ETF PERFORMANCE IN THE HIGHLY VOLATILE EQUITY MARKET OF AUGUST 24, 2015

iShares by BLACKROCK®

Extreme Volatility in the U.S. Equity Market

Monday, August 24, 2015 was one of the most extreme trading days on record in U.S equities. Over $630 billion changed hands in the second most active trading day ever recorded in U.S. stocks.[1] The market open was particularly volatile. With S&P 500 futures pointing down nearly 7% at the open,[2] markets were preparing for a trading halt. The New York Stock Exchange (NYSE) invoked "extreme market volatility" rules and over 46% of equities on the NYSE floor did not open in the first 10 minutes of trading.[3] These conditions caused a ripple effect of unusual price declines and volatility in single name stocks and ETFs.

What Worked Well

Investors traded over $270 billion through ETFs on the day, nearly 3 times greater than the one-year average.[4] ETFs reached record high volumes, accounting for 37% of the total tape, up from the 25% YTD average.[5] U.S. iShares traded $52 billion in exchange traded volume, 2.6 times the 20-day average daily volume and 8% of total U.S. equity dollar volume.[6] After the initial market volatility, which lasted approximately 30 minutes, ETFs performed as expected in U.S. and international markets.

What Didn't Work Well

At market open, extreme imbalances created dislocation among many single stocks & ETFs. Numerous ETF share prices decoupled from their estimated holdings values. Discounts persisted for a short period of time as trading halts slowed a return to more in-line prices. With pricing information limited at market open following the invocation of New York Stock Exchange's (NYSE) Rule 48, the ETF arbitrage mechanism – which is dependent on reliable pricing information about stocks in the index and ETF share prices – did not work efficiently for a short period of time. Within the first hour of trading, trading halts applied to:[7]

- 471 securities (including stocks, ETFs, ADRs, closed-end funds, etc.)
- 303 ETFs across providers (Figure 1)
- 61 iShares ETFs
- E-mini S&P 500 futures

Across all exchanges, there were 1,278 instances of a security halted for five minutes in the day's trading session.[8]

Figure 1: Major ETF Provider Trading Halts on 8/24/15[9]

ETF Provider (U.S. Listed Funds)	Halted ETFs	Total ETFs	% of ETFs Halted
iShares ETFs	61	314	19%
PowerShares ETFs	44	136	32%
First Trust ETFs	32	95	34%
State Street ETFs	30	146	21%
Guggenheim ETFs	21	76	28%
Vanguard ETFs	17	67	25%
ProShares ETFs	15	146	10%
WisdomTree ETFs	12	79	15%

Note: This list includes ETF providers with more than 10 trading halts on 8/24/15. It is not a comprehensive list of all ETF providers impacted by trading halts on that date.

We believe four elements of the U.S. equity market structure may have contributed to the unusual price movements in stocks and ETFs at the trading open on that highly volatile Monday:

1. Market makers were missing required, reliable information to make markets in ETF shares.

The NYSE, for example, declared a condition of "extreme market volatility" and invoked Rule 48. NYSE Rule 48 permits the temporary suspension of the requirement to make pre-opening indications in a security at the opening of trading or the re-opening of trading following a market-wide trading halt. Although this allows markets to open faster, it also has the effect of limiting information available to market makers about security prices and supply-demand imbalances.

2. "Limit-Up/Limit-Down" rules may have contributed to unusually wide bid-ask spreads and prices for ETFs.

The "limit-up/limit-down" (LULD) rules are trading curbs intended to halt trading of securities for five minutes when prices move beyond specified ranges, either up (Limit-Up) or down (Limit-Down). We observed numerous cases in which ETF share prices moved significantly down, were halted under the limit-down rule, and then were prevented from moving back up to the fair value of the index being tracked by the limit-up rules.

3. The range of financial instruments available to market participants to manage risk was more limited.

Market makers rely upon access to different market tools – including futures, derivatives, securities lending and various forms of financing – to manage (hedge) the market risks associated with providing two-way markets. Certain markets, futures for example, were less liquid or halted.

4. The ability of lead market makers (LMMs), and the normal participation of other liquidity providers, to ensure tight and liquid markets for investors may have been challenged.

Exchange requirements for LMMs are intended to ensure a tight and liquid market for investors, and many other liquidity providers are part of the maintenance of orderly equity markets. With a dearth of information about stock prices and order imbalance information in the opening minutes of the market, normal efficient reaction times and market making that typically maintains balance among index stocks and ETF shares appear to have been impacted.

What's Next for the U.S Equity Market Structure

We are concerned about the confluence of events on August 24th and the impact it had on our clients. We are working with a broad set of market participants to identify the causes of these events and to address the market structure issues that impacted both single names stocks and ETFs.

1. Source: ArcaVision as of 8/24/15.
2. Source: Bloomberg as of 8/24/15.
3. Source: NYSE as of 8/24/15.
4. Source: Goldman Sachs as of 8/24/15.
5. Source: Goldman Sachs as of 8/24/15.
6. Source: ArcaVIsion as of 8/24/15.
7. Source: NYSE as of 8/24/15.
8. Source: NYSE as of 8/24/15.
9. Source: NYSE, Bloomberg as of 8/24/15.

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