EUROPEAN CENTRAL BANK

Foreign Exchange Contact Group

Recent Trends in the e-FX space: Liquidity, Market Segmentation and Data Management

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Stefan Bender, Dierk Reuter

A Passion to Perform. Deutsche Bank

Overview & Discussion

Clients receive better service/liquidity through efficiency and competition?

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Liquidity & Growth

Electronic FX Trading Growth: From Alpha to Beta?

- Greenwhich Associates*:
  - Study saw 20% e-forex trading growth year-on-year in 2007 but this compares to 36% growth in overall FX trading volumes.
  - E-forex trading pattern dependent on size of wallet, i.e. the larger the annual trading volumes the more use of e-trading platforms.
  - Single-Bank platforms losing ground to multi-dealer platforms
  - Smaller foreign exchange users have to adopt electronic trading simply as a means of accessing market liquidity. ‘Bespoke, human’ sales coverage becomes too expensive resource for smaller accounts.
  - The first signs of market saturation might not be that far in the future.

* Greenwich Associates 2008 E-Forex Study tracks foreign exchange trading volume among end-user customers; e.g. inter-bank transactions excluded

Liquidity & FX Data Management

Most of latest developments in the foreign exchange market are only became possible because of something that has been neglected for a long time in what used to be an in-transparent OTC market: efficient FX data management

- Data is critical when it comes to various aspects of electronic trading, e.g.:
  - Algorithmic trading: execution as well as trading models
  - Investment models (back-testing)
  - Transaction cost models
- EBS the first platform to allow market users to access actionable prices.
- Now, centralized FX data (especially via ECNs) allows new market users to cope with the disparate and fragmented nature of the FX market.
- Market depth and volume data is still an issue. But there are various efforts that are aimed at improving the quality and standardization of foreign exchange market data (e.g. FIX* protocol.

* The Financial Information eXchange Protocol is the industry-driven messaging standard.

Excursion: News Driven Algorithms

Technology now allows to integrate algorithms that automatically execute quantitative trading strategies on back of the latest economic data news releases.

- The idea is to integrate news as one of the variables used to generate trading signals in algorithmic trading strategies.
- Furthermore, news driven algorithms can be used to improve risk management techniques, i.e. these algorithms allow the calculation of quantitative risk measures that incorporate market moving news and events. These findings can then be used for risk management purposes and help detect when and where the next crisis is going to occur.
- Another value-add from these algorithms is expected with regards to back-testing and ex-post analysis of trading strategies. News can help explain why pricing algorithms might have failed in the past and how they need to be constructed to deal with market moving events.

Liquidity & Execution

Algorithms: Trading versus Execution

- Algorithmic Trading: Algorithms are used to produce a trading decision.
- Algorithmic Execution:
  - Algorithms are used for the execution process, i.e. they are aimed at achieving the best price once the trading decision has been made.
  - Fragmentation of liquidity is still the single most important reasons why optimizing execution, i.e. seeking liquidity and aggregating the market, is key for market users.
  - Semi-automated algorithms help with the complexity of various liquidity sources and market entry points. The main idea is to aggregate prices from various platforms to allow for a quick and easy use of the aggregated liquidity.
  - Other algorithms are aimed at improving execution by transacting large positions with less market impact than manual execution.

Liquidity & Execution

Execution Algorithms: Advantages

- Independence : In the foreign-exchange market counterparties on the sell-side are at the same time market maker on the trade. To some extent, the market user is dependent on the risk appetite and – therefore - the willingness of the market maker to provide liquidity.
- Transparency: In some sense, the sell-side counterpart acts to some extent like a dark pool of liquidity in that he is not disclosing his two-way price to the whole market. This lack of transparency creates a special need in the foreign exchange market for algorithms that aggregate pricing from various pricing sources.
- Confidentiality: Dark pools and hidden liquidity is closely linked to the algorithmic trading and execution. Therefore, execution algorithms and agency-style execution platforms might reduce the dependency on the confidentiality of a single market maker.
- Efficiency: Reducing trading cost and minimizing error rates by streamlining/automating the execution processes are positive side effects when it comes to using algorithms.

Liquidity & Execution

Execution Algorithms: Risks I

There are significant risks involved for the buy and the sell-side when it comes to automated execution. The risks are mainly concentrated around liquidity:

- The ability and willingness to warehouse risk by banks (acting as market makers) is a very significant source of liquidity in the foreign exchange market. This appetite for risk is excluded from the market when you look at markets that are based on an agency approach. In other words, using execution algorithms means that market users are taking on more responsibility for their trades rather than giving their orders to a liquidity provider for an agreed price.

- Market makers usually do have the ability and willingness to absorb flow and therefore warehouse risk.

- Excluding the market maker from the execution process or not incentivising him for being involved in the process means that his willingness to provide liquidity is limited. In return, this then exposes the market user to significant risks, which could reach from
  - a less smooth transaction in the market (i.e. creating a large market impact) to the worst case of
  - a complete failure of the order.

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Execution Algorithms: Risks II

- While improved confidentiality can be an advantage of using execution algorithms there is also a risk of ‘reverse engineering’. For the sell-side it becomes more and more attractive to manage ‘algorithmic flow’ with their own algorithmic trading logics.

- Last but not least, it can be argued that using execution algorithms exclude market users from potential benefits that ‘classic’ order execution offers, e.g.
  - pre trade market advise,
  - Improvement of order fills,
  - post trade execution feedback, etc.

Liquidity & Execution

Execution Algorithms: Risks III

Banks also have to deal with new risks that evolve from algorithmic execution:

- Market makers lose some of their ‘flow information’ when more and more market users use algorithms to hide their flow.
- Infrastructure: Banks need to continue to invest in their infrastructure to deal with execution algorithms. Beside the cost of additional investment in software as well as hardware there is a constant need to prove and monitor the performance of their systems/algorithms.
- Right now, for all market participants of the FX market there is the no execution benchmark.

Summary

What you see is what you not get?

- FX market turnover is still growing but the question remains on whether the actual number of liquidity seekers and providers is growing.
- Key to algorithmic execution is pooling liquidity by connecting as many ‘pricing pipes’ of the various liquidity providers as possible. **‘Packaging of liquidity’** is currently the name of the game.
- Some of the liquidity providers do not absorb liquidity or warehouse risk at all. In the end, all they do is pass on the risk - multiplying the need for liquidity rather than providing liquidity.
- Liquidity aggregation could become counterproductive. The question that arises is whether you really get what you see in terms of liquidity, i.e. the liquidity that is displayed on an platforms that just aggregate liquidity is not ‘true liquidity’.