Electronic Bond Trading Review

Part 1: 'Electronification' of the old market structure
   - Market size and trends today

Part 2: Structure evolution
   - where the life-cycle may lead

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Part 1: 'Electronifying' the old market structure

- Market size and trends today
Share of Electronic Trading in Overall Buy Side Fixed Income Volume

Source: SIFMA (Securities Industry and Financial Markets Association), Celent; 10/2013

Please see additional important information and qualifications at the end of this material.
Bid-Offer Spread Evolution

Source: MTS Group; 11/2013

Please see additional important information and qualifications at the end of this material.
Part 2: Structure evolution

- where the life-cycle may lead
Global Fixed Income

Current State by Product Area


We know where parts of the Rates and Credit markets are headed...

2nd Generation Algos

Transaction Cost Analysis

1st Generation Algos

Electronic Trading

Source: Morgan Stanley

Please see additional important information and qualifications at the end of this material.
## How the EU FI Cash Market Is Evolving

**IN BRIEF:**
More electronic, more efficient, more transparent, more multilateral, more buy-side driven, more order-driven and more CCP centered. Less discriminatory, less discretionary.

<table>
<thead>
<tr>
<th>MIFID 2</th>
<th>BASEL 3</th>
<th>SOLVENCY 2</th>
</tr>
</thead>
</table>

### Going through a similar path that equity markets have before but keeping its specificities

<table>
<thead>
<tr>
<th>BONDS (CURRENTLY)</th>
<th>BONDS (POST NEW REGULATION)</th>
<th>EQUITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INVESTORS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small retail presence</td>
<td>Still essentially institutional but growth of retail market share</td>
<td>Significant retail presence</td>
</tr>
<tr>
<td>Institutional</td>
<td></td>
<td>Institutional</td>
</tr>
<tr>
<td><strong>MARKET STRUCTURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral, quote-driven, RFQs</td>
<td>Firm prices models progressively overtake RFQ models</td>
<td>Multilateral, order driven</td>
</tr>
<tr>
<td>Off-exchange, OTC (87% of total trading)</td>
<td>More on-exchange / MTF trading</td>
<td>Predominantly on-exchange</td>
</tr>
<tr>
<td><strong>INTERMEDIATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealers frequently put their own capital at risk to execute a trade</td>
<td>Only tier 1 dealers able to leverage their own capital</td>
<td>Trades are typically matched via limit order books</td>
</tr>
<tr>
<td><strong>AVG TRADE SIZE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>Decrease of average trade size</td>
<td>Small</td>
</tr>
<tr>
<td>Hundreds of thousands/millions of Euros</td>
<td>But: it remains much bigger than on equities</td>
<td>Hundreds or thousands of Euros</td>
</tr>
<tr>
<td><strong>LIQUIDITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varies depending on size of the issue, rating</td>
<td>Standardization of issuers’ issuing policies</td>
<td>High and Continuous</td>
</tr>
<tr>
<td>Concentrated mainly in the period immediately after the issue</td>
<td>Transition from on-the-run to off-the-run later in bonds’ lives</td>
<td></td>
</tr>
</tbody>
</table>

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Buy Side Trading, Sell Side Challenge

- Buy side trading is about minimizing Implementation Shortfall (IS) – implement exposure at the lowest possible cost.
- Liquidity is important to move large volumes.
- Sell side must learn to track and illustrate implementation shortfall/transaction costs.
- Pre- and post-trade tools to develop in next stage of growth cycle.

Source: APG

Please see additional important information and qualifications at the end of this material.
Transaction Costs for Fixed Income Markets

- Transaction Cost Analysis available in pre- and post-trade formats for all listed markets since the 1990’s due to availability of trade data from exchanges

- Now also available for spot FX due to electronification of the market, resulting in rich data source of transaction data

- Combination of increasing electronification of liquid parts of Fixed Income markets, together with regulatory developments, means TCA becoming increasingly viable

- Initial step is to model and understand intraday liquidity and market structure

Liquidity Profile of Bunds (Maturity Bucket: 8 - 11 Years)

Source: Morgan Stanley QSI

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Discussion points

• Is FI trading is becoming more expensive/difficult?
  – Smaller tickets
  – Less inventory
  – Less liquidity

• Electronic platforms - No viable alternative yet?

• Could the current situation lead to material gap risk?
Appendix
On Going Regulation Of Markets

Bring bond trading on a **more regulated environment** by developing: pre-trade transparency, best execution, transaction reporting, post-trade reporting, clearing.

Current categories will remain:
- RMs and MTFs for multilateral trading
- OTFs becomes a **new trading venue category** to capture client-to-client trading currently internalized by banks
- SIs for bilateral trading
- OTC remains non-binding

Modification of banks’ ability to provide capital for **liquidity enhancement**: the **cost of trading credit** will nearly **double**.

A **change in business orientation**: from capital-intensive businesses and investments into flow and electronic businesses.

**Reallocation** of insurance companies’ capital preferentially to bonds with good credit rating and short maturities.

An **expected shift of power**:
- From the **sell-side** - which is less likely to provide liquidity and moving towards a broker’s model
- To the **buy-side** - becoming more demanding regarding costs and services aligned with its needs

Existing concentration of trading venues in the RFQ multiproduct segment **creates opportunities** for **more innovative entrants**, which will have **different business models** or microstructures (including **buy-side functionalities** and **firm orders**).

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## Individual Platform Innovations

<table>
<thead>
<tr>
<th>Platform</th>
<th>Summary</th>
<th>Description</th>
<th>Primary Users</th>
<th>Instruments</th>
<th>Live</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloomberg</td>
<td>ALLQ / ALLX</td>
<td>Dealer hit / rate slippage performance in ALLQ</td>
<td>B2C</td>
<td>Cash Credit Cash Rates</td>
<td>Yes</td>
</tr>
<tr>
<td>Bloomberg</td>
<td>TNT: Transaction Network</td>
<td>Crossing platform for corporate bonds</td>
<td>B2C</td>
<td>Cash Credit</td>
<td>In Development</td>
</tr>
<tr>
<td>Borsa Italiana, EURO TLX, Stuttgarter Boerse, Swiss Exchange</td>
<td>CLOB</td>
<td>Order book aiming at retail market</td>
<td>Retail</td>
<td>Cash Credit Cash Rates</td>
<td>Yes</td>
</tr>
<tr>
<td>NYSE Bondmatch</td>
<td>CLOB</td>
<td>Order book aimed at institutional clients</td>
<td>B2C B2B C2C</td>
<td>Cash Credit</td>
<td>Yes</td>
</tr>
<tr>
<td>MTS Credit</td>
<td>CLOB</td>
<td>Order book aimed at institutional clients. Complimentary to MTS RFQ credit offering.</td>
<td>B2C C2C</td>
<td>Cash credit</td>
<td>Yes</td>
</tr>
<tr>
<td>Vega Chi</td>
<td>CLOB</td>
<td>Orderbook aimed at institutions.</td>
<td>B2C</td>
<td>High Yield, ABS, Convertibles</td>
<td>Yes</td>
</tr>
<tr>
<td>DealerWeb</td>
<td>Odd-lot auctions</td>
<td>Inter-dealer auctions – Sweep</td>
<td>B2B</td>
<td>Cash Credit Cash Rates</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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