Features and Benefits

- Tier structure to support customizable crossing
- Conditional order support
- Price/Tier/Time priority matching
- Broad spectrum of J.P. Morgan liquidity
- Liquidity, speed, and execution quality
- Opportunity for price improvement
- Continuous crossing

### July 2019 JPM-X Statistics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Volume (single counted)</td>
<td>52.8 mm</td>
</tr>
<tr>
<td>Average Trade Size</td>
<td>174 shares</td>
</tr>
<tr>
<td># of Symbols traded</td>
<td>6,555 unique symbols</td>
</tr>
<tr>
<td>% of Volume &gt;= 5k shares</td>
<td>12.4% of Volume (6.5 mm ADV)</td>
</tr>
<tr>
<td>Average Block Size (&gt;= 5k shares)</td>
<td>10,906 shares</td>
</tr>
</tbody>
</table>

### Average Daily Volume and Market Share

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Qtr3</td>
<td>51.6</td>
<td>58.0</td>
<td>62.3</td>
<td>68.3</td>
<td>67.8</td>
<td>71.3</td>
</tr>
<tr>
<td>Qtr4</td>
<td>53.5</td>
<td>60.7</td>
<td>64.8</td>
<td>71.8</td>
<td>70.4</td>
<td>74.3</td>
</tr>
<tr>
<td>Qtr1</td>
<td>55.7</td>
<td>63.2</td>
<td>67.3</td>
<td>74.3</td>
<td>72.5</td>
<td>76.4</td>
</tr>
<tr>
<td>Qtr2</td>
<td>57.7</td>
<td>66.9</td>
<td>70.4</td>
<td>77.4</td>
<td>76.2</td>
<td>80.3</td>
</tr>
<tr>
<td>Qtr3</td>
<td>60.1</td>
<td>68.9</td>
<td>72.7</td>
<td>79.7</td>
<td>78.8</td>
<td>83.3</td>
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<tr>
<td>Qtr4</td>
<td>62.2</td>
<td>71.3</td>
<td>75.4</td>
<td>82.4</td>
<td>81.8</td>
<td>86.7</td>
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<tr>
<td>Qtr1</td>
<td>65.8</td>
<td>75.1</td>
<td>79.9</td>
<td>87.1</td>
<td>86.8</td>
<td>91.7</td>
</tr>
<tr>
<td>Qtr2</td>
<td>68.9</td>
<td>78.9</td>
<td>83.8</td>
<td>91.8</td>
<td>91.8</td>
<td>96.7</td>
</tr>
<tr>
<td>Qtr3</td>
<td>72.5</td>
<td>83.3</td>
<td>88.4</td>
<td>96.4</td>
<td>96.4</td>
<td>101.7</td>
</tr>
</tbody>
</table>

### Block Average Daily Volume and Average Trade Size

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Qtr3</td>
<td>9,225</td>
<td>8,999</td>
<td>9,900</td>
<td>9,018</td>
<td>9,153</td>
<td>9,646</td>
</tr>
<tr>
<td>Qtr4</td>
<td>8,862</td>
<td>9,000</td>
<td>9,000</td>
<td>9,027</td>
<td>8,800</td>
<td>9,027</td>
</tr>
<tr>
<td>Qtr1</td>
<td>9,326</td>
<td>10,383</td>
<td>10,526</td>
<td>10,951</td>
<td>11,141</td>
<td>11,411</td>
</tr>
<tr>
<td>Qtr2</td>
<td>9,526</td>
<td>11,141</td>
<td>11,387</td>
<td>11,973</td>
<td>12,009</td>
<td>12,009</td>
</tr>
<tr>
<td>Qtr3</td>
<td>9,626</td>
<td>11,411</td>
<td>11,681</td>
<td>11,973</td>
<td>12,009</td>
<td>12,313</td>
</tr>
<tr>
<td>Qtr4</td>
<td>9,726</td>
<td>11,547</td>
<td>11,387</td>
<td>11,973</td>
<td>12,009</td>
<td>11,907</td>
</tr>
<tr>
<td>Qtr1</td>
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<td>11,907</td>
</tr>
</tbody>
</table>
Our differentiated tiering structure allows clients to customize the order flow types with which they interact. Order flow types are used to tier the JPM-X order book.

- **Tier 1**: Institutional investor client flow and JPMS affiliates’ flow accessing JPM-X via algorithms/SOR
- **Tier 2**: Institutional investor client flow with direct access to JPM-X
- **Tier 3**: U.S. registered broker-dealer client flow (both agency and principal) accessing JPM-X via algorithms/SOR
- **Tier 4 (P1)**: Internal (JPMS) trading desk flow accessing JPM-X via algorithms/SOR
- **Tier 4 (P2)**: Internal (JPMS) electronic liquidity provider flow with direct access to JPM-X
- **Tier 5 (I4/ELP)**: Flow of external broker-dealers acting as electronic liquidity providers with direct access to JPM-X
- **Tier 5 (I5)**: Flow of external broker-dealers not acting as electronic liquidity providers (both agency and principal) with direct access to JPM-X

### Order Flow Tiers

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Institutional investor client flow and JPMS affiliates’ flow accessing JPM-X via algorithms/SOR</td>
</tr>
<tr>
<td>2</td>
<td>Institutional investor client flow with direct access to JPM-X</td>
</tr>
<tr>
<td>3</td>
<td>U.S. registered broker-dealer client flow (both agency and principal) accessing JPM-X via algorithms/SOR</td>
</tr>
<tr>
<td>4 (P1)</td>
<td>Internal (JPMS) trading desk flow accessing JPM-X via algorithms/SOR</td>
</tr>
<tr>
<td>4 (P2)</td>
<td>Internal (JPMS) electronic liquidity provider flow with direct access to JPM-X</td>
</tr>
<tr>
<td>5 (I4/ELP)</td>
<td>Flow of external broker-dealers acting as electronic liquidity providers with direct access to JPM-X</td>
</tr>
<tr>
<td>5 (I5)</td>
<td>Flow of external broker-dealers not acting as electronic liquidity providers (both agency and principal) with direct access to JPM-X</td>
</tr>
</tbody>
</table>

### Volume by Tier

<table>
<thead>
<tr>
<th>Tier</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>27.0%</td>
</tr>
<tr>
<td>Tier 2</td>
<td>8.0%</td>
</tr>
<tr>
<td>Tier 3</td>
<td>4.9%</td>
</tr>
<tr>
<td>Tier 4 - P2</td>
<td>1.8%</td>
</tr>
<tr>
<td>Tier 4 - P1</td>
<td>6.6%</td>
</tr>
<tr>
<td>Tier 5 - ELP</td>
<td>13.0%</td>
</tr>
<tr>
<td>Tier 5 - I5</td>
<td>38.6%</td>
</tr>
</tbody>
</table>

### Average Trade Size (By Tier)

<table>
<thead>
<tr>
<th>Tier</th>
<th>Average Trade Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>158</td>
</tr>
<tr>
<td>Tier 2</td>
<td>123</td>
</tr>
<tr>
<td>Tier 3</td>
<td>222</td>
</tr>
<tr>
<td>Tier 4 - P1</td>
<td>211</td>
</tr>
<tr>
<td>Tier 4 - P2</td>
<td>217</td>
</tr>
<tr>
<td>Tier 5 - ELP</td>
<td>122</td>
</tr>
<tr>
<td>Tier 5 - I5</td>
<td>228</td>
</tr>
</tbody>
</table>

**Sources:** JPMorgan Tick and Trade Data, BATS Market Volume Summary [http://www.batstrading.com/market_summary](http://www.batstrading.com/market_summary)

Please also see:

**JPM-X FAQs:** [https://www.jpmorgan.com/directdoc/jpmxfaqsd.pdf](https://www.jpmorgan.com/directdoc/jpmxfaqsd.pdf)