futures contracts are quoted in Russian rubles per gold gram with monthly performance starting with November 2018.

The clearing service fees received by CCP NCC in the derivatives market in 2018 amounted to RUB201,483,000, which is 8 times higher on the previous year (2017: RUB24,990,000).

#### **5.1.4. Commodities Market Clearing. Performing the Functions of a Commodity Delivery Operator**

Commodities market of the Moscow Exchange Group is a unique stock exchange infrastructure holding organized trades in derivatives (deliverable forward and swap contracts) with commodity as the underlying asset. Trades are held using the new hi-tech trade and clearing system (TKS Urozhay) allowing to adapt the functionality and specifications to the standards of trading, logistics accepted in the industry and to launch trades with wide range of underlying assets. This technology provides both brokers and end customers with access to trading.

The first trading in grain was launched at the exchange in December 2015 (wheat derivatives contracts). In 2016, corn and barley contracts were added. In March 2017, trading in the new underlying asset (sugar) was launched, on-exchange trading in which contributes to increased transparency of pricing at the Russian sugar market enabling both large traders and sugar consumers to purchase sugar directly from its producers. At the same time the full line of on-exchange instruments was implemented in the commodity market: deliverable grain derivatives contracts were supplemented with sugar derivatives contracts as well as grain swap contracts, thus enabling market participants and their clients to borrow against the collateral in form of commodity. In 2018, trading in soy and sunflower was launched with the support of the major participants of the oil and fat industry. In December 2018, clients of brokers, who do not pay VAT, were also admitted to trading in commodities.

For settling trades, the participants' commodity accounts are used, which are maintained with CCP NCC who acts as a central counterparty in the grain and sugar market and as a clearing organization accounting both funds received from buyers in payment of the commodity price and guarantee funds. In addition, CCP NCC is a Commodity Delivery Operator (CDO) who maintains participants' commodity accounts for accounting of commodities acting as a keeper for commodities for participants. Acting as CDO, CCP NCC accredits elevators and warehouses for

storing commodities admitted to on-exchange trading. The clearing service fees received by CCP NCC in the commodity market in 2018 amounted to RUB14.02 mln.

In 2018, Moscow Exchange together with CCP NCC was active in developing a package of measures aimed at mitigating the tax risks of participants of on-exchange trading in agricultural products and preventing circulation of grain with ‘adverse tax history’. According to the above package of measures, brokers’ clients will be put into one of the following categories: ‘Agricultural Commodity Producers’, ‘Owning Client’ and ‘Non-Owning-Client’. Agricultural Commodity Producers and Owning Clients will be able to sell grain, having proved that it was purchased directly from its producers. Agricultural Commodity Producers will also be able to sell self-produced grain at the exchange. Non-Owning-Clients will be able to purchase grain via on-exchange trades without any restriction and to enter into forward or swap bids for commodities, which were previously purchased at the exchange. This package of measures excludes the possibility of refusing to treat amounts of VAT on on-exchange bids as deductible. The package of measures aimed at on-exchange trading in grain and the measures to be introduced in the OTC grain market under the Charter in the area of turnover of agricultural products are symmetric in many respects and have the same goal to mitigate tax risks of bona-fide grain buyers. CCP NCC’s clearing rules in the commodity market and the Rules for JSC NTB admission encompassing the standards related to the package of measures designed to mitigate tax risks are approved by the authorized bodies and registered by the Bank of Russia.

In 2018, CCP NCC, as CDO, made over 3,000 commodity transactions to credit/debit the commodity to the commodity accounts of clearing members/bailors. All accredited elevators and warehouses use EDMS when liaising and exchanging documents with CCP NCC to ensure effective cooperation with elevators/warehouses for performing, controlling and accounting of commodity supplies. As of 31 December, 2018, over 300,000 tons of commodity were held on the commodity accounts of clearing members/bailors, CDO’s net income for the year totaled RUB56.72 mln.

### **5.1.5. SD Market Clearing**

SD market of Moscow Exchange was established in 2013 in furtherance of G20 resolutions to strengthen the central counterparty’s role in the financial markets and transfer SD trading to exchange venues.

CCP NCC has been clearing in the SD market since 2013 in compliance with the clearing rules and performing the Central Counterparty’s functions under all SD contracts. In this market, the Company clears with partial pre-funding with respect to the following derivative financial instruments:

- swap contracts;
- future contracts;
- forward contracts;
- option contracts;
- and with respect to swap trades and buy/sell trades in foreign currency.

Settlements are made using CCP NCC’s clearing bank/clearing correspondent accounts maintained with NSD. Clearing members post their individual and collective clearing collateral (Guarantee Fund) both in Russian Rubles and in foreign currency. The minimum amount of contribution to the Guarantee Fund of each clearing member is RUB10 mln.

In 2018, in the context of changing monetary policy of the Bank of Russia, as well as rising geopolitical tension and unleashing trade wars, the members show growing demand for tools to manage interest and exchange rate risks. It has contributed to the explosive growth of the SD market's liquidity.

During the reporting period, the overall number of SD market participants grew to 47 due to accession of 6 new participants: Natiksis, Citibank, ExpoBank, Asian-Pacific Bank, Akbars, International Bank for Economic Cooperation.

The volume of cleared obligations in 2018 was RUB1,768 bln (2017: RUB218 bln). In 2018, 446 trades were cleared (2017: 138 trades). In 2018, the clearing service fees received by CCP NCC in the SD market amounted to RUB15,346,000, which is 8 times higher on the previous year (2017: RUB1,913,000).

## 5.2. Proprietary Transactions in Financial Markets

In 2018, CCP NCC' transactions in financial markets were impacted both by the internal factors – decreasing market rates in the first quarter, and the external, geopolitical factors, which had the opposite effect – increasing market rates and depreciation of the Russian ruble.

During the reporting period, CCP NCC's liabilities structure continued changing (see Table 1):

- The collateral provided by the clearing members in Russian Rubles continued decreasing during the first six months of the year then it stabilized, which is probably related to both withdrawal of excessive collateral emerged during 2014-2015 crisis and decreasing market RUB rates;
- The collateral provided by the clearing members in foreign currency (especially in US dollars) continued declining substantially, which is probably caused both by diminishing opportunities to fund clearing members in foreign currency and growing market USD rates.

Table 1.

<b>Clearing Members' Collateral – Annual Average</b>	<b>RUB mln</b>	<b>USD mln</b>	<b>EUR mln</b>
2015	80,689	6,090	4,891
2016	74,258	4,139	5,128
2017	54,365	3,003	5,349
2018	57,693	2,093	4,182
Change 2018/2017, mln	+ 3328	- 910	- 1,167
Change 2018/2017, %	+ 6%	-30%	- 22%

The developing market conditions and trends in the liabilities structure determined the main areas of CCP NCC's transactions in financial instruments.

The RUB portfolio increased by 14% due to the increasing amount of bonds issued by the Bank of Russia. The amount of deposits with the Bank of Russia also increased, *inter alia*, due to

conversion of part of assets from short-term financial instruments of money market. Therefore, the annual average investments in the instruments of the Bank of Russia increased more than six-fold - to RUB32 bln, thus allowing to earn high percentage yield with almost zero market risk.

The amount of the USD securities portfolio decreased after decrease in the liabilities, though to a much lesser extent. The focus was on reinvestment of the considerable part of the portfolio repaid in 2018 – about USD350 mln. It is important to note that reinvestment took place at higher rates both due to the increasing discount rate of U.S. Federal Reserve and in connection with increasing spread of Russian Eurobonds against U.S. bonds.

Considerable efforts were focused on the increasing EUR securities portfolio as mainly negative rates are established for other asset types, and high amount of EUR collateral provided by participants contributes to a very low liquidity risk. Though Russian issuers offer a very limited number of Eurobonds nominated in euros, the annual average amount of the EUR securities portfolio increased by 51% (see Table 2).

Table 2.

<b>Eurobond Portfolio (Annual Average)</b>	<b>USD in RUB Equivalent, mln</b>	<b>EUR in RUB Equivalent, mln</b>
2015	19,056	896
2016	71,765	10,318
2017	69,685	24,300
2018	66,496	36,575
Change 2018/2017, RUB mln	- 3,189	+ 12,275
Change 2018/2017, %	-5%	+ 51%

Reverse REPO transactions were an important component of financial market transactions. In 2018, no REPO transactions in euros were entered due to no market demand. At the same time, REPO transactions in US dollars remained at the high level (see Table 3). Whereby, due to increasing market rates along with 11% growth of RUB equivalent transactions, revenues from reverse REPO transactions grew by 61% thus making significant contribution to the revenues from financial market transactions.

Table 3.

<b>Reverse REPO portfolio (annual average)</b>	<b>USD in RUB equivalent, mln</b>	<b>EUR in RUB equivalent, mln</b>
2015	14,895	10,940
2016	34,424	9,662
2017	42,988	501
2018	47,628	0
Change 2018/2017, RUB mln	+ 4,640	-501
Change 2018/2017, %	+ 11%	- 100%

In 2018, the volume of precious metals transactions continued growing.

Location SWAP transactions in precious metals grew on 2017 from 514 kg to 10163 kg, first of all due to silver transactions. The volume of transactions of acceptance/delivery of physical gold also increased from 1725 kg to 13378 kg.

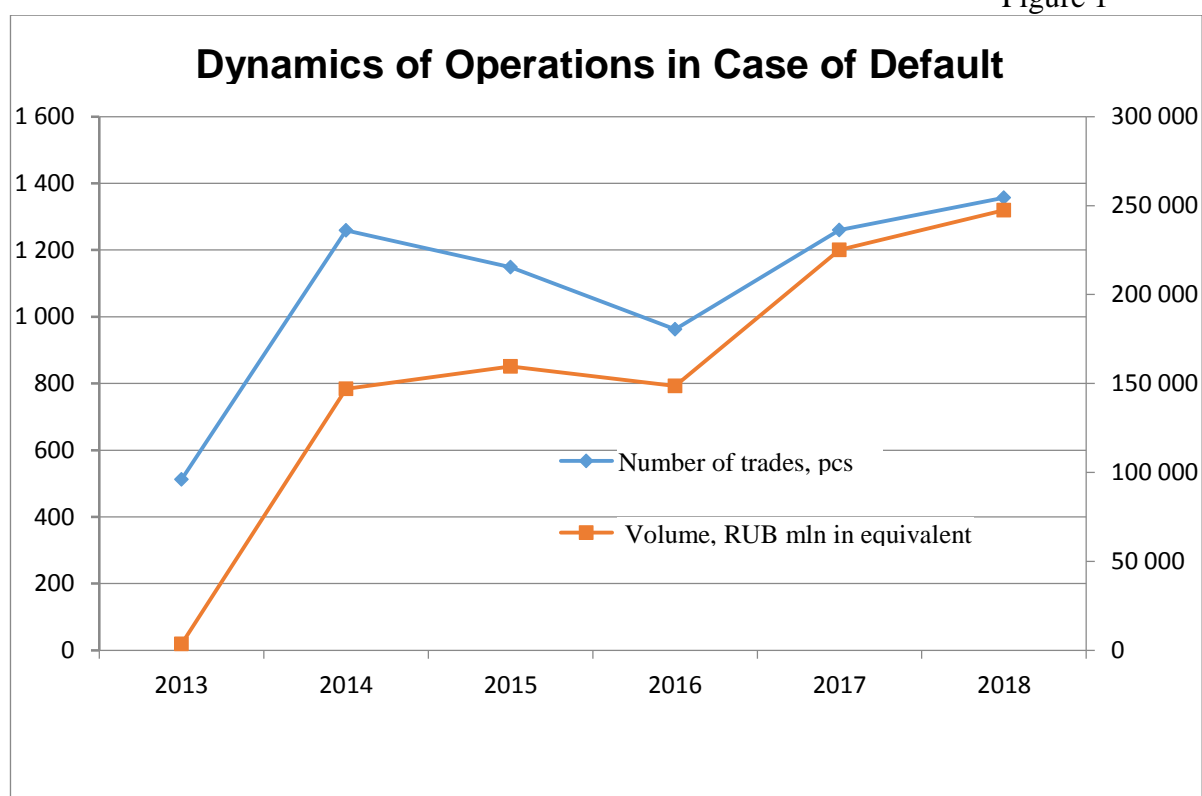
As a part of the process of managing assets denominated in precious metals, precious metal deposits were placed. The total amount of the placed deposits in gold grew on 2017 from 11259 kg to 27402 kg of gold. In 2018, deposits in silver also started to be placed, the total amount thereof being 54742 kg.

The number and volume of financial market transactions, being a part of the default management processes increased on 2017 (see Table 4, Figure 1). However they were still insignificant both in relation to the trading volume in on-exchange markets and in relation to CCP NCC's assets. At the same time, some of default management transactions is still related to closing of clearing members' positions in connection with withdrawal of licenses from credit institutions by the Bank of Russia.

Table 4.

Transactions	Number of Transactions	Change on 2017, %	Volume, RUB mln	Change on 2017, %
<b>FX market</b>				
<i>Carry-over of positions (SWAP)</i>				
USD	340	33%	90,599	7%
EUR	94	32%	16,860	39%
CNY	17		292	
GBP	6		863	
HKD	1		0	
CHF	4		6	
GLD	7		63	
			First currency of the pair, mln.	
EURUSD_TOD	68	-7%	834	78%
GBPUSDTODTOM	2		0	
USDCNYTODTOM	1		5	
<i>Regulation of margin requirements</i>				
RUB	8	-43%	2,124	-12%
<i>Closing of positions</i>				
USD	36	112%	11,923	102%
EUR	28	133%	1,068	-53%
CHF	1		0	
GBP	2		2	
SLV	1		1	
GLD	2		9	
EURUSD000TOD	1		2	
<b>Securities Market</b>				
<i>Carry-over of positions (REPO +SWAP+S/P)</i>				
RUB	693	-8%	47,865	-47%
<i>Closing of positions (Sale/Purchase +LN+T+2)</i>				
RUB	41	583%	74,838	
<b>Commodity Market</b>				
<i>Carry-over of positions (REPO +SWAP+S/P)</i>				
RUB	5		17	
<b>Derivatives Market</b>				
<i>Closing of positions (margin requirement)</i>				
RUB	6	500%	34	55%
* introduction of ICO in the derivatives market	0	0%	0	0%
<b>TOTAL</b>				
USD	377	38%	102,524	13%
EUR	190	22%	18,762	26%
CNY	17	6%	292	7%
GBP	10	-9%	865	448%
HKD	1	-50%	0	-100%
CHF	5	-64%	6	-95%
GLD	9	800%	72	4%
RUB	748	-4%	124,861	34%

Figure 1



As a part of the activity aimed to ensure unconditional performance of CCP's obligations and to increase its liquidity level in 2018, the potential refinancing was increased. Pursuant to the Agreement for Participation in Lending and Repayment Transactions of the Bank of Russia collateralised by securities or rights of claim according to credit facility agreements, the lending limit is increased to RUB60 bln.

CCP NCC is continuously expanding its correspondent network to ensure efficient clearing settlements. In 2018, the following correspondent accounts were opened: in Japanese Yen – with JPMorgan Chase Bank N.A Tokyo Branch, and in Kazakhstani tenge – with the subsidiary bank of AO Sberbank, Kazakhstan.

### **5.3. Risk Management Including Measures Aimed at Maintaining High Quality of Management in CCP NCC as CCP**

#### **5.3.1 Risk Management System Compliance with the Regulatory Requirements and International Standards**

Functioning as a clearing organization, central counterparty and commodity delivery operator (CDO) in the markets of the Moscow Exchange Group, CCP NCC performs its activities employing the up-to-date risk management framework (RMF) meeting the applicable international standards.

Based on its functions and objectives, CCP NCC has a specific risk structure, comprising the following interrelated groups:

- risks inherent in CCP NCC as a central counterparty and clearing organization;

- risks inherent in CCP NCC as credit institution;
- risks inherent in CCP NCC as CDO.

CCP NCC's risk management framework covers the following range of risks:

- credit risk (including counterparty risk, concentration risk and credit risk of counterparty);
- market risk;
- interest rate risk in the banking book;
- liquidity risk;
- operational risk;
- strategic risk;
- legal risk;
- regulatory risk;
- reputational risk;
- custody risk;
- commercial risk;
- systemic risk.

CCP NCC's key objectives are to reduce risks in the financial system and deliver stability in the serviced segments of financial and commodity markets where it provides its service. The achievement of these objectives is facilitated by implementation of a risk management framework enabling the comprehensive analysis of risks arising from all types of activities.

- mitigating potential losses by limiting the risk levels assumed by NCC across all segments of the financial and commodity markets;
- ensuring funds adequacy for CCP NCC to be able to cover potential losses out of accumulated financial resources, including equity, individual clearing collateral, collective clearing collateral and other types of collateral;
- ensuring stable performance of the exchange trading, clearing and settlement system including through timely identification of risks and prompt and adequate response measures on risk event occurrence.

To ensure its operational reliability, CCP NCC applies the risk management approaches in accordance with the requirements of the Bank of Russia, recommendations of the Basel Committee on Banking Supervision, as well as international standards of the Committee on Payments and Market Infrastructures of the Bank for International Settlements and the Technical Committee of the International Organization of Securities Commissions (CPMI-IOSCO) for systemically important infrastructural organizations.

During the reporting year, CCP NCC's activities aimed at improving its risk management framework were focused on compliance with Bank of Russia Ordinance No. 2919-U dated 02 December 2012 'On Assessing the Management Quality of a Credit Organization Performing Central Counterparty Functions' (hereinafter 'Ordinance 2919-U'), Bank of Russia Regulation No. 575-U dated 30 December 2016 'On the Requirements for Risk Management, Rules for Risk Management Arrangement, Clearing Collateral, Placing Property, and Creating Assets of a Central Counterparty, as well as Entities with Which a Central Counterparty is Entitled to Open Trading and Clearing Accounts, and the Methodology for Determining Allocated Capital of a Central Counterparty' (hereinafter 'Regulation 575-P')

In 2018, CCP NCC made a number of amendments to the internal documents regulating CCP's risk management, generally in connection with the scheduled review of internal documents in compliance with the requirements of the Bank of Russia, consideration of recommendations based on the results of operational audit of CCP NCC conducted in compliance with Bank of



Russia Regulation No. 556-P dated 11 November 2016 ‘On the Procedure for Conducting Operational Audit by Central Counterparty’ and with a view to improve the risk management framework of CCP NCC as a clearing organization, central counterparty and commodity delivery operator. In particular, the following documents were amended as follows:

- rules of the organization of risk management framework – the document has been amended in view of the recommendations set forth based on the results of operational audit of CCP NCC regarding supplementing with the measures to mitigate the strategic and custody risks, and refining of the procedure of managerial risk reporting;
- techniques of stress testing has been updated, the procedure of conducting extraordinary stress testing is also described and the procedure of calculation of the regulatory capital for stress testing;
- techniques of assessing model accuracy has been enhanced in view of the recommendations on operational audit of CCP NCC regarding itemization of the process of modifying the model in the event of unsatisfactory results of assessment of model accuracy and refining of the list of ratios shows in reports and statements;
- recovery and resolution plan – the document has been updated taking into account the requirements of Bank of Russia Regulation No. 643-P dated 02 July 2018 ‘On the Requirements for the Contents of a Financial Stability Recovery Plan of the Central Counterparty, the Procedure and Timeframes for its Submission to the Bank of Russia and Amendments Thereto, on the Procedure for the Bank of Russia to Assess the Financial Stability Recovery Plan of the Central Counterparty, on the Requirements for the Type and Nature of Events about Which the Central Counterparty Should Inform the Bank of Russia, and on the Procedure for the Central Counterparty to Inform the Bank of Russia of the Events Stipulated by its Financial Stability Recovery Plan and the Decision to Start Implementing the Plan’ and the recommendations set forth based on the results of operational audit of CCP NCC;
- the risk and capital management strategy, amended and restated, include the updated results of the most significant risk identification and provide an updated set of risk appetite benchmarks for 2019;
- risk appetite benchmarks for 2019, which set the updated qualitative and quantitative thresholds of the significant risk level for the next year for subsequent quarterly monitoring;
- the procedure of limiting the treasury transactions and trades with liquidity providers and the Guidelines on Control of Limits on Treasury Transactions and Trades with Liquidity Providers have been updated taking into account implementation of the Links to Foreign Liquidity Providers Project. The provisions on establishing limits on liquidity providers and to their control have been added.

Improvement of the methodology base of the processes associated with risk and capital management remains among the most important elements of CCP NCC’s activities.

### **5.3.2 Risk Management of Clearing Organization and Central Counterparty**

In 2018, development of CCP NCC’s risk management framework was primarily focused on ensuring its financial stability and reliability of CCP NCC as a clearing organization, central counterparty, and commodity supply operator and was carried out in the following main areas:

- ensuring adequacy of financial resources for settlements both in normal and extreme market conditions;
- setting up arrangements protecting against potential losses in case of a clearing member’s default;

- improving the risk assessment methodology required for CCP NCC to offer new clearing products and expand the range of cleared instruments;
- implementing the measures to maintain compliance of CCP NCC's current activities with the requirements imposed by the Bank of Russia on central counterparties whose management quality has been recognized "satisfactory" in accordance with provisions of Ordinance 2919-U;
- providing information transparency to enable clearing members to assess risks adequately and supervisory authorities to supervise their activities efficiently.

### *Margining System for Clearing Members' Trades*

CCP NCC uses a variety of models to determine collateral requirements depending on the specific markets. The model for determining collateral requirements considers the specifics of instruments and, accordingly, is applied with minor differences based on the markets specifics.

The scenarios used in margining models are calibrated on the basis of historical data and consider the potential price movement scenarios for those assets that have not been reflected in by historical data yet, so as to secure at least 99% confidence probability for the required collateral amount in all markets.

The asset types acceptable as collateral are also market-specific, as follows:

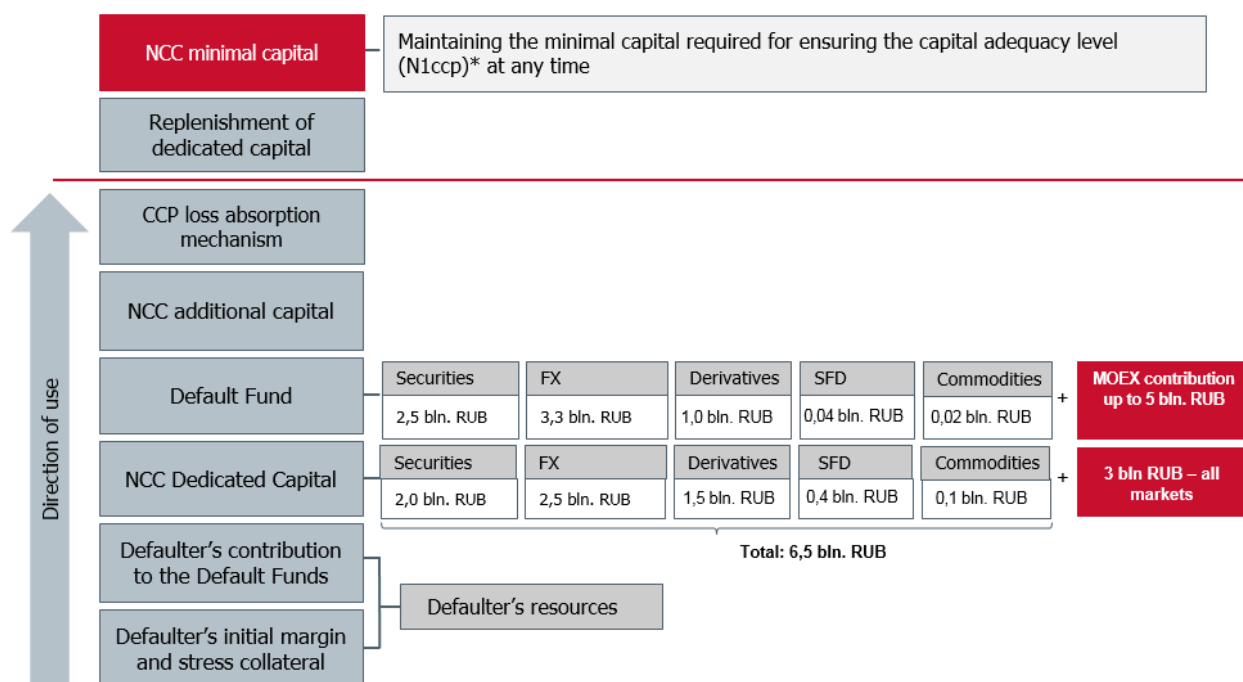
#### **Asset types acceptable as collateral in the markets of Moscow Exchange**

Market	RUB	Foreign Currencies	Precious Metals	Bonds	Shares	Commodities
FX Market and Precious Metals Market	+	+	+	-	-	-
Securities Market and Deposits Market	+	+	+	+	+	-
Derivatives Market	+	+	-	-	+	-
SFD market	+	+	-	-	-	-
Commodity Market	+	-	-	-	-	+

### *CCP Safeguard Structure*

While developing the system of managing all types of risk, NCC continued to improve the structure of CCP safeguard levels aimed at ensuring the reliable and transparent interaction with clearing members and guaranteed maintenance of CCP NCC financial stability in connection of its performance of the functions of central counterparty. CCP NCC consolidated the structure of CCP safeguard levels by unifying the amount of clearing members' contribution to the Default Fund in all markets. In particular, as mentioned above in this report, the amount of clearing members' contribution in the SFD market increased to RUB10 mln.

The Figure below reflects the safeguard structure as of 01.01.2019:



According to the international operational standards for clearing organizations - central counterparties, the level of risk coverage by collective funds is considered to be sufficient provided that, within a short period of time, these resources can cover maximum risk for at least one or two default positions. CCP NCC aims to cover maximum risk caused by default of 2 largest clearing members, which exceeds the requirements of the international standards.

To provide additional protection for non-defaulting clearing members, their contributions to the Default Fund are used only when the amount of total debt of the defaulting clearing members to CCP NCC exceeds the maximum acceptable value. Currently, in all serviced markets of the Moscow Exchange Group the default fund may be used to cover losses upon default of a clearing member. The size of the default funds as of 1 January 2019 is shown in the table below:

### Size of Default Funds in the Moscow Exchange Markets as of 01 January 2019

Market	Size of Default Fund, RUB mln	Size of Contribution of Clearing Member, RUB mln
FX market	3,962	10
Securities Market and Deposit Market	2,972	10
Deposit Market		1
Derivatives Market	1,227	10
SFD market	546	10

**Composition of Default Funds as of 01.01.2019, RUB mln**

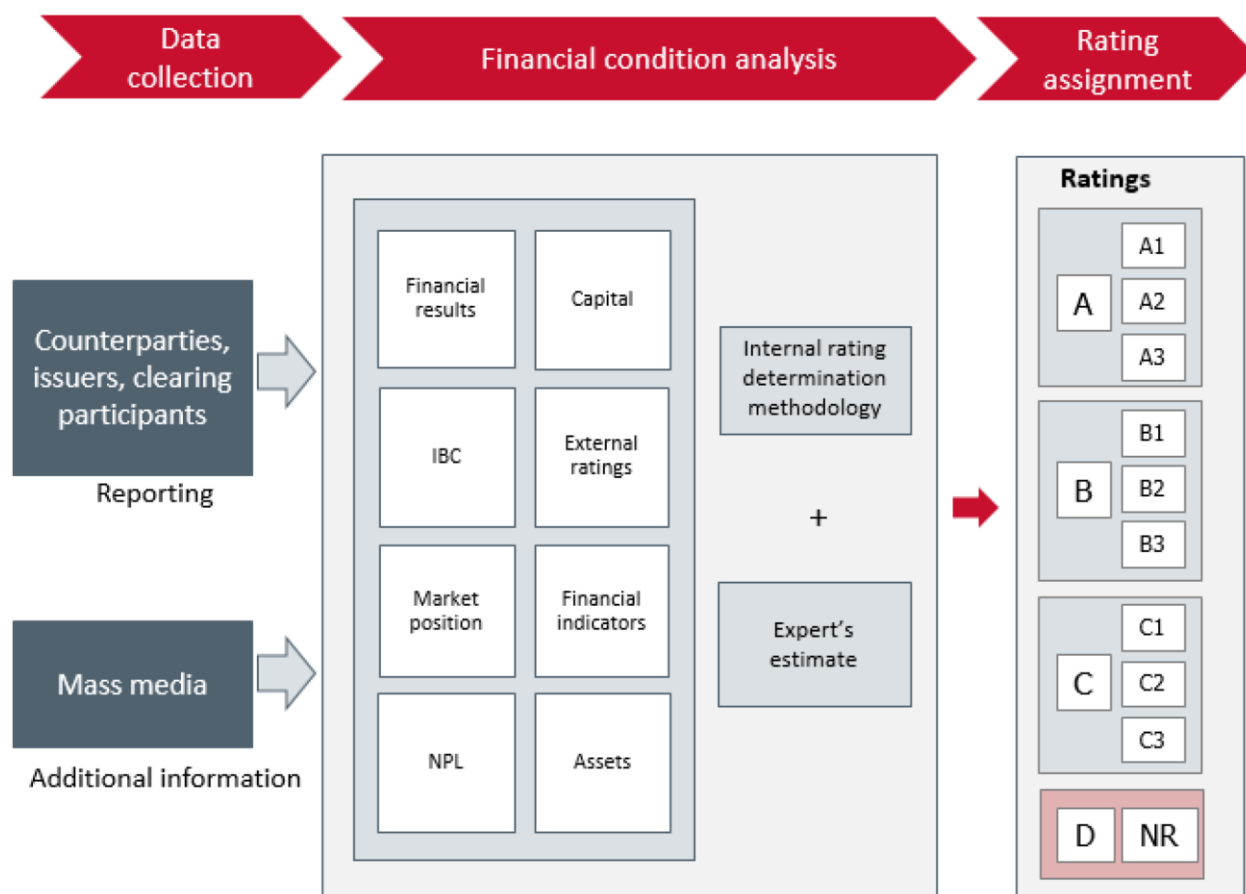
Markets	RUB	USD	EUR	FLB
FXM, SM, DM, SFPI, CM	3,736	797	1,368	2,524

***Financial Monitoring of Clearing Members***

CCP NCC uses the internal rating system as an efficient tool to monitor financial position of clearing members and counterparties to its active trades. The use of formalized internal ratings enables it to promptly respond to deteriorating financial position of clearing members and counterparties, to establish limits for active transactions and set aside adequate provisions for possible losses on risk-bearing transactions.

The internal ratings are assigned in accordance with the Counterparty Internal Rating Guidelines. In 2018, to evaluate the financial position of new categories of counterparties and improve indicators used in calculation of such internal ratings of certain types of counterparties, the revised Counterparty Internal Rating Guidelines was approved, which was amended in connection with introduction of new reporting templates for professional securities market participants and insurers from 01.01.2018.

The internal rating process comprises the following components:



Information sources for determining of internal rating include financial statements and other information on clearing members and counterparties, which is significant for assessment of the level of risks assumed for them. The internal rating represents an outcome of the aggregate point assessment of financial and non-financial indices and may be adjusted based on the expert appraisal (with taking into account the information on the ownership structure, data on the development of the counterparty’s business, market positions of a clearing member in separate market segments, and dynamics of the value of the stock issued by them, as well as other material information).

As of 01.01.2019, CCP NCC’s internal rating system covered 1,021 organization. The breakdown by types of 1021 NCC rated clearing members and counterparties as of 01.01.2019 is shown in the table below:

<b>Breakdown by types of participants as of 01 January 2019, %</b>	
Credit organization, NCOs, state-owned corporations, international organizations	34.6%
Issuers, corporations	31.4%
Financial Institutions	10.7%
Commodity market’s warehouses/traders/elevators	8.0%
Administrations	4.7%
Non-resident credit organizations	4.1%
Non-resident issuers	3.9%

### 5.3.3 Managing Risks of CCP NCC as a Credit Organization

Due to its special status and types of activities, CCP NCC follows a conservative asset management policy in allocation of free cash.

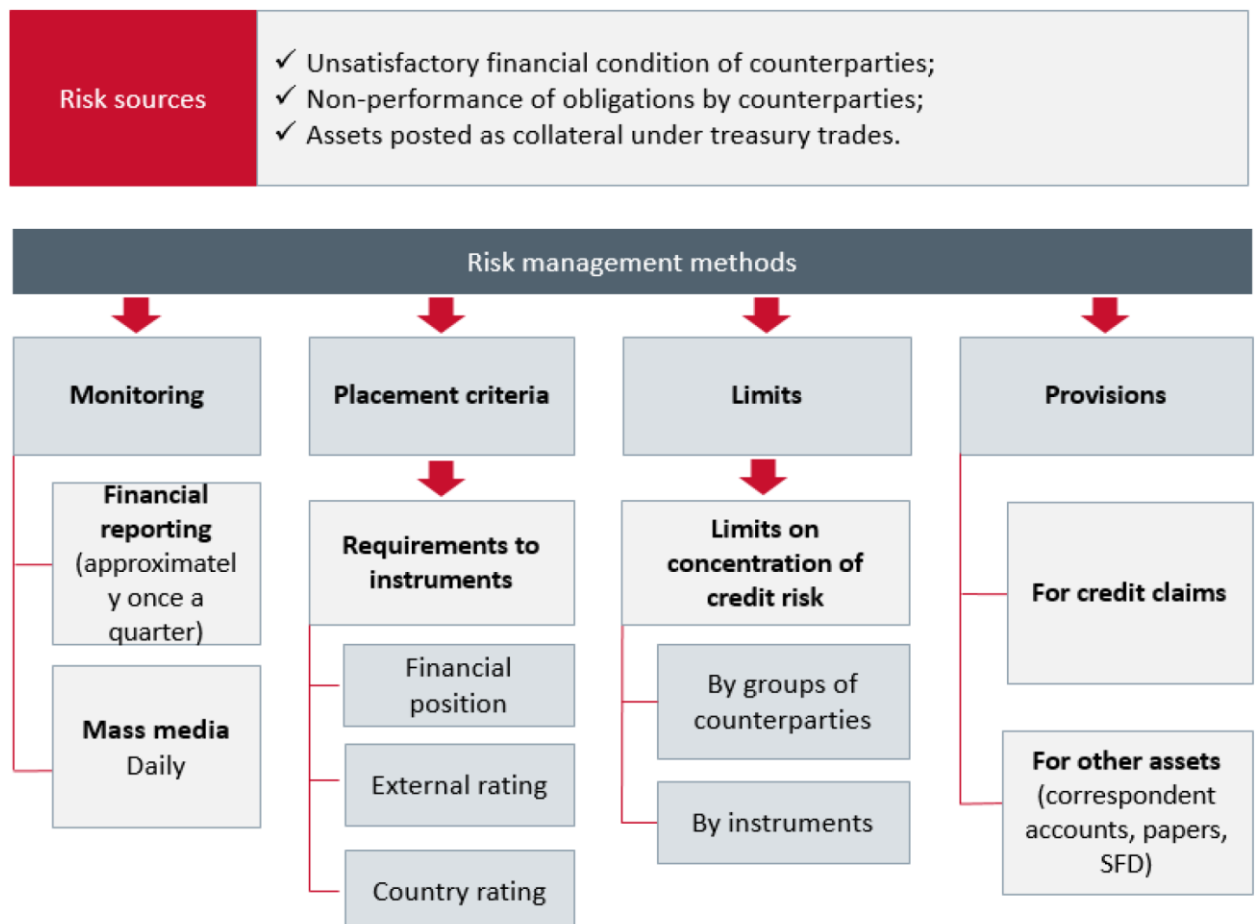
The key elements of managing risks arising in course of banking operations include:

- managing the assets and liabilities portfolio;
- monitoring counterparties' financial standing;
- setting limits;
- provisioning for possible losses to cover risks; and
- refusal to bear certain types of risks.

#### *Credit Risk Management*

Credit risk with regards to CCP NCC as a credit organization arises as a result of the Company's investment operations.

The credit risk management process is briefly outlined in the figure below:



The investment activity of CCP NCC, the criteria it uses to select counterparties and instruments in allocation of free cash, as well as maturities based on market liquidity of instruments are governed by CCP NCC's Treasury Policy.

The main provisions of CCP NCC's investment policy ensure sufficient return on assets at a moderate risk level as shown in the tables below:

Financial instruments used	Credit rating requirements				
	RF residents		RF nonresidents		
	IBLs /conversion transactions / SWAP	At least <b>A-(RU)</b>	At least <b>ruA-</b>	At least <b>BBB-</b>	At least <b>Baa3</b>
Corporate and subfederal bonds	At least <b>A-(RU)</b>	At least <b>ruA-</b>	At least <b>BB-</b>	At least <b>Ba3</b>	
Government bonds	No limits apply		At least <b>AA-</b>	At least <b>Aa3</b>	
Repo and reverse repo and other instruments	At least <b>A-(RU)</b>	At least <b>ruA-</b>	At least <b>BB-</b>	At least <b>Ba3</b>	
	ACRA	RAEX	S&P	Fitch	Moody's
Placement of dedicated capital	At least <b>AAA(RU)</b>	At least <b>ruAAA</b>	At least <b>BBB-</b>	At least <b>Baa3</b>	
	ACRA	RAEX	S&P	Fitch	Moody's

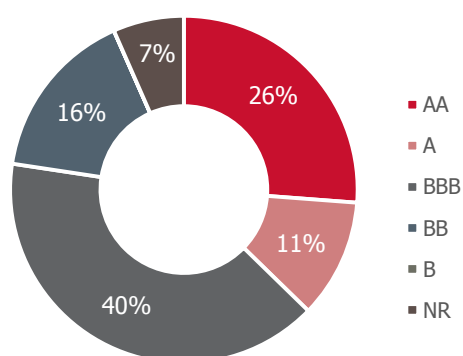
Financial instruments used	Financial instruments used	
	Use of own funds	Use of clearing liabilities
	Max. portfolio duration	Up to 18 months
Repo trades in bonds	Up to 180 days	
SWAP (currency)	Up to 365 days	
SWAP (precious metals)	Up to 365 days	
Bank of Russia deposits	No limits apply	Up to 31 days
IBCs	Up to 180 days	
Government bonds (RF)	No limits apply	
Government bonds (other)	Up to 3 years	
Corporate bonds	Up to 3 years	

The cornerstone of control of credit risks arising in course of cash allocation is the limiting of treasury operations. The existing system of limit enables limiting of the amount of risks assumed by CCP NCC to the level corresponding to guaranteed performance of the regulatory requirements of the Bank of Russia and the Treasury Policy of CCP NCC.

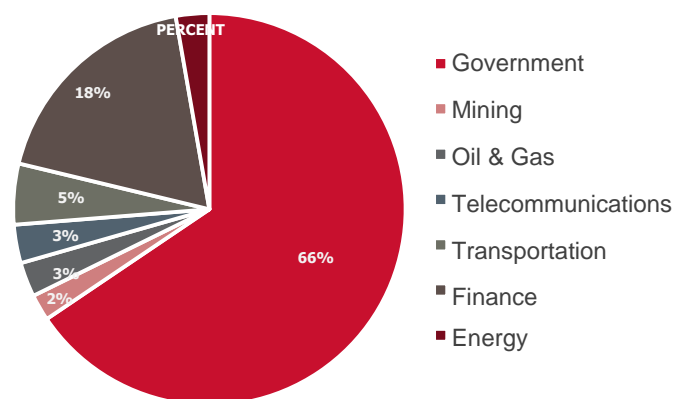
As of 01.01.2019, the structure of the credit risk exposed assets consisted prevalingly of the funds placed on correspondent accounts with credit organizations, mainly the major foreign banks and reliable Russian banks. The largest amount of funds was placed on the correspondent accounts with JP Morgan Chase Bank and its subsidiaries due to their performance of functions of settlement banks in the on-exchange FX market of the Moscow Exchange Group.

The diagrams below show the asset grouping in accordance with S&P international rating, as well as the distribution of CCP NCC’s securities portfolio by sectors:

**Assets Breakdown by International Ratings, %**



**Industry Breakdown of Securities Portfolio, RUB bln**



As of 01.01.2019, due to the high quality of assets, the capital adequacy ratio (N1ccp requirement) was 153.2% (versus the regulatory minimum of 100%), which confirms expressly CCP NCC’s financial stability.

### **Market Risk Management**

CCP's activity is exposed to market risk only in case of credit risk event. Therefore, the market risk is managed as a part of the range of credit risk management measures. For the purpose of quantitative assessment of market risk for various markets where CCP NCC acts as CCP, the methodology was developed to be used, in particular, to determine the volume of requirements to the size of collateral posted by the clearing members. The key objective of market risk management in allocation of temporarily free cash is optimization of the risk/ return ratio and minimization possible losses in case of unfavorable events. To this end, CCP NCC:

- diversifies its securities portfolio (by maturities, issuer’s industry);
- sets maximum expiration periods for investments in securities;
- sets limits for investments in securities (for the entire volume of investments, types of investments, and issuers);
- classifies the debt instruments and securities by risk groups; and
- forms provisions for possible losses from securities, unless such securities are revaluated at fair prices.

CCP NCC is exposed to interest rate risk on securities and financial derivatives sensitive to interest rate fluctuations, and on derivative trades in securities sensitive to interest rate fluctuations as shown in the table below:



<b>CCP NCC's exposure to market risk as of 01.01.2016, RUB thousand</b>		
	<b>01.01.2019</b>	<b>01.01.2018</b>
Interest rate risk	10,899,121	9,550,416
General interest rate risk	2,322,638	2,310,175
Specific interest rate risk	8,576,483	7,240,241
Securities market risk	0	0
Currency risk	0	0
<b>Interest rate risk, % of capital</b>	<b>16.66%</b>	<b>20.81%</b>

As of 01.01.2019, the interest rate risk amounted to 16.66% of the capital (equity) of CCP NCC (20.81% as of 01.01.2018).

The interest rate risk is calculated as the sum of general interest rate risk associated with adverse changes in the present (fair) value of securities and financial derivatives as a result of market fluctuations of interest rates, and the specific interest rate risk driven by factors attributable to the issuer of securities, as well as the time periods to securities maturities and the currency in which the securities are denominated.

CCP NCC is not exposed to a securities market risk as it does not hold any equity securities. FX risk may arise from adverse fluctuations of exchange rates. However, open positions in foreign currencies and precious metals were less than 1% equity of CCP NCC both as of 01.01.2019 and 01.01.2018, accordingly there were no sensitivity to FX risk. The market risk was considered by CCP NCC during 2018 as not involving any potential losses that would impair its financial sustainability.

### ***Managing Interest Rate Risk in the Banking Book***

CCP NCC manages its interest rate risks in the banking book as part of the market risk management. The interest rate risk in the banking book is assessed on the basis of on review of amount and structure of the balance sheet and off-balance sheet claims and liabilities included in the bank's portfolio.

The source of interest rate risk is an adverse change in interest rates which may cause potential losses to CCP NCC driven by maturity gap (mismatches of interest rate revision) of assets and liabilities sensitive to the interest rate fluctuations, with parallel shift, change of slope or form of the yield curve, as well as occurrence of the basis risk due to different sensitivity of assets and liabilities with similar maturity to fluctuations of interest rates.

To assess the level of the assumed interest rate risks, CCP NCC measures its interest rate risks using the interest rate risk calculation methods – GAP-analysis and duration methods. Throughout the year 2018, the interest rate risk in the banking book remained within the admissible values approved by CCP NCC's Management Board.

### ***Liquidity Risk Management***

The conservative asset management policy contributed to maintenance of the liquidity level sufficient to perform payment obligations of CCP NCC as a central counterparty. The liquidity management is aimed at ensuring CCP NCC's ability to perform its obligations timely and in full,

under normal market conditions or in case of unforeseeable emergencies without incurring unacceptable losses or reputational risks.

CCP NCC, as a central counterparty, calculates the liquidity requirement according to Bank of Russia Regulation No. 175-I dated 14.11.2016 'On Banking Operations of Non-banking Credit Institutions - central counterparties, on Statutory Ratios for Non-banking Credit Institutions - Central Counterparties and Features of the Bank of Russia's Supervision of Compliance with Them'. As of 01.01.2019, its value is many times greater than the minimum threshold.

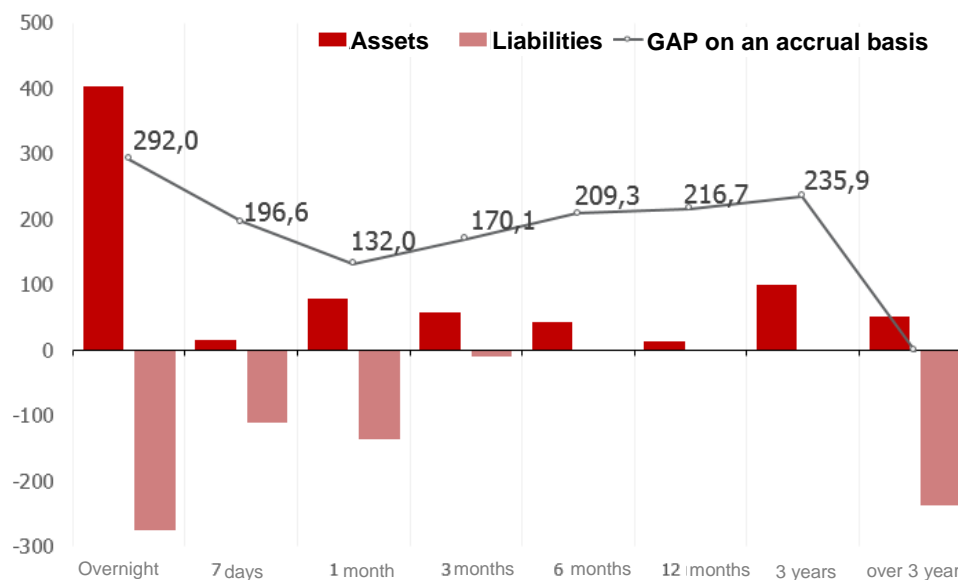
*The liquidity risk management involves the following procedures:*

- forecasting payment flows with breakdown by major currencies and determining the required volume of liquid assets;
- monitoring and forecasting liquidity ratios;
- maintaining quick, current and long-term liquidity ratios at the prescribed regulatory levels;
- planning measures to recover the required liquidity level in unfavorable or crisis environment;
- setting limits and restrictions for transformation of cash into other types of assets: on securities transactions based on type and maturity of securities, limit of open FX position;
- composing an optimal asset structure given the available resource base;
- considering the maturities and amount of available resources when investing assets in financial instruments; and
- reviewing the negative scenarios of liquidity shortage, evaluating the risk response framework, improving the liquidity management tools and methods.

NCC manages its liquidity in a real-time mode based on the payment calendar using the measures to optimize its cash flows, improve operations regulations of active transactions, settlements and correspondent relations. Liquidity status is assessed on the monthly basis by means of liquidity gap-analysis (analysis of assets and liabilities by maturities) and calculation of liquidity shortage (excess) and accruing liquidity shortage (excess) ratio by maturities, taking into account the refinancing instruments. The detailed liquidity analysis based on CCP NCC's internal models is conducted by means of the precise adjustments of composition, amounts, and maturities of assets and liabilities recorded in its books of accounts.

The monthly liquidity ratios monitoring shows that there was no shortage of liquidity in 2018 within all periods as shown in the Diagram below:

**Risk Liquidity Indicators as of 01.01.2019**  
(assessment on the basis of CCP NCC's internal models)



### *Operational Risk Management*

CCP NCC's operational risk management system is a part of its general risk management system. Its functioning is aimed to ensure that NCC is capable to exist as a going concern and secure smooth operation of its own systems and processes and critical services. The efficiency of functioning of the operational risk management system is supported by its multilevel structure, including distinct distribution of powers and functions among the operating subdivisions, committees, and management bodies in full compliance with the world's best management practices. The operational risk management system is built with taking into account the recommendations of the Bank of Russia, the Basel Committee on Banking Supervision, as well as CPMI-IOSCO

During the reporting period, as a part of the internal control framework of the Moscow Exchange Group, CCP NCC was taking measures to enhance automation of its operational risk management processes, including those related to regulatory, legal, and compliance risks, and information security risks, through the implementation of SAS GRC automated risk management platform intended to provide automation of collection of operational risk events data, its mitigation plans and measures, as well as generation of reporting including the group-wide reports.

The operational risk management process comprises the following key stages:

- collecting data concerning the operational risk events occurred in CCP NCC through accumulation of information in the operational risk events database using the approved algorithm;
- identifying potential operational risk by means of self-assessment procedures;
- analyzing and assessing the identified operational risks;
- determining measures to remedy the consequences of a specific event of operational risk and measures to minimize occurrence thereof in the future;

- informing the management bodies of the event and level of operational risk (monthly or promptly upon occurrence any specific event of operational risk) and controlling implementation by them of the measures to mitigate the operational risk for any occurred events of operational risk on a quarterly basis;
- Reporting on the operational risk events of CCP NCC as CCP to the Bank of Russia on a periodic (monthly) basis;

The methodological basis for the efficient functioning of its operational risk management system is provided by CCP NCC's internal documents defining:

- monitoring operational risk using the system of operational risk indicators;
- identifying operational risk of new products and processes as they are developed;
- collecting and reviewing data on operational risk events occurred in other organizations similar to CCP NCC in terms of their activity profile with the aim of their influencing on CCP NCC's activity;
- developing measures to handle operational risk and control performance of measures to mitigate operational risks;
- checking CCP NCC's resistance to failures of operating and information systems at least once a year;
- upgrading employees' skills for operational risk management;
- system of incentives for average employees for any operational risks identified in the course of work;
- policy of separation of access rights in data entering and processing intended to reduce risk of unauthorized or erroneous actions of employees of the relevant subdivisions of CCP NCC; and
- policy of separation of infomedia at all stages of the life cycle of information systems.

Operational risk is limited primarily due to the use of reliable hardware, information and technology systems, multilevel control of transaction procedures, and high-skilled personnel.

The comprehensive approach to mitigation of operational risks (personnel, processes and systems) implemented by CCP NCC implies, in particular, the implementation of the system for determination of process automation priorities (with risks taken into account), performance of regular risk audit of business processes, maintenance of current accounting of information assets (information systems, equipment, and communication channels), reservation of communication channels, as well as introduction of the project-based and service-based approach on operation of various subdivisions.

CCP NCC mitigates its operational risk through preventive and corrective internal and external control activities, which include in particular the implementation of new access control procedures, hardware and software, separation of rights of users and administrators of IT systems, data back-ups, performance analysis of existing control measures and development and implementation of new control measures.

CCP NCC performs regular analysis of its key processes, which results in implementation new technologies lowering the level of its operational risk. In case of launching of new products and services, CCP NCC carries out a comprehensive multifactor analysis of the project including

operational risk assessment. An independent external audit of the information security system is carried out on a regular basis.

Strong focus is placed on ensuring continuity of CCP NCC activities, for which purpose the key information systems have reserve channels and capacities, and information is properly stored in electronic archives. Performing its functions as a clearing organization and a central counterparty, CCP NCC commits to being prepared to any events which may result in suspension of its standard operational procedures. Bank of Russia Regulation No. 242-P dated 16.12.2003 'On Organization of Internal Control in Credit Institutions and Banking Groups' obliges credit organizations to develop business continuity and recovery plans to be used in case of emergencies. In compliance with the regulator's requirements, CCP NCC has developed and implemented a state-of-the-art business continuity management system taking into account Bank of Russia Methodological Recommendations No. 17-MR dated 20.05.2016 'Methodological Recommendations on Development of Plans for Recovery of the Financial Stability by Infrastructure Organizations of the Financial Market', Ordinance No. 4258-U dated 30 December 2016 'On the Requirements for the Content, Procedure and Terms for Providing to the Bank of Russia the Plan for Ensuring Continuity of Operations of a Central Counterparty, Amendments to this Plan, the Procedure for Assessing the Plan for Ensuring Continuity of Operations of a Central Counterparty, on the Requirements for the Software and Hardware and Network Communications of a Central Counterparty, and on the Procedure for Creating, Keeping and Storing Data on the Property and Liabilities of a Central Counterparty and Their Movements', Ordinance No. 4429-U of 21 June 2015 'On the Information Disclosed by the Central Counterparty, Requirements for the Procedure and Timeframes for Such Disclosure, and Determining the Rules for Information Provision to Clearing Members'

In implementation of its business continuity processes, CCP NCC uses the methodology of the international standard ISO 22301 (Social Security - Business Continuity Management Systems -Requirements). This approach includes the following key elements:

- business continuity management policy – this is the document approved by CCP NCC's Supervisory Board and governing CCP NCC's efforts related to ensuring business continuity within CCP NCC;
- assessment of business continuity risks – this is the process of identification of risks, their analysis and assessment of their of impact on CCP NCC's business;
- analysis of business effect – this is an analysis of all CCP NCC's processes for possible exposure to various types of incidents in the course of time. This analysis is performed at least annually and covers all structural units of CCP NCC;
- crisis management – this is defining of high-level business continuity management strategy of CCP NCC, including pre-developed arrangements for responding to variety of crisis situations;
- business continuity strategy – this is a developed strategy describing the principles of building the business continuity management system in a short, medium and long runs;
- business continuity and disaster recovery plan – this is a documented procedure to be used in case of an emergency. The plan contains the list of measures to maintain critical business functions at the pre-determined and agreed level;
- recovery plan – this is a documented process of recovery and protection of the IT infrastructure and systems in case of an emergency;
- incident management plan – this is a clearly defined and documented action plan to

be used in case of an emergency in order to minimize its effect on personnel and critical business processes;

- crisis communications – these are the documented priorities in communication in case of emergency, which contain the pre-developed templates to be used for notification in the external and internal environments; and

- testing and exercising – this is an important process developed to determine adequacy, planning quality, efficiency of organizational preparedness of the business continuity management system

In pursuance of its business continuity management strategy and based on business requirements, CCP NCC has established alternative sites (geographically remote back-up offices) which are activated in case of realization of the scenario of inaccessibility of the primary offices. To assess CCP NCC's level of maturity in the area of business continuity management, CCP NCC regularly prepares reports on the key indicators of the business continuity management system and submits them to CCP NCC's management bodies.

### *Strategic Risk Management*

Strategic goals of CCP NCC are defined in CCP NCC's Strategy for the Years 2017-2020 developed in accordance with the Strategy of the Moscow Exchange Group for the Years 2015-2020 and approved by CCP NCC's Supervisory Board.

Strategic risk is exposure to adverse changes in performance results caused by wrong decisions made in course of managing CCP NCC, including any decisions made in course of development, approval and implementation of CCP NCC's development strategy, improper execution of the decisions made, and the failure of CCP NCC's management bodies to consider changes in external factors. Therefore, the efficient strategic risks management is a key to success in achieving the strategic goals while implementing the strategy.

The strategic risk management system considers CCP NCC's risk arising from the combination of its functions as a credit organization, clearing organization, central counterparty, and commodity supply operator.

In the process of strategic risk management, CCP NCC adheres to the following principles:

- consistency of this strategy with the nature, capabilities and scope of CCP NCC's activities;
- making prompt changes in CCP NCC's strategic objectives in response to changing internal or external factors;
- measurability of relevant strategic risk parameters;
- regular monitoring of the size of the strategic risk parameters;
- assessment of risks and preparation of information to make proper management decisions; and
- available independent information approaches to all significant risks.

For the purpose of strategic risk monitoring, the following monitoring criteria were set:

- monitoring criterion related to impossibility of achieving the set strategic goals; and
- monitoring criterion related to the change in strategic goals;

Strategic risk is monitored using the established criteria and the range of qualitative indicators such as:

- identifying cases of non-compliance with the approved development strategy;
- identifying significant deviations from schedule and/or budget for implementation of strategic projects; and
- identifying risks preventing the achievement of strategic goals.

The additional tool of strategic risk management at the strategy implementation stage is the monitoring of the progress of implementation of the strategic initiatives. The results of the strategic risk monitoring are regularly reported to CCP NCC's authorized collective bodies, including:

- data on strategic risk level and dynamics;
- statistics of key risk indicators;
- results of the programs for strategic risk identification and assessment;
- report on the statuses of implementation of risk mitigation measures; and
- other information related to the strategic risk management.

The results of strategic risk management are considered in the process of strategic planning according to CCP NCC's strategic goals and the Group's Strategy. On the basis of the established current and planned (target) indicators of risk appetite, CCP NCC takes part in a strategic objectives development.

### ***Legal Risk Management***

CCP NCC's legal risk management system is based on the operational specifics of the Company combining the functions of a central counterparty and a clearing organization with activity of a credit organization and a commodity supply operator. It places especially strong focus on the legal risk mitigation measures in course of CCP NCC's performance of the central counterparty functions. In CCP NCC, the legal risk factors are common to all types of activities. Therefore, for the purpose of arrangement of the legal risk management processes, the Company has built a comprehensive legal risk management framework with account of all lines of its business.

CCP NCC manages its legal risk in accordance with the Regulations "On Organization of Legal Risk Management Framework in the Company approved by resolution of CCP NCC's Supervisory Board on 25.07.2018 (Minutes No.4), which takes into account the requirements of the Bank of Russia as to the legal risk management set forth in Bank of Russia Regulation No. 463-P of dated 12.03.2015 "On the Requirements for Risk Mitigation in Clearing Operations and the Requirements for a Document (Documents) Stipulating Measures Aimed at Reducing Credit, Operational and Other Risks, Including Risks Related to the Combining of Clearing Operations with Other Activity", Ordinance No. 3624-U of 15.04.2015 "On the Requirements to the Risk and Capital Management System of Credit Institution and Banking Group", Ordinance No. 2919-U dated 02 December 2012 "On the Assessment of the Management Quality of a Credit Institution Acting as a Central Counterparty", and Letter No. 92-T of 30.06.2005 "On the organization of legal risk and reputation risk management at credit institutions and banking groups".

The legal risk management process implies the distribution of powers between different levels of CCP NCC's management bodies, its structural units and employees. The decision making powers in the process of legal risk management and the control over the legal risk management efficiency comprises several levels: the first level is CCP NCC's Supervisory Board and the Risk Committee of the Supervisory Board; the second level embraces CCP NCC's Management Board,

CEO, and the Internal Audit Committee; the third level is represented by the Legal Affairs Officer, Legal Department; Internal Control Department; Risk Analysis and Control Department; and Operational and Strategic Risk Management Officer; and the fourth level comprises other subdivisions.

In accordance with the internal administrative document, CCP NCC has appointed the Legal Affairs Officer responsible for the legal risk management and coordination of legal risk mitigation efforts. The Legal Affairs Officer directly reports to CEO and his/her activity is independent from the Legal Department and subdivisions exercising transactions (trades) associated with legal risk assumption.

The Legal Affairs Officer organizes monitoring of the legislation of the Russian Federation on an ongoing basis, prepares overviews of any amendments made to the legislation of the Russian Federation, regulations of the Russian Federation, judicial practices and draft regulations of Russian Federation on the issues related to CCP NCC's activities. Such overviews are sent to all concerned structural units of CCP NCC. The heads of the concerned structural units ensure that relevant amendments are promptly made to CCP NCC's internal documents to reflect the amendments made to the legislation of the Russian Federation.

To mitigate the legal risks, CCP NCC has developed the standard forms of agreements and other internal documents and establish the procedures for approval by CCP NCC's Legal Department of any non-standard agreements, transactions and other trades entered by CCP NCC.

In accordance with its internal documents, CCP NCC collects and analyzes the information about the legal risk events and monitors the legal risk. On a quarterly basis, the Legal Affairs Officer prepares legal risk reports and submits them to CCP NCC Management Board for review approval. Such legal risk reports are generated on the basis of the legal risk level assessment indicators introduced by the Regulations on the organization of legal risk management in CCP NCC" and contains the following information: the estimated level of legal risk, results of the legal risk level assessment in dynamics; and relation between the indices of the legal risk levels and limits set.

In 2018, the indices of the legal risk assessment level were remaining within the limits set by the resolution of CCP NCC's Management Board. In 2018, the increased attention was paid to analysis of claims of clearing members and counterparties and to forming its legal position on the lawsuits against CCP NCC admitted for consideration, and participation in court proceedings arising from such claims. Measures for risk mitigation were promptly taken in relation to each legal risk event, including lawsuits of clients and counterparties against CCP NCC.

In 2018, there were 7 claims against CCP NCC from clients and counterparties and 8 lawsuits against CCP NCC admitted by courts for consideration (in 2017 - 5 claims and 4 lawsuits against CCP NCC). No payments by CCP NCC were adjudicated by judicial bodies in 2018.

### ***Regulatory (Compliance) Risk Management***

The regulatory (compliance) risk is the risk of losses arising from CCP NCC's failure to comply with the legislation of the Russian Federation, internal documents of CCP NCC, and a result of applied sanctions and/ or other retaliation measures on the part of supervisory authorities.

The specifics of regulatory risk as applied to the NCC's activities as a clearing organization, central counterparty and commodity supply operator lies in a possibility of incurring any expenses (losses) by CCP NCC as a result of non-compliance with Federal Law No. 7-FZ of 07.02.2011 "On clearing, clearing activities and central counterparty", regulations issued by the Bank of



Russia, and CCP NCC's Articles of Association and internal documents related to the above types of its activities.

The regulatory risk management is provided by the Internal Control Department, whose list of tasks includes performance of the following actions:

- mitigating any arising regulatory risk (collection of information, analysis of information for identifying its association with regulatory risk, preliminary processing of information, interaction with structural units for the purposes of obtaining clarifications, additional information, and recording of events);
- monitoring CCP NCC's compliance with the laws on clearing and clearing activities, on combating unlawful use of insider information and market manipulation;
- making timely and efficient decisions to remedy any identified defects and violations in CCP NCC's activities;
- preventing and managing the conflicts of interest taking account of the specifics of CCP NCC's activities;
- applying the best compliance practices, standards and norms of professional ethics; and
- rendering methodological support CCP NCC's employees in identifying the areas where regulatory risk may arise based on the tasks and functions imposed on the structural unit within its competency.

The regulatory risk events are reported to CCP NCC's management bodies in accordance with the Regulatory Risk Management Regulation.

### ***Reputational Risk Management***

In 2018, the work on reputational risk management of CCP NCC (hereinafter RR) was carried out in compliance with the regulatory requirements and internal documents and was focused on monitoring of events in different lines of business of the Company and in the external environment, their assessment, analysis and identification of their relation to RR.

The main objective of the measures performed during the reporting period was ensuring (using the automated reputational risk management system – RR MS) continuing control of such risk level so that to inform the management about the reputation threats and, as appropriate, to make promptly management decisions to prevent potential damage to the Company.

By their categorization, the RR events registered during the reporting period were referred to the groups of internal and external factors. The events of the group of internal factors resulted mainly from erroneous actions or delay in transferring cash by CCP NCC, distribution of incorrect reports on clearing results to clearing members, incorrect identification of claims and liabilities in any assets, suspension of the service of withdrawal/crediting of funds. In the reporting period, they did not influence the curve determining the RR level, as they did not reach the established scale and thresholds of sensitivity.

At the same time, the events from the external factor group reached the sensitivity values and thresholds, which influenced the RR level. These events were referred overwhelmingly to the factor of appearance of negative information in the external environment – negative publications, mainly on Moscow Exchange, in isolated instances – on CCP NCC. As noted above, they were not critical in terms of maintaining the RR level within the set limits of acceptable level and did not require any prompt response for preventing possible damage.

The analysis of the data characterizing the RR management results for the reporting period, the level of this risk types was equal to or below 150 points according to the scale applied, while

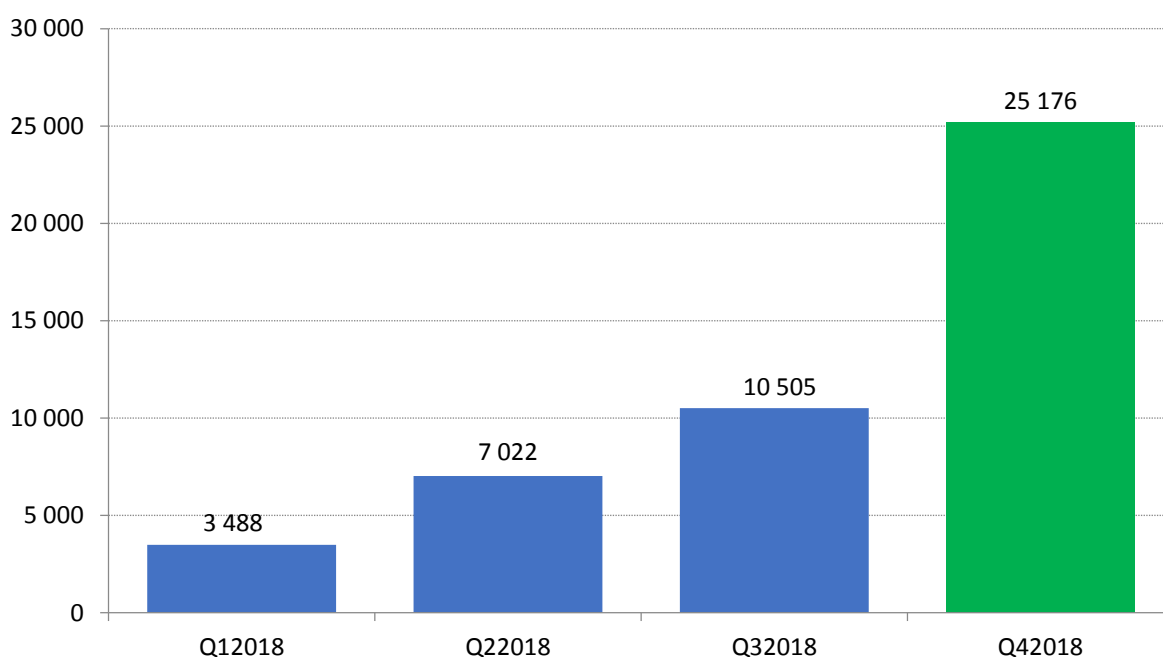
the established level of risk appetite was up to 500 points. The figures below reflect the quarterly dynamics of RR level peaks:

- QI – 100
- QII – 0
- QIII – 150
- QIV – 0

During the reporting period, both CLR and projected level of reputational risk (hereinafter PLRR), which reflects the overall significance of all RR events calculated at the current point of time with their projected impact on the reputation level during the specified period in the future implemented, were monitored. During the year, PLRR indicators (during several periods) exceeded the acceptable current level of RR being caused by identification of events, which did not exceed the sensitivity threshold, as RR events, such events being mainly legal risk events and some operational risk events. Taking into account recorded PLRR indicators, the situation was carefully monitored in the most troublesome areas of the Company’s activity, where various events might occur. Such monitoring is carried out in order to obtain the necessary information on the events related to RR events for their timely assessment.

During the reporting period for the purposes of responding timely to the reputational threats arising under impact of negative occurrences in the external environment, CCP NCC monitored continuously the information field of Russian mass media with regard to the objects of survey with using Medialogy information and analytical system. For determining the general condition of the information space for the monitored objects, CCP NCC used Medialogy MediaIndex, an indicator of assessment of the presence of objects in mass media, taking into account the influence capability of sources, size and place of release of messages/publications and also positive, negative or neutral nature of references to objects in them. The quarterly dynamics of change of this index is given in the diagram.

#### QUARTER-BY-QUARTER MEDIAINDEX DYNAMICS



*Note:*

Green color highlights the period when the maximum level of MediaIndex was registered in QIV 2018.

During the reporting period, the project for updating the ‘Rubricator of Reputational Risk Events Indicating Their Weighed Characteristics’ was implemented (hereinafter the Rubricator) and the ‘Framework of Calculation of Reputational Risk Level of Bank ‘National Clearing Centre’ (Joint Stock Company) Based on Risk Events’; (hereinafter the ‘Framework’) which formed the basis for creation of the automated system to control RR. This project is was implemented to fine tune the reputational risk management framework taking into account the changes due to development of business processes in CCP NCC, introduction of new IT technologies, diversification of provided client services, application of advanced risk management techniques; expansion of the list of risks managed by the Company, and development of the normative and regulatory base.

While updating the above documents, the parameters of some of RR events, which were included in the Rubricator, were reassessed, new events were added, the parameters (significance, scale and sensitivity threshold) of newly added events were also defined according to expert estimates and taking into account the experience of applying the Rubricator to determine RR level. Along with it in connection with automation of risk management process additions are made to the Framework.

During 2018, CCP NCC was quarterly reporting its RR management results to the Bank of Russia Financial Stability Department. Based on recommendation of its of Internal Control Department and to improve the control of the RR management by CCP NCC’s collective executive bodies, reports generated by Risk Management Officer were considered and approved at the meetings of the Company’s Management Board on a monthly basis.

### *Custody Risk Management*

For its payments and settlements CCP NCC uses services provided by counterparty banks, depositories and settlement institutions (including the NCO CJSC NSD). CCP NCC uses the infrastructure of commercial banks and third-party depositories in cases where there is no possibility to use the infrastructure of the Bank of Russia and NCO CJSC NSD. The quality of such counterparties is assessed in the process of CCP NCC’s credit risk management.

To mitigate its custody risks, CCP NCC assesses the quality of depositories in compliance with the Regulation on Provisioning for Possible Losses of CCP NCC.

Moreover, in the process of custody risk management, CCP NCC:

- provides accreditation of elevators in accordance with the Elevator Accreditation Rules when performing functions of a commodity supply operator;
- provides accreditation of warehouses in accordance with the Sugar Warehouse Accreditation Rules when performing functions of a commodity supply operator;
- establishes the storage limits on each elevator and warehouse storing commodity for the benefit of a commodity supply operator;
- controls the actual location of assets owned by the central counterparty, and/or transferred by clearing members to the central counterparty as a collateral for the performance of obligations;
- assesses a possibility for demanding timely the assets owned by CCP and/or transferred by clearing members to the central counterparty as a collateral for the performance of obligations; and
- ensures a possibility for provisioning and (or) insuring the assets owned by CCP and (or) transferred by clearing members to the central counterparty as a collateral for the

performance of obligations for covering potential losses arising in case of custodian insolvency.

### ***Commercial Risk Management***

Commercial risk means any potential deterioration of CCP NCC's financial standing (as a for-profit organization) due to the exceeding of expenses over earnings, provided that they cause losses not associated with occurrence of credit or custody risk.

*To manage its commercial risks, CCP NCC applies the following measures:*

- develops action plans to recover or orderly reduce the scope of activities in case of occurrence of common business risk or reputational risk; and
- provides analysis of income and expenses in case of introduction of new instruments and products.

### ***Systemic Risk Management***

Systemic risks of CCP NCC may originate from simultaneous failure of several clearing members or counterparties of CCP NCC to perform their obligations, which prevents other counterparties from performance of their obligations to the Company properly and when due.

Since CCP NCC is systemically important as a financial market infrastructure facility, its systemic risk may be also originated from relationships between CCP NCC and other financial market organizations.

The efficient management of its on risks (credit, market, operational, custody, liquidity and others) enables CCP NCC to maintain stability in all financial market segments where it provides its services and thus facilitating the systemic risk reduction.

*For the purposes of reducing systemic risk, NCC:*

- monitors the systemic risk through control of the level of other risks inherent to CCP NCC's activities;
- monitors the financial soundness of infrastructural organizations, with which the contractual relations are established and to which it has credit exposure;
- monitors the aggregate positions held by clearing members in all markets where CCP NCC acts as a central counterparty;
- develops the procedures for transferring positions of clients of any clearing member in case of its insolvency (bankruptcy) to another clearing member;
- limits the procyclicality of calculation of the amount of the required collateral for trades of clearing members; and
- informs the members of CCP NCC Supervisory Board of occurrence or threat of any systemic risk.

### **5.3.4 Stress Testing of Financial Stability**

The stress-testing of CCP NCC's financial stability is designed to reduce its risks to an acceptable level enabling it to maintain its stability in all financial market segments where it provides its services and to provide clearing service to participants.

When stress-testing CCP NCC's risks, the risks to be assessed include the financial risks inherent to its activities, including credit, market and liquidity risks, as well as the risks arising from combination by it of the functions of the central counterparty and other activity types.

The risk of CCP determines the amount of losses caused by non-performance, untimely or incomplete performance of financial obligations to a central counterparty by the defaulting clearing members in the markets of Moscow Exchange. CCP NCC uses a model of simultaneous settlement of its counterparties' largest default net positions. To determine the number of clearing members' defaults, CCP NCC takes into account the recommendations issued by CPMI-IOSCO for central counterparties.

CCP NCC performs stress testing in accordance with Bank of Russia Regulation No. 576-P, dated 30 December 2016, 'On the Requirements for the Methodologies for Risk Stress-testing and Model Accuracy Assessment of the Central Counterparty, Risk Stress-testing and Model Accuracy Assessment of the Central Counterparty, and the Procedure and Timeframes for Providing Information on the Results of Risk Stress-testing of the Central Counterparty to Clearing Members'.

CCP NCC's stress testing of risks includes the direct and reverse stress testing of risks.

Direct stress testing of risks means an analysis of adequacy of the collective clearing collateral and dedicated capital of CCP NCC to cover potential (uncovered) losses caused by non-performance or undue performance of obligations by two major loss-generating clearing members and an analysis of sensitivity of sufficiency of the central counterparty's funds to occurrence of certain risk factors. Reverse stress testing means identification of the hypothetical stress scenarios (risk factor values), where the amount of CCP's funds or liquid funds may take critical (maximum or minimum allowed) values established in the central counterparty's risk stress testing methodology considering a need to observe the regulatory requirements of the Bank of Russia.

NCC conducts stress testing of risks on the basis of historical and hypothetical stress scenarios.

Sensitivity to specific risk factors is analyzed by changing such (specific) risk factor value during the direct stress testing of the central counterparty's risks, with all other risk factors remaining unchanged. CCP NCC analyzes the soundness of such targeted changes in risk factors (stress scenarios) influencing its financial stability and used for stress testing of central counterparty's risks.

The results of stress testing performed in 2018 evidence CCP NCC's ability of to maintain the common financial stability without any threat to its business continuity determined through sufficiency of risk coverage resources, in a range of simulated stress scenarios and their combination. CCP NCC's financial resources (safeguard levels) are sufficient to cover any possible losses (not covered by the collateral) which may arise from non-performance or undue performance of obligations by two major loss-generating clearing members.

## **6. Internal Control System**

During the reporting period, the work continued aimed at implementing the proposals on improvement of the common internal control framework of the Moscow Exchange Group, which includes CCP NCC, presented in the report by an independent auditor of the common internal control framework, who in 2017 confirmed the compliance of the common internal control framework with the Laws and the best world practices. The development of compliance function continued and was focused on further improvement of its internal documents, measures to prevent conflicts of interest, implementation of anticorruption practices, measures combating legalization (laundering) of proceeds from crime and financing of terrorism, compliance with the FATCA

requirements (the Foreign Accounts Tax Compliance Act), and the standard governing the cross-border exchange of financial information (AEOI/CRS).

Within CCP NCC's internal control system, as a part of the common internal control framework, CCP NCC was taking measures to enhance automation of its risk management processes, including those related to operational, regulatory, legal, and compliance risks, as well as information security risks, by using SAS GRC automated risk management platform aimed at providing automation of collection of risk events data, its mitigation plans and measures, as well as generation of reporting including the group-wide reports.

CCP NCC performs the internal control in accordance with Federal Law No. 395-1 of 02.12.1990 'On Banks and Banking Activity', Federal Law No. 7-FZ of 07.02.2011 'On Clearing, Clearing Activities and Central Counterparty', Bank of Russia Regulation No. 242-P dated 16.12.2003 'On Organization of Internal Control in Credit Institutions and Banking Groups', and Order No. 13-72/pz-n issued by the Federal Financial Market Service (FFMS) on 13 August 2013 "On approval of requirements to arrangement of internal control of a clearing organization and to the document establishing the internal control procedure in a clearing organization", and subject to the nature and scope of conducted operations, the levels and combination of assumed risks interacting the course of CCP NCC's activities as a clearing organization functioning as a central counterparty, credit organization and commodity supply operator (CSO).

The internal control is exercised to ensure:

- the efficient financial and economic performance of CCP NCC in banking operations and other transactions, performance of the functions of a credit organization and central counterparty, efficient management of assets and liabilities including safe custody of assets, and management of banking risks/central counterparty and CSO risks;
- reliability, completeness, objectivity and timeliness of preparation and submission of financial statements, accounts, statistical and other reports;
- information security, i.e. the protection of CCP NCC's interests in the information area which is a composition of information, information infrastructure, entities collecting, forming, disseminating and using information, as well as the systems regulating the relations arising in this respect;
- compliance with requirements of the Russian Federation laws, CCP NCC's Articles of Association and other CCP NCC's constituent documents;
- prevention of the Company's involvement and its employees in any illegal activity including the legalization (laundering) of proceeds from crime and financing of terrorism, in exercise of suspicious transactions;
- mitigation of risk of losses which NCC may incur as a result of any sanctions and (or) other disciplinary measures taken by supervisory authorities, including by reason of its incompliance with the legislation of the Russian Federation or the Company's internal documents, as well as timely submission to any governmental authorities or the Bank of Russia of any information required to be so disclosed according to the legislation of the Russian Federation; maintaining the NCC's effective system to combat legalization (laundering) of proceeds from crime and financing of terrorism at the level sufficient to manage the risks of legalization (laundering) of proceeds from crime and financing of terrorism.

The efficiency of the Company's internal control system is ensured by:

- control procedures implemented at all levels of management;

- periodical inspections of compliance of all activity areas with the established policies and procedures;
- ensuring integration of the control procedures in CCP NCC's daily operations;
- follow-up control of closed transactions;
- ensuring separation of functions and prevention of conflicts of interest in performance of duties by its personnel;
- ensuring compliance of its transactions with the legislation of the Russian Federation and regulations of the Bank of Russia;
- ensuring timely provision of necessary information to the relevant employees of CCP NCC;
- maintaining the required level of security of information systems;
- daily monitoring of high risk transactions;
- internal audit and different external audits;
- performing regular control of efficiency of the measures taken by its subdivisions and management bodies based on the inspection results ensuring decrease in the level of the identified risks; and
- timely submission to the management and Supervisory Board of the information on material risks and deficiencies of its internal control system.

The system of the Company's internal control bodies performing internal control in accordance with their powers defined in the Articles of Association and internal documents of CCP NCC included:

- CCP NCC management bodies (General Shareholders Meeting, Supervisory Board, Management Board, and CEO);
- CCP NCC Revision Committee;
- CCP NCC Chief Accountant and his/her deputies;
- Internal Audit Service (IAS). IAS operates under the direct control of CCP NCC Supervisory Board. The main objective of IAS is to ensure independent objective assessment of efficiency of internal control system, risk management system and the corporate governance;
- Internal Control Service (ICS). ICS operates under the direct control of and reports to CEO. The head of ICS reports to CCP NCC Supervisory Board on issues concerning the compliance with the laws on combating unlawful use of insider information and market manipulation. The main functions of ICS are mitigation of compliance (regulatory) risk, control over compliance by CCP NCC with the laws on clearing, clearing activities and central counterparty, and the laws on combating unlawful use of insider information and market manipulation;
- Financial Monitoring Service (FMS) is CCP NCC's structural unit for prevention of legalization (laundering) of proceeds from crime and financing of terrorism, established and operating in accordance with Article 7 (§ 2) of Federal Law No. 115-FZ of 07.08.2001 'On Combating Legalization (Laundering) of Proceeds from Crime and Financing of Terrorism'

By its order, CCP NCC appointed the authorized officer (head of the Financial Monitoring Service) – a special officer responsible for implementation of internal control regulations to combat legalization (laundering) of proceeds from crime and financing of terrorism (AML/CFT) in CCP NCC. The functions of control over organization of the Bank's AML/CFT-related work and compliance of the applied internal control regulations on AML/CTF with the Russian Laws on AML/CTF are performed by the Deputy CEO. FMS reports to CCP NCC's Supervisory Board on an annual basis – 2018 report was taken into consideration;

- Risk Analysis and Control Department (RACD) is a structural unit of CCP NCC focused on the forming the single and efficient system of financial risk management for CCP NCC as a credit organization, clearing organization functioning as a – central counterparty, and CSO operating in the of the Moscow Exchange Group.
- Legal Affairs Officer is a person responsible for the management of legal risk and organization of work aimed at legal risk mitigating. The Legal Affairs Officer acts in compliance with the legislation of the Russian Federation, regulations issued by the Bank of Russia, CCP NCC’s Articles of Association and other constituent documents and policies;
- Authorized officer for reputational risk management – a person responsible for the management of reputational risk and organization of work aimed at its mitigating. The authorized officer for reputational risk management acts in compliance with the legislation of the Russian Federation, regulations issued by the Bank of Russia, CCP NCC’s Articles of Association and internal documents of CCP NCC;
- The authorized officer responsible for organization of operational and strategic risk management acts in compliance with the legislation of the Russian Federation, regulations issued by the Bank of Russia, CCP NCC’s Articles of Association and internal documents of CCP NCC, and
- Other structural units and employees of CCP NCC performing their internal control functions in accordance with their powers defined in the internal documents of NCC. For instance, the Information Security Service (ISS) acts under the direct control of CEO and reports to him/her. Its key responsibilities include the development of a set of measures to protect confidential information (including banking secrecy, personal data), and conduct periodic audits of the objects of CCP NCC’s information infrastructure as well as the existing processes for checking the compliance with the information security requirements.

## **7. Technological Platform**

During the reporting period, CCP NCC continued to improve and enhance the information and technological infrastructure while addressing the main objective – ensuring high quality and uninterrupted rendering of crucially important clearing services due to maintenance of reliability and development of functional coverage of the software and hardware system. The functioning of all systems automated data processing was supported at the level of meeting the international standards with at least 99.96% accessibility.

The Introduction into operation of Neoflex Reporting System (hereinafter - NR) was the most significant event in the reporting year. The project aims to develop more efficient solution of the system objective of generating the mandatory bank and tax reporting. CCP NCC supports settlements of over 1 million trades in Moscow Exchange markets a day. The Generation of required regulatory reports requires aggregation of various information from several source system, which carry out preliminary processing of trades and calculation of thousands of interconnected ratios and indicators. Overall, data collection and report generation took at least six hours when the legacy technology for calculation of intermediate indicators was used. The project implementation provided for the systemic transformation of the reporting processes. Neoflex Reporting Big Data Edition system, which is based on the Hadoop technology, fully meets such requirements and can be scaled up easily and without any special finance expenses in case of further development of the Company. In fact, CCP NCC has created the structure accumulating all data, which were previously ‘scattered’ in different systems. Such centralization will assist in further use of the built functionality for development of the interdepartmental analytics, inter alia, in the tax payment area. Whereby, the use of the opensource technologies allowed to gain significant benefits due to saving on licensing of fee-based DBMS and ETL facilities provided by the world developers of software. To ensure fault-tolerant functioning of the system, Big Data



paradigm contains the main circuit operative on two HADOOP clusters (program stack: YARN, Oozie, Spark, Zeppelin, Livy) installed in different DPCs. The total number of implemented system modules was as follows: 17 forms of the mandatory reporting to the Central Bank, 8 tax ledgers and 22 more detailed reports. However, on-line interfacing with the market risk system and MDM has been arranged thus allowing to generate a consolidated version of form 722 (Ratios) on a daily basis and to obtain updated ratings for counterparties and securities. As a result, the report generation time reduced at least by three times.

This project won the annual competition ‘Project of the Year. Choice of Chief Information Officers in Russia’ in the nomination ‘The Best Solution in the Subject Domain’, in a Big Data subgroup. GlobalCIO independent portal was the award sponsor. The winner was chosen by open voting among Chief Information Officers, members of the industry.

During the reporting year, extensive efforts were taken to automate the processes related to the introduction of new services and changes in the infrastructure of the Russian financial market.

When implementing the Unified Pool project, the new versions of the counterparty’s trades recording system (hereinafter - CCP TRS), WEB clearing system and clearing terminal supporting the full functionality of the Unified Pool project were implemented. API for the Clearing Terminal system was developed on the basis of REST architecture, such terminal being used to render the new clearing service to transfer cash collateral and asset profiles. It enables clearing members to develop their own STP systems of automatic interfacing with CCP NCC when managing funds directed to the on-exchange market. The clearing terminal accepted and processed over 7800 requests from members during 2018.

During the reporting period CCP TRS, WEB-clearing system, clearing terminal were enhanced as a part of a several other major projects:

- Links with Foreign Providers;
- Unified Account;
- IFRS-9;
- Switching the interface for the correspondent account kept with the Bank of Russia from KBR-S to KBRN technology.

During 2018 CCP NCC actively continued to connect clearing members to the WEB-clearing system, an advanced development stage of the electronic document flow using WEB-technologies, which replaced Universal Client Workplace application. As of 31 December 2018, the system access was provided to 510 members of whom 208 were provided with it in 2018; and the number of incoming documents from the clearing members reached 1079 a day. The Universal Client Workplace application was decommissioned. Instead the members are provided with the WEB clearing service and clearing terminal service in regard to handle the settlement accounts of the Unified Pool.

The set of organizational and technical measures to ensure the operability of the information systems and specialized systems upon connection of CCP NCC to the advanced payment system of the Bank of Russia was carried out during the period from January to July of the reporting year: electronic document flow with the payment system of the Bank of Russia was switched to the new highly protected scheme for encryption-based protection of documents (Scheme 3).

CCP NCC was connected to the Unified System of Exchange of Documents (USED) of the Bank of Russia through Internet Portal 4. Electronic document flow with subdivisions of the Bank of Russia was introduced, legally significant bidirectional electronic document flow is carried out while ensuring compliance with the information security requirements.

From April to November, the databases were standardized and hardware and software systems, interfacing CCP NCC with the Federal Executive Authorities (Federal Tax Service, Pension Fund of Russia, Social Insurance Fund, Federal Customs Service), were switched to MS SQL platform.

In addition, while developing Centaur Omega IBS, 3 standard releases, 12 extraordinary releases were also introduced and implemented. Over 697 updates were installed. The most significant among them are as follows:

- online interfacing of IBS with OeBS (FD-7 project 'New Financial System (ERP)') was implemented to mark the CCP NCC's postings with the budget record labels. The attributes necessary for Management Reporting are marked automatically without changing the business process and information environment of users (accountants). Operational risks were minimized due to usage of usual environments and technologies;
- the new module was introduced and enhancements related to switching of financial accounting to IFRS-9 were implemented;
- FATCA module was also further developed. In particular, its functionality was expanded to include CRS reporting.

While developing the SFD market and ecosystem of Softwell NAVIGATOR products used by it, 4 releases were installed. Important enhancements were introduced for members' convenience:

1. Two-tier submission of orders was implemented – only a trader enters an order, only a compliance officer submits it.
2. For positions management and understanding of the forecast values of requirements and liabilities, availability or insufficiency of available funds. In particular:
  - risk calculator (calculation of simulation portfolios);
  - displaying the amount required to execute the order;
  - maximum FX withdrawal formula;
  - new information fields in the Balance sheet and Positions reportswere implemented.
3. The balancer for Fincad risk and cost calculation service was introduced to minimize the time required for clearing by paralleling mass settlements.

To provide CCP NCC with a secure reliable access to the payment systems of the Bank of Russia and the electronic information services of the Russian Federal Agencies, it arranged quarterly hands-on trainings in transfer of payments and filing of regulatory reports from a remote standby platform (12 Spartakovskaya street). The hardware and software systems available at such remote standby platform were kept in a standby mode for immediate deployment as needed. In the event of emergency occurred in the main systems, functioning was supported by using standby hardware and software systems and communication channels.

During the reporting period CCP NCC's website was ported to the servers of Moscow Exchange data center. Thus CCP NCC improved the reliability of IT infrastructure, reduced

operational risks when disclosing information, enhanced the timeliness, accuracy of informing of clearing members and made the website more user-friendly.

In spite of the fact that ORACLE database management system (DMS) proved the most reliable system for the data volumes existing in CCP NCC and could have remained the main data storage platform, the decision was made to develop other of systems. The decision was made to use PostgreSQL, MsSql as an advanced DBMS for medium scale projects. During the reporting year, 2 DBs of the infrastructure support systems were ported to PostgreSQL.

To optimize operation of the IT department and interfacing with system users and vendors (external), in 2018 the JIRA System designed to track projects and problems, put into commercial operation and developers of external vendors were provided access to it. It allows to monitor correction of errors and development of systems for CCP NCC more efficiently.

The System for creation and distribution of the knowledge base on Confluence projects was introduced. Easier access was provided to the internal documentation for the systems supported by the IT department, such documentation became more available, was indexed by sections and projects, and allows to edit jointly the space dedicated to the project.

The ambitious Hadoop Data Lake project of CCP NCC was launched. As a part of this project, the created and developed section in the HDFS file system for NR was supplemented with the file partition and section for the Liquidity Providers project. The scheduled software assignments enriching data were created. Such data is used in the exchange's other systems. The level of access to such file partitions differs and is configured according to the separate rules.

Workability and complete functionality of the automated systems handling business information depends, inter alia, on the scope of work performed in test circuits. Much has been done to ensure the highest quality of testing during the reporting year. In particular:

- CCP NCC and Moscow Exchange created a stand for specialized stress testing of CCP NCC's Software and hardware system regarding processing of trades from on-exchange markets using the High Frequency Trade (HFT) robots.
- successful independent stress testing was performed, which confirmed the reliability and stability of CCP NCC's Software and hardware system in case of loading that is 3 times above the current one. In 2018, the technology of stress testing was changed. The loading algorithm was changed by generation a large number of test trades by HFT robots.
- the 'clearing' segment of the public test polygon of the Moscow Exchange was further developed. The availability of the full-functioning public test polygon enables clients to test new services, inter alia, such as Unified Pool, and to carry out tests using the Clearing Terminal's API;
- for external developers, the network, dedicated area of DMZ was provided. This area contains depersonalized data and infrastructure of the main systems of CCP NCC. The main network is protected from DMZ. External developers can create new software modules for NR and Centaur Omega IBS while possessing depersonalized data of such systems. IT employees of CCP NCC may be engaged in code creation. The time required for implementation of such systems has reduced and allows to involve more developers;

The work aimed at implementing the practices of Continuous Integration/Continuous Delivery (CI/CD) in the area of system preparation for commercial operation in 2018. In particular, CCP

NCC has introduced the CI/CD practice with a vendor in the acceptance test environment in order to automate testing of software deliveries, which includes:

- placing of delivery modules in the accessible environment;
- analysis of existing preconditions for module installation, for delivery of automated deployment;
- installation of delivery (module) in the environment:
- delivery testing (to verify successful installation of the module and data upload).

Overall, CCP NCC technological platform showed the gradual development based on the state-of-the-art processes and IT solutions, which allows to significantly contribute to the business strength and reliability and ensures its sustainable development

## 8. Major Financial Performance Results

*Major financial performance results as of 01.01.2019*

(RUB thousand)

<b>Equity (capital)</b>	<b>64,683,998</b>
<b>Net income, total</b>	<b>20,301,027</b>
<b>Operating expenses</b>	<b>1,380,958</b>
<b>Profit before tax</b>	<b>18,920,069</b>
<b>Accrued (paid) taxes</b>	<b>3,898,953</b>
<b>Profit after tax</b>	<b>15,021,116</b>

### *Dynamics of Changes in Financial Performance Results*

(RUB thousand)

<b>Indicators</b>	<b>Change 2018/2017</b>	<b>2018</b>	<b>2017</b>
Interest income, total	19%	188,140,548,	158,084,511
Interest expenses, total	19%	173,202,935,	145,828,861
<b>Net interest income (negative interest margin)</b>	22%	<b>14,937,613,</b>	<b>12,255,650</b>
Changes in provisions for possible losses on loans, debts and equivalents, balances of correspondent accounts and accrued interest income, total, including:	0%	0	30
<b>Net interest income less provisions for possible losses</b>	22%	<b>14,937,613,</b>	<b>12,255,680</b>
Net income (expenses)	-6%	20,301,027	21,708,668
Operating expenses	0%	1,380,958	1,386,400
<b>Profit (loss) before tax</b>	-7%	<b>18,920,069</b>	<b>20,322,268</b>
Tax refund (expense)	2%	3,898,953	3,835,164
<b>Profit (loss) for reporting period</b>	-9%	<b>15,021,116</b>	<b>16,487,104</b>

*Dynamics of Changes in Equity (Capital) of CCP NCC and Its Major Indicators Included in the Capital Calculation (RUB thousand)*

CCP NCC manages its capital on the going concern assumption, with the view to the need to maintain the necessary balance between ensuring financial sustainability in any economic conditions of its business functioning, reduction of market participants' costs and the high level of return on investment for shareholders.

As a member of the Moscow Exchange Group, during the reporting period CCP NCC managed its capital relying on the objectives set by the Moscow Exchange Group's Strategy for 2016-2020 with regard to development of the centralized clearing and improvement of the reliability of the central counterparty. Considering the need to comply with the regulatory requirements to the capital of credit organizations, CCP NCC forecasted its capital amount based on the estimated volume of transactions in on-exchange markets of the Group and the amount of funds deposited by clearing members to secure performance of obligations under trades and also subject to the size of risks assumed by it in connection with implementation of the top-priority projects of Moscow Exchange involving performance of centralized clearing via the central counterparty. When forecasting the amount and adequacy of its capital, CCP NCC was also taking account of the scheduled dividend payments in accordance with the Group's dividend policy.

(RUB thousand)

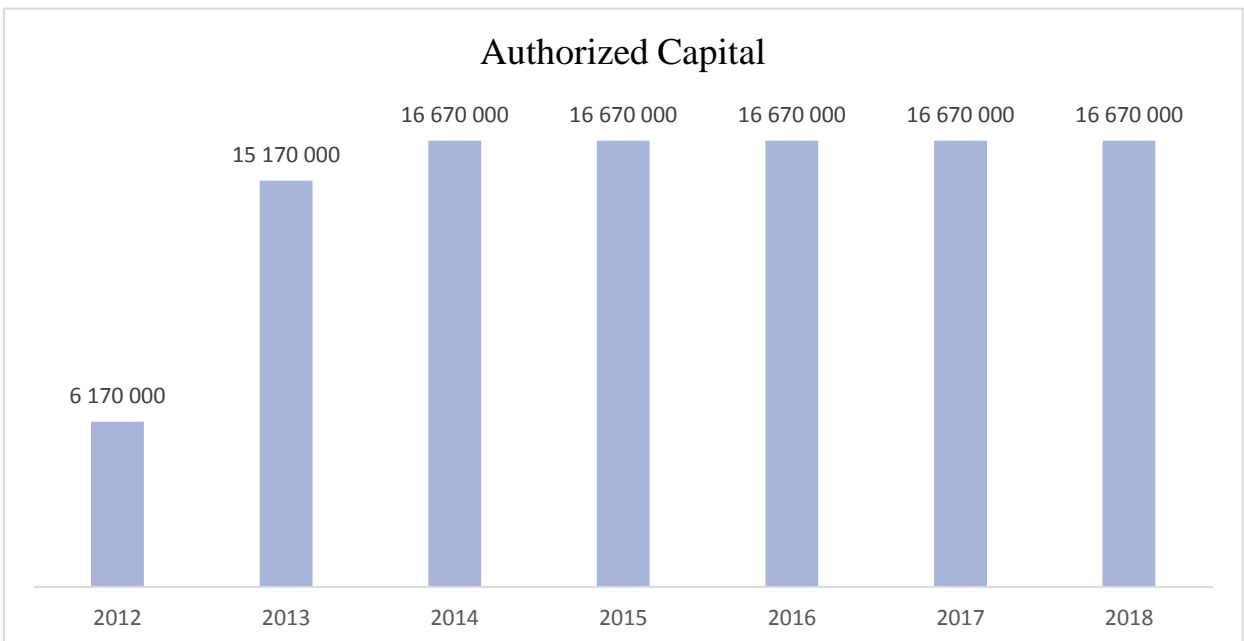
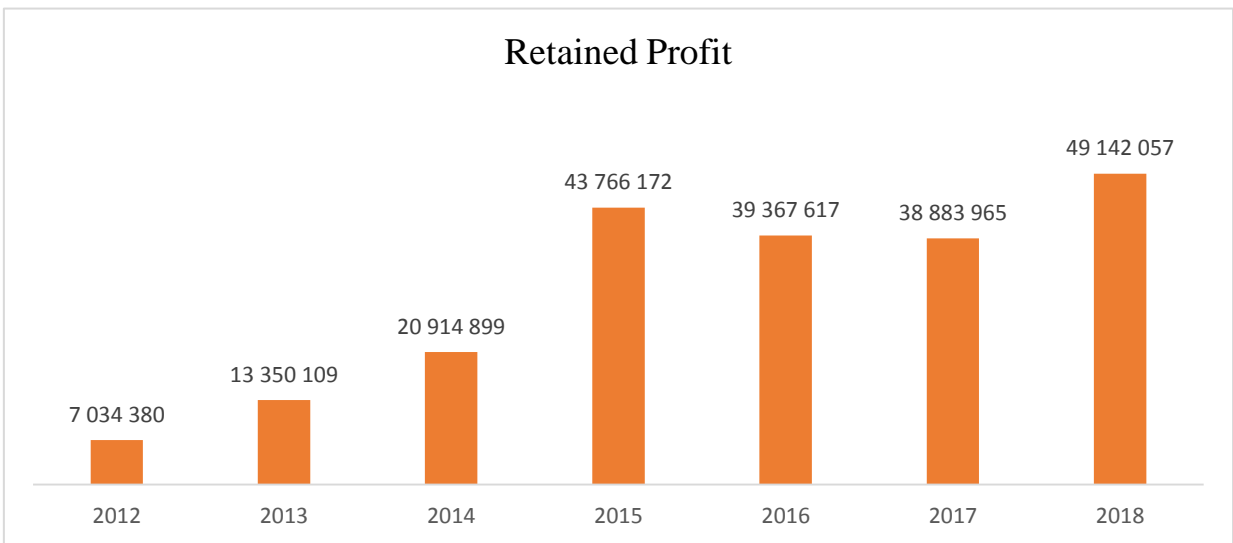
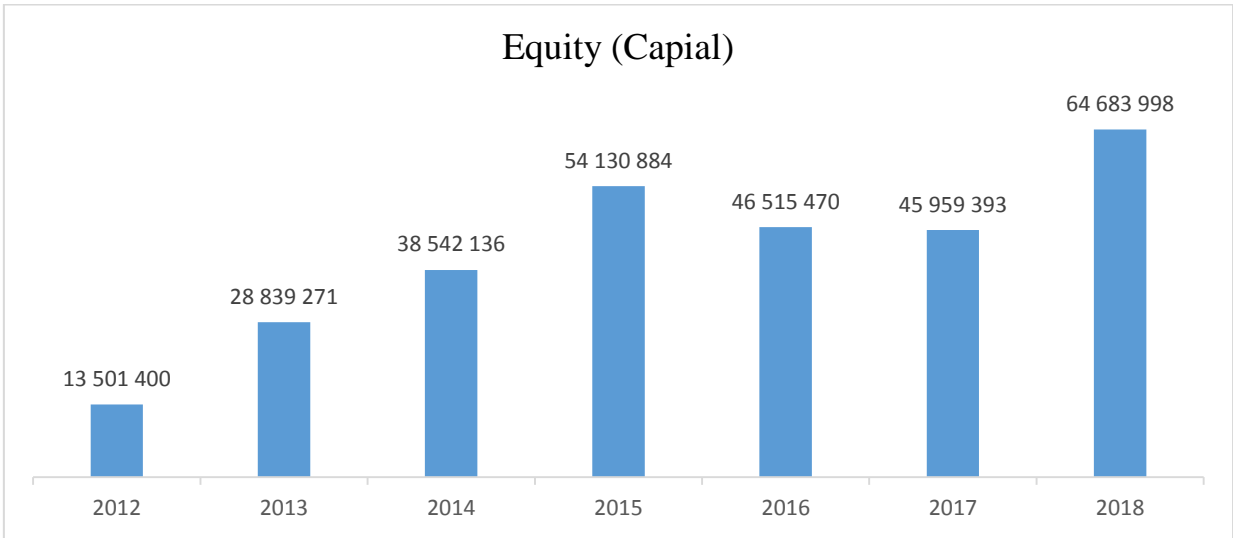
Item	01.01.2019	01.01.2018
Equity (capital), total	64,683,998	45,959,393
Including:		
Core capital	51,564,032	28,509,192
Basic assets	51,564,032	28,509,192
Supplementary capital	13,119,966	17,450,201

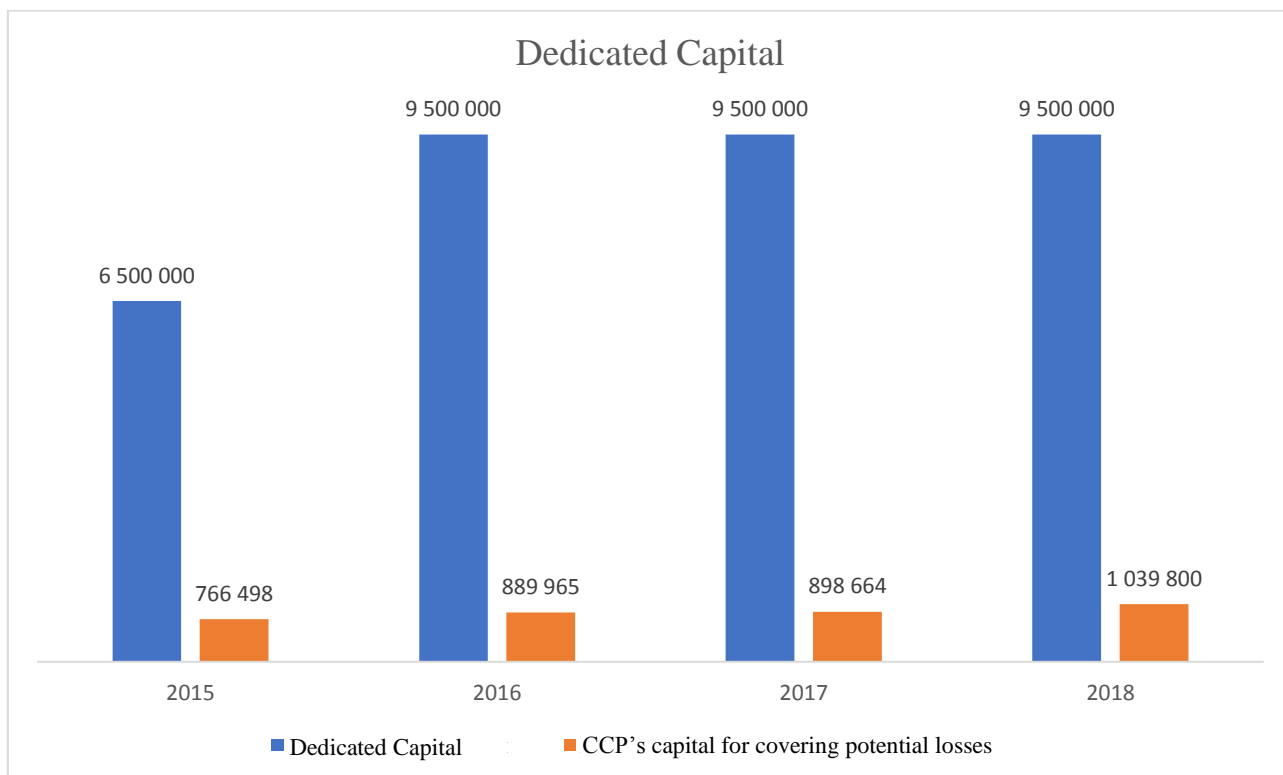
All capital adequacy requirements were met by CCP NCC in full during the reporting period.

(RUB thousand)

Year	2012	2013	2014	2015	2016	2017	2018
Equity (capital)	13,501,400	28,839,271	38,542,136	54,130,884	46,515,470	45,959,393	64,683,998
Retained profit	7,034,380	13,350,109	20,914,899	43,766,172	39,367,617	38,883,965	49,142,057
Authorized capital	6,170,000	15,170,000	16,670,000	16,670,000	16,670,000	16,670,000	16,670,000
Reserve fund	308,500	966,775	966,775	966,775	966,775	966,775	966,775
<b>Sources reducing the equity (capital), including:</b>							
Dedicated capital	0	0	0	6,500,000	9,500,000	9,500,000	9,500,000 <sup>2</sup>
CCP capital for coverage of possible losses	0	0	0	766,498	889,965	898,664	1,039,800

<sup>2</sup> From 01.10.2018, according to Bank of Russia Regulation 646-P 'On the Methodology for Measuring Credit Institution Capital (Basel III)', the amount of dedicated capital and CCP's capital for covering potential losses does not reduce equity (capital) of CCP.





On November 1, 2015, the Bank of Russia put into effect the amendments to its regulations governing the central counterparty activity which require a central counterparty to set aside a part of its equity (capital) for coverage of possible losses, whether or not caused by clearing members' non-performance of their obligations.

The resources for coverage of losses formed by the central counterparty in compliance with the applicable laws or regulations of the Bank of Russia are recorded separately on separate personal accounts for recording retained profit and reduce the equity (capital) of CCP NCC. The above funds are included in the central counterparty's equity (capital).

(RUB thousand)

<b>Part of Retained Profit Intended:</b>	<b>2018</b>	<b>2017</b>
for covering possible losses caused by failure of clearing members to perform their obligations (funds used by central counterparty before using the funds contributed by non-defaulting clearing members to the collective clearing collateral) – the central counterparty's dedicated capital	9,500,000	9,500,000
for providing termination and restructuring of activities of central counterparty	693,200,	599,109
for covering possible losses as a result of deterioration of the financial standing of the central counterparty due to reduction of its income or increase of expenses, other than resulting from failure of clearing members to perform their obligations	346,600	299,555



## 9. Supervisory Board and Information on Its Members

*On 24 November 2017, Moscow Exchange, as the sole shareholder, when considering the matters within the competency of the General Shareholder Meeting, adopted its resolution on early termination of powers of the Supervisory Board members and election of the Supervisory Board members till the Annual General Shareholders Meeting to be held in 2018 of the following persons:*

1. Alexander Afanasiev,
2. Igor Golutvin,
3. Andrey Golikov,
4. Yuri Denisov,
5. Vadim Kulik,
6. Sergey Lykov,
7. Sergey Monin,
8. Sergey Smirnov,
9. Alexey Khavin.

*On 14 May 2018, Moscow Exchange, as the sole shareholder, when considering the matters within the competency of the General Shareholder Meeting, adopted its resolution on early termination of powers of the Supervisory Board members and election of the Supervisory Board of the Company till the Annual General Shareholders Meeting to be held in 2019 of the following persons:*

1. Alexander Afanasiev,
2. Igor Golutvin,
3. Andrey Golikov,
4. Yuri Denisov,
5. Vadim Kulik,
6. Sergey Lykov,
7. Sergey Monin,
8. Sergey Smirnov,
9. Alexey Khavin.

Thus, no changes were made in the composition of the Supervisory Board on the previous year.

### ***Background Information on the Supervisory Board Members in 2018<sup>3</sup>:***

**1. Alexander Afanasiev**, born in 1962, higher education, in 1984 he graduated from the Moscow Financial Institute, Qualification – Economist, Moscow Financial Institute, in 1987

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<sup>3</sup> Data on membership in the management bodies is specified as of 31 December 2018.

completed the Postgraduate training program of the Moscow Financial Institute with the Science degree: Ph.D. in Economics.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

19.09.2008 – 26.12.2011, Deputy CEO of Bank WestLB Vostok (Closed Joint-Stock Company), participating in company's governance and the activity of the sole executive body.

28.12.2011 – 20.06.2012, Deputy CEO of Open Joint-Stock Company "MICEX-RTS", Participating in company's governance and the activity of the sole executive body, supervising clearing and treasury activity, risk analysis and control.

21.06.2012 – 02.07.2012, President of Open Joint-Stock Company "MICEX-RTS" Company's governance, performing functions of the sole executive body.

03.07.2012 – up to now, CEO of Public Joint-Stock Company "Moscow Exchange MICEX-RTS", Company's governance, performing functions of the sole executive body.

*Information on membership in management bodies of other legal entities:*

25.06.2013 – 26.04.2018, member of the Supervisory Board Of Public Joint-Stock Company "Moscow Exchange MICEX-RTS".

20.09.2013 – up to now, Member of the Council of International Association of Exchanges of the Commonwealth of Independent States countries (IAEx of CIS).

21.03.2013 – up to now, Member of the Management Board of Russian Public Organization "Russian Union of Industrialists and Entrepreneurs".

21.03.2013 – up to now, Member of the Management Board of all-Russia association of employers "Russian Union of Industrialists and Entrepreneurs".

26.05.2015 – up to now, member of the Supervisory Board of National Settlement Depository.

**2. Andrey Golikov**, born in 1969, higher education, in 1991 he graduated from the Moscow State University named after M.V. Lomonosov, Qualification: engineer Specialty: mechanical science. In 2016, he received IOD Diploma in Company Direction of the Institute of Directors (IoD) of the United Kingdom.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

12.05.2009 – 14.07.2011, Vice-President – Director of Treasury Transactions & Financial Markets Department of Open Joint-Stock Company "Sberbank of Russia" Liquidity management, exercising different types of trading transactions on the financial market, broker's transactions and fiduciary management.

15.02.2012 – 31.01.2014, Director of the Investment-Commercial Division of CJSC “Strana Detey”, Drafting the project strategy, detailed business plan and performing full-cycle market researches for raising the debt capital.

*Information on membership in management bodies of other legal entities:*

24.04.2003 – up to now, Deputy Chairman of the Supervisory Board of Public Joint-Stock Company “Moscow Exchange MICEX-RTS”.

20.04.2011 – 22.04.2015, Co-Chairman of the Board of Directors of National Securities Market Association (self-regulated non-profit institution).

13.04.2017 – up to now, Co-Chairman of the Board of Directors of National Financial Association (self-regulated non-profit partnership)

19.12.2016 – up to now, Member of the Supervisory Board of JSC Russian National Reinsurance Company (RNRC).

30.06.2017 - up to now, Member of the Board of Directors of the Joint-Stock Commercial Bank “Absolut Bank” (Public Joint Stock Company).

21.12.2017 – up to now, member of the Supervisory Board of PAO Bank FK Otkrytie.

**3. Igor Golutvin**, born in 1979, higher education, in 2002 he graduated from the Moscow State University named after M.V. Lomonosov, Qualification: physicist Specialty: physics. In 2004 he graduated from Institute of Theoretical and Experimental Physics Science degree: Ph.D. in Physics and Mathematics. In 2010 completed Training, Counselling and Professional Centre of MFTs (International Financial Center), Qualification: Specialist in financial markets in the area of brokerage and dealer activity, securities management.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

04.04.2008 – 11.04.2013, Head of the Derivatives Sub-Division within the Open Market Trading Transactions Division of the Fixed-Income Instrument Transactions Department of CJSC VTB Capital, was responsible for developing currency and interest rate derivatives; launching new products, configuring and developing risk management systems.

11.04.2013 – 31.08.2017, Co-Head of the Complex Transactions Sub-Division within the Open Market Trading Transactions Division of the Fixed-Income Instrument Transactions Department of CJSC VTB Capital, was in charge of CVA portfolio management in relation to transactions with derivatives; hedging market and credit risks, portfolio yield optimization.

01.09.2017-19.04.2018, Head of the Structural Solutions Sub-Division within the Debt & Currency Markets Trading Transactions Division of JSC VTB Capital, was responsible for developing and supporting the derivative solutions business.

19.04.2018 – up to now, Deputy Head of the of the Division for Global Commodity and Raw Market Transactions of the Fixed-Income Instrument Transactions Department of JSC VTB

Capital, is responsible for developing companies' business related to global commodity and raw market transactions.

21.04.2008 – 05.04.2013, Head of the Derivatives Sub-Division within the Debt & Currency Markets Trading Transactions Division of PJSC Bank VTB (spare-time work).

05.04.2013-19.04.2018, Managing Director – Vice-President of the Debt & Currency Markets Trading Transactions Division of PJSC Bank VTB (spare-time work).

19.04.2018 – up to now, Managing Director of the Department for Global Commodity and Raw Market Transactions of the Investment Products Department - Vice-President of PJSC Bank VTB (spare-time work).

19.04.2018 – up to now, of the Complex Transactions Sub-Division within the Open Market Trading Transactions Division of the Fixed-Income Instrument Transactions Department of CJSC VTB Capital CVA portfolio management in relation to transactions with derivatives; hedging market and credit risks, portfolio yield optimization.

16.07.2018 – up to now, Head for Commodity and Raw Markets of the Department for counselling on transactions in the financial income instrument market of VTB Capital IB Holding, Limited.

*Is not a member of any management bodies of other legal entities.*

**4. Yuri Denisov**, born in 1970, higher education, in 1993 he graduated from the Moscow State Institute of International Relations at the Ministry of Foreign Affairs, Qualification: economist in the area of international economic relation with a knowledge of a foreign language Specialty: international economic relations.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

10.08.2009 – 01.03.2010, Senior Vice President of the Financial Department of OJSC VTB Bank Management of assets and liabilities, supervising treasury activity of VTB Group, trading on money, currency, precious metals and derivatives markets.

22.09.2010 – 31.05.2011, Deputy CEO of Closed Joint-Stock Company “Moscow Interbank Currency Exchange” Supervising risk management, clearing and treasury activity, management of assets and liabilities.

29.06.2011 – 13.05.2016, Deputy Chairman of the Supervisory Board of NCC Bank (JSC).

26.05.2016 – up to now, Chairman of the Supervisory Board of CCP NCC.

*Information on membership in management bodies of other legal entities:*

25.06.2013 – up to now, member of the Supervisory Board Of Public Joint-Stock Company “Moscow Exchange MICEX-RTS”.

14.10.2003 – 08.04.2015, Co-Chairman of the Council of National Foreign Exchange Association.

**5. Vadim Kulik**, born in 1972, higher education, in 1995 he graduated from D. Mendeleev University of Chemical Technology of Russia. Specialty: Chemical Technology of Modern Energetics Materials.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

03.06.2011 – 14.01.2013, Vice-President - Director of the Risk Department of PAO Sberbank, participating in management of market and operational risks, as well as retail and non-retail credit risks. Implementing risk management processes in subsidiary banks in the CIS countries.

15.01.2013 – 23.05.2013, Senior Vice-President, member of the Vice-President Board of PAO Sberbank, responsible for bank risk management and information technological support of the Bank.

24.05.2013 – 15.02.2017, Deputy CEO, member of the Management Board of PAO Sberbank, supervising risk management, information technological support, operating activities of the Bank.

16.05.2017 – 15.10.2017, First Deputy CEO, member of the Management Board of Otkrytie Holding JSC, supervising the information technological support of the financial subdivisions of subsidiary companies.

30.10.2017 – 21.12.2017, Adviser of CEO of Gazprombank (Joint-stock company).

22.12.2017 – up to now, Deputy CEO, member of the Management Board of Gazprombank (Joint-stock company), participating implementation of the policy for information technology development in head office and branches, co-ordinating development of standards and regulation of the processes of operational support of bank products, involvement in efforts aimed at centralization and coordination of all risk management systems.

*Information on membership in management bodies of other legal entities:*

28.09.2012 - 29.03.2017, Member of of the Board of Directors DenizBank A.S.

25.04.2013 - 25.01.2017, Member of the Board of Directors of Sberbank-Technology JSC

22.01.2014 - 14.03.2017, Member of the Board of Directors of Sberbank leasing JSC

29.06.2017 - up to now, Member of the Supervisory Board of Russian National Reinsurance Company, Joint-Stock Company

**6. Sergey Lykov**, borne in 1952, higher education, in 1975 he graduated from the Moscow Financial Institute Qualification: economist Specialty: international economic relations, in 1988 completed the Postgraduate training program of the All-Union Distance-Learning Institute of Finance and Economics with the Science degree: Ph.D. in Economics

*Information on professional experience and duties for five years before election to the Supervisory Board:*

28.06.2007 – up to now, Member of the Management Board of State Corporation “Bank for Development and Foreign Economic Affairs (Vnesheconombank)” Participating in corporation’s governance and the activity of the sole executive body.

16.07.2007 – up to now, Deputy Chairman – member of the Management Board of State Corporation “Bank for Development and Foreign Economic Affairs (Vnesheconombank)” Participating in corporation’s governance and the activity of the sole executive body.

28.01.2009 – 15.06.2010 and 29.06.2011 – 13.05.2016 Chairman of the Supervisory Board of of NCC Bank (JSC).

26.05.2016 – up to now Deputy Chairman of the Supervisory Board of CCP NCC.

*Information on membership in management bodies of other legal entities:*

20.05.2004 – 28.04.2015, Deputy Chairman of the Supervisory Board of Open Joint-Stock Company “Moscow Exchange MICEX-RTS”

28.04.2015 – 27.04.2016, Member of the Supervisory Board of Public Joint-Stock Company «Moscow Exchange MICEX-RTS”.

28.03.2008 – 25.08.2016, Deputy Chairman of the Supervisory Board of Belvnesheconombank Open Joint-Stock Company.

22.01.2009 – up to now, Member of the Board of Directors of Interregional Commercial Bank for Development of Communications and Informatics (Public Joint-Stock Company).

08.06.2006 – 09.06.2015, Member of the Board of Directors of of State Specialized Russian Export-Import Bank Closed Joint-Stock Company.

06.12.2013 – 05.08.2015, Member of the Board of Directors of VEB Asia Limited.

06.12.2013 – 30.06.2016, Member of the Board of Directors of VEB-Leasing Open Joint-Stock Company

30.05.2017 – up to now, Member of the Supervisory Board of National Settlement Depository.

**7. Sergey Monin**, born in 1973, higher education, in 1995 he graduated from the Financial Academy at the RF Government Qualification: economist Specialty: global economy, in 1999 completed the postgraduate training program of the Financial Academy at the RF Government with the Science degree: Ph.D. in Economics.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

01.09.2010 – 07.11.2011, Deputy CEO, Head of the Treasury Directorate of Raiffeisen Bank Closed Joint-Stock Company Participating in strategy planning of the bank's activity; supervising the Treasury, management of assets and liabilities, financial risk control.

07.11.2011 – up to now, CEO of Raiffeisen Bank Joint-Stock Company Elaborating and implementing bank's development structure, governance of day-to-day operations..

*Information on membership in management bodies of other legal entities:*

02.03.2005 – 08.04.2015, Co-Chairman of the Council of National Foreign Exchange Association.

22.04.2014 – 22.04.2015, Co-Chairman of the Board of Directors of National Securities Market Association (self-regulated non-profit institution).

29.11.2011 – 16.10.2015, Chairman of the Supervisory Board of Non-State Pension Fund Raiffeisen.

29.09.2011 – up to now, Chairman of the Supervisory Board of Raiffeisen Capital Asset Management Company.

**8. Sergey Smirnov**, born in 1955, higher education, in 1978 he graduated from the Lomonosov Moscow State University, Qualification: mathematics Specialty: applied mathematics. In 1991 he graduated from Université Paris VII – Denis Diderot, France, Qualification: DEA en Mathématiques Financières Specialty: Econométrie Financière.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

15.03.2007 – up to now, Financial Engineering and Risk Management Laboratory Director of the Higher School of Economics National Research University, teaching and Scientific activity..

*Information on membership in management bodies of other legal entities:*

10.12.2013 – up to now, Deputy Chairman of the Supervisory Board of the Guild of Financial Analysts and Risk-Managers.

30.06.2015 – up to now, Independent member of the Management Board of the Guild of Actuaries Association.

**9. Alexey Khavin**, born in 1975, higher education, in 1997 he graduated from the Finance Academy under the Government of the Russian Federation, Qualification: Economist, Specialty: Global Economy.

*Information on professional experience and duties for five years before election to the Supervisory Board:*

03.09.2007 – 06.03.2009, First Vice President - Head of the Treasury of Gazprombank (Open Joint-Stock Company), supervising proprietary and client's trading of the Bank in the financial markets.

21.12.2010 – 11.04.2011, Deputy CEO of Bank "National Clearing Centre" Closed joint-stock company, supervising operations of the Treasury and subdivisions of the back office.

12.04.2011 – up to now, CEO of CCP NCC, performing general management of the Company's activity.

*Information on membership in management bodies of other legal entities:*

25.04.2006 – 08.04.2015, Co-Chairman of the Council of the National Foreign Exchange Association.

24.02.2011 – up to now, Member of the Board of Directors of Sea Launch AG.

20.04.2011 – up to now, Member of the Council of the National Securities Market Association (self-regulating non-profit organization).

28.06.2016– 24.05.2017, Member of the Supervisory Board of Joint-Stock Company "National Mercantile Exchange".



## 10. Information on CEO and Management Board Members

*On 12 April 2011, Alexey Khavin was elected CEO by unanimous resolution of the sole shareholder of the Company. In March 2018, Alexey Khavin's term of office as CEO was extended by resolution of the sole shareholder of the Company.*

**Alexey Khavin**, born in 1975, higher education, in 1997 he graduated from the Finance Academy under the Government of the Russian Federation, Qualification: Economist, Specialty: Global Economy. He holds the certificates of the specialist in financial markets (from 18.05.2006 in the area of brokerage and dealer activity, securities management, from 08.10.2012 - organization of trading in the securities market (securities exchange operation) and clearing business).

*Information on professional experience and duties for five years:*

03.09.2007 – 06.03.2009, First Vice President - Head of the Treasury of Gazprombank (Open Joint-Stock Company), supervising proprietary and client's trading of the Bank in the financial markets.

11.11.2010 – 20.12.2010, Advisor to CEO of Bank "National Clearing Centre" Closed joint-stock company, involved in development and perfection of temporarily available funds management mechanisms.

21.12.2010 – 11.04.2011, Deputy CEO of Bank "National Clearing Centre" Closed joint-stock company, supervising operations of the Treasury and subdivisions of the back office.

12.04.2011 – up to now, CEO of CCP NCC, performing general management of the Company's activity.

*Information on membership in management bodies of other legal entities:*

25.04.2006 – 08.04.2015, Co-Chairman of the Council of the National Foreign Exchange Association.

24.02.2011 – up to now, Member of the Board of Directors of Sea Launch AG.

20.04.2011 – up to now, Member of the Council of the National Securities Market Association (self-regulating non-profit organization).

*During 2018 reporting year, the number of members of the Management Board of the Company did not change, by the Supervisory Board of the Company did not adopt any resolutions on the termination or extension of the powers of Management Board members. Therefore, in 2017*

*the following members of the Management Board of the Company performed their functions:*

**1. Alexey Khavin**, born in 1975, higher education, in 1997 he graduated from the Finance Academy under the Government of the Russian Federation, Qualification: Economist, Specialty: Global Economy. He holds the certificates of the specialist in financial markets (from 18.05.2006 in the area of brokerage and dealer activity, securities management, from 08.10.2012 - organization of trading in the securities market (securities exchange operation) and clearing business)

*Information on professional experience and duties for five years:*

03.09.2007 – 06.03.2009, First Vice President - Head of the Treasury of Gazprombank (Open Joint-Stock Company), supervising proprietary and client's trading of the Bank in the financial markets.

11.11.2010 – 20.12.2010, Advisor to CEO of Bank "National Clearing Centre" Closed joint-stock company, involved in development and perfection of temporarily available funds management mechanisms.

21.12.2010 – 11.04.2011, Deputy CEO of Bank "National Clearing Centre" Closed joint-stock company, supervising operations of the Treasury and subdivisions of the back office.

12.04.2011 – up to now, CEO of CCP NCC, performing general management of the Company's activity.

*Information on membership in management bodies of other legal entities:*

25.04.2006 – 08.04.2015, Co-Chairman of the Council of the National Foreign Exchange Association.

24.02.2011 – up to now, Member of the Board of Directors of Sea Launch AG.

20.04.2011 – up to now, Member of the Council of the National Securities Market Association (self-regulating non-profit organization).

**2. Yekaterina Demushkina**, born in 1969, in 1992 she graduated from the Lomonosov Moscow State University, Qualification: Law, Specialty: Lawyer; in 2006 completed the program 'Master of Business Administration — International Business' of the Russian Academy for Foreign Trade of the Ministry of Economic Development with the diploma of the financial market specialist (from 23.03.2007 – organization of trade in the securities market (stock exchange operation) and clearing business); from 27.02.2008 –depository activity).

*Professional experience for the last five years:*

18.12.2007 – 27.07.2010, the Vice-president of Depository clearing company (Closed joint stock)

company, supervised matters (issues) of legal support, risk management and activity(activities) on counteraction of legalization of proceeds of crime.

16.08.2010 – 10.11.2010, Deputy General Director of the National Depository Center (Closed Joint Stock Company) (NDC CJSC). After reorganization of NDC CJSC in the form of merger to Non-banking National Settlement Depository (Closed joint stock) company (NCO CJSC NSD) from 11.11.2010, she was transferred to the position of the Deputy CEO, which she held to 01.08.2011. She was a member of the Management Board. While holding the above positions, she supervised legal issues, business development, relations with clients.

02.08.2011 – up to now, Deputy CEO of CCP NCC, member of the Management Board. She coordinates and controls the Information Technologies Department, Legal Department, Financial Monitoring Service, quality manager.

Yekaterina Demushkina does not hold any position in the management bodies of other legal entities.

**3. Marianna Gorina**, born in 1963, higher education. In 1988, she graduated from the All-Union Correspondence Accountancy College of the USSR State Bank, Specialty: accounting and operational equipment in the State Bank, Qualification: accountant. In 2001, she graduated from the All-Union Correspondence Financial-Economic Institute, Specialty: accounting and audit, Qualification: economist. In 2004, she completed the postgraduate training program on the International Financial Reporting Standards of the International Finance and Banking School, Moscow (Supplementary Vocational Training Institute).

*Professional experience for the last five years:*

12.04.2004 – 07.04.2011, she held executive positions in Joint- Stock Commercial Bank “Bank of Moscow” (Open Joint-Stock Company); from 04 April 2005, she was the Deputy Chief Accountant – Deputy Director of the Accounting, Reporting and Settlement Department and supervised the activity of the Accounting Division, Banking Operations Record Division

12.04.2011 –16.05.2011, she was the Advisor to CEO of the Bank “National Clearing Centre” Closed joint-stock company and was in charge of methodological and advisory work in the area of setting up the accounting and tax bookkeeping procedures.

17.05.2011 – up to now, she is the Chief Accountant, member of the Management Board of CCP NCC, supervises Accounting, Tax Bookkeeping and Reporting Division, Treasury Operations Record Division and Settlement Division.

Marianna Gorina does not hold any position in the management bodies of other legal entities.

**4. Sergey Gorbachenko**, born in 1966, higher education, in 1989 he graduated from the Moscow Engineering Physics Institute, specialty: solid state physics, qualification: engineer-physician.

On 24.12.2003, he was issued the diploma confirming the qualification for a position of executive

officer or comptroller, or specialist of organization who organizes trading activities on (activity of stock exchanges), clearing business.

*Professional experience for the last five years:*

28.08.2003 – 26.01.2010, he was the General Director of Joint-stock company “RTS Clearing Center” (prior to a change of the name, CJSC “Technical Center RTS”) and performed the general management of the company’s activity.

24.02.2010 – 20.12.2013, he worked at Moscow Interbank Currency Exchange (after a change of the name, Moscow Exchange) as the Project Director of the Development & Project Activity Center and was in charge of implementation of the company’s projects.

21.06.2010 – 31.05.2011, he was the Development Director of Bank “National Clearing Centre” Closed Joint-stock company (on a part-time basis) and was responsible for implementation of clearing projects.

01.06.2011 – 01.07.2012, he was the Director of the Clearing Centre of Bank “National Clearing Centre” Closed Joint-stock company, was responsible for arranging the business unit’s operation.

02.07.2012 – up to now, he is the Director of the Clearing Department of CCP NCC, is performing general management of the business unit and responsible for clearing on all the markets of Moscow Exchange Group (from 23 December 2013 up to now, this position is his primary employment.

24.12.2013 – up to now, he is the member of the Management Board of CCP NCC, has been supervising the Clearing Department, Commodity Supply Operator Division.

Information on membership in management bodies of other legal entities:

17.05.2018 – up to now, Member of the Board of Directors of the Petersburg Settlement Center.

CEO and members of the Management Board of CCP NCC did not hold any shares of CCP NCC during the reporting period.

## **11. Human Resources Policy. Information on the Labor Remuneration System**

### ***HR Policy and Organizational Structure***

The HR policy of CCP NCC addresses three main objectives:

- attraction, motivation and retaining of highly skilled professionals and managers;
- continuing professional development of employees; and
- forming an environment for personal fulfillment of its employees, high result achievement, and implementation of the Company's strategic goals.

CCP NCC has been regularly and consistently building an efficient organization through introduction of advanced practices and management techniques, including the ongoing improvement of its processes for human resources management and training of employees of all levels.

In the reporting period the effective headcount of CCP NCC did not increase as compared to 2017 and was 163 employees by late 2018. The number of members of CCP NCC Management Board remained unchanged. The CCP NCC did not undertake any rightsizing in 2016 and 2018, nor does it plan the same for 2019.

### ***Labor Remuneration Policy***

The labor remuneration policy is consistent with CCP NCC's strategy and nature, scope of NCC's operations, results of its activities, level and combination of assumed risks. At least once a year, CCP NCC Supervisory Board adopts resolutions on its preservation or revision of all documents governing the labor remuneration system subject to changes in the conditions of its activities, including in connection with changes in its strategy, the nature, scope of performed operations, results of its activities, level and combination of the risks assumed.

In 2018, the structure of CCP NCC's labor remuneration system developed in accordance with Instruction No. 154-I<sup>4</sup>, remained unchanged and consisted of the fixed portion (i.e. base remuneration and compensatory/ social payments not related to performance results) and variable portion (i.e. stimulating bonus driven by performance results, such as annual bonus). The size of a position salary is established in the Company in accordance with the Procedures of administration of the system of grades and base remuneration of employees. The variable portion of remuneration depends both on performance results of CCP NCC and individual results of employee estimated as a part of the performance management process

The Labor Remuneration Policy approved by the Supervisory Board of CCP NCC divides CCP NCC employees into four categories:

- risk-taking employees (members of executive bodies and other risk-taking employees);
- employees of subdivisions in charge of risk management;
- employees of subdivisions in charge of internal control; and

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<sup>4</sup> Bank of Russia Instruction No. 154-I issued on 17.06.2014 'On the procedure for assessing remuneration systems of credit institutions and the procedure for submitting to credit institutions orders to eliminate violations identified in their remuneration systems' ( 'Instruction 154-I').

- other employees.

CCP NCC has applied a time-rate-bonus salary system which provides that the salary size of employees depends not only on hours worked, and also provides for payment of bonuses to employees subject to results of performance (work) in the reporting period in accordance with the procedure and terms established by the Regulations of payment of bonuses to CCP NCC employees. With that, risk-taking employees are paid a 40% annual bonus on the terms of deferment (or payment in installments) and its subsequent adjustment on the terms and under the rules set forth in the Methodology for adjustment of the variable portion of labor remuneration of CCP NCC employees, and deferment (or payment in installments) and subsequent adjustments of the variable portion of labor remuneration of CCP NCC employees subject to the performance results of the Company and the level of risks assumed by CCP NCC, its subdivisions and risk-taking employees (the “Methodology”). In March 2017, CCP NCC Supervisory Board approved the amount of shares of deferred (paid in installments) portion of the annual bonus for the reporting period (2016) by payment (accrual) dates upon expiry of the periods sufficient for evaluation of performance results, based on the proportion between the shares of risk-bearing assets maturing in the respective years after such reporting period and the total risk-bearing assets as of the first day following the end of the reporting period.

Based upon performance results of CCP NCC for 2017 and the calculation of the to-be-adjusted percentage of deferred (paid in installments) annual bonus portions attributable to previous periods and evaluated in the current period taking into account absence of any actual losses on significant risks (credit risk of the issuer, counterparty credit risk, market risk, liquidity risk) as of 31.12.2017, in March 2018 CCP NCC Supervisory Board approved the resolution on the payment of such deferred (paid in installments) annual bonus portions attributable to previous periods (the second share for 2015 and the first share for 2016) in full.

During 2018, CCP NCC continued to improve its personnel labor remuneration principles and approaches and updated certain documents regulating the labor remuneration system. Significant amendments were made to the Guidelines, including:

- the list of risks significant for adjustment of non-fixed labor remuneration (central counterparty risks were added: central counterparty’s credit risk, central counterparty’s operational risk and custody risk of Commodity Delivery Operator ) was expanded;
- risks are differentiated in terms of the impact on calculation of annual bonus for the reporting year and on adjustment of the deferred (paid in installments) of annual bonus portions subject to the personnel category.

In late 2017, the Internal Audit Department assessed the labor remuneration system of CCP NCC and found the organization and functioning of the labor remuneration system consistent with the nature and scope of operations performed by CCP NCC, results of its activity, level and combination of assumed risks.

### ***Social Support to Employees***

Provision of corporate social support to employees is one of the elements of CCP NCC’s social policy designed to provide social protection to employees, contributing to growth of the efficiency and quality of their work. The corporate social support to employees is implemented in accordance with the Regulation of corporate social support of employees of CCP NCC

(hereinafter- the ‘Social Support Regulation’), which is revised and approved by CCP NCC Supervisory Board on an annual basis.

CCP NCC maintains voluntary medical insurance, international medical insurance as well as health and accident insurance of its employees and provides financial assistance in the appropriate cases. As of 01.01.2019, 93% of employees were covered by the voluntary medical insurance plan, and 100% were covered by the international medical insurance and health and accident insurance plans. The Company provides financial aid to employees, including maternity benefits (on birth, adoption, custody or guardianship of a child), survivorship benefits and other allowances in such cases as contemplated by the Social Support Regulation.

The benefits and allowances paid to employees or their family members according to the Social Support Regulation are not attributable to the labor remuneration system and their amounts are not subject to adjustments for the risks assumed by CCP NCC.

The Company also promotes healthy living, prevention and avoidance of epidemic surges of acute respiratory viral infections (ARVI) and flue. Its employees may enjoy the corporate discounts in the leading fitness centers, including athletic clubs arranged by Moscow Exchange Group (running, triathlon, soccer, hockey, etc.).

### *Training and Developing Employees*

At the end of 2018, 96.2% of employees had higher education, 18.9% - second higher education. In addition, six employees have the Science degree of Ph.D., 44.8% - diplomas.

The approach to training CCP NCC’s employees provides for the following three priority areas:

- management culture development,
- development of culture of knowledge and experience continuity, and
- support of business for innovative objective implementation in accordance with the global trends.

The employee training and development system includes educational courses and self-study facilities (including on-the-job trainings). The training system is up-to-date and technological, provides employees with additional self-education opportunities to employees. At the same time, more emphasis are put on transfer of responsibility for their development to employees themselves and provision of them with modern technologies, resources and additional opportunities for this purpose. In 2018 CCP NCC maintained the training concept 70-20-10, which presupposes shifting the training focus towards the self-education and on-the-job development (70% of all developing efforts) together with learning by peers’ experience (20% of all developing efforts) and actual involvement in training courses (10% of all developing efforts).

In 2018, 103 employees completed training courses (some employees were even trained under several programs). Each employee had 5 training days during the year on average. CCP NCC puts a strong emphasis on the business continuity, inter alia, training of employees in this activity. In 2018, 4 remote training courses were updated, and 481 employees successfully completed the mandatory remote courses. On average, each CCP NCC employee takes 9 electronic training courses per year.

The Company pays attention to introduction of programs for competences development, leader skills and project management skills required for implementing Moscow Exchange Group’s strategic projects. In 2016, the Group established the Corporate University encompassing five departments such as the Project Department, Business Department, Top Management Department,

Management Department and Professional Department. The Corporate University is designed to develop competences so that the employees could tackle their business tasks successfully. As part of its annual review of performance results, CCP NCC assesses employees' competences in accordance with the approved model. This assessment provides the basis for the employee individual development plans which include the annual schedule of training activities.

In 2018, 9 employees graduated from the Management Department annual program designed to develop management skills, master new approaches and methods of management, and form the management culture. The Project Department program is aimed at developing the project management skills, design thinking, and project team management. 6 employees took the Project Department program. The Professional Department programs are designed to provide employees with in-depth and high quality knowledge in the key business areas of CCP NCC. In 2018, 88 employees completed the mandatory courses, of which 31 employees improved their skills, 18 employees took part in relevant conferences, and 3 employees attended relevant international conferences, 57 attended professional workshops and training courses.

The training and development system is also focused on strengthening the workforce capacity of employees. The classical instruments for of employee competency are used to fulfil such objective. Long-term individual plans of professional and career development are generated according to the results of such assessment.

### ***Health Protection of Employees and Provision of Labor Safety***

The responsible attitude to labor safety is one of the core principles of the CCP NCC's activity in the area of health protection and labor safety of its employees. The main measures for protection of labor and health of employees include:

- provision of safe job environment,
- regular medical examinations,
- job safety trainings for employees,
- fostering the health awareness culture.

CCP NCC provides regular instructions in labor safety, electrical safety, fire safety, civil defense and emergency situation. With such frequency as prescribed by the applicable laws, all employees are provided with initial, subsequent and casual instructions in labor safety and their awareness of job safety requirements are checked. In 2018, 39 new employees were briefed on labor safety, 16 employees took the first aid training course. In 2018, new remote training courses on labor safety and electrical safety were launched and taken by 169 employees. The Company ensures availability of all types of job and fire safety instructions and regulations, which are available to employees for review at any time through any accessible resource. Also, employees may take online training courses in labor safety.

In 2018, the specialized training center trained 4 executive officers of the Company on labor safety. Working conditions of 103 workplaces were assessed. Such assessment of workplace conditions did not identify any hazardous and (or) dangerous production factors, working conditions were recognized to be admissible.

During the reporting period, all workplaces were inspected in-process for compliance with the sanitary and anti-epidemic rules and preventive measures. Anti-influenza vaccination of employees was arranged. During the period of ARVI and flue epidemics, employees were provided with antiseptic agents and medical face masks. Air decontamination units were provided to offices on demand.



During the year, pre-trip, preliminary and regular medical examinations as well as mental health evaluations were provided for those employee categories, which require such control under applicable laws. The corporate doctor provided medical treatment, including in case of emergency, in the specially equipped room. Offices are equipped with recreational spaces, kitchens, mini gym studios, water coolers, coffee machines, and vending machines.

In 2018, no industrial accident was registered in CCP NCC.

## **12. Remuneration of CEO, Management Board Members and Supervisory Board Members (criteria for calculation and size of remuneration)**

### *Remuneration of CEO and Management Board Members*

The remuneration paid in 2018 reporting year to the Chairman and Members of the Management Board of CCP NCC was determined in accordance with the Federal Law ‘On Joint Stock Companies’, the Russian Labor Code, Bank of Russia requirements, including Bank of Russia Instruction No. 154-I dated 17.06.2014 ‘On the Procedure for Assessing Remuneration Systems of Credit Institutions and the Procedure for Submitting to Credit Institutions Orders to Eliminate Violations Identified in Their Remuneration Systems’, CCP NCC’s Articles of Association, other internal documents of CCP NCC, and terms of the labor contracts made with them.

Approval of the fixed and variable parts of labor remuneration in the total amount of remuneration, approval of remuneration sizes and other benefits to the members of CCP NCC’s executive bodies, assessment of their activities fall within competency of CCP NCC’s Supervisory Board and are based on recommendations from its Nomination and Remuneration Committee.

The system of remuneration of the members of the executive bodies is designed to achieve the optimal balance between the dependence of remuneration on the performance results and personal contribution of each member of the executive body to the achievement of this result. The structure of remuneration elements and their relationship are established by the Supervisory Board as percent in the total amount of remuneration and differentiated subject to the degree of the contribution of the executive body member to the financial performance figures and to occurrence of risk events attributable to the risks assumed when performing functions of an executive body member.

One of the key remuneration elements, also covering members of executive bodies, is a variable part (hereinafter the - “annual bonus”). The amount of the annual bonus payable to CEO and members of CCP NCC’s Management Board is driven, inter alia, by assessment of the achievement (fulfillment results) of the common corporate key performance indicators (targets), assessment of the achievement (fulfillment results) of the individual key performance indicators (targets) of CEO and of Management Board members for the reporting year, results of assessment of risks (operational risk of central counterparty, liquidity risk, credit risk of central counterparty), and assessment of the work quality based on the data of financial statements and accounts, the

operational records, results of inspections performed by internal/external auditors and regulators, risk assessment results, performance of instructions of CCP NCC's Supervisory Board and its committees, and other factors. To maintain the balance between common corporate (financial, strategic) and individual targets, the aggregate weight of common corporate targets in 2018 accounted for 40% in the total weight (100%) of all targets pursued by the members of executive bodies.

Based on the results of 2018 summed up by CCP NCC's Supervisory Board, 60% of the approved annual bonus for the year performance results will be paid to CEO and Management Board Members. The remaining 40% of the approved amount of the annual bonus for the results of performance of CEO and Management Board Members in 2018 will be deferred (paid in installments) for three years, including a possibility of reduction or cancellation in case of negative financial result for CCP NCC as a whole, according to the procedure and on the terms approved by the Supervisory Board.

The deferred (paid-in-installments) portion of the annual bonuses (hereinafter the- "deferred portion") will be paid in accordance with the approved-by-Supervisory Board sizes of shares of deferred (paid-in-installments) portion of the annual bonuses attributable to each reporting year (and subject to further adjustments) by payment (accrual) date upon expiry of the periods sufficient for determining the performance results. If any risk event occurs, the adjustment will apply to all deferred (paid-in-installments) portions of the annual bonus to attributable to previous periods, which are evaluated in the current period. The deferred (paid-in-installments) portions of the annual bonus to be paid in 2019 will be adjusted for evaluation of the following risk events occurred in 2018: operational risk of the central counterparty, credit, market risk, and custody risks of Commodity Delivery Operator.

In March 2018, based on the evaluation of risk events occurred in year 2017 and pursuant to the relevant resolution of CCP NCC Supervisory Board, CEO and members of CCP NCC Management Board were paid in full the first share of the deferred (paid-in-installments) portion of their annual bonuses for the reporting year 2016 (89% of the total amount of the deferred (paid-in-installments) portion of the annual bonus for 2016), and the second share of the delayed part of their annual award for 2015 reporting year (10% of the total amount of the deferred (paid-in-installments) portion of their annual bonuses for 2015).

The amount of all payments (salary, bonus, compensation for and other payments) made to CEO and members of CCP NCC Management Board in 2018 totaled RUB85,175,400 (2017: RUB93,794,500, 2016: RUB92,369,600; 2015: RUB112,578,600).

### ***Remuneration of Supervisory Board Members***

On 14 May 2018 Moscow Exchange, the sole shareholder of CCP NCC, passed Resolution No. 41 on the issues falling within competence of the General Shareholders Meeting, to remunerate the members of CCP NCC's Supervisory Board elected by Resolution No. 36 of the sole shareholder on 23 June 2017 and Resolution No.40 on 24 November 2017, for performance of their functions in the amount calculated in accordance with the Regulation on remuneration and compensation of expenses of the members of CCP NCC's Supervisory Board approved by Resolution No. 30 of the sole shareholder on 13 May 2016. The total amount of remuneration of the said members of CCP NCC's Supervisory Board for performance of their functions was RUB28,718,750 (twenty eight million seven hundred eighteen thousand and seven hundred fifty rubles).

The Regulation on remuneration and compensation of expenses ensures a systemic approach to calculation of the size of individual remunerations, determines the specific remuneration levels for each role of the Supervisory Board Members, sets a fixed amount of remuneration for independent members and contemplates the terms ensuring proper engagement of the Members in the activity of the Supervisory Board (the remuneration may be reduced in case of repeated non-attendance of meetings).

The remuneration of the members of CCP NCC's Supervisory Board elected by resolution No. 41 of the sole shareholder on 14 May 2018 will be paid upon holding the Annual General Shareholders Meeting of CCP NCC in 2019.

### **13. Dividends on Shares**

When considering the issues of the Annual General Shareholders Meeting held on 14 May 2018, Moscow Exchange, the sole shareholder of CCP NCC, passed Resolution No. 41 on the distribution of CCP NCC's net profit and payment (declaration) of dividends, as follows:

- to approve the distribution of net profit in the amount of RUB16,487,103,757.07 received in the reporting year 2017:
- to pay dividends for the reporting year 2017 in the total amount of RUB3 799,926,500.00;
- to retain the remainder of net profit after payment of dividends in the amount of RUB12,687,177,257.07;
- to determine the amount of dividends on shares of CCP NCC to be RUB227.95 per ordinary registered share;
- to set 29 May 2018 as the date, on which the persons entitled to the dividends are identified.

According to the resolution, the dividends were to be paid in cash by funds transfer and subject to such deadlines as provided by the Laws of the Russian Federation.

The dividends were paid on 01 June 2018.

In total, the dividends paid by CCP NCC in 2018 amounted to RUB3,799,926,500 (2017: RUB17,699,539,200).

### **14. Observance of the Corporate Governance Code**

CCP NCC places strong focus on the improvement of its corporate governance and endeavors to observe the best practices and corporate governance standards, inter alia, the most significant principles and guidelines set forth in the Corporate Governance Code approved by the Bank of Russia on 21.03.2014, the recommendations of the Bank of Russia and the Basel Committee on Banking Supervision, the principles of corporate governance recognized in international practice.

In 2015, CCP NCC approved and the Corporate Governance Principles (hereinafter - the 'Principles'), which main purpose is to describe the Company's existing corporate governance

rules and system to improve business efficiency, increase transparency, maintain financial stability and attractiveness of the Company.

In accordance with the Principles, the corporate governance is intended to appropriately incentivize the Company's Supervisory Board and employees to achieve the goals desired both by CCP NCC and its shareholder, as well as facilitate effective control encouraging the Company to utilize its resources more efficiently.

The application of the Principles results from its aspiration for improvement of its attractiveness for its shareholder, clients (service users), employees, creditors, and the Bank of Russia, and is based on the following approaches:

*Accountability.* The Supervisory Board and executive bodies of CCP NCC are accountable to its sole shareholder.

*Fairness.* CCP NCC's management bodies act equitably and legitimately.

*Transparency.* CCP NCC's management bodies provide timely and adequate disclosure of reliable information about CCP NCC's activities, including its financial position, performance results, and management bodies.

*Responsibility.* CCP NCC's management bodies recognize and protect the rights of stakeholders under applicable laws of the Russian Federation.

*Aspiration for further development.* CCP NCC's management bodies recognize the need for an ongoing improvement of the Company's corporate governance system taking account of development and influence of external factors, and the need for an ongoing control of observance of the rights and interests of its sole shareholder and other stakeholders.

The Principles establish the requirement that at least 1/3 of members of CCP NCC's Supervisory Board should be independent directors, define the independent director criteria, affiliation criteria and materiality criteria, which are based on separate provisions of the Corporate Governance Code of the Bank of Russia.

In the reporting year the Supervisory Board approved the amendment and restated version of CCP NCC's Corporate Governance Principles, which reflects the changes related to assignment of the central counterparty status to the Company, amendments made to the regulatory acts regulating its activity, amendments made to CCP NCC's internal documents.

The work experience of the Supervisory Board demonstrates strong engagement of its members in the management of CCP NCC's activities and efficient control over the efforts taken by the Management Board and CEO of the Company.

All members of the Supervisory Board have higher education and necessary knowledge, skills and competencies to address the long-term strategic development goals of CCP NCC as well as significant experience of engagement in collective management bodies. Also, all members of the Supervisory Board meet the necessary skill and reputational requirements imposed by the effective legislation of the Russian Federation. In their activity, the Supervisory Board members are accountable to the sole shareholder of CCP NCC.

In 2018, it reviewed the compliance of the independence of the current members of the Supervisory Board with the updated independence and affiliation criteria resulting in recognition of three members of the Supervisory Board to be independent directors.

To ensure sound and timely decision-making in the field of appointments and remunerations, the Nomination and Remuneration Committee is functioning as part of the Supervisory Board. The major goal of such committee is to ensure an efficient operation of the Supervisory Board of CCP NCC in resolution of the issues required for conformity of the labor remuneration system to the nature and scale of CCP NCC's operations, its performance results, level and combination of assumed risks. The Committee prepares proposals on appointments and remunerations of the

members of the Supervisory Board and executive bodies of CCP NCC. The Nomination and Remuneration Committee Members do not hold membership in CCP NCC's executive bodies, and the majority of them have sufficient experience or a qualification enabling them to make well-grounded decisions.

In compliance with the Federal Law on Clearing, Clearing Activities and Central Counterparty and to tighten control over the risk management framework, the Risk Committee is operating as part of CCP NCC's Supervisory Board. The main objective of the committee is to contribute to improvement of the Company's risk management system as a clearing organization and a central counterparty, in order to increase its financial stability and ensure continuity of its clearing activities. The members of the Supervisory Board's Risk Committee of CCP NCC as a central counterparty, complies with the aforementioned Federal Law, and two thirds of its members are representatives of clearing member, other members are independent members of the Company's Supervisory Board and representatives of the clearing members' clients.

The corporate governance practices existing in the Company enables the Management Board and CEO to perform reasonably, in good faith, solely for the benefit of the CCP NCC, effective management of the daily operations, and guarantee accountability of these bodies to the Supervisory Board and the General Shareholders Meeting (sole shareholder). The Management Board and CEO promote the implementation of resolutions adopted by the General Shareholders Meetings (sole shareholder) and the Supervisory Board.

One of the key principles of corporate governance of CCP NCC is the timely disclosure of reliable information in compliance with the Laws of the Russian Federation and internal documents. The information is disclosed pursuant to the Company's Information Policy Regulation approved by the Supervisory Board and consistently with principles of regularity and promptness, accessibility for stakeholders, reliability and completeness of the disclosed information.

As required by the applicable laws, CCP NCC discloses information in course of its performance of functions of a credit institution, clearing organization and central counterparty. The Company discloses its financial statements and accounts according to the Russian and international standards and publishes additional information of its operations, which may be material for the sole shareholder and other stakeholders while maintaining a reasonable balance between transparency of CCP NCC and protection of its business interests. CCP NCC discloses information using tools and methods most convenient for its stakeholders. The Company's official website is a main channel for disclosure of its information, and therefore the website contains the information sufficient for forming an objective understanding of material aspects of the CCP NCC's activities. As a rule, material event or actions of the Company are normally disclosed by publication of press releases.

To protect the rights and legitimate interests of the sole shareholder and provide efficient control of its financial and business operations, CCP NCC has the Revision Committee, whose members are elected by the General Shareholders Meeting. The Revision Committee reports to the General Shareholders Meeting and operates independently from other management bodies of the Company.

CCP NCC annually on a contractual basis engages a professional audit firm, which has no property interests in the Company or its sole shareholder, to audit and confirm the reliability of its financial statements.

CCP NCC maintains the corporate Code of Business Ethics which sets forth the principles governing the relations between the Company employees, including members of its executive bodies, and clients, partners, mass media, public and political organizations, as well as other rules for external communications.

CCP NCC has approved the Procedure for avoidance of conflicts of interest, which describes the reasons for, measures to prevent, and procedure to settle, a conflict of interest. The Company has approved an Anticorruption Policy, which provides guidelines for the Company's activities in ensuring compliance with the anticorruption laws and describes the situations containing the signs of corruption risk, and the measures aimed at their preventing and combating corruption in the Company's activities.