ECB BMCG

MIFID 2: INITIAL TAKE-AWAYS

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No material issues to report so far....

INITIAL TAKEAWAYS

Bond business operating business as usual

• Overall a smooth transition, notwithstanding some minor glitches observed
  – ISIN’s, time-stamps, SI entity, pre-agreed trade protocols

• Increase in YoY trading volumes has been accommodated
  – Transaction reporting up and running: sending ~3m reports to regulators a day

Some impact on work-load on trading floor itself

• Client coverage increased work-load from MIFID 2 processes ~1 hour a day fully on-boarded

• Expected to fall substantially in coming months

SOME STATISTICS ON INVESTMENT

1. Four year project, ramping up in 2017
2. ~1200 Technologists substantially involved last year
3. ~500 FTE workforce deployed for MIFID 2 in 2017
4. Expect smaller but still substantial FTE allocation in 2018

Please see additional important information and qualifications at the end of this material.
With only a few weeks of data, we expect a continuing transition to electronic

Large spike in volumes, voice growing faster but temporary

<table>
<thead>
<tr>
<th>Type</th>
<th>Volumes vs prior YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
</tr>
<tr>
<td>Flow rates</td>
<td></td>
</tr>
<tr>
<td>Real money</td>
<td>~30%</td>
</tr>
<tr>
<td>Banks</td>
<td>~30%</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>~25%</td>
</tr>
<tr>
<td>Other</td>
<td>~10%</td>
</tr>
<tr>
<td>Type</td>
<td>YTD vs. year ago</td>
</tr>
<tr>
<td>Electronic</td>
<td>~55%</td>
</tr>
<tr>
<td>Voice</td>
<td>~45%</td>
</tr>
</tbody>
</table>

Source: Bloomberg, TradeWeb, Morgan Stanley calculations

Trends in electronic trading

EUR IRS B2C Electronic Trading

- +70%
- +110%e

*based on current run rate

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