

iSHARES INVESTIGATES: TRADING ACTIVITY AROUND THE CLOSING BELL

What is driving higher end-of-day trading volumes?

On-exchange trading takes place continuously during market hours, but much of a session's activity occurs in the moments immediately before the end of each trading day, through auctions that establish closing prices for equities.

Closing prices are important to fund investors because they help set index levels and net asset values (NAVs). The proportion of daily trading that takes place around the closing bell has risen in recent years in line with a rapid expansion of index funds, especially exchange-traded products (ETPs) that seek to track indexes.

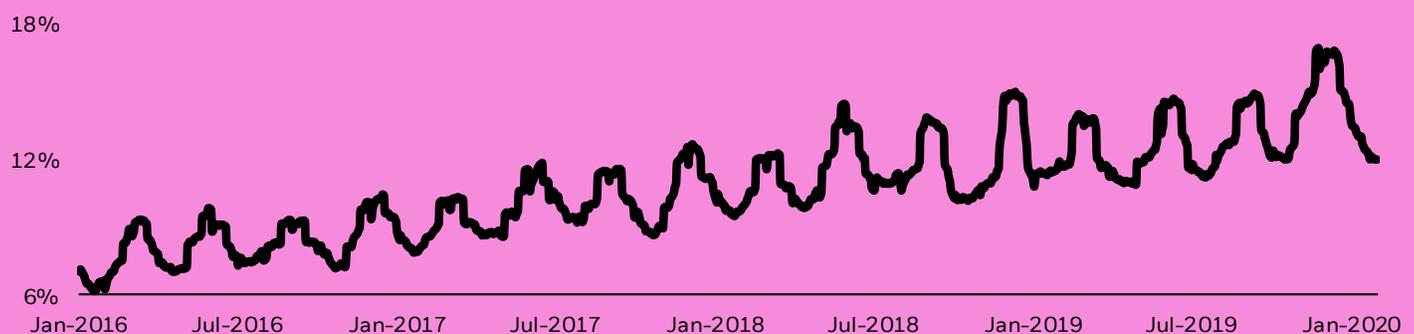
Here we take a closer look at "market-on-close" (MOC) activity—trades submitted to execute as close to the closing price as possible—and identify the main drivers behind increasing end-of-day trading volumes. The takeaway for investors: ETPs are not the sole drivers of increasing trading volume at the close, but investors benefit from predictable end-of-day liquidity.

Closing auctions grow in size and importance

Equity market closing prices are important for a variety of reasons: they are inputs used to calculate portfolio returns, fund NAVs, and the basis for numerous derivative contracts.

As more investors have come to rely on these prices, closing auction volumes as a percentage of trading activity have grown. Globally, MOC activity has increased to 15% of daily volumes, on average, in December 2019, up from 7% of daily volumes in January 2016 (**Figure 1**). In the U.S., MOC volumes account for 11.6% of daily trading volume, on average. In developed Europe, this figure is as high as 21%.¹

Figure 1: Global MOC trading as a percentage of daily trading volumes²



¹ Instinet, MSCI as of 28 February 2020. Developed Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. ² Moving average of MOC activity. Instinet, MSCI as of 28 February 2020.

There are many drivers of MOC activity

Increased MOC activity reflects broader industry trends, including the growth of algorithmic trading, the increasing preference of market participants to avoid overnight risk, systematic and factor-based funds leveraging the close to help ensure consistency with investment processes, and brokers offsetting intraday hedges at the close.

Also, in today's macro-driven markets, news during the day can move prices substantially. As such, it is likely that institutional investors prefer to trade at end-of-day prices that reflect all intraday price formation.

Finally, trading at the close is self-reinforcing. As liquidity improves, auctions are becoming more attractive to a variety of traders who seek liquidity with minimal price impacts.

For more information on the drivers of MOC activity, see our 2020 ViewPoint: [“A Global Perspective on Market-on-Close Activity.”](#)

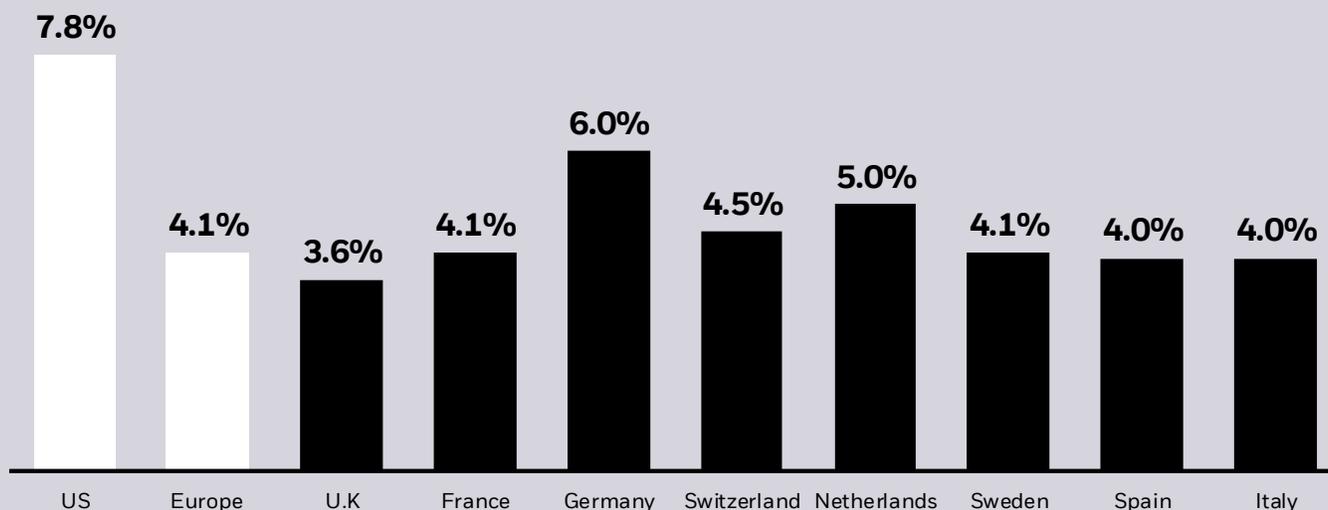
ETP trading has limited impact on closing volumes

Some observers have linked the growth in MOC activity and the rise in index investing, particularly ETPs.

While the growth of these products has been significant, the size of ETPs remains small relative to the overall market. ETPs own just 4.1% and 7.8% of the European and U.S. stock market capitalization, respectively (**Figure 2**).

Additionally, most ETP trading activity occurs in the secondary market, where ETP shares change hands between buyers and sellers. This means just a fraction of ETP trading activity results in primary market activity, or trades of the underlying stocks. In the U.S., the ratio of secondary market activity to primary market activity is 5:1.³ In other words, for every \$5 of ETPs traded, only \$1 results in trading activity in the underlying securities. In Europe, this ratio is 6:1.⁴

Figure 2: ETP equity ownership as a percentage of equity market capitalization⁵



³ Bloomberg, BlackRock, Form N-CEN, as of 31 March 2020 ⁴ Bloomberg, BlackRock, as of 31 March 2020 ⁵ Bloomberg, Markit, BlackRock, as of 31 March 2020. Based on ownership of U.S. and European equities in physically replicated equity ETPs domiciled in the U.S. and Europe.

Even when ETP trading results in primary market activity, the effect on underlying stocks has been minimal. Just 2.6% of trading volume in European equities has been attributable to ETP activity, while in the U.S., approximately 5% of trading in individual U.S. stocks has been attributable to ETP flows (**Figures 3 and 4**).

Importantly, only a fraction of ETP primary market activity results in trading at the closing auction.⁶ Authorized participants (APs)—the institutions that create and redeem ETP shares—can complete these transactions in-kind by delivering (or receiving) a basket of securities that represents the underlying index. These securities can be delivered from inventory or purchased and sold throughout the trading day.

Additionally, market makers—broker-dealers that regularly provide two-sided (buy and sell) quotes to clients—often hedge their ETP positions intraday in cash or derivatives markets and can use internal crossing opportunities as an alternative to trading into the close.

Index funds, including ETPs, do occasionally constitute a significant proportion of closing volumes (e.g., on index rebalance days). However, most ETPs rebalance periodically, not daily, and any predictable movements in the prices of underlying stocks are typically arbitrated away.

Figure 3: Percentage of stock trading as a result of ETP flows (Europe)⁷

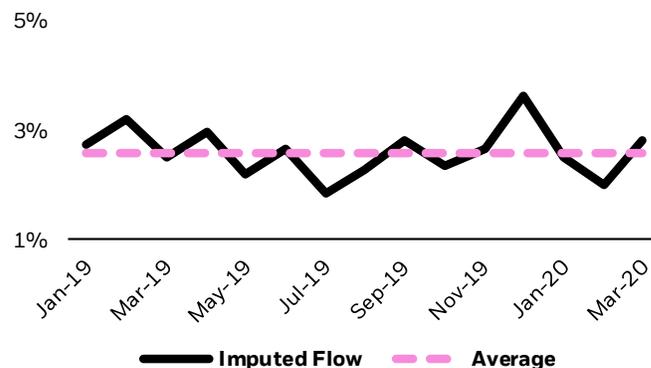
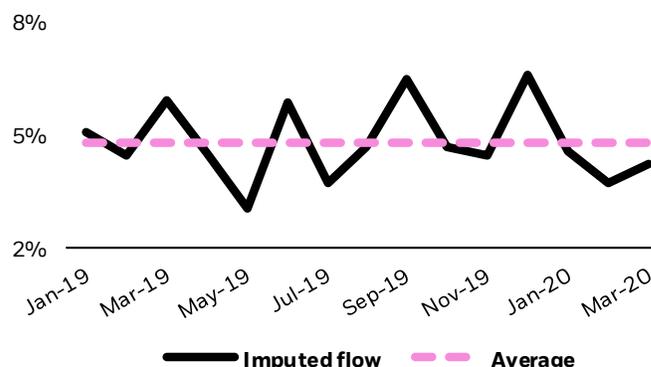


Figure 4: Percentage of stock trading as a result of ETP flows (US)⁸



The bottom line

Closing auctions help foster deep liquidity and price discovery, and MOC volumes have grown in recent years because investors are recognizing the benefits that can occur by transacting at the close. However, this growth is not exclusively driven by index-based ETPs. Rather, the increase in this activity is likely the result of a variety of factors, including industry trends and the quality of liquidity at the close.

6 BlackRock analysis of Bloomberg, Instinet, MSCI and NYSE data, as of 31 March 2020. **7** Bloomberg, BlackRock, as of 31 March 2020. Imputed flow metric estimates the proportion of all U.S. stock trading that results from ETF creations or redemptions; meaning, imputed flow gives us an approximation for how much stock trading is generated by ETF inflows and outflows. **8** Bloomberg, Markit, BlackRock, as of 31 March 2020

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