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The WM/R Fix Quarterly Update

Q3 2016

Overview

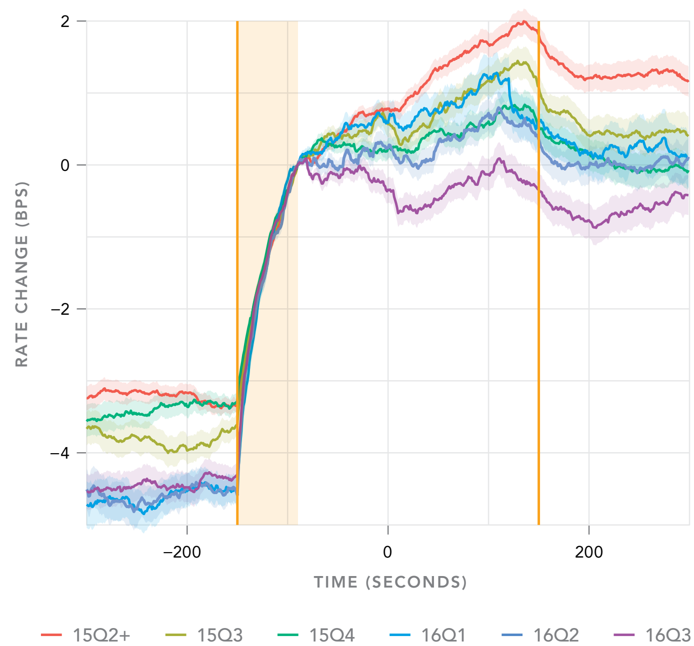
After the adoption of a five-minute window to calculate its 4 p.m. currency benchmark rates known as the "Fix" by WM/Reuters in February 2015, we observed a predictable pattern of momentum in rate changes throughout the Fix window, followed by a marked reversion.

As we noted when we first disclosed the pattern in Summer of 2015:

"*Some of the underlying causes of these patterns—regulation, bank policies, and buy-side trading habits and mandates—may be slow to change. Meanwhile, we expect that market participants will exploit the patterns described here, causing the patterns to change over time.*[1]"

We have been tracking the evolution of the signal and providing quarterly updates over the past year and a half. Through Q3 2016, the momentum pattern on ordinary days (excluding month ends) as described last summer has deteriorated to the point it provides no value, as can be seen in Figure 1. The X axis shows the time relative to 4 p.m. London time, and the Y axis shows the rate change in basis points relative to the "observation time" of one minute after the start of the Fix window.

FIGURE 1 Rate changes around 4 p.m.



In Q2 of 2015, the direction of rate movement on ordinary days (excluding month ends) in the first minute of the fixing window continued over the remainder of the window, and the rates tended to revert after the end of the window. That pattern has deteriorated quarter by quarter, as shown, with Q3 2016 showing no momentum from the end of the first minute through the end of the fixing window.

Evolution of the Pattern

Meanwhile, the patterns of increased volatility, increase trading volume, and narrowing spreads during the Fix window (not shown) remain relatively stable and unchanged. This suggests that the price pattern has not deteriorated because firms have abandoned use of TWAP or similar algorithms during the fixing window, but that market participants are modulating their trading behavior based on price action to "arb away" the predictability we've reported on in our research note. However, a closer analysis shows that there

1 "New Trading Patterns Around the WM/R Fix," July 2015, Pragma Securities.

is still predictable structure, even on normal days.

For example, Figure 2 shows that, conditioned on the direction of rate changes over the first minute, starting from about 4:00:10 there is a predictable momentum of about ½ of a basis point, followed by reversion of about 1 bp, and this pattern has remained relatively consistent over the year and a half we've been tracking this signal.

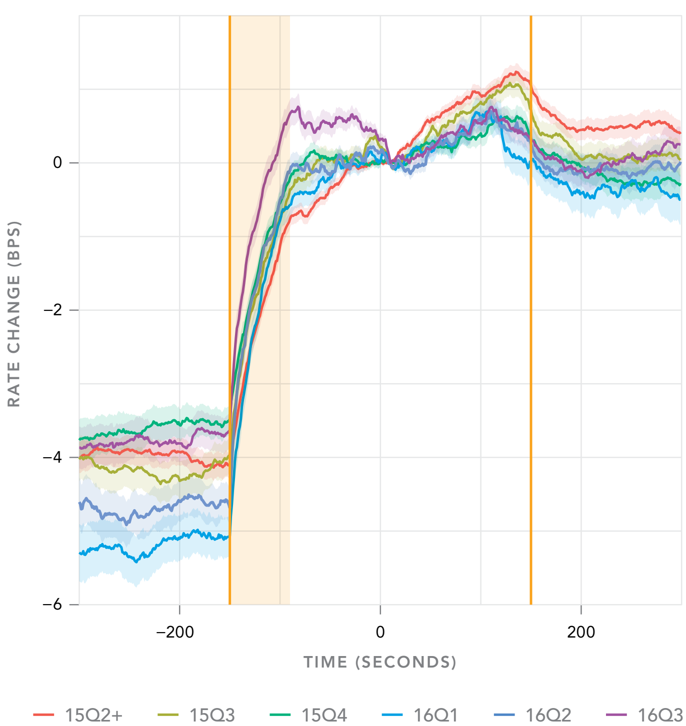
The month-end pattern, shown in Figure 3, still appears more robust than the pattern on normal days. However, because of the small number of data points it is difficult to determine whether the dynamic has shifted materially.

Conclusion

The simple momentum pattern as we summarized it last summer has essentially disappeared on normal days, but the overall pattern of trading around the Fix has remained consistent. Deriving benefit from the pattern has become more challenging and less rewarding, and the details of the pattern will no doubt continue to evolve as market participants change their trading behavior.

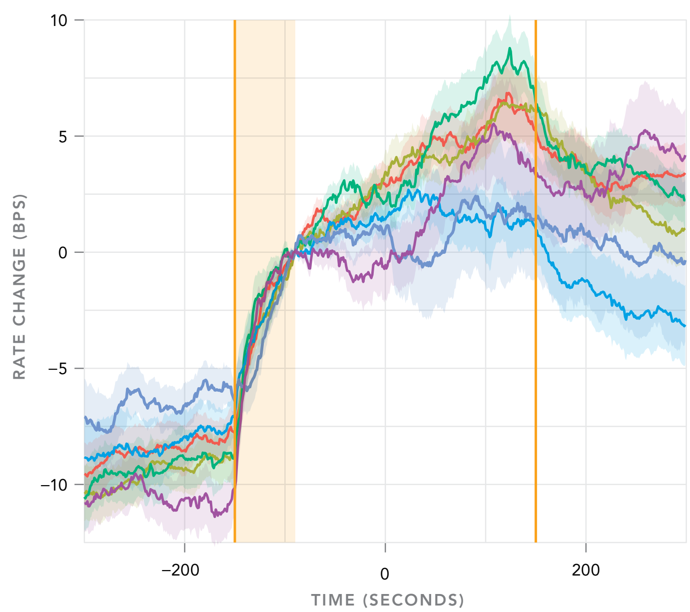
At a higher level, our overall diagnosis remains consistent. In treating the WM/Reuters Fix as an actionable trading benchmark, the buy-side is forcing too much liquidity demand into too short a window of time. Significant net imbalances result from correlation among market participants' liquidity demands, and create market impact for those on the wrong side of the imbalance. These participants are consistently paying a significant premium to reduce risk against a benchmark that is, ultimately, arbitrary. Buy-side firms should continue to advance these conversations internally and with their customers in order to achieve best execution for asset owners.

FIGURE 2 Rate changes around 4 p.m.



The same data as Figure 1, again conditioned on the direction in the first minute, but showing returns relative to 4:00:10pm.

FIGURE 3 Rate changes around 4 p.m.



Conditioned on the direction of rate movement in the first minute of the Fix window, the momentum and reversion return pattern at month-ends are stronger than ordinary days.