



The Swiss Stock Exchange

Trading InfoSnack #02: Back to the Future(s)

17 June 2020

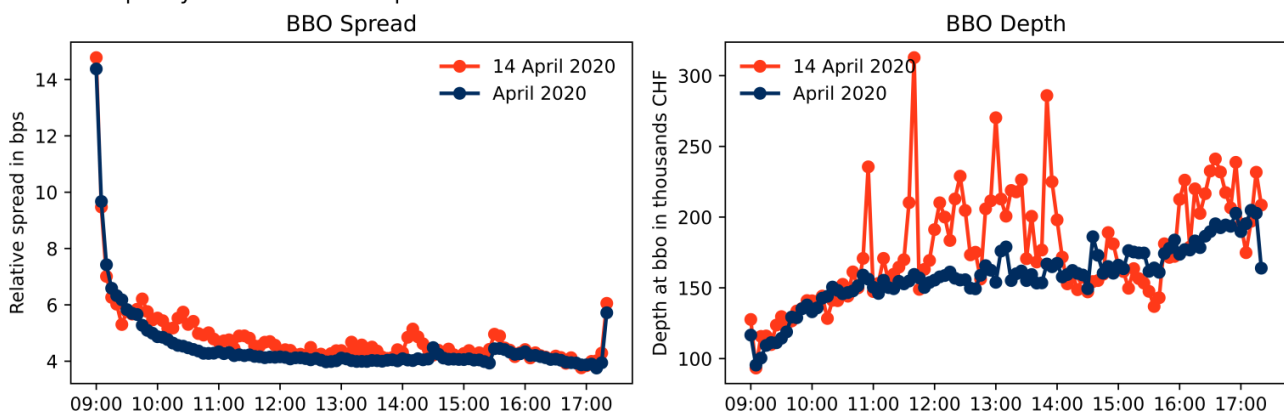
Back to the Future(s)

A dislocation between cash and futures markets (due to an outage) demonstrates how a market structure change in one market can have wider ramifications in the securities trading ecosystem due to interlinked trading strategies and behaviours.

In [Trading InfoSnack #01](#) we showed a chart illustrating the significant distortion caused to the liquidity smile for Swiss Equities due to an outage in the market for Swiss Equity Futures on 14 April 2020. This distortion, whilst not unexpected, is a point of interest as it allows us to probe the interdependencies between cash and futures markets in equities and delta-one securities.

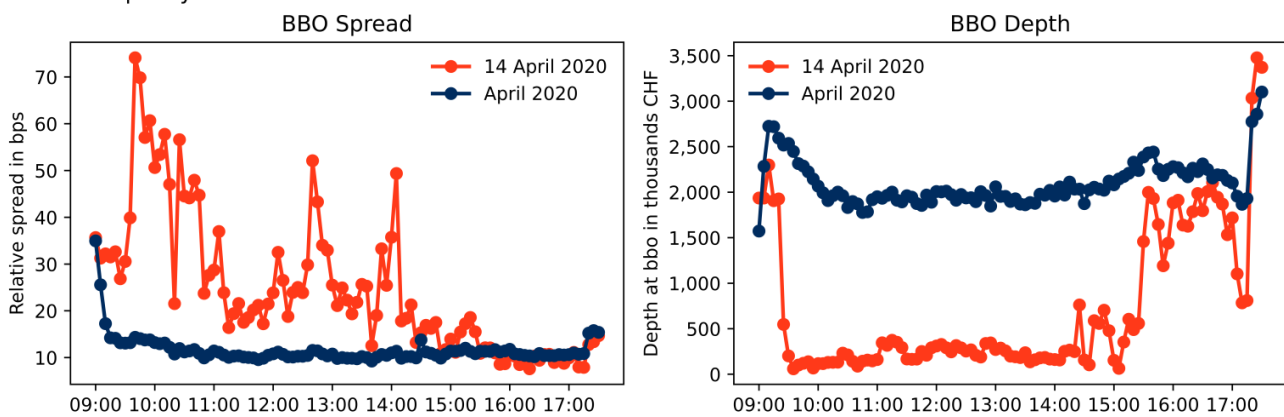
The charts below illustrate the average spreads and depth at BBO in April 2020 for SMI equities (Chart 01) and for 2 highly liquid SMI ETF's for which there are corresponding futures contracts (Chart 02)¹. Specifically, we compare the average spreads and depth at BBO for the month of April 2020 with those observed on the day of the outage of the futures market – on 14 April 2020.

Chart 01: Liquidity metrics for SMI Equities



Data sources: BMLL, SIX | Securities: SMI Equities | Venues: SIX
Sample period: Jan 2020 - May 2020 | Sampling frequency: 5 minutes

Chart 02: Liquidity metrics for SMI ETFs



Data sources: BMLL, SIX | Securities: SMI ETFs | Venues: SIX
Sample period: Jan 2020 - May 2020 | Sampling frequency: 5 minutes

Comparing Chart 01 to Chart 02 we observe that:

- (i) for SMI Equities the mean BBO spread increased by approximately 9% and mean BBO depth increased by approximately 18% over the outage period; and

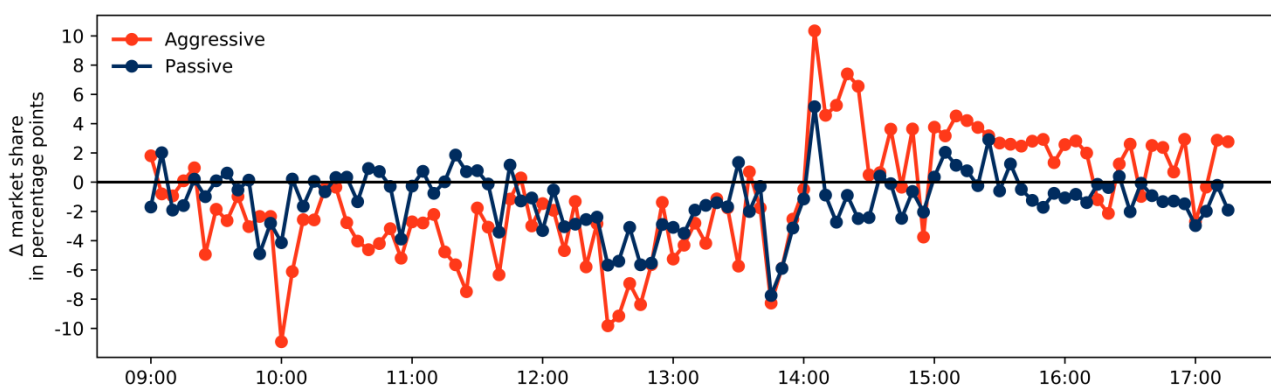
¹ For Chart 1.0 and Chart 2.0 the average spread and depth is computed per security using time-weighting within a given time interval, with the data then aggregated to the segment level by value weighting securities with their monthly turnover in April.

- (ii) for the 2 highly liquid SMI ETFs the mean BBO spread increased by approximately 193% and the mean BBO depth decreased by approximately 89% over the outage period.

The most dramatic difference between these charts is the amplified impact of the outage (i.e. the significant increase in mean BBO spread and significant decrease in mean BBO depth) for SMI index ETFs. This is indicative of a stronger interrelationship between index tracking ETFs and Futures, partly driven by the high degree of basket correlation, liquidity and thus hedging efficiency. Hence losing the futures knocks out a key SMI ETF pricing mechanism and hedging tool.

For SMI equities, the increase in BBO depth in tandem with the increase in BBO spreads correlates with a larger drop in aggressive market share than for passive market share for electronic liquidity providers as per Chart 03 below – meaning less liquidity being taken from the order book. This trend seems logical given that futures prices are likely to be more integral to liquidity taking strategies and also that liquidity taking represents the most immediate way to hedge a futures position on the underlying cash market.

Chart 03: Market share of Electronic Liquidity Providers in SMI Equities



Data sources: SIX | Securities: SMI Equities | Venues: SIX | Venue types: Lit, dark (excluding auctions)
Sample period: Apr 2020 | Sampling frequency: 5 minutes

As such, all three charts reinforce that market structure variations on one market (even unscheduled ones like an outage) have ramifications for interconnected markets – food for thought.

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