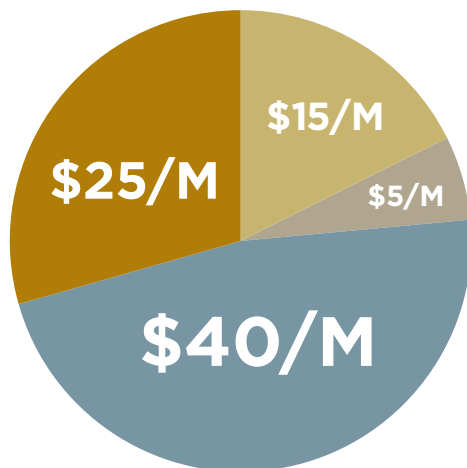


Total control over execution strategy & trading costs - what's it actually worth?

Over 75% of total trading costs are ignored by 'commonly measured' metrics.



Commonly measured

- Bid-offer spread (0.3 in EUR/USD) = \$15/M
- Commission (variable) = \$5/M

Less frequently measured

- Price improvement value range = \$2-\$50/M (illustrated \$40/M)
- Hold time cost (10% reject) range = \$2.5-\$30/M (illustrated \$25/M)

Data source LMAX Exchange 'TCA and fair execution' white paper
Download - www.LMAX.com/TCAwhitepaper

LMAX Exchange empowers the buy-side to measure 100% of trading costs through:

- › Streaming, firm market data (to reference and benchmark execution quality)
- › Real-time trading analysis tools (to monitor price improvement, fill ratios and market impact)
- › Transparent, fair and consistent execution on firm limit order liquidity



Exchange

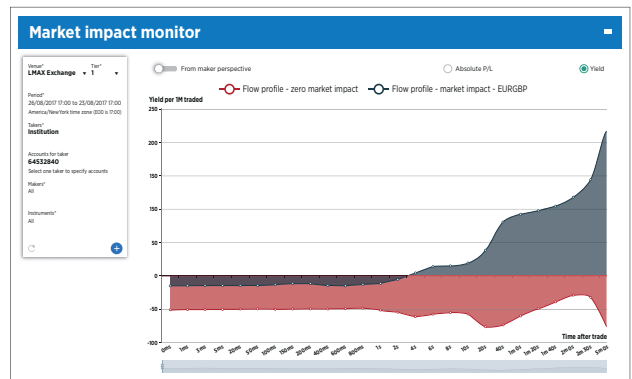
Gain control of execution parameters with firm liquidity

- › **Fill ratio:** fill ratio and price variation metrics on limit orders are interlinked and related to price volatility, thus target fill ratio can be achieved at the cost of reduced price improvement by applying 'tolerance'.
- › **Price variation:** purely driven by market dynamics, both price improvement and slippage on limit orders are passed fully and transparently to the buy-side.
- › **Hold time:** lack of discretionary latency eliminates one of the most significant hidden opportunity costs of 'last look', delivering consistently low latency execution.
- › **Bid-offer spread:** price discovery through executable pricing ensures transparency of real market conditions.
- › **Market impact:** no 'last look' execution eliminates the risk of pre-trade information leakage or disadvantageous price changes ahead of full order execution.

Monitor execution quality with real-time analysis tools

- › **Price improvement monitor:** real-time tracking of fill rates and price improvement at either portfolio or currency pair level.
- › **Market impact monitor:** real-time assessment of the trading strategy's market impact, enabling understanding and control over execution.

Price improvement monitor									
Orderbook summary									
No. orders	No. trades	No. improved trades	Notional ordered (\$)	Notional traded (\$)					
26163	26113	2097	10,881,425,380	9,378,354,863					
Improvement (\$)	Improvement (%)	Notional fill (%)	Improvement (\$/TMS traded)						
14,302.70	8.03	86.19	1.53						
Orderbook breakdown									
Instrument	No. orders	No. trades	No. improved trades	Notional ordered (\$)	Notional traded (\$)	Improvement (\$)	Improvement (%)	Notional fill (%)	Improvement (\$/TMS traded)
AUDJPY	475	463	34	169,334,031	154,846,588	617.99	7.34	91.44	5.99
AUDUSD	2367	2469	212	728,812,385	625,916,852	1,092.09	8.59	85.88	1.74
CADCHF	154	145	7	40,464,229	37,687,001	31.05	4.83	93.14	0.82
EURAUD	707	715	82	286,471,257	262,039,892	580.08	16.47	91.57	2.21
EURGBP	210	201	9	89,667,090	77,684,712	98.75	4.48	86.64	1.27
EURJPY	881	875	71	605,094,560	526,526,493	604.18	8.11	87.02	1.15
EURUSD	5074	5194	681	2,475,605,608	2,074,908,989	4,282.16	12.66	83.88	2.06
GBPUSD	70	64	9	24,705,401	21,698,742	82.45	14.06	87.83	5.80
GBPJPY	429	396	49	225,449,965	205,141,852	237.26	12.37	90.99	1.16



LMAX Exchange TCA addresses all execution factors required by MiFID II

5 TCA metrics	MiFID II execution factors						
	Price	Cost	Speed	Execution likelihood	Size	Nature of execution	Other execution considerations
Fill ratio	✓	✓	✓	✓	✓	✓	
Price variation	✓	✓	✓	✓	✓	✓	
Hold time	✓	✓	✓	✓	✓	✓	✓
Bid-offer spread	✓	✓	✓	✓	✓	✓	
Market impact		✓	✓		✓	✓	✓

*Spot FX is currently outside the scope of MiFID II



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