Proposals to change the UONIA methodology

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Changes in the methodology of calculating UONIA: why did this question arise?

✓ **Potential vulnerability of UONIA to manipulation** *(significant sensitivity of the benchmark to the actions of individual market participants in the narrowness of the interbank market)*

✓ *«***The current UONIA calculation methodology is biased as it includes banks' recourse to the NBU's certificate of deposit which is remunerated 100 bps below the policy rate. The NBU should redesign the UONIA framework in line with the IOSCO Principles on Financial Benchmarks*.»** *(IMF Technical Assistance Mission Recommendation, Central Bank Interest Rate Swap Mechanism, April 2021. For more information, see addition)*

*set out in the document IOSCO: Principles for Financial Benchmarks Final Report July 2013

Methodology of UONIA Calculating : As Is

all O/N loan and deposit deals between Ukrainian banks about which ETP reported to the NBU

10% of O/N refinance / CD deals between banks and NBU

1) all primary sample lending and deposit deals executed by a single bank with the same counterparty shall be aggregated into a single deal (weighted average of the IR)

2) a range of transactions/aggregated deals shall be ranked from the lowest to the highest IR

I stage: **5% of deals/aggr. deals shall be cut top-down and bottom-up**

range of deals/ aggregated deals

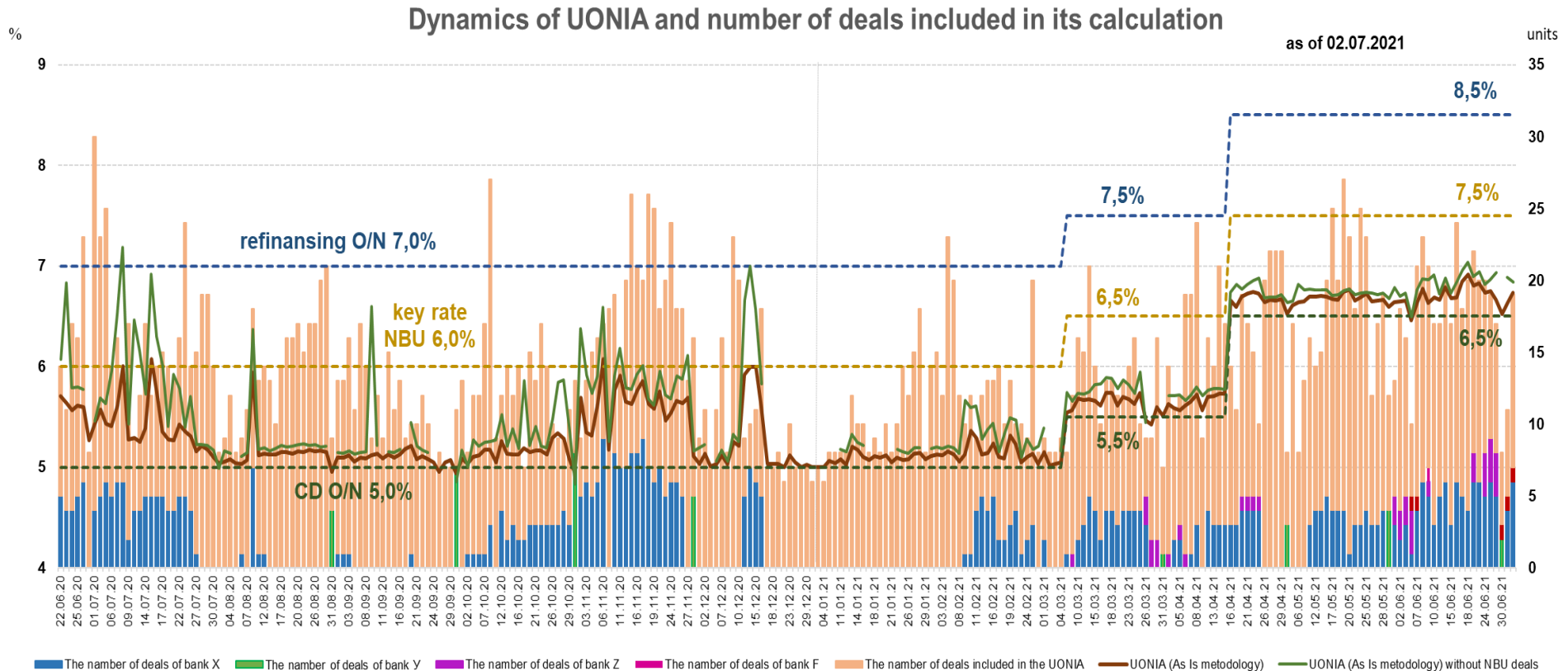*II stage:* **deals with an IR that is > or < 2 standard deviation values of the IR shall be cut**

UONIA = as an arithmetic mean of the base range (after cutting)

Aggregating/Ranging > **Cutting** > **Calculating**

The impact of individual bank deals on the UONIA

Dynamics of UONIA and number of deals included in its calculation

as of 02.07.2021

Legend: The number of deals of bank X · The number of deals of bank Y · The number of deals of bank Z · The number of deals of bank F · The number of deals included in the UONIA · UONIA (As Is metodology) · UONIA (As Is metodology) without NBU deals

Key takeaways

- the narrowness of Ukrainian MM and the low number of deals between banks increases the sensitivity of UONIA to the operations of individual banks. **This makes UONIA potentially vulnerable to manipulation**

- If the current methodology did not include transactions with the NBU, the value of UONIA would be much more volatile

- In addition, in this case, in 2020 (six months) UONIA would not have been calculated according to the main methodology **18** times, and since the beginning of 2021 – **12** times

4

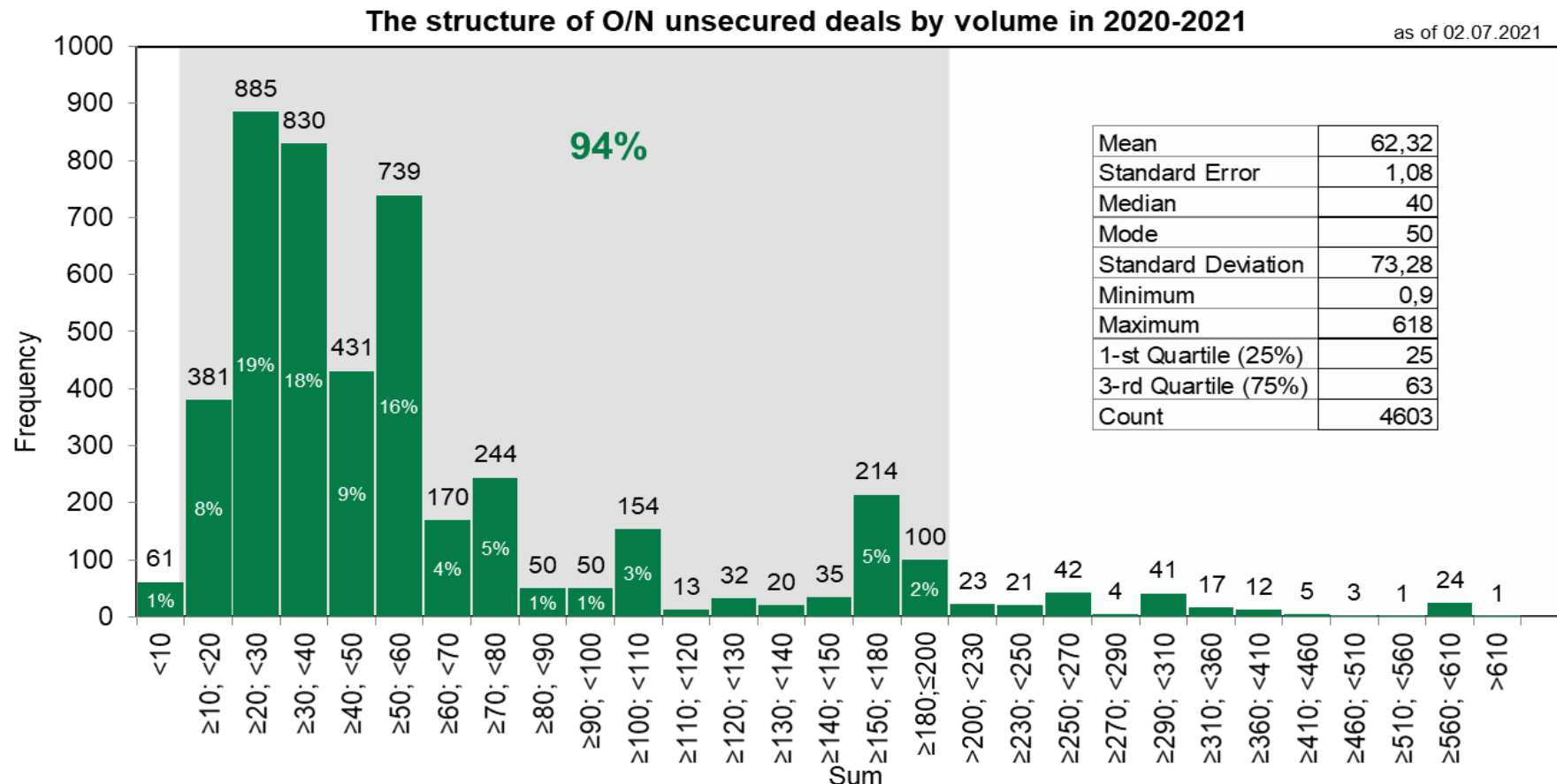# Calculating UONIA as a weighted average: challenges and possible solutions

Impact of large transactions (incl. mistaken)	➢ Taking into calculating UONIA only deals between Ukrainian banks with the most relevant volume for the Ukrainian interbank market ➢ 94% of all deals on the interbank market are concluded with a volume of UAH 10 to 200 million.
Which NBU deals should be taken into calculation	▪ According to the average approach it didn't matter which deals with the NBU to take into calculating. According to the weighted average approach the volume of deals taken into calculating matters. ▪ Under such conditions, the most appropriate approach is to take 10% of transactions with "average" volumes.

Structure of O/N unsecured deals between banks on loans and deposits included in UONIA

The structure of O/N unsecured deals by volume in 2020-2021

as of 02.07.2021

94%

Mean	62,32
Standard Error	1,08
Median	40
Mode	50
Standard Deviation	73,28
Minimum	0,9
Maximum	618
1-st Quartile (25%)	25
3-rd Quartile (75%)	63
Count	4603

- deals with a volume:

  of **UAH 10 to 200 mln** cover **94%** of the total volume of O/N unsecured deals on the interbank market;

  of **UAH 10 to 300 mln** cover **97%** of the total volume of O/N unsecured deals on the interbank market;

  of **UAH 10 to 600 mln** cover **98%** of the total volume of O/N unsecured deals on the interbank market;

Methodology of UONIA Calculating : To Be

all CD O/N deals between banks and the NBU except 45% of the largest and smallest amount

all O/N refinancing deals between banks and the NBU except 45% of the largest and smallest amount

all* deals / aggregate** deals between banks on O/N loans and deposits with the amount from 10 to 200 UAH million

* about which ETP reported to the NBU

** deals executed by a single bank with the same counterparty shall be aggregated into a single deal (weighted average of the IR)

deals / aggregate deals are ranked from the lowest to the highest interest rate value

I stage: **5% of deals/aggr. deals shall be cut top-down and bottom-up**
(among the deals with the same rate, the deals with the largest volumes are cut off)

range of deals / aggregated deals

deals / aggregate deals with an IR that is > or < 2 standard deviations values of the IR shall be cut
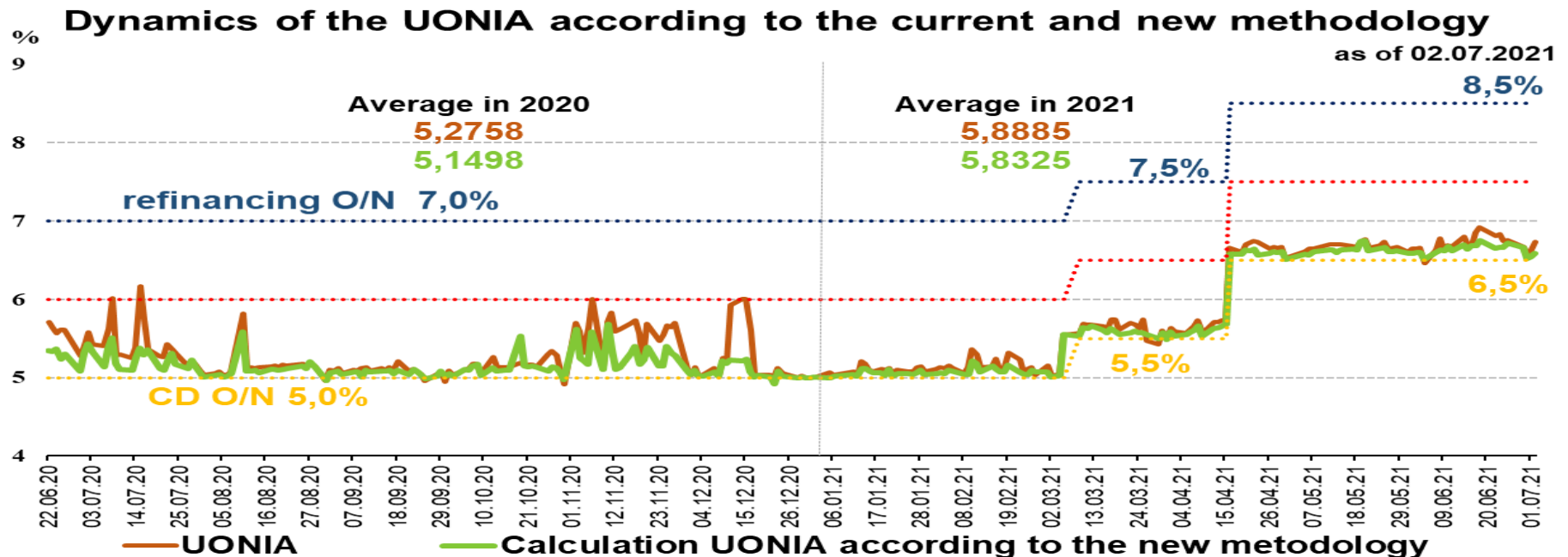
UONIA = as an weighted average of the base range (after cutting)

Aggregating/Ranging > **Cutting** > **Calculating**

Dynamics of UONIA according to the new methodology of the calculation

Dynamics of the UONIA according to the current and new methodology

as of 02.07.2021

Average in 2020
5,2758
5,1498

Average in 2021
5,8885
5,8325

refinancing O/N **7,0%**

CD O/N **5,0%**

8,5%

7,5%

6,5%

5,5%

—— UONIA   —— Calculation UONIA according to the new metodology

Average value per month	UONIA	modern UONIA
June	5.5656	5.2764
July	5.4006	5.2247
August	5.1466	5.1055
September	5.0843	5.0590
October	5.1470	5.1184
November	5.5777	5.2886
December	5.2102	5.0658
2020	**5.2758**	**5.1498**
January	5.0907	5.0510
February	5.1519	5.0866
March	5.5219	5.4759
April	6.1585	6.0965
May	6.6755	6.6260
June	6.7014	6.6357
July	6.6853	6.5603
2021	**5.8885**	**5.8325**

Key issues

- **UONIA values with changes**

in **2020**:

*would be on average < by **0.13** points or < **2.4%** for the current value*

in **2021**:

*would be on average < by **0.06** points or < **1.0%** for the current value*

- **UONIA according to the new methodology is less variable than UONIA according to the current methodology**

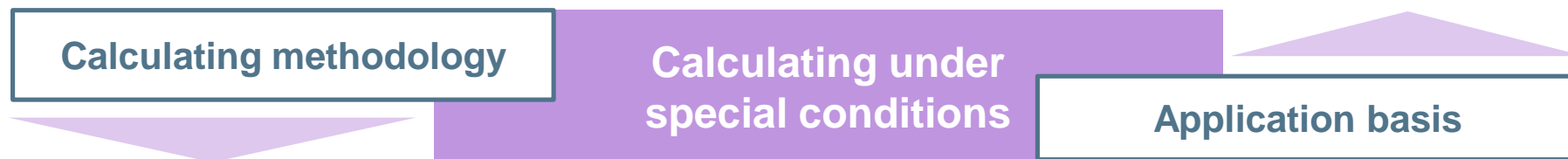# Methodology of UONIA Calculating under special conditions

Number of deals taken into calculating UONIA < 5

and/or

Number of the counterparties that executed the deals < 3

and/or

Volume of available deals ≤ 10% of the average daily value for the previous current month *

Calculating methodology

Calculating under special conditions

Application basis

- ❑ **nominal deviations of UONIA from the NBU Key policy rate for the previous 5 days** (when UONIA calculated according to the main methodology) **are determined**,

- ❑ **The largest and the smallest values** of the obtained deviations **shall be cut**

- ❑ **Calculating of the average deviation UONIA from the NBU Key police rate has to be done as simple average from remained range of values**

- ❑ **Value of the NBU Key policy rate is adjusted for the average deviation of UONIA and the result is considered the value of UONIA on the relevant date**

- ❑ **It is have to be announced on the NBU web-site if UONIA is calculated under special conditions** at the same time as the value of UONIA is published

* According to the results of the analysis of the UONIA dynamics according new methodology, there would be no such cases since the introduction of UONIA.

Alignment of UONIA methodology in line with the IOSCO principles: possible solutions

«**Given the actual current situation, the EBRD position** *(on the inclusion of 10% of deals with the NBU in the calculating of UONIA - ed. Note)* **seems more appropriate.**

The IMF position might be more correct theoretically, but is not applicable given the current situation in Ukraine's money market.

Once the money market develops further, the methodology can become loser to the IMF recommendation as the volume of interbank transaction not with the NBU grows.

To do this, it is necessary to determine an exit strategy for reducing/eliminating NBU deals on the UONIA calculation."

(Expert opinion of experts of the Technical Assistance Mission "Approximation of Money and FX Market Indicators to IOSCO Principles" within the Bilateral Assistance and Capacity Building Program of Central Banks, which is implemented with the support of the Swiss State Secretariat for Economic Affairs (SECO))

Strategy of gradual transition to the calculating of UONIA without deals between banks and the NBU
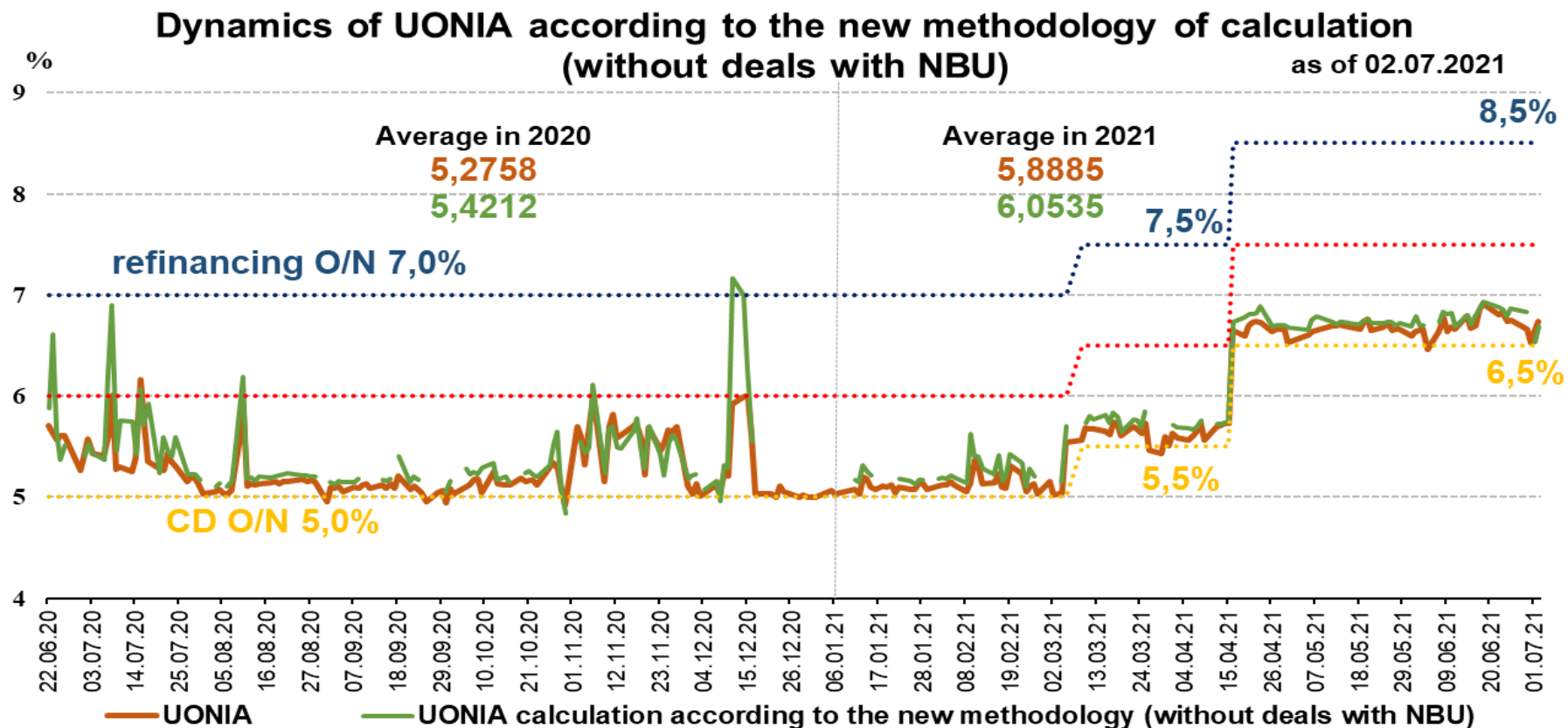
1 **Every six months** conduct the calculation the number of cases **for the previous 12-month period**, when UONIA (subject to the exclusion of deals with the NBU) could not be calculated according to the main methodology

2 If the results of such **two consecutive calculations** show that the methodology under special conditions would be used **<2 times in six months**, the issue of transition to the UONIA calculation without taking into account deals with the NBU will be considered.

Analysis of UONIA dynamics according to the new methodology
(excluding deals between banks and NBU)

Dynamics of UONIA according to the new methodology of calculation (without deals with NBU) as of 02.07.2021

Average in 2020
5,2758
5,4212

Average in 2021
5,8885
6,0535

refinancing O/N 7,0%

CD O/N 5,0%

8,5%
7,5%
6,5%
5,5%

— UONIA   — UONIA calculation according to the new methodology (without deals with NBU)

Key issues

- subject to the transition to the calculation of UONIA without deals between banks and the NBU, the method of special conditions for UONIA (with changes to its methodology) would be used:

  in 2020 (for 6 month) - **23** times;

  in 2021 (as of 02.07.2021) - **16** times.

Conclusions and suggestions

Conclusions

- [ ] The presented new methodology for UONIA calculating **makes it possible to eliminate the excessive impact on the banchmark by individual banks and reduce the unjustified volatility of UONIA**

- [ ] **At this stage, it seems impractical to exclude deals with the NBU in the calculating of UONIA** – *even though it does not fully comply with IOSCO principles*

- [ ] NBU Money and Currency Market Indicators Oversight Committee and Experts of the Technical Assistance Mission "Approximation of Money and FX Market Indicators to IOSCO Principles" **supported the above approaches**

☐ Suggestion

- ✓ *Consider justified under the current conditions of development of the money market of Ukraine to maintain the practice of including part of the deals with the NBU in the calculating of UONIA* ***despite the contradictions of this practice in terms of compliance with IOSCO principles***

- ✓ *Submit a draft of a new methodology for calculating UONIA (slide 7), as well as a improved mechanism for determining UONIA under special conditions (slide 9) for consideration by the NBU Board*

New UONIA methodology: *issues for discussion*

Please express your opinion on the following issues:

- ✓ *acceptability/advantages/disadvantages of the proposed new UONIA calculation methodology*

- ✓ *acceptability/expediency of temporary calculation of UONIA according to the methodology, which doesn't fully comply with the principles of IOSCO and the strategy of transition to the calculation of UONIA without the deals of banks with the NBU*

Conclusions of the IMF Technical Assistance Mission "Central Bank Interest Rate Swap Mechanism" to UONIA

INTEREST RATE BENCHMARK

In IRS transactions, the floating interest rate must be an independently determined interest rate benchmark. This benchmark has traditionally been a term interbank money market rate like the 3-month LIBOR. On the floating leg of the IRS, the regular payments are linked to the prevailing value of this interest rate benchmark. According to the IOSCO Principles on Financial Benchmarks, the design of the benchmark should result in an accurate and reliable representation of the economic realities of the variable it seeks to measure, and eliminate factors that might result in a distortion of its value. This way, it can be ensured that neither counterparty can unilaterally influence the value of the IRS throughout its tenor, which is the basis of a fair and effective financial market.

The UONIA is a good initiative but it is not a reliable interest rate benchmark in its current form. The NBU has designed the UONIA in a proactive way in the sense that it follows the international trend of transitioning from quote-based term interest rate benchmarks (e.g. LIBOR) to transaction-based overnight benchmarks (e.g. EONIA, SOFR). The UONIA is calculated as the weighted average of the interest rates of unsecured overnight interbank loans, to which, with an arbitrary 10% weight, the NBU's CD rate (the floor of the interest rate corridor) is added. The rationale for this adjustment is twofold. First, without the inclusion of the CD rate, the volume of interbank transactions would be too low, according to the NBU. Second, it is deemed that placing deposits at the NBU can be considered an interbank transaction.

The NBU should continue its endeavor to align the UIONIA framework with the IOSCO Principles on Financial Benchmarks. The NBU has made considerable efforts to design the UONIA framework and methodology in compliance with the IOSCO Principles on Financial Benchmarks. A crucial shortfall in this process is the inclusion of the floor of the NBU's interest rate corridor in the calculation. This is inconsistent with the principle of data sufficiency which requires that the benchmark be based on an active market having observable *bona fide*, arms-length transactions. It is important to note that a central bank facility that has the primary function of monetary policy implementation and systemic liquidity management is not part of the money market, and the recourse to that facility cannot be characterized as a *bona fide*, arms-length transaction.

The UONIA should be reformed by removing the NBU's CD component from its calculation methodology even if IOSCO compliance was not a policy objective. The inclusion of the NBU's CD rate in the UONIA calculation is problematic for several reasons. First, it results in a biased representation of the market clearing interest rate. Second, it results in flawed interest rate transmission, which is a serious shortcoming in terms of monetary policy implementation. The latter basically implies that the UONIA rate, which is expected to respond to the NBU's policy rate changes as a result of market forces would be directly impacted by the parallel shift of the interest rate corridor. This situation is inconsistent with the principles of a market economy and should be avoided.

Ultimately, UONIA-based cross-currency swaps should be launched, in which the NBU could lead by example. As explained earlier, the availability of cross-currency swaps is an important precondition for a balanced and well-functioning IRS market as it is an essential tool for non-resident market participants. Demonstrating the feasibility of such cross-currency swaps based on the UONIA could attract interest from non-resident investors. To this end, the NBU could either encourage market participants to initiate these transactions in pilot or lead by example and enter into such a transaction with an international financial institution.