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CLSMarketData

As the largest single source of FX executed data available to the market, our datasets include data based on over 3 billion trades executed since 2011. We leverage the power of this information to help market participants understand market dynamics and improve decision making.

Average daily volume by source March 2024

Average daily volume by source



* LSEG FX Trading Venues March 2024

** Deutsche Börse 360T Trading Volumes March 2024.

1.99+ USD trillion

average daily traded volume

40

major currency pairs

18

of the most actively traded currencies globally¹

Australian dollar, Canadian dollar, Danish krone, euro, Hong Kong dollar, Hungarian forint, Israeli shekel, Japanese yen, Korean won, Mexican peso, New Zealand dollar, Norwegian krone, Singapore dollar, South African rand, Swedish krona, Swiss franc, UK pound sterling and US dollar.

Data quality recognition:

- The Value of Volume in Foreign Exchange, by University of Melbourne and Cass University 2020
- Best market data Provider, FX Markets Asia Awards 2020



CLSMarketData can add value throughout the buy-side community

Seeking alpha*

- Assesscurrent trading models
- Use data to enhance
- execution models

Trade execution

- Optimizing
- execution models
- Better understand market conditions

Risk management

- Additional insights into risk management
- Better understand your risk

Transaction cost analysis

- Enhanceexisting trade cost analysis
- Better estimate and track FX cost

FX Volume

Develop uncorrelated models

Optimize and time your trading

Measure liquidity risk Measure volatility better

Measure market impact



FX Flow

FX Outstanding

Calibrate models effectively Quickly identify shifts

in market trends

Fine tune trading strategies

Manage risk with insights into market behaviour

Improve best execution monitoring Reduce transaction costs



FX Pricing

execution models

- Quantitative analysts Heads of research
- Portfolio managers
- Execution traders

Optimize VWAP / TWAP

- · Risk managers
- Portfolio managers

VWAP / TWAP

Performance analysts

Benchmark against



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CLSMarketData can add value throughout the sell-side community

Business development*

· Enhanceclient and market share analysis

Salestools

 Accesscomprehensive independent datato support salesactivity

Trade execution

- Optimize execution models
- Enhanceintraday visibility of market activity across **FXinstruments**

Risk and compliance

 Enhancereporting and monitoring



Measure regional market share activity to identify gaps and opportunities

Provide an independent view of traded activity by tenor

Add volume depth to trading analysis and build a comprehensive view of volumes by tenor

Identify abnormal activity Measure liquidity risk





FX Flow

Outstanding

Identify synergies and areas for growth Enhance visibility across forwards and swaps

Provides independent market colour on traded flow by sector Provide holistic view of net traded flows

FX and eFX sales

Provides informed volume depth by sector Augment volatility and risk modelling





Heads of FX trading

- and sales
- Client development
- COO and business managers

Benchmark execution by Reference market traded providing independent VWAP/ TWAP rates

- **VWAP/TWAP** rates
- Spot and eFXtraders
- STIRtraders
- Quantitative analysts
- traded average rates Risk managers

activity using market

Identify abnormal pricing

- Compliance officers
- Risk analysts

FX Volume

Quality, executed trade volume data to enhance your trading models, support post-trade analysis and reporting and strengthen investment and research analysis.

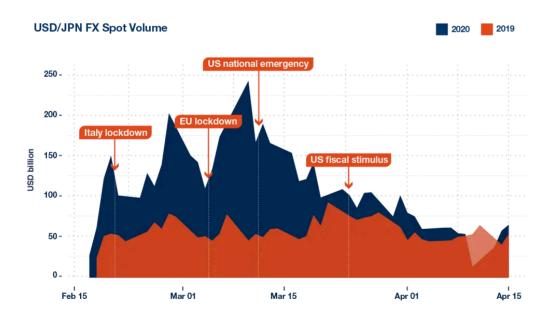
Data highlight

FX Volume provides intraday hourly or daily executed FX spot trade volume data in 40 currency pairs. Trade volumes are aggregated by currency pairs, region, trade size, number of trades and total value in USD equivalent.

Executed FX outright swaps and forwards volume data with detailed tenors and tranches can be delivered hourly and end-of-day to help meet your requirements.

Benefits

- Improve your understanding of the changing nature of global currency markets and trading performance by researching historical trends.
- Strengthen your liquidity strategies and support trend analysis over different tenors.
- Enhance your trading models and strategies and support post-trade analysis and reporting by incorporating liquidity at each tenor.
- Evaluate performance, achieve greater. insight into market dynamics and support your business and trading models by developing new forwards and swaps market analytics.
- Reduce trading risk quickly and accurately by analyzing trends over



FX Pricing

Volume and time-weighted executed trade spot pricing data provides a comprehensive view of market activity to help improve your analysis of pricing trends, measure the quality of your business decisions and enhance data-driven trading algorithms.

Data highlight

Price data values are created using market standard VWAP/TWAP conventions and broken down by five-minute intervals, updated hourly and daily

Benefits

- Improve capital and operational efficiencies through daily pricing trend analysis.
- Enhance your trading algorithms and minimize market impact.
- Strengthen financial and risk control around valuations and mark-tomarket assessments.
- Drive a better outcome for best execution and transaction cost analysis.

"Volume helps predict next day currency returns and is economically valuable for currency investors."

Foreign Exchange Volume by Giovanni Cespa, Antonio Gargano, Steven Riddiough and Lucio Sarno, 2022, Review of Financial Studies

FX Flow

FX flow data helps inform your directional trading strategy by enabling you to track the flow and volume of market participants to detect and/or generate trading signals.

Data highlight

Provides data illustrating aggregate flow between certain counterparty types: market makers and price takers; non-bank financial institutions and banks; funds and banks; and corporates and banks. The data includes built-in parameters to capture volume purchased and sold, as well as number of trades executed across the market. Data is predominantly updated daily and aggregated in hourly intervals but is also available in a dynamic delivery window every ten minutes.*

Benefits

FX Outstanding

FX outstanding data offers insights into forward-looking net positions by capturing outstanding forward and swap trades across market participants to provide insights into market dynamics.

Data highlight

This end-of-day report provides daily insights into outstanding forward and swaps positions across the FX market. Offering further transparency across short and long term tenors by market participant type including corporate, fund, non-bank financial institutions and bank segments.

Benefits

 Enhance your visibility of market activity and trading flows across short- and long-term forward and swap tenors.

- Achieve an improved understanding of trading flows by calibrating your trading models more effectively and structure your positions according to likely increases in flow.
- Manage your risk and liquidity through in-depth insight into market participant behaviors to incorporate liquidity at each tenor.
- Improve accuracy of trading rules and strategies with enhanced transparency of the forward-looking net positions across various market participant segments.



- * The average delivery can be between 15-30 mins and slightly longer delays can occur.
- ** The data used in the above chart is for illustrative purposes only.

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- Augment volatility modelling of asset and derivative prices for greater market transparency
- Improve accuracy of trading rules and strategies with enhanced transparency of the forward-looking net positions across various market participant segments.

"Our data history aids analysis to predict future events, supports market research and helps in understanding past evolution patterns."

Data History

CLSMarketData products (Earliest available)	Daily Daily	Hourly Daily	5-Minute Daily	Hourly Hourly	5-Minute Hourly	Dynamic 5-Minute
FX Spot Volume	31 Oct 2011	31 Oct 2011	31 Oct 2011	03 Jul 2017	27 Feb 2019	-
FX Forward Swap Volume	31 Oct 2011	31 Oct 2011	-	30 Sep 2021	-	-
FX Spot Flow	03 Sep 2012	03 Sep 2012	03 Sep 2012	27 Oct 2017	-	10 Jul 2022
FX Forward Swap Flow	03 Sep 2012	03 Sep 2012	-	30 Sep 2021	-	-
FX Spot Pricing	-	-	01 Sep 2015	-	22 Aug 2017	-
FX Forward Swap Outstanding	03 Sep 2012	-	-	-	-	-

Methodology

The underlying data is adjusted to follow the reporting convention used by the Bank for International Settlements (BIS) and the local semi-annual foreign exchange committee market reports. These surveys only report the bought currency values, or one leg of the trade, to avoid double counting the total amount of trades.

Accessing CLSMarketData

CLSMarketData is available via a REST API or downloadable in .csv format from the CLS Direct portal.

FX Global Code

For more information please email enquiries@cls-group.com

Using CLS products and services plays an integral part in helping you comply with the FX Global Code.

Trusted by thousands of counterparties within the global FX ecosystem, CLS makes FX safer, smoother and more cost effective. Trillions of dollars' worth of currency flows through our systems each day

London Hong Kong Tokyo New York New Jersey info@cls-group.com cls-group.com

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