Developments in the FX swap market – MMSR perspective

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MMCG
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### Questions

- **Is the FX swap market efficient?**

<table>
<thead>
<tr>
<th>Element</th>
<th>Expected behaviour</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>How active is the market</td>
<td>?</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Is there a local bias</td>
<td>?</td>
</tr>
<tr>
<td>Price</td>
<td>Does pricing depend on who you are and with whom you trade</td>
<td>?</td>
</tr>
<tr>
<td>Volatility</td>
<td>Is there “undue” volatility</td>
<td>?</td>
</tr>
<tr>
<td>Arbitrage and resilience</td>
<td>Does the market adapt to shocks and does it quickly restart</td>
<td>?</td>
</tr>
</tbody>
</table>
## Outline of the presentation

1. Is the FX swap market active? Does it exhibit a local bias?
2. Is pricing segmented?
3. Was year-end dysfunctional?
Is the FX swap affected by the local bias?

- The FX swap turnover rose continuously despite the crisis

Turnover in various money market segments (index: total volume in 2003 = 100)

Source: ECB – EMMS until 2015, MMSR from 2016 onwards, overlapping sample of 38 banks
Is the FX swap affected by the local bias?

- No local bias in contrast to unsecured market

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Outline of the presentation

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3. Was year-end dysfunctional?
Is pricing segmented?

- **Implied USD rates:** no price difference linked to the location of MMSR reporting agents

Source: ECB – MMSR
• **Implied USD rates:** no price difference linked to the location of MMSR reporting agents

Source: ECB – MMSR
• **Implied USD rates: no price difference linked to the location of MMSR reporting agents**

Source: ECB – MMSR
Is pricing segmented?

- **No pricing segmentation when reporting agents trade with non-euro area counterparties**

![Selling EUR - Buying USD (3M)](chart)

Source: ECB – MMSR

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Outline of the presentation

1. Is the FX swap market active? Does it exhibit a local bias?
2. Is pricing segmented?
3. Was year-end dysfunctional?
Was year-end dysfunctional?

- **Was pricing so extreme?**
  Regulations already imply that the cost of extending balance sheet over year-end is elevated

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bank Levy</strong></td>
<td>0.06%</td>
<td>0.11%</td>
</tr>
<tr>
<td><strong>Return on Equity (RoE)</strong></td>
<td>7.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td><strong>Length of year-end in days</strong></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Year-end USD O/N rate</strong></td>
<td>0.55%</td>
<td>0.55%</td>
</tr>
<tr>
<td><strong>Implied cost with Bank Levy</strong></td>
<td>6%</td>
<td>10.5%</td>
</tr>
<tr>
<td><strong>Implied cost with Leverage Ratio of 3%</strong></td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Was year-end dysfunctional?

- **Headlines:** USD implied rates of 40% but on small amounts as banks have pre-funded in November, and earned the spread.

*FX Swap EUR vs USD Net Activity by period & rate*, Settlement Date 30/12/2016, Maturity Date 03/01/2017

- **Sell EUR - Buy USD**
  - **Trade Date:**
    - November: 22
    - December before Christmas: 17
    - December after Christmas: 4
  - **Business days:**
    - November: 14,773
    - December before Christmas: 7,486
    - December after Christmas: 55,498
  - **Total Vol. (million):**
    - November: 6.66%
    - December before Christmas: 6.81%
    - December after Christmas: 14.56%

- **Buy EUR - Sell USD**
  - **Trade Date:**
    - November: 22
    - December before Christmas: 17
    - December after Christmas: 4
  - **Business days:**
    - November: 2,940
    - December before Christmas: 8,526
    - December after Christmas: 52,259
  - **Total Vol. (million):**
    - November: 6.12%
    - December before Christmas: 6.83%
    - December after Christmas: 14.79%

*Source: MMSR*
Was year-end dysfunctional?

• **Was market so dysfunctional after all...?**

(1) Implied rates not so extreme compared to cost of balance sheet lengthening implied by bank levies or leverage ratio (6% to 20%);

(2) Despite falling volumes, two-way activity remains;

(3) Institutional frictions make arbitrage less obvious: difficult to get approvals to trade around year-end once balance sheet usage is frozen;

(4) March quarter-end much smoother suggests banks adapted (comparable to secured market).

=> FX remained functional, even if volatility was observed and arbitrage limited
**Is the FX swap market efficient?**

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<tbody>
<tr>
<td><strong>Volume</strong></td>
<td>Stable or growing volume</td>
<td></td>
</tr>
<tr>
<td><strong>Liquidity</strong></td>
<td>No sign for local bias</td>
<td></td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>Homogenous pricing</td>
<td></td>
</tr>
<tr>
<td><strong>Volatility</strong></td>
<td>Presence of volatility on some dates</td>
<td></td>
</tr>
<tr>
<td><strong>Arbitrage and resilience</strong></td>
<td>Year end: market remained functional and is adapting to new regime</td>
<td></td>
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• **Methodology**

Euro money Market Survey:
- 150 banks across the EU
- Aggregated turnover and maturity information only
- Segments: unsecured, secured, FX swaps, OIS, FRAs, Interest Rate Swaps
- Since 2003, interrupted in 2015

Money Market Statistical Reporting
- 52 largest euro area banks
- Transactional data: counterparty details, rate, trade, settlement and maturity dates, collateral ISIN and amount, haircuts
- Segments: unsecured, secured, FX swaps, OIS
- No publications yet

Long time series based on 38 banks common to both data samples