UPDATE ON TRENDS AND INNOVATION ON E-TRADING VENUES

ECB BOND MARKET CONTACT GROUP

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Current Status

Venues continue to evolve, offering a wider range of trading technology to provide access to liquidity and regulatory compliance. Recent focus of market participants is clearly:

- **Search for liquidity across markets**
- **Search for efficiency and streamlining trading workflow**
- **Readiness for regulatory change and compliance**

The range of trading protocols continues to expand. Not one size fits all

**Source:** Greenwich Associates’ 2012 and 2016 North American Fixed Income Surveys and European Fixed Income Surveys
Regulatory change has significant impact for market participants across the transaction chain

Venues assisting Clients meet regulatory compliance

<table>
<thead>
<tr>
<th>MiFID/ MiFIR/ MAR POLICY OBJECTIVES</th>
<th>VENUE RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>Pre-post Trade Reporting</td>
</tr>
<tr>
<td>Market Abuse</td>
<td>Market Abuse Regulations, Order record keeping/ surveillance</td>
</tr>
</tbody>
</table>
| Investor protection                 | • Execution Quality  
                                        • Transaction cost analysis |
| Operational Efficiency/STP          | Clearing Certainty / Submission of trades |
| Post Trade Reporting                | APA (Approved Publication Arrangement) |
## Venues Building Efficient Markets

<table>
<thead>
<tr>
<th>CLIENT FEEDBACK TO VENUES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bring Operational Efficiency</td>
<td>Connection to pre- and post-trade OMS / EMS Vendors across market sectors</td>
</tr>
</tbody>
</table>
| Help Find Liquidity                                           | • Axe information collection and display  
• Directing trades to points of liquidity. Feedback loop to prove price improvement                                                      |
| Trade Automation for Flow Business                            | Rules-based execution in some market sectors                                                                                           |
| Improve Data Analysis                                         | TCA: Desk evaluation, Peer analysis, Axe analysis                                                                                       |
| Line Item Management for Cleared Derivatives                  | NPV Compression tool for executing offsetting trades, eliminating line items. Netting / removing this risk has traditionally been highly manual process |
| New Liquidity Providers                                       | Depending on the market, ability for clients to source liquidity effectively and efficiently from new or specialist market makers (including all-to-all in some market sectors) |
Resulting in Data Driven Execution

Leveraging data across the lifecycle of the trade, increasing efficiencies

- Pricing / Market trades
- Axes
- Counterparty selection
- Target levels

Pre-trade:
- FIX NETWORK

Execution:
- High-touch Activity
- Countering
- List
- Rules-based exec

Post-trade:
- STP benefits
  - Eliminate entry errors
  - Standardisation of process
- TCA
  - Desk evaluation
  - Peer analysis
  - Axe analysis
- Best Execution
  - Compliance function
  - Client evidencing
Big Data and Analytics growing in Fixed Income and Derivatives

Use of Data Science and Analytics will deliver greater intelligence to clients to better inform their trades

- Expanded use of Data Analytics and Machine Learning technologies to optimise and to find the other side of the trade and trade opportunities
- MiFID II data may amplify this trend in 2018
- Greater use of TCA for fixed income – insight into trading performance including Desk evaluation, Peer analysis, Axe analysis. Need to demonstrate best execution
- Focus on liquidity measurement and trade optimisation
Annex A. Additional regulatory-driven solutions provided by Venues

Best execution
- Quarterly RTS 27 execution venue reports
- Additional information for annual RTS 28 reports
- Transaction Cost Analysis

Off-venue services
- APA for real-time reporting
- SI quote facility (Systematic Internaliser)
- Workflow solutions for processed trades

Pre-trade
- Data and analytics to support execution decisions
Annex B. RFQ (Request for Quote) trading protocol changes

Making adjustments to ensure compliance with MiFIR transparency requirements.

1. Client launches inquiry
   - Dealers send responses – only visible to and executable by client
   - Once client actions the trade and the quote is firm, the collection window closes and the trade execution process starts

2. Collection window opens
   - Collection window extends in the case of a subject/indicative quote:
     - Hit/lift equals “firm up quote and execute at this price” or
     - Requester accepts a dealer re-quote

3. Pre-trade information
   - When collection window closes curtain lifts:
     - Only firm quotes from all dealers in comp are made public (unattributed)

4. Trade execution
   - Successful exchange of trade messages
   - Ensuring no loss of connectivity/heartbeat

5. Post-trade
   - Real-time report of instrument, size, price, time
   - Unattributed

EXAMPLE OF A COMPLIANT TRADE EXECUTION

CLOSING WINDOW

Pre-trade

Trade execution

Post-trade

<table>
<thead>
<tr>
<th>PRE-TRADE INFORMATION MADE PUBLIC</th>
<th>POST-TRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>&lt; SSTI</td>
<td>Firm quotes</td>
</tr>
<tr>
<td>SSTI – LIS</td>
<td>Composite / simple average</td>
</tr>
<tr>
<td>&gt; LIS</td>
<td>N/A</td>
</tr>
<tr>
<td>Illiquid</td>
<td>Any size</td>
</tr>
</tbody>
</table>

Additional deferrals may be available including volume masking

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Annex C. Information will be required from participants

Order record keeping and transaction reporting obligations

Information required from all participants

Information includes:

<table>
<thead>
<tr>
<th>LEVELS</th>
<th>EXAMPLES</th>
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<tbody>
<tr>
<td>Company level</td>
<td>• LEI (Legal Entity Identifier)</td>
</tr>
<tr>
<td></td>
<td>• MiFID status</td>
</tr>
<tr>
<td></td>
<td>• Trading capacity</td>
</tr>
<tr>
<td>Individual level</td>
<td>• Investment decision within the firm</td>
</tr>
<tr>
<td></td>
<td>• Execution within the firm</td>
</tr>
</tbody>
</table>

Additional information required from non-MiFID firms
Clock synchronisation requirement

- MiFID II includes a requirement for venues and their members or participants to sync their business clocks to UTC (Coordinated Universal Time)
- Specified level of granularity and max divergence from UTC

**VENUE**

1 mls

**PARTICIPANTS**

1 s

RFQ involving human intervention
Discussion

Proposed Issues for Discussion

1. Are European wholesale banks doing enough?
2. Are Central Banks doing enough?
3. Can blockchain/distributed ledger work for bond settlement?
4. How does ECB avoid vertical structures & encourage competition? e.g. open sources?
5. How do regulators create a level playing between incumbent financial firms and disruptor/fintech firms?
6. Do you think that the Industry is prepared for MiFID II?
7. Have you seen an increase in specialisation among liquidity providers?
8. Will assets be traded differently in the next year and what risks to liquidity might this present?