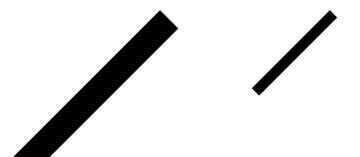
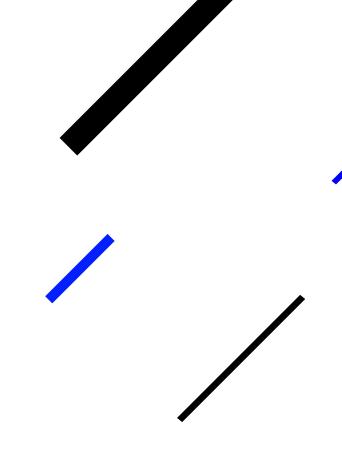
WM/Refinitiv Update

Canadian Foreign Exchange Committee

11 March 2020







WM/Refinitiv Benchmarks

WM/R is designed to provide independent FX benchmarks which are as at a "point in time" and provide users with transparent and consistent rates which they can trust and use in confidence.

Focusses on two primary objectives:

- 1. Creating a benchmark which is an accurate representation of the markets
- 2. Using a robust methodology to protect the integrity of the benchmarks

What is WM/R and what is it used for?

WMR benchmarks originated for use in valuations, performance measurement, & index calculations. As WMR has evolved & improved they are now suitable for a diverse range of financial purposes. WMR does not provide advice on when to use particular benchmark rates but does provide a lot of information to enable users to make an informed choice.

Spot Rate Benchmarks: 155 currencies (25 trade currencies, 130 non-trade currencies) with An hourly service for 155 currencies, including 4pm 'closing' rate & 30-minute service for 25 currencies privards & NDF Benchmarks: 80 forward rates and 11 non-deliverable forward rates (all non-trade), with an hourly service for 91 currencies, including 4pm 'closing' rate and up to 11 tenors (O/N–5Y)

Fund valuations. NAVs, mark to market **Fund** Creation of performance Indices comparison **Financial** Investable **WMR** Products & Contracts **Rates Derivatives** Reporting **FX Trade** and Execution Auditing **Analysis** and Research **REFINITI**

WM/Refinitiv – Benchmark Administration

A comprehensive framework to provide independent scrutiny; governance, regulatory compliance and effective operations

RBSL – Regulated Administrator

- Benchmark Regulation Compliance
- FCA National Competent Authority/Regulator

Benchmark Oversight Committees

- Independent scrutiny over WMR
- Anchored in regulation expectations/obligations

User Groups

- Informal forum & discussion with market participants
 - · Current and future requirements

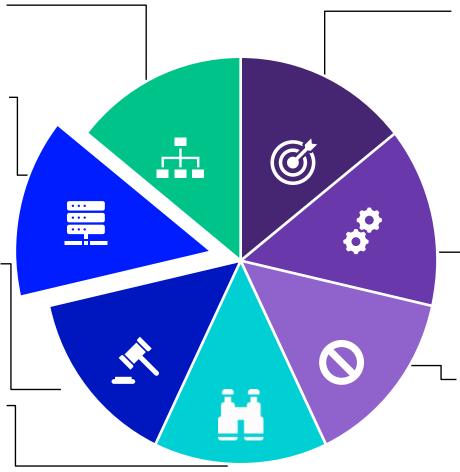
Governance ¬

Implementation/management governance framework

- Monitoring of regulatory compliance
- Tracking and implementation of audit findings
 - Oversight of product oversight committees

Monitoring and Surveillance -

- · Investigation of alerts
- Escalation and reporting to oversight committees
 - Regulatory reporting/engagement
 - Market data analysis and reporting



Benchmark Management

- Strategy, methodology & design
- Commercial strategy
- Regulatory compliance
- · Market and user engagement, consultations,
- Customer/User engagement, support, training and education
- New business generation and innovation

Business Operations

- Monitoring of compliance with licensing policies (FRAND)
- Customer support, partner engagement
- Management and oversight of new launches, changes, cessations

Risk Management

- Implementation and monitoring of risk management framework, process and policies
- · Performance of risk assessments
- Management of risk register & Risk Committee
- Risk training and awareness



WM/Refinitiv – Focus Areas 2020+

User Engagement; Raise Awareness and Knowledge around WMR; Focus on driving greater connection with market participants and users

External Liaison

- Liaison with FX Committees, senior market participants and media to share information around WM/R
- Refinitiv Prescriptives paper (https://www.refinitiv.com/perspectives/market-insights/what-makes-an-effective-fx-benchmark/) looking at important characteristics of benchmarks and administration

User Groups

- Re-establishing working user groups split into APAC and EMEA/Americas
- Participation across buyside and sellside
- Informal forum to discuss all things WM/R methodology feedback, opinions, requests, requirements, new ideas and covers all WMR
- Recent questions and discussion topics:

Calculation Window

- Should it be longer than 5 minutes?
- Would it reduce market impact around 4pm?
- How frequent/significant is the market impact around 4pm?

Median Calculation

- Median vs Mean
- · Why Median and characteristics
- · Hedging impact for sell side
- · Data analysis
- Impact of calculation window

Forwards & NDFs

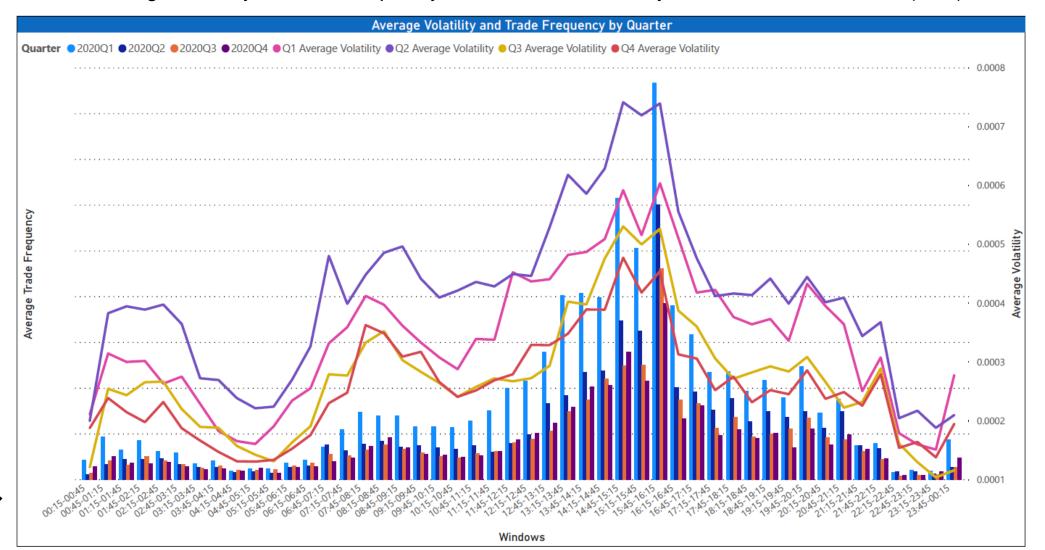
- Regulated under EU BMR
- Different to spot rates
- Methodology enhancements
- Data Sourcing & challenges for transaction data



WM/Refinitiv – Focus Areas 2020

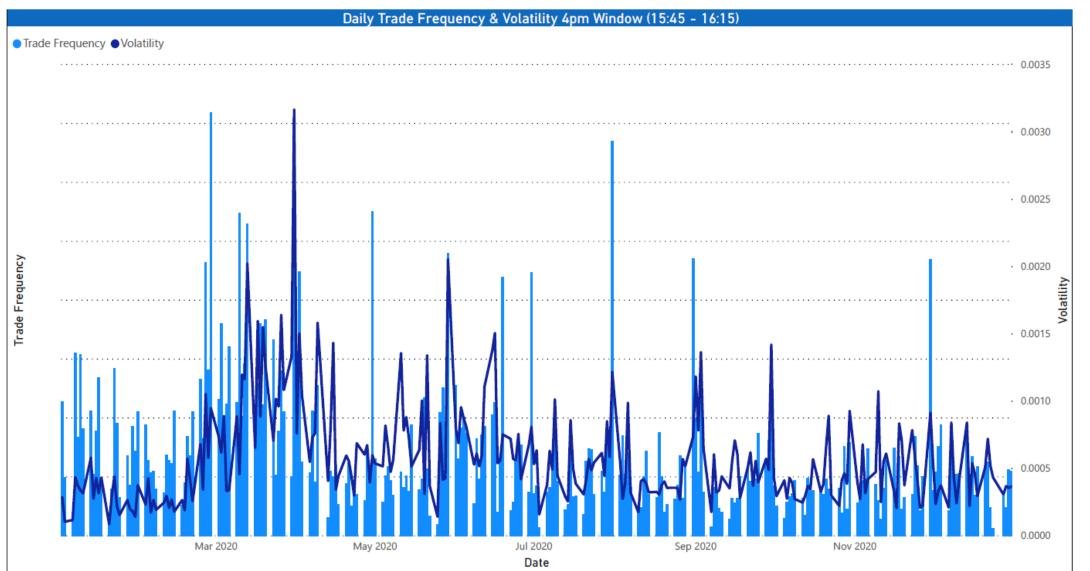
Market Data Analysis – Q1 – Q4 2020

USD/CAD Average Volatility & Trade Frequency Q1-Q4 broken down by 30-Minute time windows (BST)



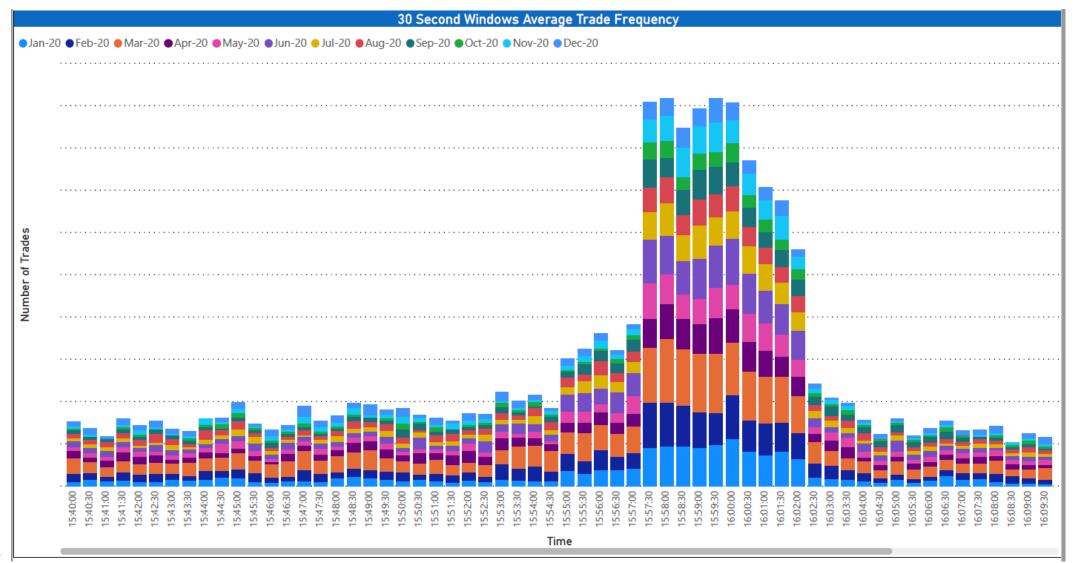


Volatility & Trade Frequency over Q1-Q4 during the 15:45-16:15 Time Window (BST)



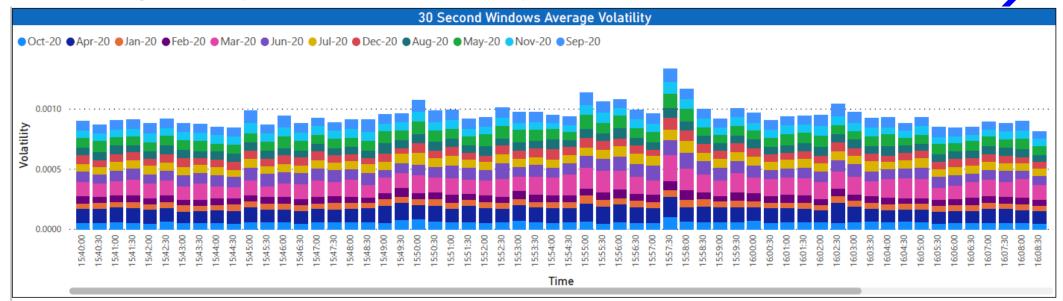


30-Second Trade Frequencies per Month broken down by 30-Second Windows from 15:40-16:10 (BST)

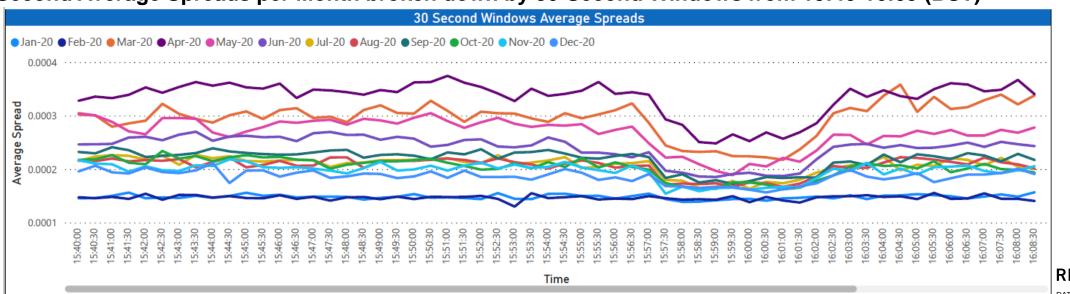




30-Second Average Volatility per Month broken down by 30-Second Windows from 15:40-16:09 (BST)

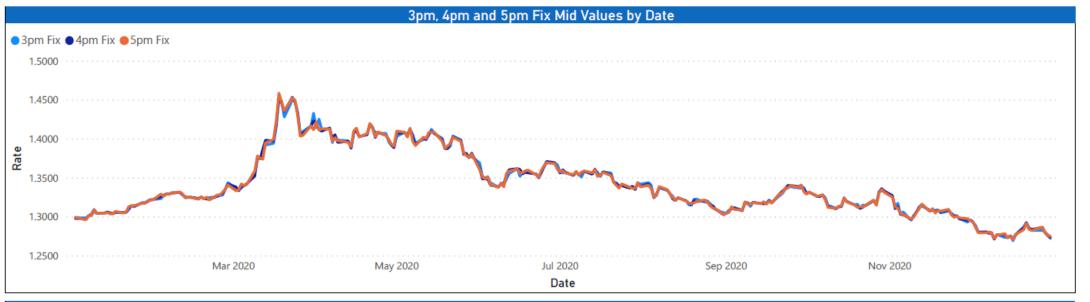


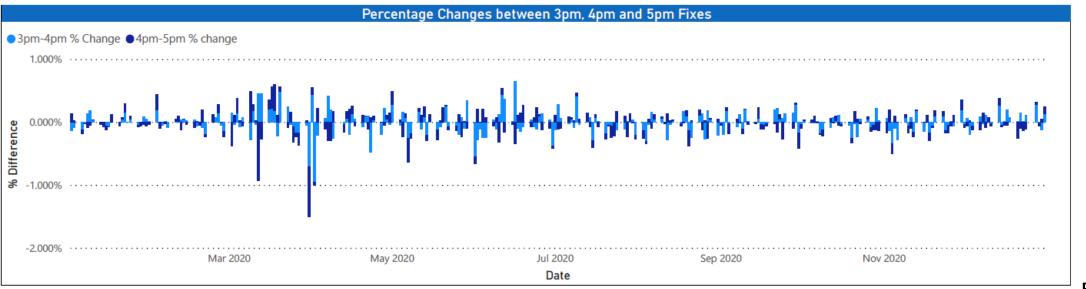
30-Second Average Spreads per Month broken down by 30-Second Windows from 15:40-16:09 (BST)





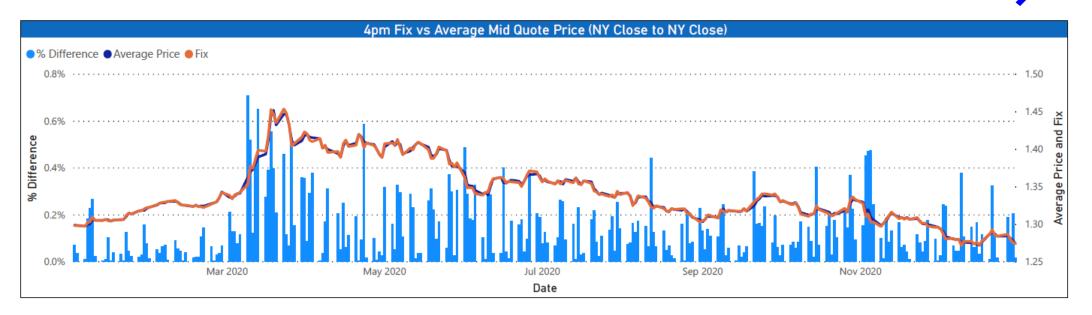
3pm, 4pm and 5pm WMR Benchmark Rates (Mid Values) Comparisons



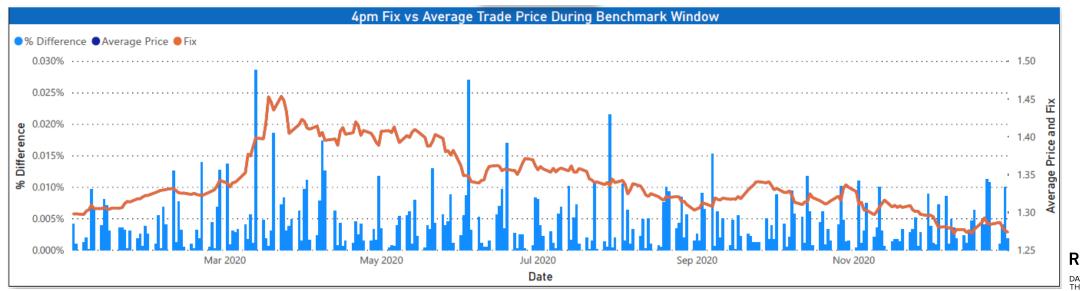




4pm WMR Benchmark Rates vs Average Trade Price over the 24-Hour Day



4pm WMR Benchmark Rates vs Average Trade Price During the Benchmark Window





WM/Refinitiv – Change Governance & Process

WM/R follows a comprehensive and inclusive methodology change process, which adheres to the expectations under Benchmark Regulation and the IOSCO Principles

RBSL Board WMR Team & **Benchmark** FCA - WM/R **User Groups Oversight Comm** Regulator Independent & Refinitiv members Independent & Data Analysis Inform of proposal Proposal reviewed. platform members Market Review/questions challenged, approve Scrutinise & discuss Engagement or reject New ideas/changes Approve and/or challenge proposals **Public** Consultation Consultation **Feedback** Agree – WMR move Publish proposal Launch or forward with change Invite comment and Repeat feedback Concerns/challenge WMR re-assess



Thank you

