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**Comment on the CFA Institute Research Foundation's paper, "ETFs and Systemic Risks"**

By Barbara Novick and Samantha Merwin, CFA

## Introduction

Exchange-traded funds (ETFs) have experienced tremendous growth in the last two decades, with global ETF assets under management expanding from $79 billion in 2000 to $6.1 trillion at the end of 2019.[1] This growth has not gone unnoticed, and policymakers, academics, the press and industry participants have raised questions regarding the role of ETFs in the market. There is value in asking questions to better understand the mechanics and performance of these products; however, it is important to use data to answer these questions when it is available. Additionally, "ETF" has become a blanket term used to describe many exchange-traded products (ETPs) with a wide range of risks and structures, so it is also important to ascertain whether the products in focus are truly ETFs or another type of exchange-traded product (ETP). As we have advocated for many years, a classification system would be beneficial for investors and regulators.

The CFA Institute Research Foundation recently published a paper by Maureen O'Hara and Ayan Bhattacharya ("ETFs and Systemic Risks") that reprises many common misconceptions about ETFs and, critically, does so without presenting new empirical evidence to support these claims. Over the past few years, a series of market events have provided data showing how ETFs perform. In addition, regulators have introduced new rules for reporting data which provides additional insights. This paper incorporates market experience and regulatory data to rebut the arguments in the CFA Institute Research Foundation's paper.

## ETFs in stressed markets

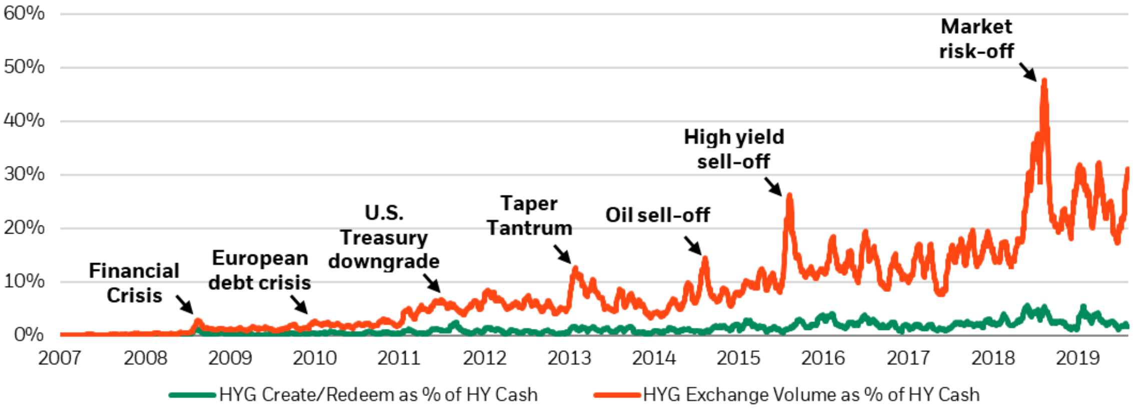
The authors cite four episodes of increased market volatility (the 2013 "Taper Tantrum", August 24, 2015, the February 2018 VIX spike and the 2018 Turkey currency crisis) to support their argument that ETFs appear to amplify market movements during periods of stress and uncertainty. However, the data shows that in stressed markets ETFs have not been a source of systemic risk. The opposite is the case: in times of increased market velocity, secondary market trading of ETFs acts as a stress reliever for underlying securities. The authors suggest that an increase in ETFs as a percentage of market trading volumes—a result of rising demand for ETF trading when underlying markets are frozen or difficult to trade—is a negative consequence for markets. In practice, these volumes add efficiency and transparency to the market.

Because ETFs allow investors to transact in the secondary market at real-time prices, they add support to underlying markets with an additional outlet for investors to trade and, by extension, provide price discovery. It is important to note that most ETF volumes represent a change of ownership and don't result in trades in the underlying stocks, a point the paper does not seem to appreciate. While the authors claim that the creation and redemption of ETF

[1] Markit, BlackRock (as of December 31, 2019). Excludes exchange-traded commodity, exchange-traded note and exchange-traded mutual fund assets.

shares actively influences trading activity in underlying markets, our research shows that, on average, just 4-6% of trading individual stocks is attributable to ETF flows.[2]
The ratio of secondary market to primary market activity tends to increase during times of market stress—meaning, that when market volatility increases, more activity takes place on exchange without impacting the underlying market, as shown in Exhibit 1.

**Exhibit 1: iShares iBoxx $ High Yield Corporate Bond ETF (HYG) Market Activity**



Source: Bloomberg, BlackRock (as of December 31, 2019).

## Presence of authorized participants

The authors raise a concern that ETF creation and redemption activity is concentrated across a handful of authorized participants (APs); they also raise the concern of "step away" risk from APs declining to facilitate creations or redemptions. As a solution, the authors propose that regulators obtain more data on the participation of APs in the ETF creation and redemption process.

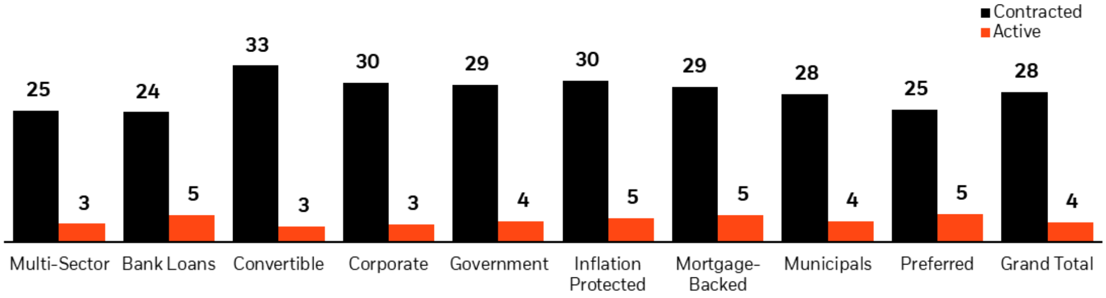
The U.S. Securities and Exchange Commission (SEC) has already achieved this through the investment company reporting modernization reforms adopted in October 2016 (revised in December 2017 and January 2019) and we commend them for their efforts. The newly adopted Form N-CEN requires disclosure of ETF-specific information, including detailed data on a fund's authorized participant activity.[3] In November 2019, we published a report based on this SEC-collected data. Our analysis shows there are 52 unique APs in the US, and on average, US-listed ETFs have 26 contracted and five active APs.[4] The authors single out fixed income ETFs as an area for further research. As Exhibit 2 illustrates, there is a robust group of APs at the ready to support ETF primary market activity.

[2] Bloomberg, Markit, BlackRock (as of December 31, 2019).

[3] For more information on Form N-CEN see https://www.sec.gov/rules/final/2016/33-10231.pdf.

[4] Form N-CEN (as of November 13, 2019).

**Exhibit 2: Average contracted and active APs for fixed income ETFs**



Source: Markit, BlackRock, Form N-CEN (as of November 13, 2019).

The presence of contracted APs helps ensure vibrant competition exists to provide ETF creation and redemption services—and to mitigate the "step away" risk that the authors imply may result in ETF illiquidity. If an active AP were to step away, another contracted AP could step in to execute creation and redemption activity. Even if no AP stepped in, the ETF would trade like a closed-end fund at a higher premium or discount to the fund's net asset value (NAV). Given the economic incentive for APs (and their clients) to take advantage of arbitrage opportunities based on the difference between the market price of ETF shares and the fair value of the underlying securities of the ETF, it is highly unlikely that an economically significant premium or discount would remain for an extended period of time.

To further illustrate claims that AP participation may have negative repercussions for the functioning of ETFs (and, in turn, for investors), the authors reference research from a working paper on ETF arbitrage.[5] This paper proposes that the mixed incentives resulting from the dual role of authorized participants—as dealers in the underlying markets and as ETF authorized participants—can have a significant effect on arbitrage activity. Specifically, the paper suggests that APs may be disincentivized from creating or redeeming ETF shares, resulting in deviations of the ETF's price from its NAV, and, in some extreme cases, may even trade to exacerbate a price deviation in violation of arbitrage. In other words, the authors argue that if the ETF price is below NAV, there are situations in which the AP will sell the ETF and buy the bond basket, even though this guarantees a loss.

This academic theory fails to recognize that APs provide a technology for creating or redeeming shares of the ETF that can be accessed by other market participants (such as market makers or institutional investors). If the ETF is trading below the intrinsic value of the basket, there is a profitable trade in buying the ETF while selling short the constituent securities and covering the short by redeeming the ETF. This means that market participants must engage APs—the only entities approved to transact directly with an ETF—to execute this redemption on their behalf.

In addition to claims about the detrimental effects of ETFs on stressed markets, the authors assert that ETF rebalance activity can "exacerbate end-of-day volatility" when markets are trading normally. This outcome is unlikely for two reasons. First, when ETFs periodically rebalance (on timelines defined by the indexes they track), they often acquire or distribute shares in-kind. This means that most rebalancing activity does not require trading in the market at all, let alone at the close. Second, as noted above, the majority of ETF trading activity occurs independently of trading in the underlying securities.

[5] Pan, K. and Y. Zeng. 2019. "ETF Arbitrage under Liquidity Mismatch." SSRN working paper.

## The ETF arbitrage mechanism

The authors recommend regulators consider whether ETF creations and redemptions should be halted during times of market stress. This recommendation raises concerns as the logic behind it is flawed. An effective arbitrage mechanism—the activity that keeps an ETF's share price closely aligned with the value of its underlying holdings—requires valuation clarity, access and certainty of execution.

A case study is provided by the events of August 24, 2015, when a confluence of US equity market issues impeded the flow of order and pricing information, halted trading, and delayed the open for various securities. This resulted in a breakdown in the arbitrage mechanism of ETFs, causing some products to trade at steep discounts relative to the value of their underlying holdings. Voluntarily suspending creations and redemptions would have a similar impact. Removing the incentive for APs to create or redeem ETF shares in a manner that adjusts the supply of ETF shares to match market demand would result in dislocations in ETF prices—ultimately increasing costs for investors.

The events of August 24 underscored the need for further adjustments to the equity market framework. In October 2015, we published a paper outlining areas for improvement. Many of these recommendations have been implemented which has improved market stability, especially during periods of increased volatility. This is reflected in the decreased number of trading halts in subsequent high-velocity markets, as Exhibit 3 shows.

**Exhibit 3: Market impact of volatility events**

| | August 24, 2015 | February 6, 2018 |
|---|---|---|
| Market Volume | $630B | $694B |
| ETP Volume | $249B | $249B |
| ETP % | 39% | 40% |
| VIX High | 53.29 | 50.30 |
| Volatility Trading Halts | 1,278 | 61 |
| ETPs Halted | 327 | 18 |

Source: Bloomberg, NYSE.

## Distinguishing between types of exchange-traded products

Often commentators lump all exchange-traded products (ETPs) together and use the label "ETFs". A case in point is the example the authors cite of early February 2018, when a 115% jump in the Cboe Volatility Index (VIX) caused ETPs tied to inverse strategies to decline precipitously.[6] A subset of ETPs with levered and inverse features suffered declines in excess of 90%.[7] While these products performed as designed (a rise in the VIX decreases the value of an inverse ETP), the losses garnered considerable attention. In contrast, "traditional" ETFs performed well—even with near-record volumes of trading. For example, during February 5-9, the iShares Core S&P 500 ETF (IVV) traded within 2.5 cents, or 1 basis point, of its NAV. At times, IVV maintained a tighter spread than the comparable futures contract.[8] The most notable outcome from February 2018, however, was the closure of an inverse exchange-traded

[6] Cboe, BlackRock (as of February 2018).

[7] Bloomberg (as of February 6, 2018)

[8] Bloomberg (as of February 9, 2018).

note (ETN). ETNs are unsecured obligations, which are different than ETFs. This is not clear from the CFA paper.

The use of the term "ETF" to describe all products that offer exchange-tradability is problematic for several reasons, not least because investors may own products that will perform in a way that is materially different from their expectations. We have long advocated for an ETP classification system that provides clarity on the structures and embedded risks of different types of ETPs (like funds with levered and inverse features) and will continue to work with regulators and the industry to find a solution.[9]

## Conclusion

Regulators have spent an abundance of time and resources to modernize the regulatory framework for ETFs. In 2019, the SEC finalized its ETF Rule which establishes a level playing field for ETF issuers and enhances ETF market transparency.[10] The International Organization of Securities Commissions (IOSCO), a global standard setting body for the securities sector, published Principles for the Regulation of Exchange Traded Funds in 2013—a guide for regulators and industry participants to evaluate the "quality of regulation and industry practices concerning ETFs". IOSCO is currently conducting research and reviewing guidance to update these principles.

We agree with the authors that "the evolution of ETFs is far from over". However, it's important that investors, regulators, and the media ground their views of ETFs on empirical facts, not speculation.

## Additional Resources

*ViewPoint* – US Equity Market Structure: Lessons from August 24
*ViewPoint* – A Primer on ETF Primary Trading and the Role of Authorized Participants
*ViewPoint* – Index Investing Supports Vibrant Capital Markets
*ViewPoint* – February 2018 Case Study: ETF Trading in High-Velocity Markets
*ViewPoint* – Mark-to-market structure: An end-investor perspective on the evolution of developed equity markets
iShares Investigates: Authorized participants by the numbers
5 go-to ETF statistics to watch in high-velocity markets
Comment Letter – SEC – Proposed Rule on Exchange Traded Funds
BlackRock's take on the SEC's ETF Rule
UK Financial Conduct Authority (FCA) Research Note – Fixed Income ETFs: primary market participation and resilience of liquidity during periods of stress
Jane Street – Credit ETF Trading in Stressed Markets

[9] See page 27 of our comment letter to the SEC on Proposed Rule 6c-11 for our recommended classifications for ETPs, *available at:* https://www.blackrock.com/corporate/literature/publication/sec-proposed-rule-exchange-traded-funds-092618.pdf.

[10] See BlackRock's take on the SEC's ETF Rule here: https://www.ishares.com/us/insights/etf-trends/advancing-etfs.

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