Romania’s Experience in Implementing the EBND Electronic Quoting and Trading Platform
Why was the Electronic Quoting and Trading Platform needed?

- The domestic secondary market for the RON denominated is mainly OTC, with a relatively small volume being traded on Bucharest Stock Exchange;

- The only reference for the secondary market at the time was the National Bank of Romania fixing, which didn’t serve properly for the market-making and price discovery purposes, as it implied a large bid-ask spread, the quotes were only for RON 1 million and the actual quoting time was very short, thus not reflecting the actual rates in the secondary market. Its mechanism is presented below:
  o Fixing rate for government securities set each working day, with minimum 8 participants, invited by the Organizer (NBR with support from ACI Romania – The Association of Financial Markets Romania); bid and offer rates are set at 12:00 PM for certain maturities (6M, 12M, 3Y, 5Y and 10Y – for ISINs issued or reopened in the last 3 months), after eliminating the extremes, an average of the quotes of the participants is calculated (for RON 1 million for bid and offer each), within a 15 minutes interval prior to the setting time; the difference between bid and offer rates will not exceed 50 bps (or 100 bps in the case the market is turbulent);

- The Ministry of Public Finance needed a mechanism which would provide an accurate image of the secondary market based on firm quoting throughout the day and to identify market movements in real time;

- As part of the domestic government bond legal and operational framework overhaul (both for MPF and NBR), the Ministry of Public Finance wanted to add an assessment of the Market Making Activity and the electronic quoting and trading platform was the perfect instrument to monitor and rank their performance in this respect.
When introduced with the idea of an Electronic Trading Platform, the Primary Dealers expressed the concern that they may not be prepared at that time to provide systematic quotes except to other Primary Dealers, especially if they are ranked on the overall performance of their quotes. Therefore, in order to minimize their exposure and credit risk, the Ministry decided to initially implement a B2B model for the EBND platform, making it available only to the Primary Dealers. The quotes are anonymous and each dealer defines limits for the others.

The Ministry of Public Finance has chosen the step-by-step approach and takes into consideration the development of the system in the future in order to turn it into a hybrid model, once the Primary Dealers are more comfortable providing quotes to third parties outside the group and the local government bond market develops further.

Bloomberg was chosen because it was already extensively used by the PDs and implied no extra costs.
Milestones in the Implementation Process

**Process start** (Beginning of 2015)

**Milestones:**

- Concept of the minimum quoting requirements developed by the MPF and agreed with the primary dealers;
- Intense talks with Bloomberg to adapt the existing EBND specifications to the proposed quoting obligations;
- Drafting the new legal and operational framework.

**Informal launch** (May 2015)

- The platform was open for the Primary Dealers to quote and trade upon, having in mind the proposed quoting requirements, with informal monitoring from the MPF;

**Afterwards:**

- The legal and operational framework was approved (Sep-Oct 2016) and set to be in force starting January 1st 2017;
- The evaluation and ranking electronic system for the assessment of the PD’s performance was designed and tested (Nov-Dec 2016).

**Official Launch** (Jan 1st 2017)

- The market making activity is since monitored on a monthly basis based on the minimum quoting requirements, and failure to comply is sanctioned;
- The Ministry of Public Finance has now the information source to monitor the real time movements of the secondary market and to assess the performance of the Primary Dealers fulfilling their market making obligation.
Under the market making requirements, the Primary Dealers have to fulfill all the minimum quoting obligations on the electronic trading platform:

- Firm quoting of a minimum of four series of bonds with 1, 3, 5, 7 and 10 years maturity as established periodically by the Market Committee: two series with the residual maturity lower than 5 years and two series with the residual maturity equal or exceeding 5 years;

- Firm BID and ASK quotes for minimum of 3 hours daily between 10:00-17:30;

- Maximum BID-ASK spread of 25 bps;

- Minimum quoting volume of RON 5 mil per bond (BID and ASK).
The scoring of general Primary Dealer monthly performance is done by the Evaluation Committee (Ministry of Public Finance and the National Bank of Romania). The total score of 100 points consists of the assessment of the: primary market (40 points), secondary market (50 points) and qualitative criteria (10 points);

- The Market Making activity has a total of 15 out of the total 50 points of the secondary market performance;
- Out of the 15 points, 7.5 are awarded to the Primary Dealers which are in compliance 100% for each criterion in each day of the evaluation period (else this is zero) and other 7.5 points are awarded for overall performance, proportionally to the best performers (the Primary Dealers are allowed a maximum of 5 days of noncompliance, after this point being subject to sanctions). This has been decided because having compliant quotes throughout the day is paramount to the Ministry of Public Finance;

- Much consideration was given to the prioritization of the assessment criteria and according to the Ministry of Public Finance goals, it was decided to allocate the following importance to each of them:

<table>
<thead>
<tr>
<th>Points</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>• The average quote spread (weighted average with the compliance time quoted per ISIN)</td>
</tr>
<tr>
<td>2</td>
<td>• The average quoted volume (weighted average with the compliance time quoted per ISIN)</td>
</tr>
<tr>
<td>1.5</td>
<td>• The average quoted time in compliance with the minimum requirements</td>
</tr>
<tr>
<td>1</td>
<td>• The number of ISINs with a residual maturity equal or greater than 5 years quoted in compliance</td>
</tr>
<tr>
<td>0.5</td>
<td>• The number of ISINs with a residual maturity smaller than 5 years quoted in compliance</td>
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EBOND – Sample Quoting at Day End

<table>
<thead>
<tr>
<th>Date</th>
<th>Grouping</th>
<th>Dealer</th>
<th>Security</th>
<th>Time</th>
<th>Bid</th>
<th>Ask</th>
<th>Spbd</th>
<th>AvgSpbd</th>
<th>EAsk</th>
<th>CSpbd</th>
<th>AvgCSpbd</th>
<th>EAsk</th>
</tr>
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<tbody>
<tr>
<td>11-May-2016</td>
<td>Romania</td>
<td>BANCA COMMERCIALA (ROMAN)</td>
<td>14:13:13</td>
<td>3.99</td>
<td>4.39:54</td>
<td>4.01</td>
<td>6.65PP</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA (ROMAN) SA</td>
<td>0:00:00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA (ROMAN)</td>
<td>3:30:19</td>
<td>3.47</td>
<td>3:17:09</td>
<td>3.50</td>
<td>5.00PP</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA (ROMAN)</td>
<td>5:00:06</td>
<td>3.39</td>
<td>5:00:06</td>
<td>3.39</td>
<td>5.12PP</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA (ROMAN)</td>
<td>5:42:28</td>
<td>4.84</td>
<td>5:42:28</td>
<td>4.84</td>
<td>6.32PP</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<td></td>
<td></td>
<td>BANCA COMMERCIALA CARPATHIA</td>
<td>4:33:38</td>
<td>4.60</td>
<td>2:16:28</td>
<td>4.60</td>
<td>5.00PP</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA CARPATHIA</td>
<td>0:00:00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<td></td>
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<td>3:55:55</td>
<td>4.65</td>
<td>3:55:55</td>
<td>4.65</td>
<td>5.00PP</td>
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<td>No</td>
<td>No</td>
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<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA CARPATHIA</td>
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<td>4.54</td>
<td>5:16:55</td>
<td>4.54</td>
<td>5.00PP</td>
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<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BANCA COMMERCIALA CARPATHIA</td>
<td>0:00:00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>No</td>
<td>No</td>
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Market Making Activity – Assessment of PD’s Performance

The system is designed to minimize human interaction and operational risk, due to the importance of the process in determining the Primary Dealer’s ranking. In the sequence of the operations below, only the first two are manual, the others are automated.

- The treasury operative is saving snapshots of the end of each quoting day in the evaluation period (individual MS Excel files created by Bloomberg);
- After the end of the evaluation period, in the system are inputted the evaluated month and the number of quoting days.
- Afterwards, the system takes the data from the snapshots and calculates for each criterion, each day (z), for each Primary Dealer (i) a coefficient*:

\[
C_{zi} = \frac{\text{Individual difference between the registered value and the minimum value for that criterion}}{\text{The maximum of the individual differences of the day for that criterion among the primary dealers}}
\]

therefore, on each criterion, the best PD of the day has a coefficient of 1 and one that has quoted the minimum has 0. In case of noncompliance to a certain criterion, “the maximum of the individual differences of the day for that criterion among the primary dealers” is replaced with “the reference value for that criterion”, therefore, if the PD did not quote at all will have a coefficient of -1 and if it quoted, but is not compliant, will have a value between -1 and 0. If one of the PDs has more than 5 days of noncompliance, receives zero points and is sanctioned;

- For each criterion, a monthly average is calculated for each PD, and the highest average gets the maximum amount of points for that criterion. The rest get points proportionally;
- The final ranking results from adding the points for all the criteria for each PD, sorted in a descending order.

* For the spread criterion the numerator used to determine the coefficient is “Individual difference between the maximum value of that criterion and the registered value”
Challenges Overcome

- Trying to find common ground with the Primary Dealers as the Ministry’s goals do not always coincide with theirs. However, it is very important that each side understands each other’s position and work toward the improvement of the market conditions;

- Clearly defining the concept and the in depth specifications for the platform administrator to implement. We recommend a Top-Down approach (Goal => Concept => Data needed => Data Structure => Specifications);

- In case you want to use the ETP as an assessment tool for PD performance, you must prioritize between quotation elements scoring to optimize the end result.
Conclusion – Improvement of Quoting Parameters Since Official Launch

Average spread per quoted ISIN (bps)

- Nov-16: 11.33
- Dec-16: 12.95
- Jan-17: 11.55
- Feb-17: 9.81
- Mar-17: 9.20

Average volume per quoted ISIN (RON million)

- Nov-16: 5.91
- Dec-16: 6.13
- Jan-17: 6.45
- Feb-17: 6.19
- Mar-17: 6.62

Average number of ISINs quoted with residual maturity below and over 5 years

- Nov-16: 4.13
- Dec-16: 2.76
- Jan-17: 3.03
- Feb-17: 3.76
- Mar-17: 3.77

Average quoting time

- Nov-16: 6:43:12 AM
- Dec-16: 6:28:48 AM
- Jan-17: 6:14:24 AM
- Feb-17: 6:03:18 AM
- Mar-17: 6:06:10 AM
Conclusion – Implementation Results

- At this moment, the Ministry of Public Finance has achieved its goals: to have a very good indication of the secondary market for most of the day and have an optimized tool to assess the Primary Dealers’ performance;
- Since its official introduction in January 2017, the competition between the PDs has increased from the quoting activity point of view, most of them quoting for more ISINs, for a larger volume, and for a longer time at tighter spreads;
- Since its introduction in May 2015, no interruption was recorded in the platform’s activity, allowing smooth operation of the system;
- New features were introduced along the way, like Request for Quotes (RFQs) and quoting for other bonds than RON benchmarks (EUR and USD denominated Romanian Eurobonds), which are not taken into account in the Market Making Activity assessment;
- The PDs are very pleased with the platform and at this point, the quoting discipline is high and since January 2017 trading on the platform has picked up.
Questions and Comments

Thank you for your attention!

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