eFX “Explainers” Liquidity Provider Selection

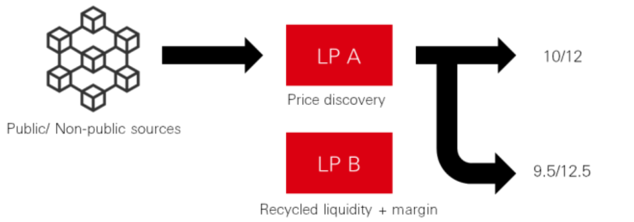
The eFX Explainers series has so far focused on the structure of the FX Market and how to access FX liquidity. Now, we look at how clients best engage Liquidity Providers (LPs) and the steps that can be taken to lower execution costs.

Why should clients curate a LP pool?

- Intuitively, it might seem to be an easy decision – by increasing the number of LPs in the pool, clients are likely to see tighter spreads due to the assumed benefits of **aggregation**, i.e. the combination of bid/ask prices across LPs:

	Quantity	Bid	Ask	Quantity
Best	3m	1.2527	1.2528	9m
LP1	5m	1.2505	1.2528	9m
LP2	1m	1.2515	1.2540	3m
LP3	3m	1.2527	1.2560	7m

- However, while there are obvious benefits of aggregating liquidity, adding a high number of LPs can lead to diminishing returns over time:
  - **Trade Misses**: Trading in a larger pool can lead to more missed trades / rejections compared to a small pool of LPs with which the client has a close relationship. This occurs as trades are spread among a higher number of LPs with higher likelihood of set-up issues, missing credit or latency problems.
  - **Liquidity Recycling (“Liquidity Mirage”)**: A function of 1) a LP not being a principal risk manager, and therefore transferring risk directly after the trade to another LP or into the market; and 2) LPs not engaging in their own mid-price discovery (instead just reflecting market liquidity).
    In the example below, LP A engages in their own mid-price construction from public / non-public sources while LP B simply takes LP A’s price and adds a margin, but providing no additional liquidity of their own.

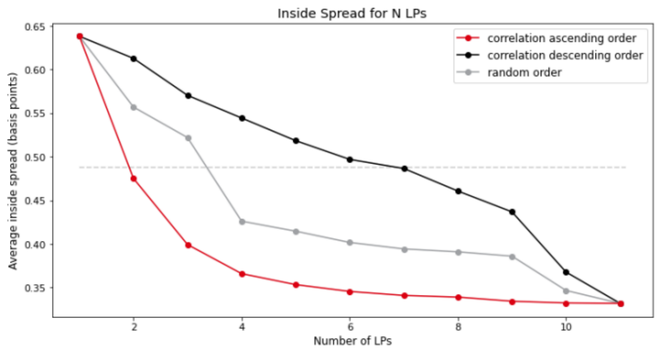


How should clients choose the optimal pool of LPs?

- Given the detrimental effects that an uncurated pool of liquidity brings, it is vital for clients to choose their providers with care. A high quality LP will have:
  - **Narrow spread** – LPs with competitive pricing showing genuine risk-reducing skews.
  - **Low latency** – LPs with cutting-edge technology to reduce the cost of latency misses.
  - **Low market impact** – LPs running a large principal book, aiming to patiently internalize flows instead of creating impact due to rapid externalization.

- **High fill rate** – LPs that symmetrically apply Last-Look and only reject a small fraction of the trades.
- **Low response or hold time** – LPs that do not hold trades excessively before deciding whether to accept / reject.
- **Orthogonal liquidity** – LPs that provide unique and uncorrelated liquidity, i.e. not showing the same underlying price.

◆ Industry research[1] has shown that the optimal number of LPs is usually around seven providers per currency pair. Adding more providers beyond this point (ranked by correlation of their liquidity), does not meaningfully improve spreads:



Which other factors impact the level of spread a client receives?

◆ Apart from the quality of the pool an LP is part of, a client's **Execution Style (Sweep vs Full Amount)** and **Execution Channel (Streaming vs RFSQ)** play a role in deciding an LP's spread level:

<u>I. Execution style: Sweep</u>

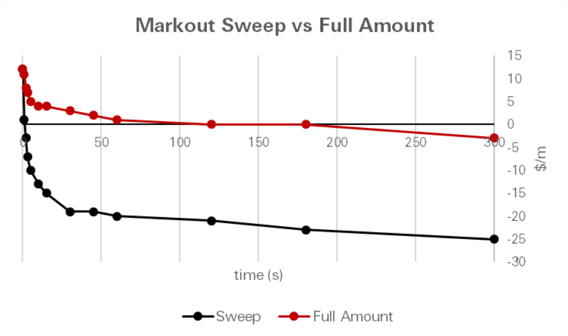
◆ **Sweepable** quotes allow a client to hit **multiple** price levels / multiple quotes from **multiple** LPs at the same time, i.e. a client's trade is split between different LPs at their best price. For example – if a client wants to buy 5mio EURUSD via sweep, they could take 2mio from LP1 at their best price, 1mio from LP2 at their best price and 2mio from LP3 at their best price.
LPs that are included in a sweep might face a **'race to liquidity'** where faster hedging is incentivized.

◆ This 'race to liquidity' is impacted by the constitution of the LP pool, most notably the difference of:
- **Private Sweep** – A pool that only includes Bank LPs with an incentive to internalize. Trade information is therefore not directly public to the entire market.
- **Public Sweep** – A pool that includes both Bank LPs and ECNs. Trade information therefore is directly made public to the market.

<u>II. Execution Style: Full Amount</u>

◆ When receiving **Full Amount** quotes, a client is limited to trading against a <u>**single**</u> quote at any given time. A single LP will receive the full size and can manage the risk passively through internalization.

◆ Typically, LPs will incentivize trading via Full Amount channels by showing tighter spreads and pricing larger sizes. The appetite to see most of a client's flow via Full Amount channels becomes obvious when comparing the markout profiles of the two Execution Styles:



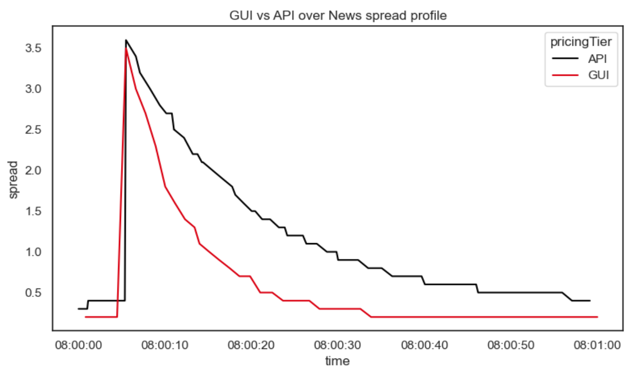
<u>I. Subscription Type: Streaming</u>

◆ An Executable Streaming Price (ESP), is a **continuously** updating, immediately executable, real-time price for a given size. The LP will provide the price without the client having to send a request. The main features of a streaming set up are:
- The trade remains **unknown** to other market players, and so has a lower market impact.
- **Lower brokerage** costs for the LP are passed on to the client through tighter spreads.

◆ However, skews that are publicized to clients may be propagated onto the public interbank market. This might then drive price action that is both unfavorable to the LP **(increased execution costs)** and to the client **(outsized market impact).**

<u>II. Subscription Type: RFSQ</u>

◆ Contrary to Streaming, trading via a **RFSQ (Request for Streaming Quote)**, requires the client to send a quote request for a certain currency pair and notional to selected LPs in their panel. Each LP will then open a stream and provide real time prices for a pre-defined duration.
- LPs may be able to keep **spreads more stable** during periods of higher volatility compared to streaming solutions. This is because RFSQ trades generally originate from human users (**GUI clickers**), whereas the vast majority of streaming volume comes from more sophisticated **API** counterparts. A spread comparison between these two subscription types over a news release is shown below:

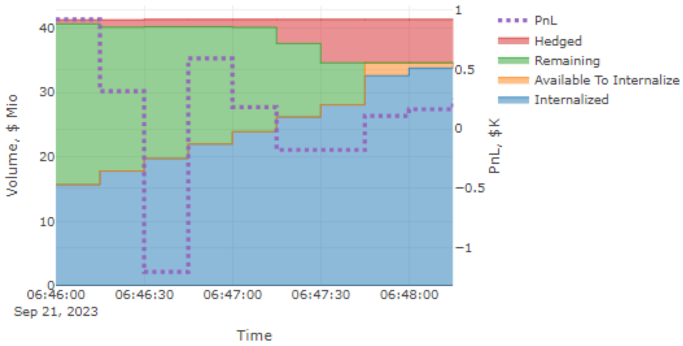


- However, trade requests through RFSQ are **visible** to other LPs in the request panel. The LPs involved in the trade could potentially leak the information to the market place, making it more challenging for the winning LP to execute the trade efficiently.
- Additionally, **higher LP brokerage** costs on RFSQ channels may result in wider spreads being offered.

[1] Liquidity Diversification in FX, Pennesi and Senkevich, 2020

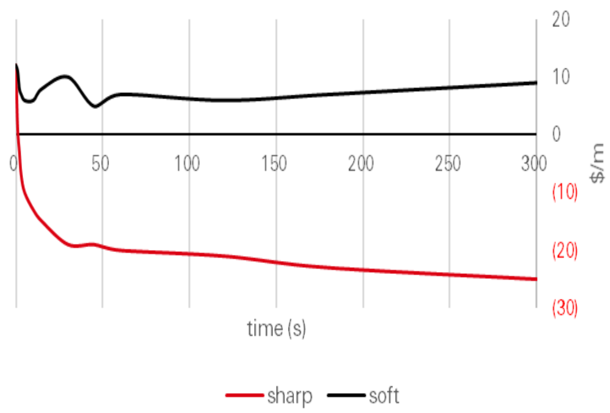
How do Liquidity Providers assess the quality of client flow and decide spread level?

- Liquidity Providers constantly monitor the profitability of each client. The most common tools utilized are in-house **PnL Attribution Models**, **Markout Profiles** and **Transaction Cost Analysis** (**TCA**) **Reports**.
- **In-house PnL Attribution Models:** While classical First-in-First-out attribution models are the most intuitive (i.e. the PnL of a trade is calculated simply by matching the initial trade against incoming offsetting flow), LPs rely on more sophisticated solutions. These solutions generally do not assume instant matching of trades but rely on underlying volume profiles while separating internalized flow from hedging.

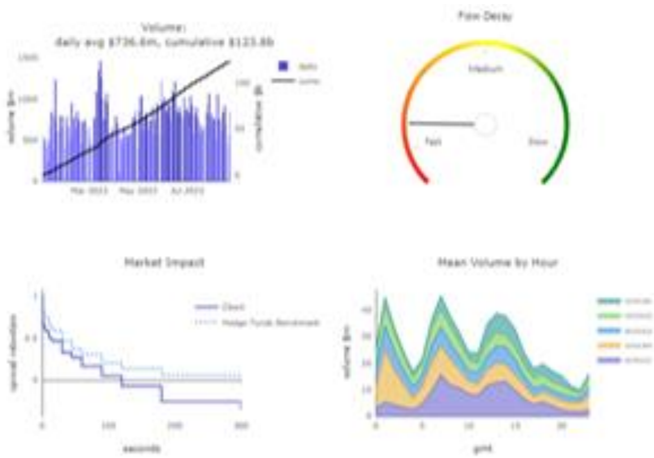


- **Markouts**: A Markout plot takes the price of a trade at the time of dealing and benchmarks it to the prevailing market mid-price (typically the Primary Market mid) at different points in time. For example:
  - Client sells to LP at 1.2019, while the market mid the at time of trade (t = 0 sec) is 1.2020.
  - The initial "gain" the LP makes at this point in time is 1 pip. The markout plot then shows the value of the trade to the LP at other points in time (e.g. at t = 10 sec).
  - Typically, markouts are expressed in yield terms **($/m)** instead of absolute pip or USD terms.

Markout Profiles



- A favorable markout profile for the LP is flat ("**soft"**) while a client trade with significant ("**sharp"**) market impact would have quickly deteriorating markouts. A sharp market impact can result from multi-dealing, or sweep execution, but also from information leakage of an RFSQ sent to too many LPs.
- Clients with a **sharper** markout profile, (when the client trade carries a noticeable impact against the LP) will be priced wider by the LP, while **softer** flow is rewarded with tighter spreads.
- **Transaction Cost Analysis:** TCA reports are a commonly used tool that provide **all key metrics** to evaluate a client in one place. They will typically include PnL figures, Markouts, Volume Trends, Rejections and Hit Ratios. TCA reports can be used both internally to optimize a client's tiering and externally, in a normalized version, to share findings with clients.
- **The HSBC eFX desk** continuously develops and refines its client analysis tools – tracking flow quality and volume trends with both ad hoc and automated reports. This close focus on building and maintaining Client Analytics has helped to consistently achieve **top rankings** with clients both on direct connections and multi-bank solutions:



- To conclude, the key to ensure a **long term, mutually beneficial relationship** with a set of vetted LPs is curating a Liquidity Pool of around **seven** providers. Each of these LPs should be a **principal Market Maker**, providing a deferring viewpoint of the market to create **orthogonal liquidity**. Additionally, the choice of execution style and subscription type influence spread level and stability as well. The **HSBC eFX desk** believes that established long term partnerships, with regular interactions, are the best way to achieve a mutually beneficial relationship - allowing clients to minimize execution costs through access to HSBC's orthogonal liquidity, genuine skews and unmatched expertise in developed and emerging markets currencies

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