

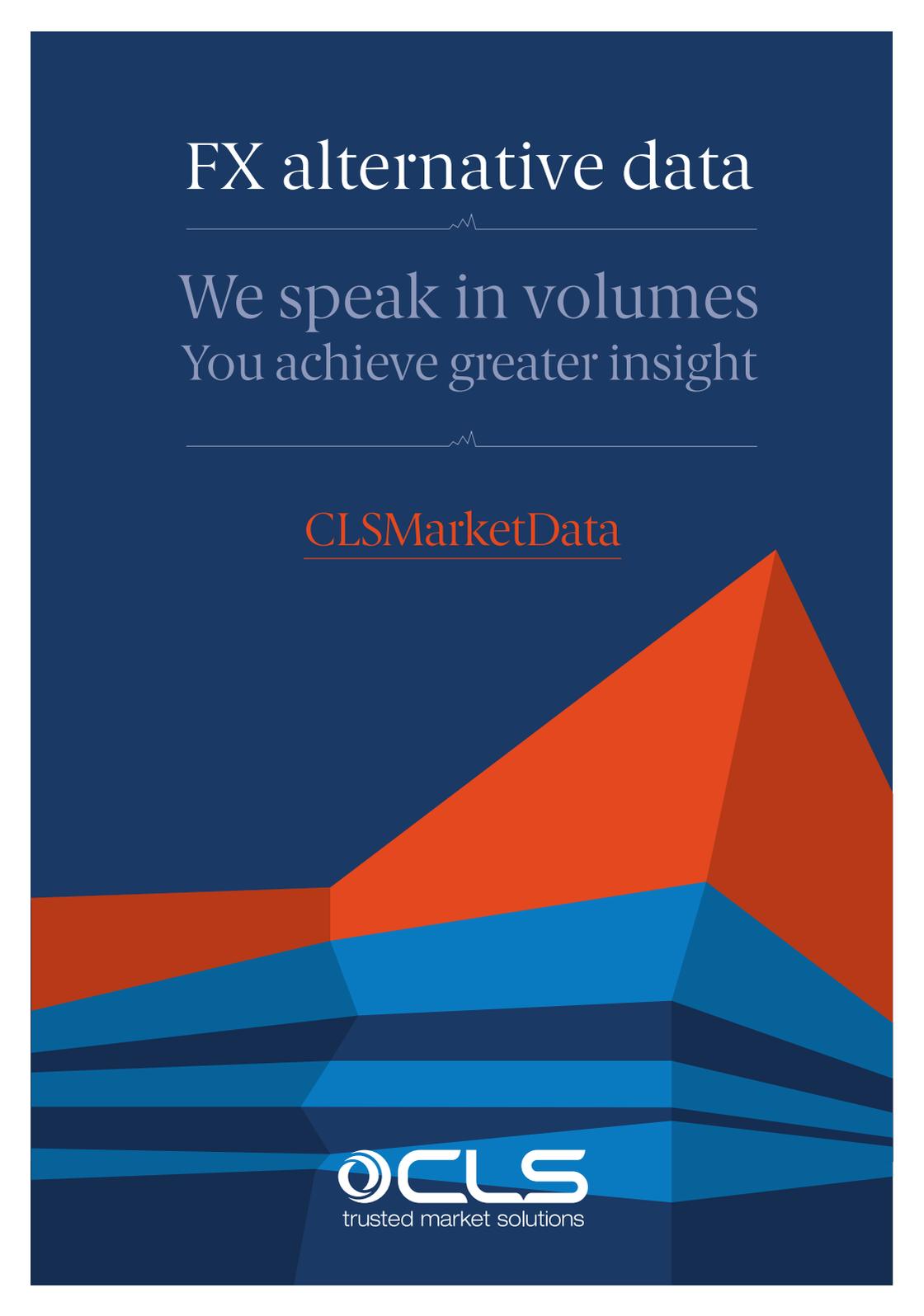
# FX alternative data

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We speak in volumes  
You achieve greater insight

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CLSMarketData

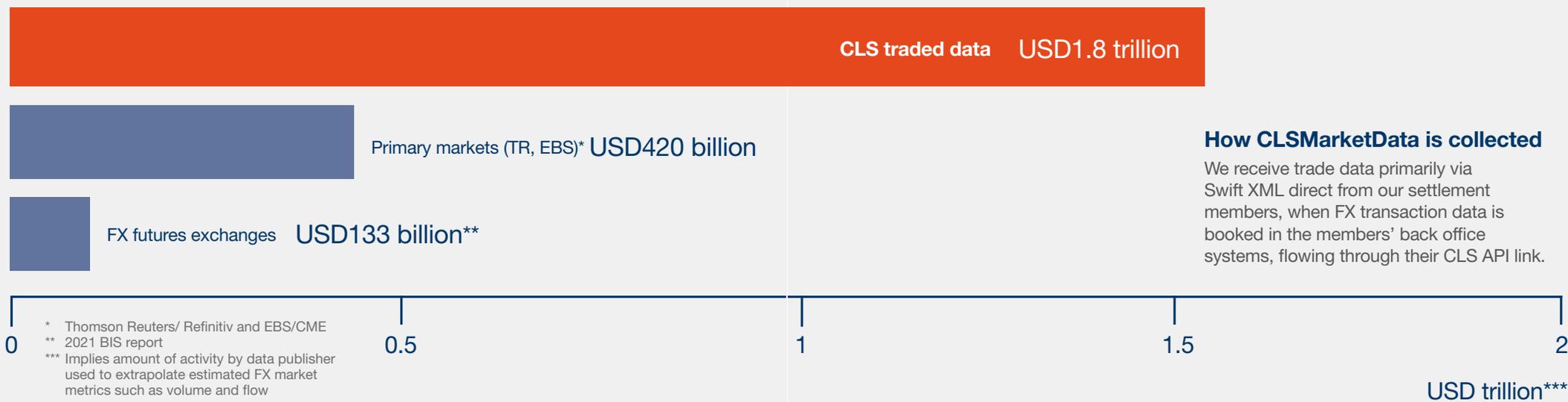


 **CLS**  
trusted market solutions

As the largest single source of FX executed data available to the market, our datasets include data based on over 1 billion trades dating back to 2002.

We leverage the power of this information to help market participants understand market dynamics and improve decision making.

### Average daily volume by source



**Award:** ☆  
Best market data provider

**Winner** FX Markets Asia Awards 2020

**Award:** ☆  
Best FX market data provider

**Winner** FX-Week e-FX Awards 2019

**Data quality recognition:**  
The Value of Volume in Foreign Exchange, by University of Melbourne and Cass University 2017

**1.8+**  
USD trillion  
average daily traded volume

**40**  
major currency pairs

**18**  
of the most actively traded currencies globally<sup>1</sup>

<sup>1</sup> 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.

# CLSMarketData can add value throughout the buy-side community.

	Seeking alpha*	Trade execution	Risk management	Transaction cost analysis
<ul style="list-style-type: none"> <li>• Assess current trading models</li> <li>• Use data to enhance execution models</li> </ul>	<ul style="list-style-type: none"> <li>• Optimizing execution models</li> <li>• Better understand market conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Additional insights into risk management</li> <li>• Better understand your risk</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance existing trade cost analysis</li> <li>• Better estimate and track FX cost</li> </ul>	
 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		Optimize VWAP / TWAP execution models		Benchmark against VWAP / TWAP 
<ul style="list-style-type: none"> <li>• Quantitative analysts</li> <li>• Heads of research</li> <li>• Portfolio managers</li> </ul>	<ul style="list-style-type: none"> <li>• Execution traders</li> </ul>	<ul style="list-style-type: none"> <li>• Risk managers</li> <li>• Portfolio managers</li> </ul>	<ul style="list-style-type: none"> <li>• Performance analysts</li> </ul>	

\* The data sets described here in do not constitute investment or financial advice. Past performance is no guarantee of future results.

# CLSMarketData can add value throughout the **sell-side** community.

	Business development*	Sales tools	Trade execution	Risk and compliance
 FX Volume	<ul style="list-style-type: none"> <li>Enhance client and market share analysis</li> </ul> <p>Measure regional market share activity to identify gaps and opportunities</p>	<ul style="list-style-type: none"> <li>Access comprehensive independent data to support sales activity</li> </ul> <p>Provide an independent view of traded activity by tenor</p>	<ul style="list-style-type: none"> <li>Optimize execution models</li> <li>Enhance intraday visibility of market activity across FX instruments</li> </ul> <p>Add volume depth to trading analysis and build a comprehensive view of volumes by tenor</p>	<ul style="list-style-type: none"> <li>Enhance reporting and monitoring</li> </ul> <p>Identify abnormal activity Measure liquidity risk</p>
 FX Flow	<p>Identify synergies and areas for growth</p>	<p>Provides independent market colour on traded flow by sector</p>	<p>Provides informed volume depth by sector</p>	<p>Augment volatility and risk modelling</p>
 FX Outstanding	<p>Enhance visibility across forwards and swaps</p>	<p>Provide holistic view of net traded flows</p>		
 FX Pricing	<ul style="list-style-type: none"> <li>Heads of FX trading and sales</li> <li>Client development</li> <li>COO and business managers</li> </ul>	<p>Benchmark execution by providing independent VWAP/ TWAP rates</p> <ul style="list-style-type: none"> <li>FX and eFX sales</li> </ul>	<p>Reference market traded VWAP/TWAP rates</p> <ul style="list-style-type: none"> <li>Spot and eFX traders</li> <li>STIR traders</li> <li>Quantitative analysts</li> </ul>	<p>Identify abnormal pricing activity using market traded average rates</p> <ul style="list-style-type: none"> <li>Risk managers</li> <li>Compliance officers</li> <li>Risk analysts</li> </ul>

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# 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 pair in terms of both number of trades and total value in USD equivalent and delivered within 30 minutes following the conclusion of the hour for the intraday hourly dataset.

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

## Improve:

- > Trading models & strategies
- > Trading algorithms
- > Intraday liquidity risk management
- > Research & alpha generation analysis
- > Post-trade analysis

## Reduce:

- > Operational risk
- > Currency risk exposure
- > Trading risk

# 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

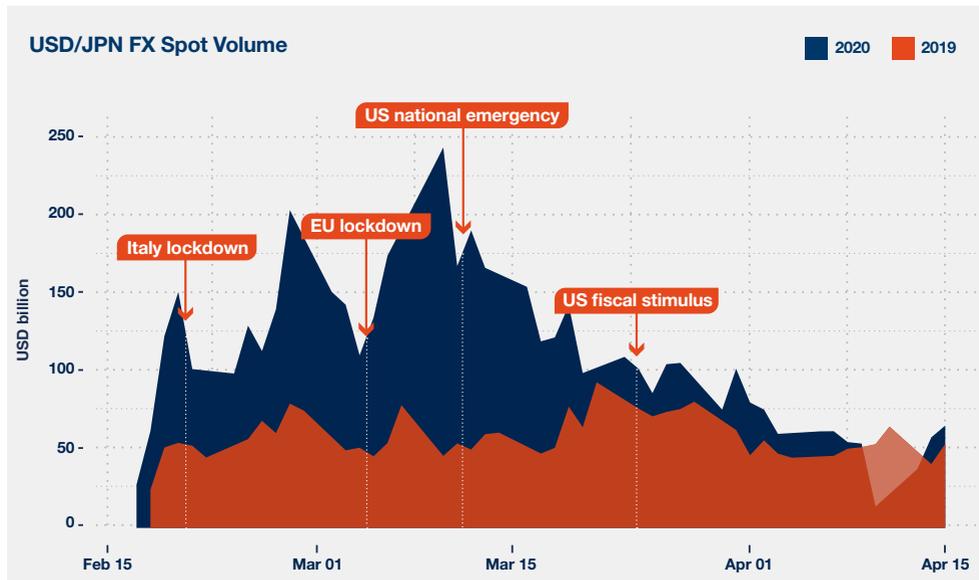
Price data values are created using market standard VWAP/TWAP conventions and broken down by five-minute intervals, updated hourly.

## Improve:

- > Trading algorithms
- > Transaction cost analysis
- > Best execution
- > Trading strategies
- > Financial risk management

## Reduce:

- > FX trading costs
- > Market risk – price verification



“

FX volume contains predictive information for both the time-series and cross-section of currency returns, which generates substantial economic value.

”

The Value of Volume in Foreign Exchange, 2017  
University of Melbourne and Cass University

## 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 and aggregated every five minutes.

### Improve:

- > Alpha generation analysis
- > FX rate forecast analysis
- > Understanding of market drivers & direction
- > Financial & risk management control
- > Liquidity risk management

### Reduce:

- > Risk from volatility
- > Trading & liquidity risk
- > Transaction costs



\* The data used in the above chart is for illustrative purposes only

## 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.

### Improve:

- > Accuracy of trading signal
- > Precision of pre- and post-trade analysis

### Reduce:

- > Trading risk
- > Transaction costs

Our data history helps predict future events, support market research and help understand past evolution patterns.

### Data history<sup>1</sup>

CLSMarkeData products	Daily daily	Daily hourly	Hourly hourly	5-min hourly	5-min dynamic
FX Spot Volume	31 Oct 2011	31 Oct 2011	03 July 2017	27 Feb 2019	
FX Forward Volume	31 Oct 2011	31 Oct 2011	-		
FX Spot Flow	02 Sept 2012	02 Sept 2012	27 Oct 2017	02 Sept 2012	02 Sept 2012 <sup>2</sup>
FX Forward Flow	02 Sept 2012	02 Sept 2012	30 Sept 2021		
FX Spot Pricing	-	22 Aug 2017	22 Aug 2017		
FX Forward Outstanding	02 Sept 2012	-	-		

<sup>1</sup> CLS can provide additional historical data upon request. 2011 is notable in that volume growth became consistent.

<sup>2</sup> 5-min dynamic FX Spot Flow end of day history is available from Sept 2012 and Intraday history available from May 2021

### 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 CLSMarkeData

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

# CLS and SIGTech have collaborated to provide a backtesting environment and analytics platform to evaluate large-scale market data from CLS.

## Expertise

Combining the largest single source of FX alternative trade data with SIGTech's expertise in multi-asset systematic investing, portfolio managers and quant researchers can find trading signals more effectively and derive greater value from our data.

## Time & cost efficiencies

Finding signals from multiple data sets can be repetitive and labor intensive. With access to SIGTech's industry-leading backtesting environment and analytics platform, you can reduce the time it takes to onboard, cleanse, validate and normalize data, while also reducing the cost of strategy development and deployment by up to 90 percent.

## Resource gain

Evaluating large scale data requires significant resources and computing power. Access to SIGTech's strong expertise and systematic analytics platform empowers portfolio managers and quant researchers by enabling them to focus on enhancing their strategies.

“Now, more than ever, there is significant and growing demand for unique alternative data and analytics platforms which help investors enhance their investment decisions.”

Bin Ren  
Founder and CEO, SIGTech

## How it works

### 1. Data validation

- CLSMarketData is pre-packaged, validated and continually cleansed alongside multi-asset datasets for immediate analysis.

### 2. Research and idea generation

- Access to CLSMarketData analysis and to quant researcher expertise to facilitate user idea generation and signal construction.
- Open-architecture platform with integrated analytical libraries and unique “building-block” approach to strategy construction.
- Ability for teams to collaborate with one another and share strategies via the platform framework.

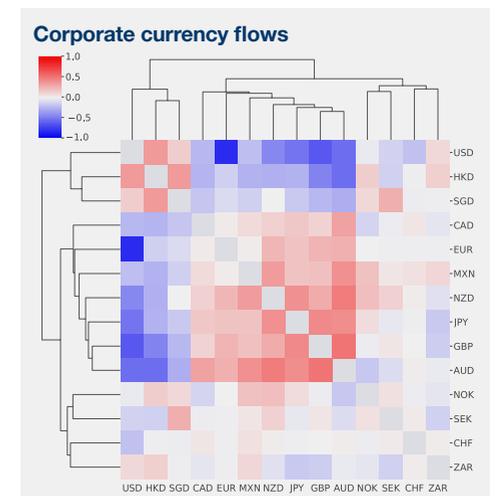
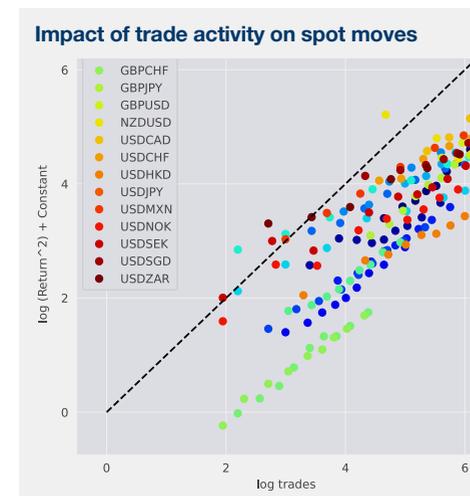
### 3. Backtesting

- SIGTech's backtest framework models each individual instrument across its whole trade life cycle.
- You can choose between transaction cost models provided on the platform or use the API interface to plug in your own model if desired.

### 4. Strategy deployment

- The research environment seamlessly flows into the production environment for quicker strategy deployment.

Below are sample data analytics available on the platform during a CLSMarketData trial.





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Access to  
over 50% of global  
FX volumes



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Aggregated executed  
trade data for  
18 currencies across  
40 currency pairs



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Available for  
subscription via open  
data delivery platform

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