NCC risk management

August 2018
National clearing centre is a resilient central counterparty...

NCC holds the status of a qualified CCP since 2013 (Russian banks apply reduced risk weights for claims to NCC)

CBR assesses NCC’s management quality on a regular basis

NCC’s CPMI-IOSCO self-assessment* established that it complies with the majority of principles

NCC filed an application for ESMA recognition in 2015*

NCC is an active member of European Association of CCP Clearing Houses (EACH)

*http://www.nkcbank.com/viewCatalog.do?menuKey=461
...that holds sufficient capital and has investment grade ratings.

NCC’s capital is 57,43 bln RUB as of July 1st, 2018

In February, 2018 Fitch affirmed:
- Long-term foreign-currency (FC) Issuer Default Rating (IDR) at 'BBB-
- Long-term local-currency (LC) IDR
- Viability Rating (VR) at 'bbb'

In October, 2017 the Analytical Credit Rating Agency (ACRA) affirmed the credit rating of NCC at AAA(RU), outlook Stable.

http://www.nkcbank.com/viewCatalog.do?menuKey=454
NCC applies strict admission criteria to Clearing Members

**Category «C»**
- Signing Clearing Membership Agreement
- Compliance with the Disclosure & Reporting requirements
- Compliance with the Financial solvency requirements
- Compliance with Technical access requirements
- Holding all necessary licenses
- Capital at least equal 1 bln RUB – for CM without appropriate license

**Category «B»**
- All requirements to category «C», plus:
  - Having contributed to Default fund as appropriate
  - Capital at least equal 50 bln RUB for CM without appropriate license + rating not lower than:
    - Standard & Poor’s / Fitch: “BB-”
    - Moody’s: “Ba3”
  - Not bearing signs of financial standing weakening of company

**Category «O»**
- All requirements to category «B»&«C», plus:
  - Appropriate license
  - Capital at least equal 50 bln RUB
  - or 20 bln RUB + rating not lower than:
    - Standard & Poor’s / Fitch: “BB+”
    - Moody’s: “Ba1”
  - or 20 bln RUB + rating of supervising organization not lower than:
    - Standard & Poor’s / Fitch: “BB+”
    - Moody’s: “Ba1”

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National clearing centre is a resilient central counterparty...

<table>
<thead>
<tr>
<th>Categories:</th>
<th>Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>«A» Central Bank of Russia &amp; other legal entities to which a requirement on posting assets as collateral is not applicable, in accordance with the Law on Clearing</td>
<td>FX &amp; PM, Securities</td>
</tr>
<tr>
<td>«O» General Clearing Members, having an access to clearing with partial prefunding and acting as a clearing broker for more than 2 Trading Members</td>
<td>FX &amp; PM</td>
</tr>
<tr>
<td>«B» Individual Clearing Members, having an access to clearing with partial prefunding and having an opportunity to be a part for trades executed by not more than 2 Trading Members (either acting as a clearing broker or on the basis of agency contract*)</td>
<td>FX &amp; PM, Securities, Derivatives, Commodities, Standardised Derivatives</td>
</tr>
<tr>
<td>«C» Individual Clearing Members, having an access to clearing with full prefunding and having an opportunity to be a part for trades executed by not more than 2 Trading Members (acting on the basis of agency contract only*)</td>
<td>FX &amp; PM, Securities, Commodities</td>
</tr>
</tbody>
</table>
On-going monitoring of Clearing Members’ financial standing by means of internal rating system and Mass Media scanning allows...

Data mining

Financial analysis

Rating assignment

Clearing members

Financial reports

Mass Media

Additional information

Financial results

Capital

Interbank loans

External ratings

MOEX market presence

Financial indicators

Non-performing loans

Assets

Internal rating methodology

+ 

Expert assessment

Ratings

A

A1

A2

A3

B

B1

B2

B3

C

C1

C2

C3
In 2016 NCC increased dedicated capital by 3 bln. RUB and also concluded an agreement with MOEX about MOEX contribution to Guarantee fund of 5 bln. RUB.

<table>
<thead>
<tr>
<th>NCC minimal capital</th>
<th>NCC should maintain at any times minimal capital needed for achieving capital adequacy ratio for CCPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replenishment of dedicated capital</td>
<td></td>
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</table>

<table>
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<tr>
<th>Loss absorption mechanism</th>
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<tr>
<th>NCC additional capital</th>
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<tr>
<th>Guarantee fund**</th>
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<tr>
<th>NCC Dedicated Capital</th>
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<table>
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<tr>
<th>Defaulter’s contribution to Guarantee fund</th>
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<tr>
<th>Defaulter’s stress collateral</th>
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</thead>
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<tr>
<td>Covers stress events</td>
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<table>
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<tr>
<th>Defaulter’s initial margin</th>
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<tbody>
<tr>
<td>99% confidence interval</td>
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</table>

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<tr>
<th>Securities</th>
<th>FX</th>
<th>Deriv.</th>
<th>OTC</th>
<th>Mercantile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,86 bln. RUB</td>
<td>3,88 bln. RUB</td>
<td>1,15 bln. RUB</td>
<td>0,49 bln. RUB</td>
<td>0,017 bln. RUB</td>
</tr>
</tbody>
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</tr>
</thead>
<tbody>
<tr>
<td>2,0 bln. RUB</td>
<td>2,5 bln. RUB</td>
<td>1,5 bln. RUB</td>
<td>0,4 bln. RUB</td>
<td>0,1 bln. RUB</td>
</tr>
</tbody>
</table>

| Total: 9,5 bln. RUB |

MOEX contribution up to 5 bln. RUB + 3 bln RUB – all markets

Defaulter pays

** as of 01.07.2018
**Stress collateral** is a type of individual clearing collateral that is aimed at covering clearing member’s positions’ risks if a stress event occurs.

Stress collateral volume is determined:
- by a clearing member (incl. own and clients’ codes),
- in RUB,
- for each market separately

Assets accepted as stress collateral are:
- RUB,
- USD, EUR (haircuts applied),
- Securities - OFZ (haircuts applied)

Stress collateral requirement is reviewed once a week

Stress collateral is used to cover losses caused by the default of the clearing member that posted it

Stress collateral calculation for Derivatives market

<table>
<thead>
<tr>
<th>Stress Collateral (Uncovered loss)</th>
</tr>
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<tbody>
<tr>
<td>MOEX’s contribution part</td>
</tr>
<tr>
<td>½ Guarantee fund for Derivatives Market</td>
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<tr>
<td>½ Allocated capital for Derivatives Market</td>
</tr>
<tr>
<td>Defaulter’s contribution to the Guarantee fund</td>
</tr>
</tbody>
</table>

- Possible loss within stress scenario
  - 14%
  - 8%

- Individual clearing collateral

MOEX’s contribution part

½ Guarantee fund for Derivatives Market

½ Allocated capital for Derivatives Market

Defaulter’s contribution to the Guarantee fund
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- perception of market services offered by the Company and its subsidiaries;
- volatility (a) of the Russian economy and the securities market and (b) sectors with a high level of competition that the Company and its subsidiaries operate;
- changes in (a) domestic and international legislation and tax regulation and (b) state policies related to financial markets and securities markets;
- competition increase from new players on the Russian market;
- the ability to keep pace with rapid changes in science and technology environment, including the ability to use advanced features that are popular with the Company's and its subsidiaries' customers;
- the ability to maintain continuity of the process of introduction of new competitive products and services, while keeping the competitiveness;
- the ability to attract new customers on the domestic market and in foreign jurisdictions;
- the ability to increase the offer of products in foreign jurisdictions.

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