

iSHARES INVESTIGATES: ETF MARKET REALITIES

Answers to ten popular questions about ETFs

1. How do ETFs impact market liquidity?

Exchange-traded funds (ETFs) are unique; they provide exposure to a diversified collection of assets, like a mutual fund, but trade on exchange, like a stock. This structure makes the liquidity of ETFs unique, too.

Liquidity refers to the ease of buying or selling a stock, and ETFs provide two layers of liquidity to the market. The first is *primary* market liquidity, which is provided by the underlying securities or instruments of the ETF. The second layer is *secondary* market liquidity, which is provided by the ability to trade ETFs on exchange.

This means that ETFs are **net contributors** to market liquidity. At a minimum, an ETF will be as liquid as its underlying securities or instruments; often, however, ETFs provide even greater market liquidity than their underlying instruments.

2. Do ETFs drive the direction of markets?

Given the size of some of the largest ETFs, one might think that buying and selling within those funds actually moves market prices.

In fact, asset allocation decisions made by asset owners, such as pension funds and individuals, drive flows into different asset classes, sectors and geographies.

Their allocation decisions are guided by factors such as macroeconomic developments (like global interest rate policy), risk preferences and investment horizon.

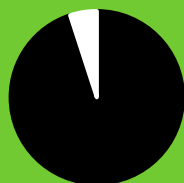
ETFs are just **one way** for investors to express their views about the market. If ETFs didn't exist, investors could use other tools, like single stocks, mutual funds and derivatives.

3. How big is the ETF market?

As of December 31, 2018, there were \$4.7 trillion of ETF assets worldwide.¹ This means that ETF assets represent approximately 5% of the global market capitalization, or dollar value of the global market.²

Even within the United States – the largest ETF market – ETFs are only a **fraction** of the total financial market. Just 9% of the total assets invested in U.S. equities are in U.S.-listed equity ETFs.³ The fixed income ETF market is even smaller, at 1.6% of the total U.S. bond market.⁴

Global ETF AUM



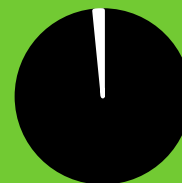
■ Global Market ■ ETFs

U.S. Equity ETF AUM



■ Equity (ex-ETFs) ■ Equity ETFs

U.S. Fixed Income ETF AUM



■ Fixed Income (ex-ETFs)
■ Fixed Income ETFs

¹ Source: Investment Company Institute. ² Sources: World Federation of Exchange Database (WFED) (as of December 2018), Bank for International Settlements (BIS) (as of Q2 2018), Hedge Fund Research (HFR), Cerulli, Simfund (as of December 2018), BlackRock (as of December 2018), Global Heat Map, McKinsey Cube (as of December 2017). ³ As of April 1, 2018. Source: Bloomberg, BlackRock. ⁴ As of April 1, 2018. Source: SIFMA, Bloomberg, BlackRock.

4. Do ETFs increase market volatility?

No. In fact, ETFs have acted as “**shock absorbers**” during many volatile trading sessions as buyers and sellers transact on the exchange, at real-time prices, without having to trade the underlying stocks and bonds.

What’s more, since ETF shares are traded directly by buyers and sellers on-exchange, an ETF can circumvent “forced selling”, something a mutual fund may need to do when investors want to sell their shares. This means the underlying securities may remain intact. For more information about the differences between ETFs and mutual funds, please see the end of this document.

5. Are all exchange-traded products the same?

While all exchange-traded products share certain characteristics, some have embedded structural risks that go beyond the scope of “plain vanilla” ETFs.

BlackRock defines an ETF as a publicly offered investment fund that:

- **Trades** on an exchange.
- **Tracks** underlying securities of stocks, bonds or other investment instruments.
- Does **not** seek to provide a leveraged or inverse return

Investors need to understand what they own. BlackRock, along with others in the industry, has called for a clear-cut ETF naming convention to better serve investors.

6. Do index rebalances make index investing less efficient?

Indexes are periodically rebalanced as changes in market prices affect the relative weightings of individual securities. Funds that track indexes are **professionally managed**, and there’s a lot of work that goes on behind the scenes by skilled professionals to make sure these publicized events are smoothly executed.

- Some funds use knowledge of the indexing process to capture price movements or lessen any temporary price effects by trading in names added to the index. Others may try to capture information by predicting inclusions and deletions.
- Competition ensures any indexing effects are modest, however. It is not easy to beat index benchmarks.

7. Does index investing increase asset price correlation?

Correlation measures the degree to which two securities’ prices move in relation to one another. Correlation between stocks has risen in recent years, giving rise to a misperception that the growth of index funds is the cause; in other words, that the unique, fundamental drivers of individual stock prices are being superseded by their inclusion in an index. (See question #2)

In reality, correlation isn’t the same as causation. Stock correlations actually **decreased** between 2015 and 2017 – a period when index funds were achieving record growth.⁵

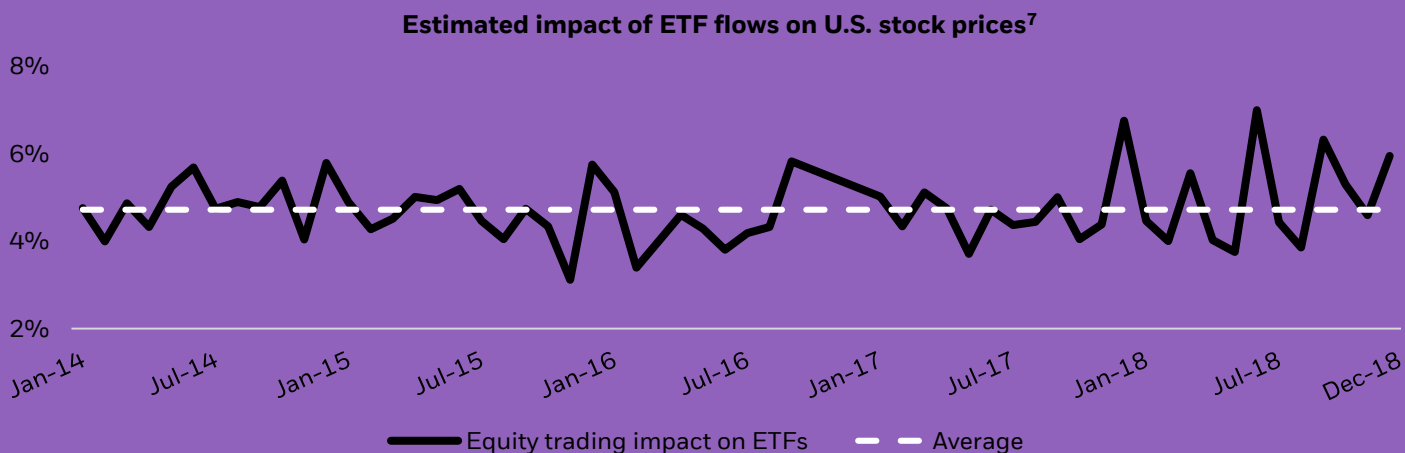
There are other, more plausible causes for increased correlations in stock and other asset prices, including **macroeconomic factors**, like global interest rate policy or the price of raw materials, which can cause asset prices to move in tandem, and **heightened market volatility**, as we saw during the 2008 Financial Crisis.

⁵ As of March 31, 2019. Source: BlackRock, based on data from CRSP, Bloomberg. Cross-stock correlations represent the average return correlation between any two pairs of stocks in the S&P 500. **Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.**

8. How do ETFs impact stock prices?

Questions sometimes arise about whether ETFs influence the prices of the stocks they hold. In short, the majority of ETF activity doesn't affect the market prices of underlying stocks.

On average, approximately **5%** of trading in individual stocks is attributable to ETF flows. This is because 90% of ETF activity takes place on-exchange between buyers and sellers of ETF shares, which means that, most of the time, shares of underlying stocks do not need to be bought or sold to adjust for changes in investor demand.⁶



9. What would happen if an authorized participant or market maker withdrew from the ETF market?

An authorized participant (AP) is a financial institution that manages the creation and redemption of ETF shares in the primary market. Each AP has an agreement with an ETF sponsor that gives it the right (but not the obligation) to create and redeem ETF shares. APs may act on their own, or on behalf of market participants.

Market makers are broker dealers that regularly provide two-sided (buy and sell) quotes to clients. In some instances, an ETF's market makers may also be APs.

APs and market makers operate in a highly competitive environment, and are **economically incentivized** to take part in making or trading ETF shares. If an AP were to withdraw from the ETF market, other APs would likely step in to facilitate the creation and redemption of ETF shares, particularly if there was a significant premium or discount to its net asset value (NAV), or difference between the price of the ETF and its underlying holdings. In that case, the remaining APs would quickly seek to take advantage of **arbitrage opportunities** arising from that difference. That same incentive holds true for market makers as well.

Ultimately it is this "arbitrage mechanism" that helps keep the ETF's market price close to the value of its underlying holdings each day.

(There has never been a scenario in which all APs withdrew at once. But if that were to happen, the creation and redemption process would be temporarily frozen and the supply of ETF shares could be fixed in the short run.)

⁶ Source: 2019 Investment Company Institute Fact Book, available at: https://www.ici.org/pdf/2019_factbook.pdf ⁷ As of January 2019. Source: Bloomberg, Markit, BlackRock. Derived from the collective weight of flows into all ETFs holding all U.S. stocks on a monthly basis from 2014 through 2018.

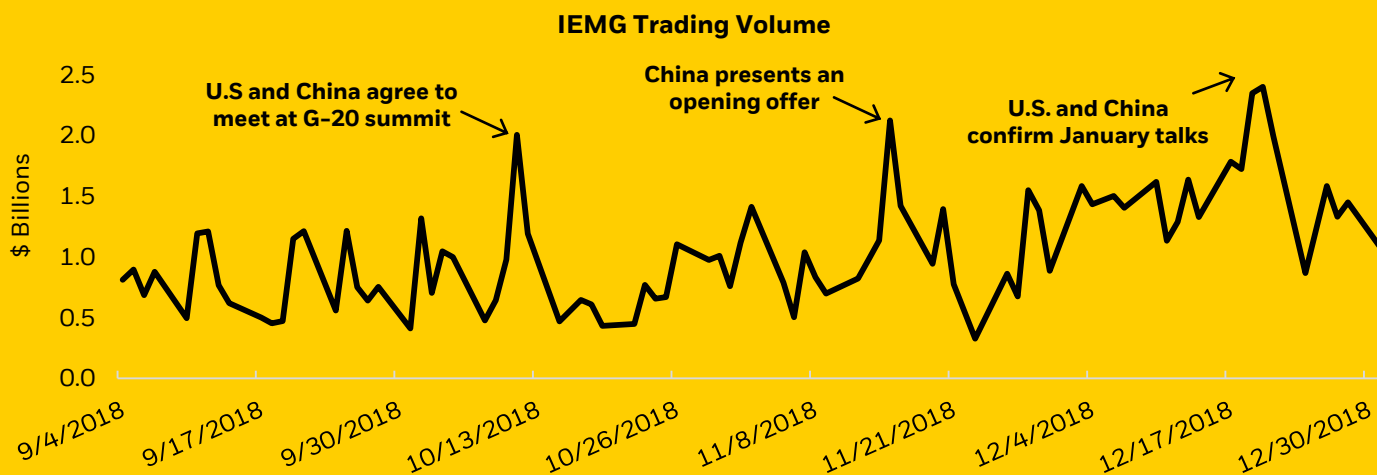
10. What role do ETFs play in price discovery?

Price discovery helps investors identify the proper market price of securities or other instruments based on factors like supply and demand. The on-exchange trading of ETFs plays an important role in price discovery across markets, sectors and individual stocks. For example, international ETFs traded during U.S. market hours help investors set prices daily when non-U.S. markets are closed. Additionally, during suspensions of international stocks or markets, U.S.-domiciled ETFs may be the **primary source** of pricing information available to market participants.

ETF flows provide crucial information. As greater numbers of sophisticated investors use ETFs to express their views, flows from one asset to another can serve as indicators of investor sentiment about potential risk and return.

Note that ETFs don't set prices or drive volatility. They hold up a mirror to what investors are thinking.

For example, the iShares Core MSCI Emerging Markets ETF (IEMG), a U.S.-listed ETF that seeks to track an index of emerging market equities, traded almost 2.5 times more than its daily average on days when the status of U.S. and China trade talks changed through the end of 2018.⁸



⁸ As of December 31, 2018. Source: Bloomberg, BlackRock. There can be no assurance that an active trading market for shares of an ETF will develop or be maintained.

ETFs and traditional mutual funds: Know the differences

Criteria	Mutual funds	ETFs
Management	Active	Passive
Performance goal	Outperform a benchmark and/or deliver an outcome	Track a benchmark
Buying/selling shares	Once per day via fund company	Intraday on exchanges
Price to buy/sell	End-of-day NAV, less fees	Current market price, which may differ from NAV
Fees	Expense ratio + any sales loads / redemption fees	Expense ratio + transaction / brokerage costs
Tax impact* of buyers/sellers	Shareholders may be impacted by all other shareholders' actions	Shareholders only impacted by their own actions
Holdings disclosure	Typically monthly	Daily
Benefits	<ul style="list-style-type: none"> • Opportunity to outperform the index • Potential to limiting the downside • Buy/sell decisions based on research 	<ul style="list-style-type: none"> • Exposure to market index • Generally lower fees • Typically more tax-efficient
Trade-offs	<ul style="list-style-type: none"> • Potential to underperform index • Generally higher fees • Typically less tax-efficient 	<ul style="list-style-type: none"> • Does not seek to outperform index • Participate in all of index downside • Buy/sell decisions based on index, not research

*Both vehicles are obliged to distribute capital gains to all shareholders.

Important Information about iShares ETFs

Carefully consider the Funds' investment objectives, risk factors, and charges and expenses before investing. This and other information can be found in the Funds' prospectuses or, if available, the summary prospectuses which may be obtained by visiting www.iShares.com or www.blackrock.com. Read the prospectus carefully before investing.

Investing involves risk, including possible loss of principal.

This material is provided for educational purposes only and is not intended to constitute investment advice or an investment recommendation within the meaning of federal, state or local law. You are solely responsible for evaluating and acting upon the education and information contained in this material. BlackRock will not be liable for direct or incidental loss resulting from applying any of the information obtained from these materials or from any other source mentioned. BlackRock does not render any legal, tax or accounting advice and the education and information contained in this material should not be construed as such. Please consult with a qualified professional for these types of advice.

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets and in concentrations of single countries.

Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments.

Shares of iShares ETFs may be bought and sold throughout the day on the exchange through any brokerage account. Shares are not individually redeemable from the ETF, however, shares may be redeemed directly from an ETF by Authorized Participants, in very large creation/redemption units.

Although market makers will generally take advantage of differences between the NAV and the trading price of iShares ETF shares through arbitrage opportunities, there is no guarantee that they will do so.

Buying and selling shares of ETFs will result in brokerage commissions.

There can be no assurance that an active trading market for shares of an ETF will develop or be maintained.

Investment comparisons are for illustrative purposes only. To better understand the similarities and differences between investments, including investment objectives, risks, fees and expenses, it is important to read the products' prospectuses.

This information should not be relied upon as research, investment advice, or a recommendation regarding any products, strategies, or any security in particular. This material is strictly for illustrative, educational, or informational purposes and is subject to change.

The iShares Funds are distributed by BlackRock Investments, LLC (together with its affiliates, "BlackRock").

The iShares Funds are not sponsored, endorsed, issued, sold or promoted by MSCI Inc., nor does this company make any representation regarding the advisability of investing in the Funds. BlackRock is not affiliated with MSCI Inc.

©2019 BlackRock, Inc. All rights reserved. **ISHARES** and **BLACKROCK** are registered trademarks of BlackRock, Inc., or its subsidiaries. All other marks are the property of their respective owners.