Comments for the Equity Market Structure Advisory Committee File Number 265-29

Market Structure Risks Revealed in August 2015

A Proposed Solution

On August 24, 2015, global stock markets experienced turbulence, which continued in the U.S. markets. The Dow had the most volatile day in history, declining almost 1,100 points (6.6%) in the first 6 minutes of trading, recovering nearly 600 points just 8 minutes later. Throughout the day, the Dow gained 990 points from its low (which was the largest intraday point gain of all time, almost $1 trillion market wide). Stocks continued to fluctuate rapidly and by the end of the trading day, the Dow closed down 591 points or more than 3.5% (over 1/2 trillion dollars in U.S. market capitalization).

On August 24, 2015, there was a real life stress test of exchange traded products ("ETPs") in the U.S. marketplace, similar to the May 2010 Flash Crash. In the opening minutes, the U.S. markets lost over $1 trillion.[1] The result was that many ETPs failed to maintain tradability, price discovery and the stated objectives of the products.

The SEC released a Research Note on the August 24th events in December 2015.[2] The SEC stated its' staff is continuing to examine several related issues, including what factors caused the volatility in ETPs and the operations of single security and market-wide circuit breakers.

Additionally, many within the industry and media have been studying and speculating on the causes of August 24th, but the reported findings are not disclosing the risks facing the U.S. markets and investors from the flawed protection mechanisms designed to prevent a U.S. market structure breakdown that was again revealed on August 24th.

There appears to be consensus that what regulators have implemented over the past to stem market disruptions, simply do not work in today's trading environment. Below we propose a type of logical solution that would slow the trading down, curtail the negative impact on the market from abusive high frequency/algorithmic traders and obtain price discovery in a truer supply and demand market environment absent the chaotic trading that the current halts and circuit breakers can create. This process could be easily enacted by U.S. exchanges and become an enduring stabilizing mechanism for future stress events.

For the purpose of this comment letter, we assume the Market Structure Advisory Committee members are familiar with the SEC Research Note and have an understanding of the events surrounding August 24th.

[1] The S&P 500 Index and Dow move somewhat in tandem. The Dow is very concentrated and sensitive to market movements. The S&P 500 is more broadly based and is not as sensitive as the Dow. Considering the two, the indication is to roughly value a 1,000 point move of the Dow at about one trillion dollars in relationship to the value gained or lost in the overall markets.

[2] SEC Office of Analytics and Research, *Research Note: Equity Market Volatility on August 24, 2015*, December 2015 https://www.sec.gov/marketstructure/research/equity_market_volatility.pdf

Comment Letter Submitted on the August 24th Stress Test

We submitted a public comment letter to the SEC on September 5, 2015[3], with data that showed some of the outcomes of the ETPs that were under stress on August 24, 2015, including the fluctuation of exchange traded funds ("ETFs") versus their underlying index values and the changes in the U.S. markets portfolio value (which includes stakeholders in the health of the financial markets such as the U.S. taxpayers, that may have to bail out the financial system again). Since ETPs were the primary securities with problematic market failures on August 24th, we recommend the committee members familiarize themselves with the data from at least our previous comment letter to the SEC on Open-End Fund Liquidity Risk Management Programs.[4]

Below is a summary of some of the data discussed in the comment letter:

- Of the 1,278 individual circuit breaker trading halts in U.S. traded securities on August 24th, 83% were ETPs. This equated to the trading in 327 different ETPs being halted, with most of them being halted more than once.

  The halted ETPs were across various sectors and had different investment objectives. For example, there were ETPs halted that were based on broad indexes, financials, consumer staples, health care, small capitalization, large capitalization (including the S&P 500 Index), currencies and U.S. Treasury bonds. In addition to ETPs based on equities, some of the ETPs were inverse and/or leveraged, which include other derivative instruments as underlying holdings.

- This is not the first time many of these same ETPs have experienced problems. During the May 2010 Flash Crash there were 227 ETPs that had trades busted when the prices fluctuated greater than 60% (many collapsed to virtual zero). On August 24th, there were 81 of these same ETPs that triggered circuit breakers.

- The SPDR S&P 500 ETF (Symbol: SPY) and its sister ETF, the iShares S&P 500 ETF (Symbol: IVV), both tracking the same blue chip companies, deviated from each other. Trading in the IVV triggered two circuit breakers, while the SPY tracked the underlying S&P 500 Index from the opening bell. At the lowest, the SPY priced the S&P 500 Index at 1,829 and the IVV priced the same index at 1,480; a 349 point difference, which would have resulted in an approximate additional loss to all markets of $3.2 trillion based on the IVV's price.

  This is similar to the 2010 Flash Crash, when the IVV became unhinged from the S&P 500 Index and the SPY, causing IVV trades to be busted, while the SPY traded without significant disruption.

[3] SEC Request for Comment on Exchange-Traded Products, Release No. 34-75165; File No. S7-11-15, Comment Letter titled *The ETF Stress Test of August 24, 2015* http://www.sec.gov/comments/s7-11-15/s71115-38.pdf

[4] SEC Request for Comment on Open-End Liquidity Risk Management Programs, Release No. 33-9922; File No. S7-16-15, Comment Letter titled *Response to SEC Questions Regarding Open-End Fund Liquidity Risk Management Programs File S7-16-15* http://www.sec.gov/comments/s7-16-15/s71615-60.pdf

- The PowerShares S&P 500 Low Volatility Portfolio ETF (SPLV) is based on 100 S&P 500 companies that are supposed to trade with less volatility as advertised by the ETF operator, PowerShares. This ETF was halted ***11 times*** on August 24th. In other words, the ETF did not match its goals of low volatility.

- Some ETFs varied *significantly* from their underlying indexes and tripped circuit breakers, halting the trading. As an example, the price of the SPDR S&P MidCap 400 Value (Symbol: MDYV) deviated by ***47%*** from its underlying index.

- There were trillions of dollars of market value movement, whipsawing the portfolio of the U.S. markets by hundreds of billions of dollars throughout **just one day**. Extreme fluctuations of hundreds of billions of dollars within minutes are detrimental to the best interest of investors, taxpayers and the U.S. government because they create questions regarding the integrity, fairness and quality of the markets.

  There is no rationalization in an orderly supply and demand marketplace for these swings in valuations on August 24th, during the 2010 Flash Crash or other days that have not risen to levels so obviously problematic for the U.S. markets. Much of this disruptive trading was driven by high frequency and algorithmic computer programs that in essence add nothing positive to the marketplace in stressed or crisis conditions. However, there is clear evidence that computer-driven systems can create or supplement literal chaos in the markets.

BlackRock's Viewpoint on August 24, 2015

ETP operators have been marketing their products to both sophisticated and average investors through large-scale advertising campaigns that appear to have omitted disclosures of some material risks from ETPs in the secondary market in which investors participate (such as; ETP assets are not required to be purchased with incoming investor monies, an investor may not actually be purchasing a share of the ETP and might not be delivered shares of the ETP and there could be many owners for each share of the ETP that does exist).

As BlackRock has previously advertised;[5]

"ETFs are investment products that can help individuals **build a nest egg**, prepare for **retirement**, or save for their **children's education**. They also help institutions such as large pension plans, foundations and endowments **meet their financial obligations**."

[5] Canadian ETF Watch, *ETFs: A Need for Greater Transparency and Regulation,* Mary Anne Wiley, Managing Director, Head of iShares Distribution at BlackRock Asset Management Canada, September 2011 http://www.canadianetfwatch.com/reports/CanadianETFWatch-Volume2Issue5.pdf

BlackRock published a Viewpoint regarding the events of August 24th that discussed and clarified its views of the operations of ETFs under market stress and lessons learned from the events.[6] The operations of ETPs under stress are not disclosed in ETF prospectuses, advertisements or any communications to investors.

BlackRock's Viewpoint stated the following:

> "Price transparency and information flow in the US equity market were curtailed from the start, forming one of the key contributors to the day's events. Anticipating widespread volatility, NYSE invoked Rule 48 prior to the open….. However, this rule had the unintended effect of limiting pre-open pricing information in securities, especially for any stocks experiencing delayed opens…."

> "Without this information, and with many securities experiencing delayed openings, correlations snapped with prices for securities in the same industry or ETPs tracking identical benchmarks deviating significantly from one another."

It is not disclosed clearly to investors that ETPs can deviate in times of stress from sister ETPs that are derived from the same underlying assets. Again, as one example, the data shows this has occurred in the May 2010 Flash Crash and again on August 24, 2015, for the SPY versus its sister ETF, BlackRock's iShares S&P 500 ETF (Symbol: IVV). BlackRock now recognizes these fundamental flaws in ETPs.

It is apparent that NYSE Rule 48 did not produce the desired outcome to stabilize the market as BlackRock suggests and it may have exacerbated the August 24th problematic events.

These issues need to be addressed sooner rather than later; we believe these are market structure areas this committee should work aggressively to solve.

BlackRock continued:

> "The experience of ETPs, in part, reflects that ETPs are more reliant than individual stocks on market makers to keep the price of the ETP aligned with the value of its underlying holdings."

> "This "arbitrage mechanism" incentivizes authorized participants (APs) to create or redeem ETP shares in a manner that adjusts the supply of outstanding ETP shares to match market demand."

> "….. in times of extreme stress, ***market makers do not "support" the market***. ***They are not buyers of last resort***. Because market makers must manage their risk and maintain adequate capital, their capacity can be overwhelmed in the face of broad-based and **unabated buying or selling**. During periods of market-wide uncertainty, market makers can become risk averse."

[6] BlackRock Viewpoint US Equity Market Structure: Lessons from August 24, October 2015 https://www.blackrock.com/corporate/en-au/literature/whitepaper/viewpoint-us-equity-market-structure-october-2015.pdf

> "Most liquidity providers ***do not have an obligation to make markets*** –therefore they will only do so when they assess that they can perform their normal market activities effectively. Their appetite to provide liquidity on related instruments or products that track equities, such as ETPs, is ***adversely affected by inordinate disruption of price discovery at the open***."

This is not clearly disclosed to investors that ETPs are more reliant on market makers for pricing, whom have **no obligation** to maintain market making in times of stress. It is also not disclosed that market makers will simply walk away in stressed markets and the arbitrage mechanisms of ETPs so highly touted by the industry as positive reasons to put your investment money into these products will fail, causing a severe loss of value in certain ETPs.

In a previous comment letter submitted to the SEC regarding Exchange Traded Products, BlackRock stated:[7]

> "A small group of investors, known as Authorized Participants ("APs"), can trade directly with an ETF….. Authorized Participants are not agents of the ETF – they are ***not required to create or redeem ETF shares under any circumstances***, and **only do so when it is in *their interest***."

For ETFs, no party is contractually obligated to create shares/assets. Authorized Participants are not obligated to request creations and sponsors are not obligated and do not have the authority to force creations. Trustees do not have any requirement nor ability to ensure the proper functioning of the creation/delivery process. As a consequence, capital formation for the underlying assets that is perceived to be occurring through the ETP marketplace is not actually occurring in major ETPs.

The industry has an 'expectation' of creation for delivery, which is meaningless without a requirement of Authorized Participants to actually create ETP shares for delivery. As J.P. Morgan explained in 2013, ETF share-lending is operating under an "***expectation*** that Authorized Participants will step in by creating more shares," (i.e. at sometime in the future shares might be created for short sellers to borrow).[8] Securities regulations do not include this 'expectation' concept.

Again, as BlackRock stated:

> "Authorized Participants are not agents of the ETF – they are ***not required to create or redeem ETF shares under* any circumstances**, and **only do so when it is in *their interest***."

Creating large numbers of net new ETP shares to match incoming public investments cost Authorized Participants money. For many ETPs, it is evident that creation is not in the interest of Authorized Participants and they are not creating shares (committing capital) to support marketplace trading, including excessively large amounts of short shares being traded for certain ETPs.

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[7] BlackRock Letter to the SEC Re: Exchange-Traded Products, Release No. 34-75165; File No. S7-11-15, August 11, 2015 http://www.sec.gov/comments/s7-11-15/s71115-10.pdf

[8] J.P. Morgan, Global Asset Allocations, Flows & Liquidity: Are ETFs Dangerous? July 5, 2013

At the very least, there should be clear disclosure that, a) no one has the obligation or can be forced to create and deliver shares of an ETP, b) your money invested in an ETP will not likely result in new investment in an ETP's underlying pooled assets, and c) the beneficiary of your investment is likely to be a short seller whom does not own shares of the ETP, nor have the intent to deliver shares for proper settlement.

The above are important factors for ETPs under negative market conditions. There are simply excess synthetic shares (extreme leverage) present in today's ETP market that can add significant selling pressure under stressed conditions that normally should not exist absent the problems discussed here and in our most recent SEC comment letter.[9]

BlackRock's Viewpoint on August 24th continued:

> "In general, we believe that policy makers should take a holistic approach to market structure in order to affect meaningful change, as policies that address only one segment tend to shift risks to other parts of the ecosystem as opposed to mitigating those risks. We recommend that policy responses to the events on August 24 consider all components of the equity market ecosystem, including stocks, futures, options, and ETPs."

BlackRock has realized that ETP securities are linked to other derivatives and the underlying equities, which has morphed into a problematic and insidious balancing act of products with increasing leverage designed to benefit a few, but building risks for the rest of the market participants and stakeholders. As we have shown in previous comment letters, there is a concentration of hundreds of derivative products on the same small group of vital U.S. assets, which should be taken into consideration as BlackRock now suggests.[10]

BlackRock stated:

> "As such, BlackRock believes that issuers of both individual stocks and ETPs have a responsibility to their investors to consider whether an exchange's rules and processes are sound before listing their securities."

While we agree issuers have a responsibility to investors to consider the soundness of the listing exchange, they also have an inherent responsibility and duty under the securities laws to disclose all risks accurately and fully to potential investors. These include secondary market trading risks such as;

a) ETP assets are not required to be purchased with incoming investor monies,

b) shares of important ETFs are not being net created for extended periods of time, regardless of excessive short selling and significant investment monies flowing into ETFs,

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[9] SEC Request for Comment on Open-End Liquidity Risk Management Programs, Release No. 33-9922; File No. S7-16-15, Comment Letter titled *Response to SEC Questions Regarding Open-End Fund Liquidity Risk Management Programs File S7-16-15* http://www.sec.gov/comments/s7-16-15/s71615-60.pdf

[10] Notice Seeking Comment on Asset Management Products and Activities, FSOC-2014-0001-0001, ID FSOC-2014-0001-0015 http://www.regulations.gov/#!documentDetail;D=FSOC-2014-0001-0015
SEC Request for Comment on Exchange-Traded Products, *Response to SEC Questions Regarding Exchange Traded Products,* File Number S7-11-15 http://www.sec.gov/comments/s7-11-15/s71115-19.pdf

c) short selling of ETFs is enormous and is the reason investments in ETFs by public investors do not result in increased actual physical assets underlying the ETFs,

d) legitimate locates for short selling are not only unable to be supplied for many ETFs; they appear to be falsely provided by some ETP Authorized Participants/clearing firms,

e) shares are not being borrowed for short sales and undisclosed delivery liabilities are growing that can become a liquidity crisis under stressed market conditions,

f) an investor may not actually be purchasing a share of the ETP and may or may not be delivered shares of the ETP,

g) there may be many owners for each share of the ETP that does exist,

h) an unprecedented ratio of order cancels to executions for the liquid ETFs is extremely high and most likely manipulative,

i) market makers will withdraw their support in a highly stressed or crisis market,

j) the growing number of derivative products based on the same underlying assets is magnifying risks, and

k) some ETPs are not in compliance with their stated objectives or securities laws, rules and regulations.

BlackRock commented on both single stock and market-wide circuit breakers, stating:

"A ***market-wide halt*** should be triggered when normal market mechanisms are not working, otherwise trading at anomalous prices can destabilize the market. On August 24, market mechanisms were not working properly. Securities experienced sharp price dislocations and nearly 1,300 LULD (Limit Up, Limit Down) halts were triggered as the market lacked transparency and clarity, demonstrating a limitation of the LULD mechanism during market-wide events."

"…there is a need to revisit and enhance well-intentioned and important market protection mechanisms such as the market-wide circuit breaker and LULD as well as exchange opening procedures."

We agree with BlackRock and others within the industry that the circuit breakers need to be revisited, but question whether they are the best option to keep the markets functioning properly during times of stress in the current high speed, computerized trading environment. Regrettably, the current circuit breakers could even provide an opportunity for computerized HFT to game the markets.

BlackRock proposes a market-wide circuit breaker to be triggered when market mechanisms are not operating properly. This type of circuit breaker would shut down the trading for thousands of securities mostly to accommodate the problems with ETFs. The August 24th crash emphasized there are inherent structural problems with ETFs that can affect the market, but it is a drastic measure to impose a market-wide halt to accommodate the ETP flaws. Market-

wide halts can have strong, unintended consequences, such as those exemplified by the recent events in China.

An Alternative to Circuit Breakers and Other Market Protection Mechanisms

Some argue that computer-driven trading adds liquidity, acting as a type of market making function to the capital markets. In stressed markets, market maker liquidity on the buy-side may leave while some computer-driven systems may just keep selling, artificially exacerbating market difficulties. In other words, HFT has no positive input in a stressed market environment, but can cause significant risk.

This type of HFT is not conducive to a fair and orderly market, based on the description of HFT at times during the 2010 Flash Crash. The SEC/CFTC 2010 Flash Crash report[11] described HFTs as passing the shares back and forth in **"hot potato"** trading, where millions of shares in thousands of transactions were executed in seconds between HFTs that resulted in the HFTs buying then reselling to each other. This type of trading was/is not additive to the marketplace, but rather it is disruptive to the supply/demand structure the U.S. markets are designed to be.

Halting stocks for the entire market in times of stress to prevent illogical prices may appear rational, but these methods continue to generate undesired consequences of further confusion and panic.

As an alternative, slowing down the trading to allow for natural supply/demand market operation processes to properly function while continuing to trade and obtain price discovery appears to us to be the right solution.

As a suggestion, when major market-wide imbalances in orders occur (price or volume related), the trading could be altered for a 30-minute time period during which shares are auctioned between buyers and sellers to obtain/discover real prices (slowing the trading down) and the markets could reopen after the auctioning process for normal trading at the newly established pricing.

The auction process should be implemented for at least 30 minutes to obtain true price discovery and might be similarly structured as follows: a) pause the markets for 5 minutes to provide exchanges and market participants time to transition into the auction trading process, b) during the first 12 minutes, an auction should take place every 1.5 minutes (8 auctions), c) the next 10 minutes, one auction every minute, and d) for the last 8 minutes, one auction every 30 seconds.

Although this is referred to as an auction process it is not something one thinks of as a typical auction, but is a term used by the exchanges. The details can be worked out by the exchanges, but in general during each time interval exchanges match prices between buyers and sellers within a close range of the best bid/best offer, the unrealistically priced bids/asks would

[11] *Findings Regarding the Market Events of May 6, 2010* Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues, September 30, 2010.

be eliminated (as opposed to erroneously executed) and the market would gradually move toward a consensus price. The consensus is then posted at the end of the interval as the crossing price, which is the beginning value of the next interval.

During the 30 minutes, both long and short sales should be allowed, but short sales should be closely monitored and verified for legitimacy of transactions, i.e. proper locates, shares are borrowed for delivery and timely settlement occurs.

It is our opinion that a mechanism such as this would likely stabilize liquidity and guide market participants into a more composed environment prior to the beginning of normal trading. This could be accomplished without negative influence from HFT/algorithmic machines that follow each other, pushing prices out of balance when the markets become stressed. As one example from August 24th, GE fell 21% in price before recovering, which would have been unlikely using the auction process described.

Since legitimate HFT is advertised to profit on a small fraction of a penny per trade, it is not too burdensome on these firms to sit out from a half hour of trading a few times per year. To be clear, during the auction process HFT firms would not be prohibited from executing trades, but slowing down all trading does not favor their typical strategies.

There is no creation of unfair competition because the goal is to obtain true price discovery between buyers and sellers, where HFT is disruptive to this mechanism during periods of market stress (when true price discovery is required to be methodically obtained). HFTs actually have an unfair advantage over all other market participants simply because of their sheer volume and speed of trading.

This type of pause/auction should also reduce the ability of computers to (with or without intent) manipulate the markets, when this is the most undesirable outcome in times of stressed markets.

The exchanges complete auctions every day through their opening and closing crosses; essentially matching buyers and sellers.[12] Since there is no transparency or history to know

[12] For example, the NYSE states regarding its open and closing auctions: "Our high-tech, high-touch auctions provide superior price discovery and certainty of execution and make us the premier destination for opening and closing liquidity."
https://www.nyse.com/publicdocs/nyse/markets/nyse/NYSE_Opening_and_Closing_Auctions_Fact_Sheet.pdf
The NASDAQ Opening and Closing Crosses, Frequently Asked Questions states: "The Nasdaq Opening and Closing Crosses are price discovery facilities that cross orders at a single price. The crosses enable market participants to execute on-open and on-close interest and provide unparalleled transparency into the market open and market close." http://www.nasdaqtrader.com/content/productsservices/trading/crosses/openclose_faqs.pdf
The Investors' Exchange (IEX), a trading venue attempting to become a U.S. exchange runs a continuous auction process throughout the entire trading day. http://www.sec.gov/rules/other/2015/investors-exchange-form-1-exhibits-a-e.pdf#page=2
NYSE Arca is the largest listing venue for ETPs: "NYSE Arca conducts three single-price auctions each trading day… The opening and closing auctions allow ETP holders to participate in real-time price discovery." https://www.nyse.com/markets/nyse-arca/trading-info "The market offers fully automated, transparent open and closing auctions in ETPs and significant price improvement opportunities at the midpoint in all securities." https://www.nyse.com/trade

whether Alternate Trading Systems ("ATSs") can implement an auction-type crossing that exchanges do on a regular basis, ATSs should not be involved in the auction. Moreover, there is no clear SRO oversight of ATSs and therefore, they should be excluded from trading during stressed or crisis market conditions. All transactions should be executed through the exchanges, which have SRO oversight and the ability to run orderly auction and trade crossing to obtain true price discovery.

Allowing the market to obtain true price discovery through supply and demand trading without the interference from HFTs that generally own no inventory of securities should not cause a major backlash from the industry. In essence, we believe this strategy to protect the markets in moments of stress or crisis should be resoundingly supported by market participants wishing to obtain clarity of supply/demand and price discovery.

Also, these protections could be easily triggered and implemented in a fair and orderly manner under the current exchange system capabilities. The auction process could be swiftly put into practice and perhaps head off/prevent the next August 24th type event.

We have carefully considered the potential mechanisms and proposals from other parties to protect the markets in stressed conditions and there does not appear to be other valid methods that can generate price discovery through continuous trading in a fair and orderly market driven by actual supply and demand.