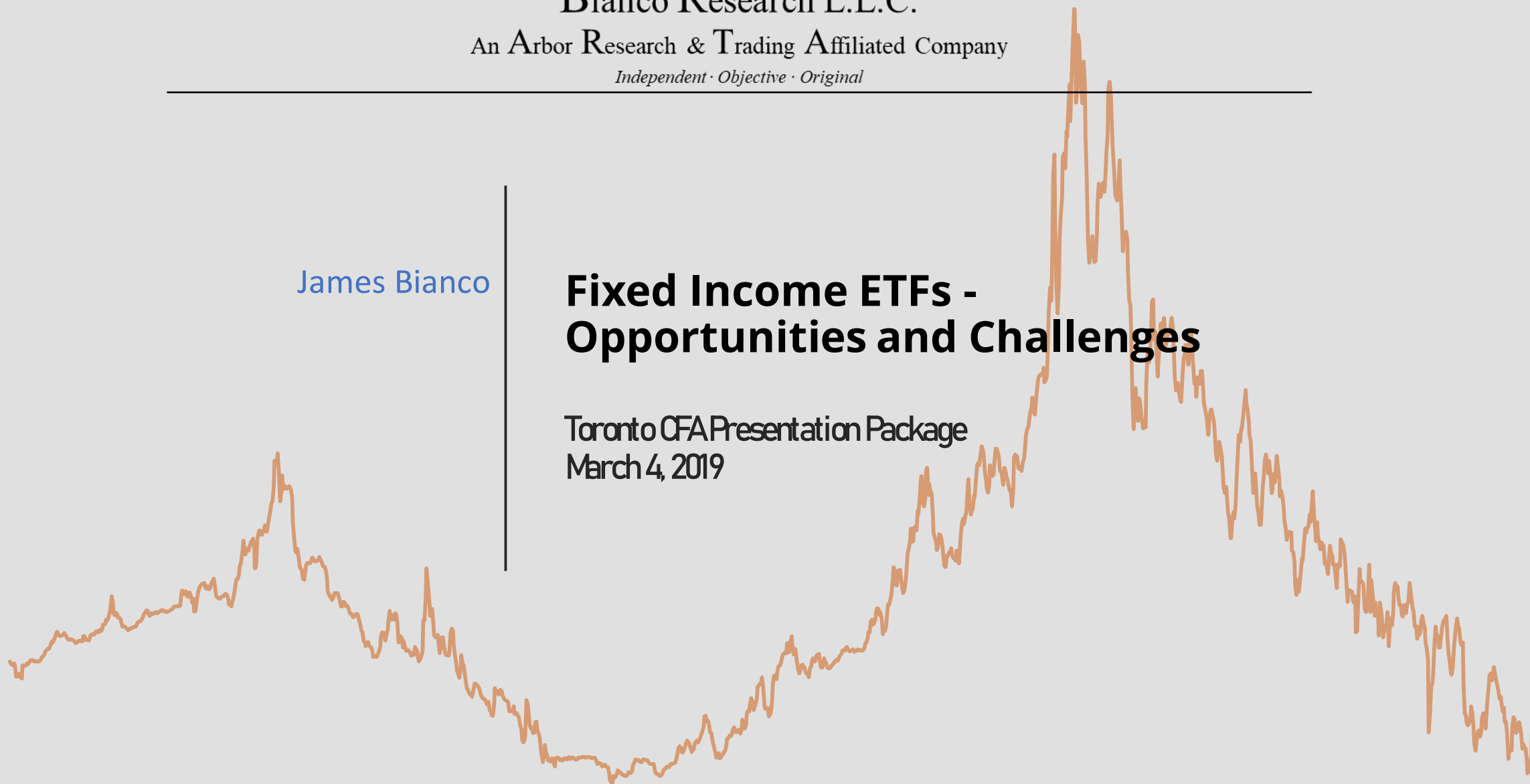


James Bianco

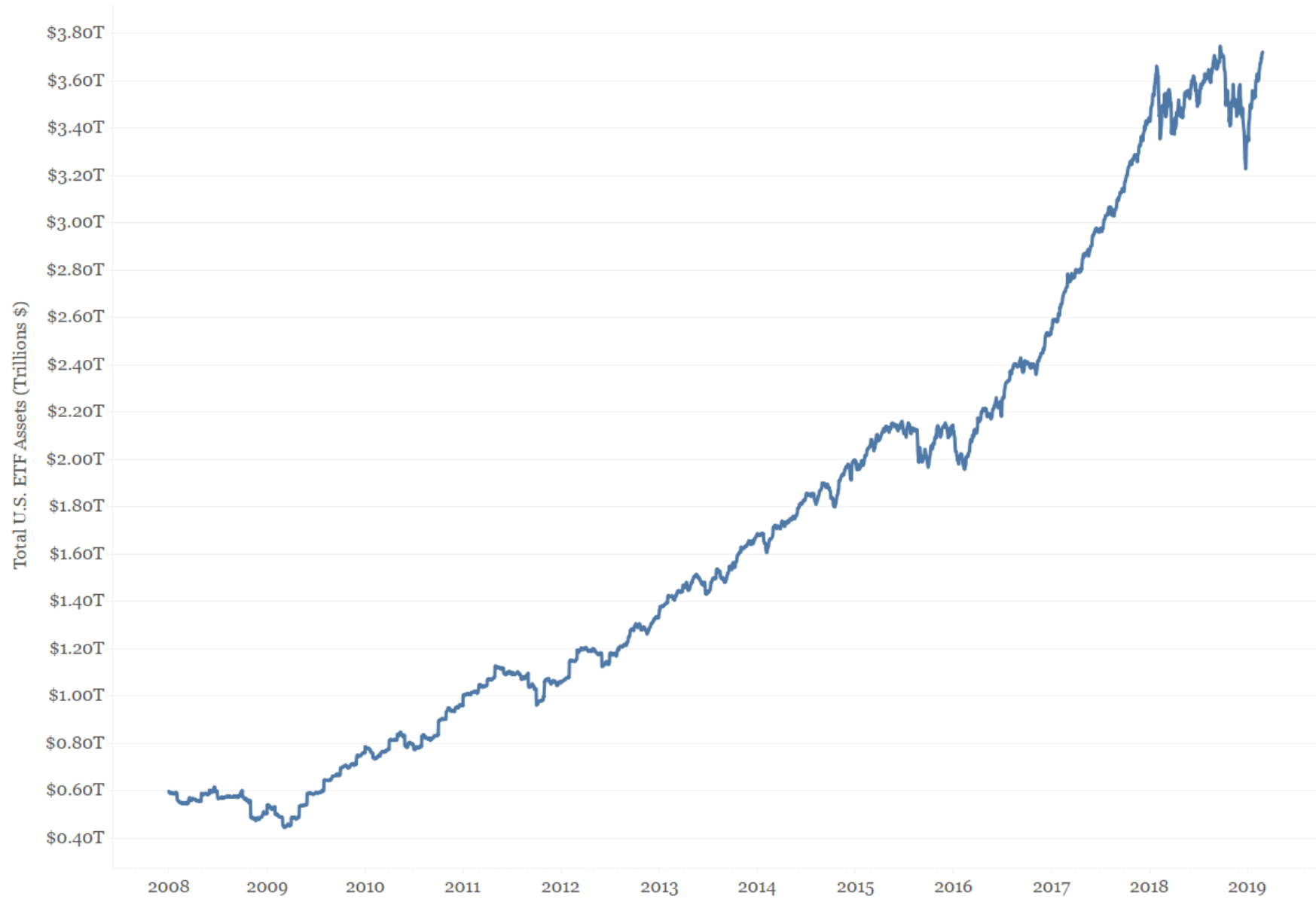
Fixed Income ETFs - Opportunities and Challenges

Toronto CFA Presentation Package
March 4, 2019



- ETF assets = \$3.8 trillion, 80% are equity ETFs
- The two largest each account for roughly one-third of inflows
- 23% of bond fund flows since June 2010 have gone into the five largest bond ETFs
- Who buys ETFs? Wealth managers
- The 60/40 portfolio is the driving allocation in ETF land
- The ETF war is driven by wealth managers
- The stock/bond relationship has become more unstable
- High yield ETFs continue to be used as a hedging vehicle

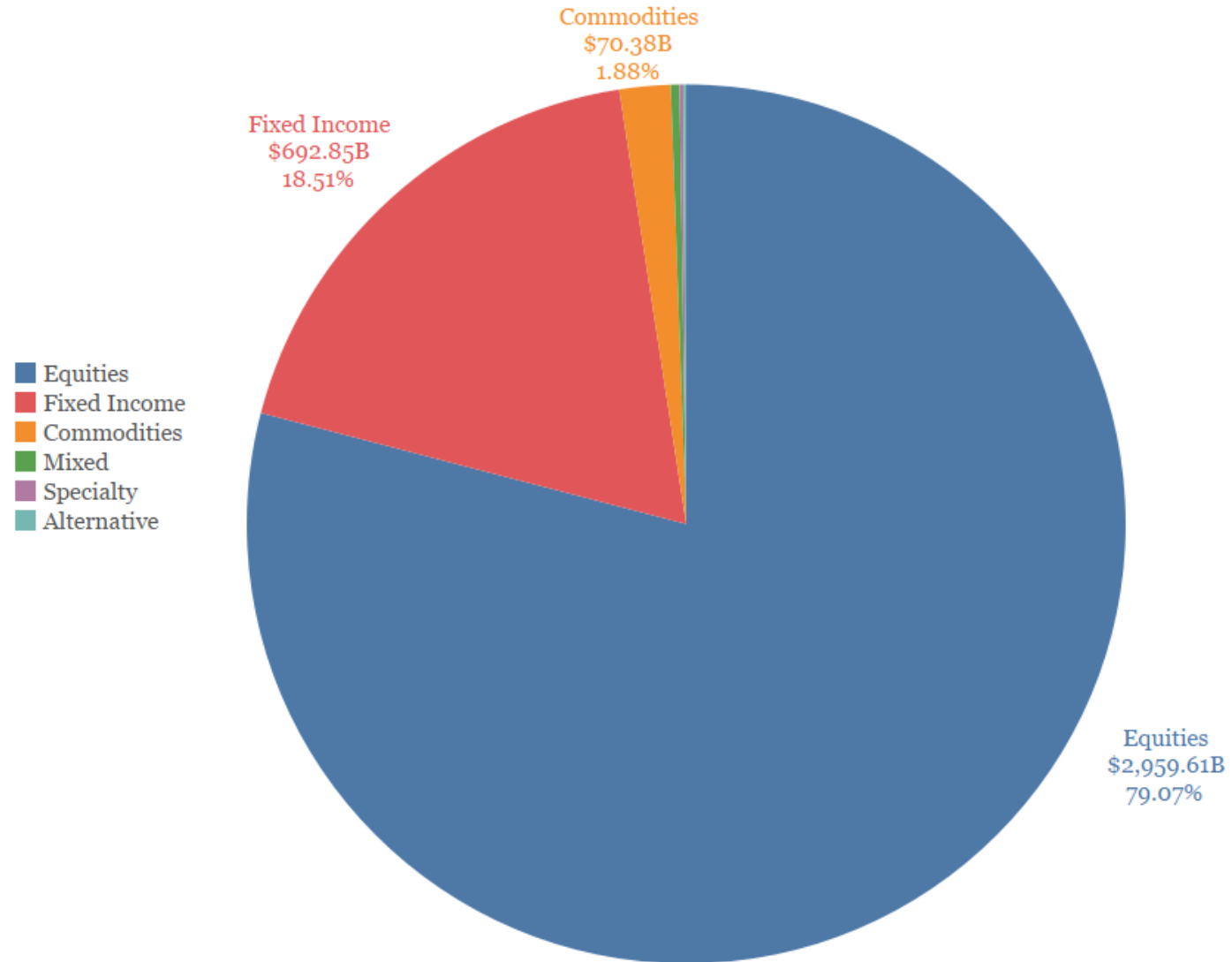
Total Assets in U.S. ETFs



Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved

Breaking Down U.S. ETFs By Assets

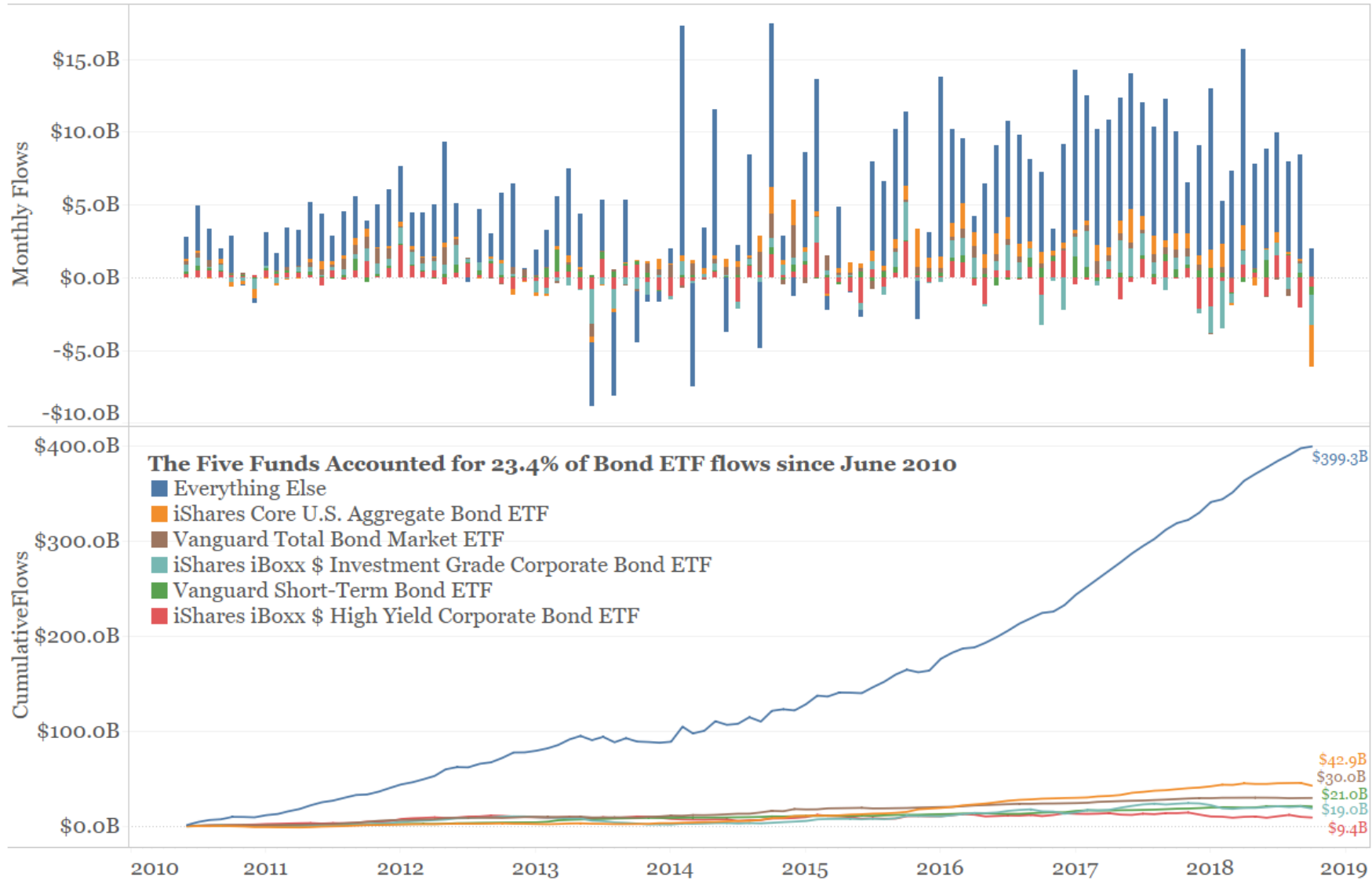


Total U.S. ETF Assets As Of February 25, 2019: \$3.7 Trillion

Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved

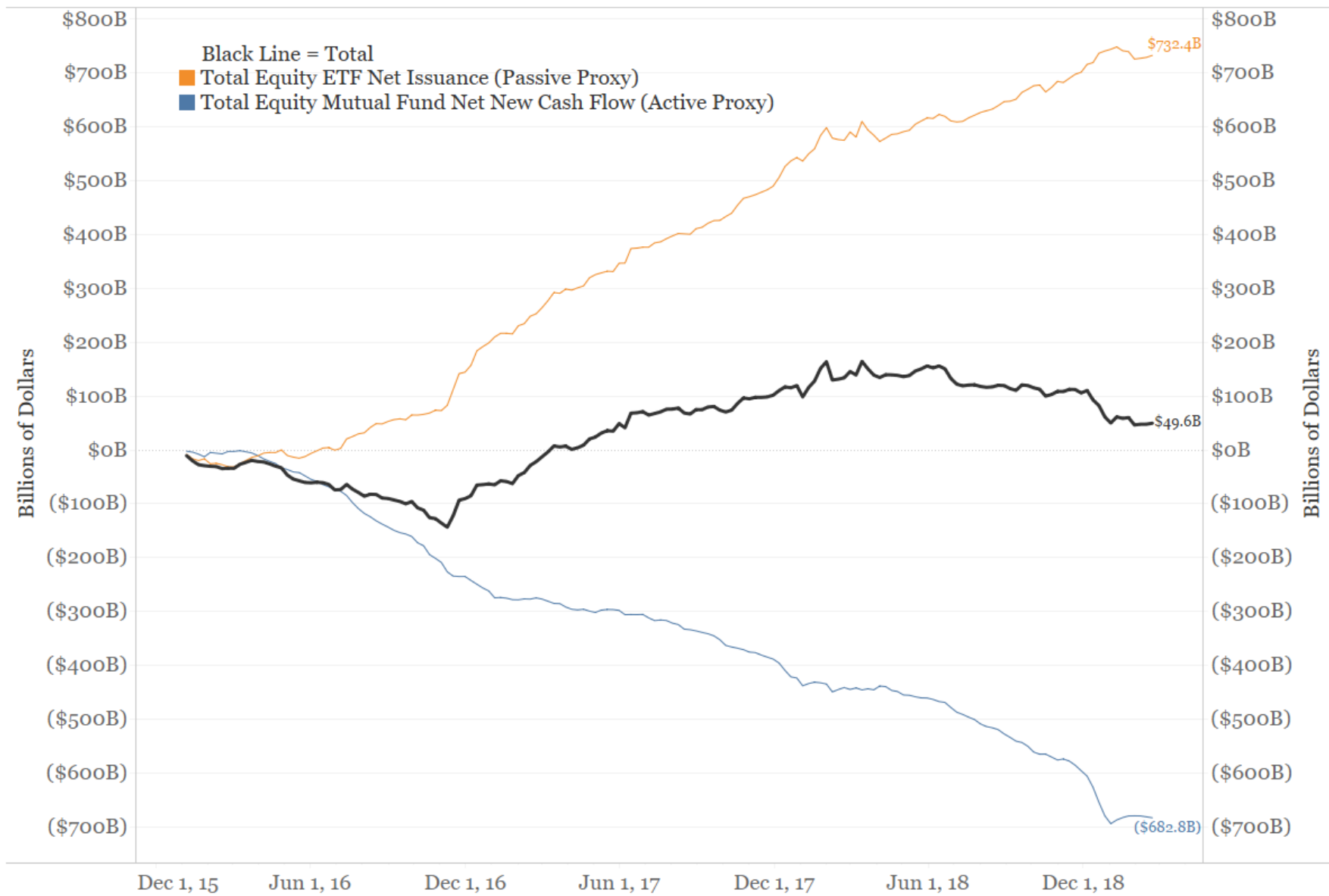
The Five Largest Bond ETFs Dominance To All Fixed Income ETFs Flows



Source: Bloomberg

© 2018 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

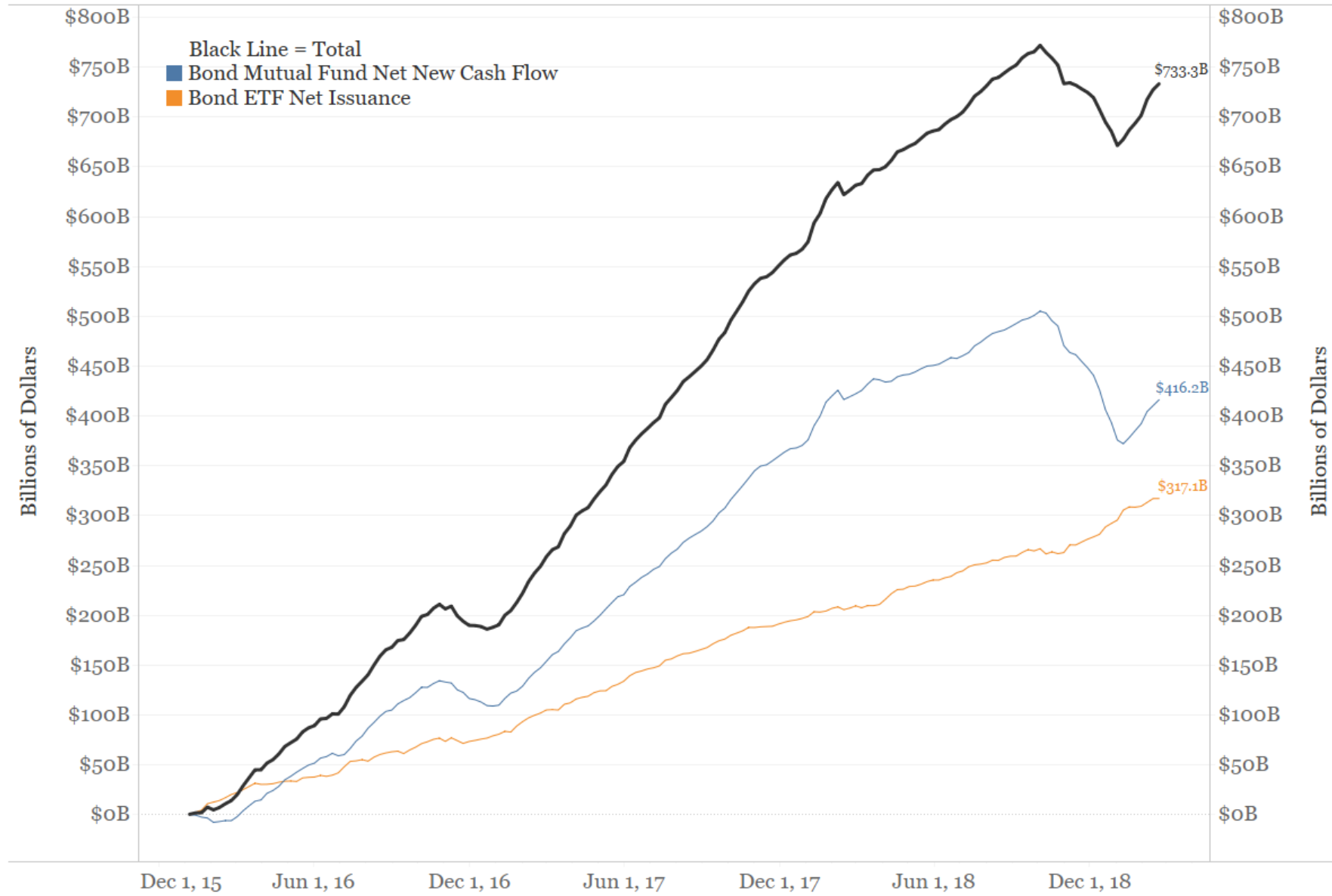
Cumulative Equity Flows



Source: Investment Company Institute, Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Cumulative Total Bond Market Flows

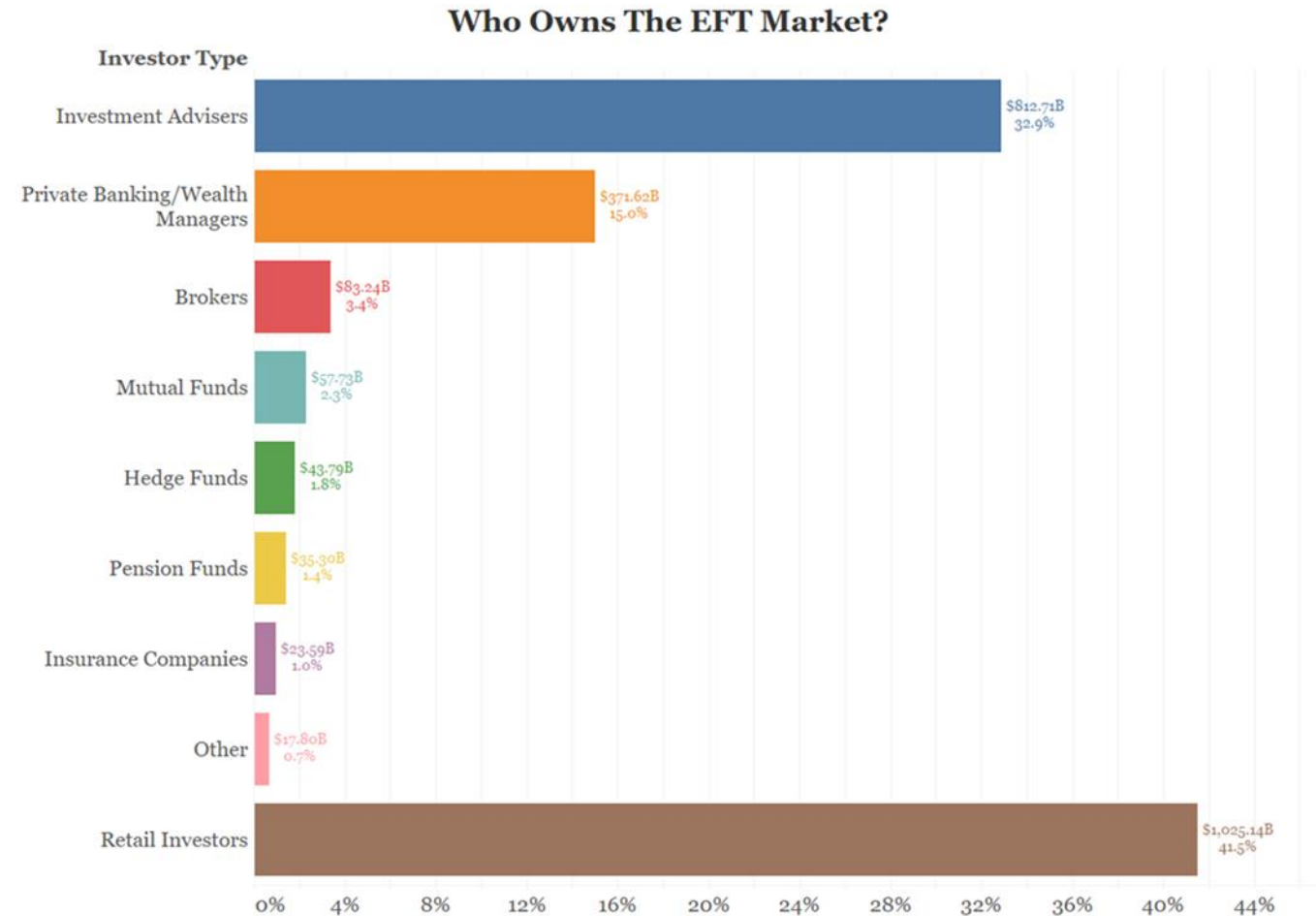


Source: Investment Company Institute, Bloomberg

© 2018 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

88% of RIA's listed ETFs as the most popular financial instrument they would recommend to their clients. Since they have 36 million clients in an asset allocated portfolio, the next chart should come as no surprise. It shows ownership in the ETF market.

A 2017 Deutsche Bank study found half of all ETFs were owned by accounts directed by investment advisers (blue) or private banking/wealth managers (orange). 41% of ETFs are owned by individuals directly (brown).



Source: Deutsche Bank
https://etf.dws.com/AUT/DEU/Download/Research-USA/ca977bcd-3b7a-4f98-8f43-492f5e7ae865/US_

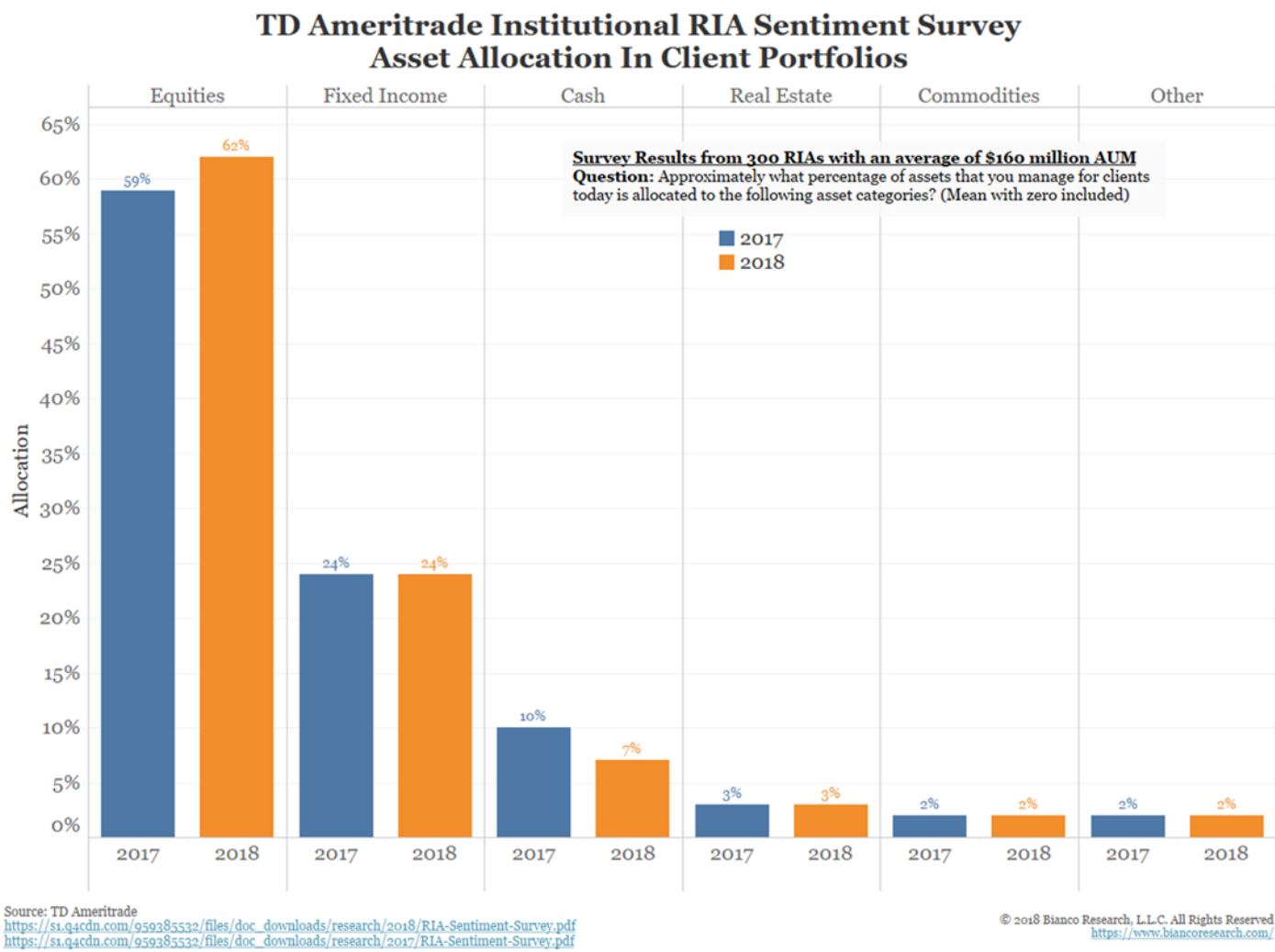
© 2018 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Table 3, Panel A: Registered Investment Advisers (RIAs) as of December 2017
Cumulative RIA Assets under Management (AUM) and Accounts

Size of Investment Adviser (AUM)	Number of RIAs	Number of Dual- Registered RIAs	Cumulative AUM	Cumulative Number of Accounts
> \$50 billion	246	15	\$48,221 bil.	17,392,968
\$1 billion to \$50 billion	3,238	115	\$21,766 bil.	11,560,805
\$500 million to \$1 billion	1,554	53	\$1,090 bil.	2,678,084
\$100 million to \$500 million	5,568	129	\$1,303 bil.	3,942,639
\$10 million to \$100 million	1,103	24	\$59 bil.	198,659
\$1 million to \$10 million	172	2	\$1 bil.	5,852
< \$1 million	778	28	\$.02 bil.	31,291
Total	12,659	366	\$72,439 bil.	35,810,298

Every year TD Ameritrade Institutional surveys roughly 300 Registered Investment Advisers (RIAs) who have an average of about \$160 million in assets.

The chart to the right shows the typical asset allocation among respondents in 2017 (blue) and 2018 (orange). If you add fixed income and cash together, you essentially arrive at a 60/40 portfolio.



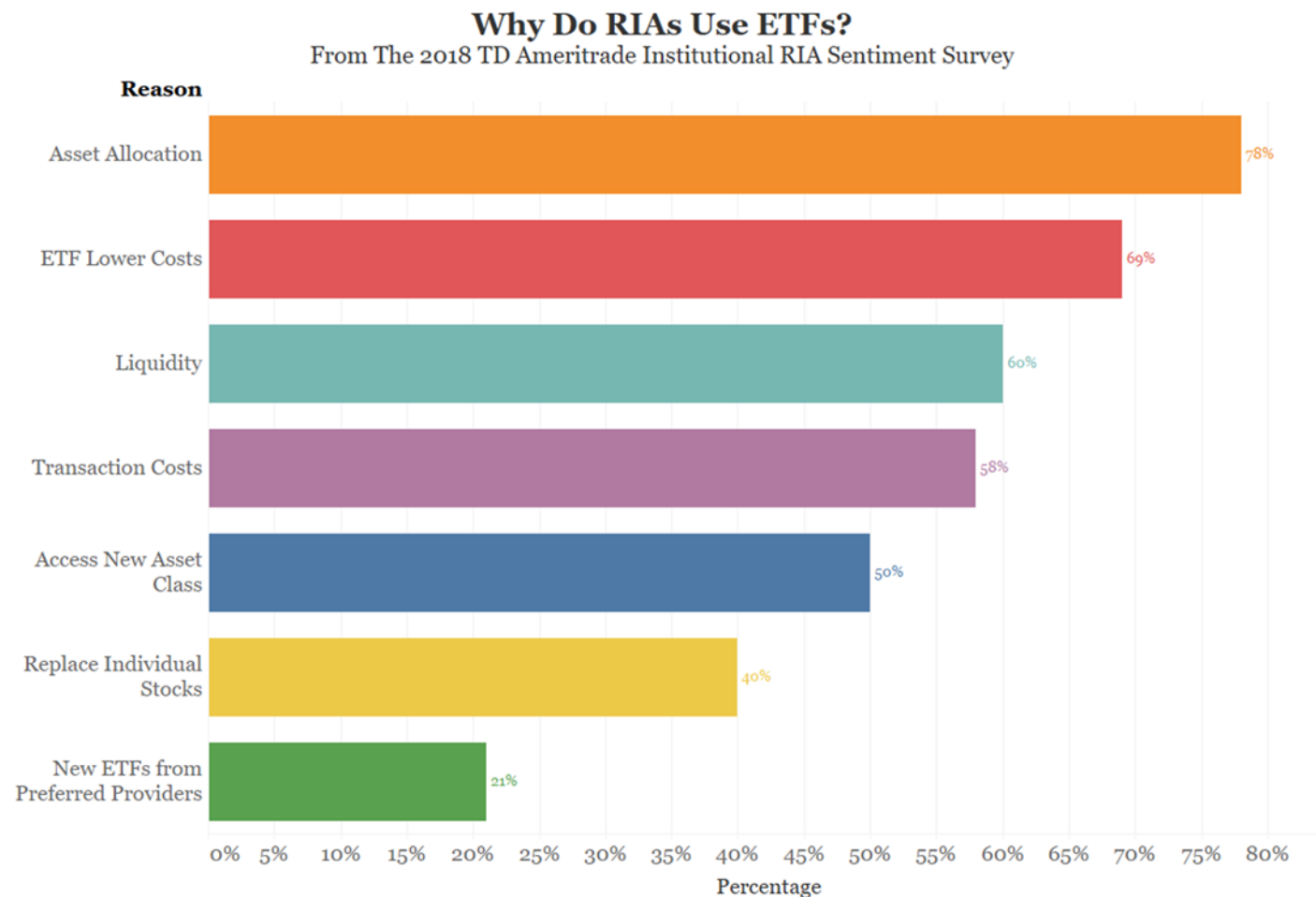
2018 TD Ameritrade Asset Allocation Survey Results vs Actual ETF Flows



Source: Bloomberg, TD Ameritrade
https://s1.q4cdn.com/959385532/files/doc_downloads/research/2018/RIA-Sentiment-Survey.pdf

© 2018 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

The chart to the right shows the most popular reason RIAs use ETFs is for asset allocation purposes. In other words, ETFs offer a simple means of creating the 60/40 portfolio. The second highest reason for using ETFs was cost. They offer the cheapest way to construct the 60/40 portfolio.



Source: TD Ameritrade
https://s1.q4cdn.com/959385532/files/doc_downloads/research/2018/RIA-Sentiment-Survey.pdf

© 2018 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

The Wall Street Journal – (June 8, 2018) For This ETF, a Single Decision by Schwab Cost \$1 Billion

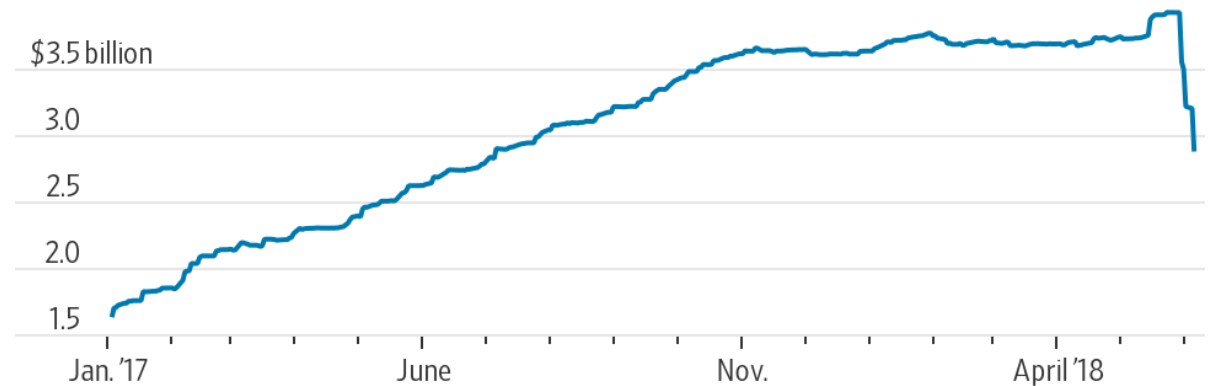
Schwab's decision to yank money out of a high-yield bond ETF cost the fund \$1 billion

Schwab uses the iShares fund in the prepackaged ETF portfolios sold through its robo-advisory division, Schwab Intelligent Portfolios, according to its [website](#). Such centrally-managed portfolios have become increasingly influential in moving money around the \$3.5 trillion ETF industry. Schwab liquidated its shares as part of a review of the ETFs used in its portfolios, a company spokesman said. Schwab decided to swap out certain ETFs for funds that have lower costs or better represent their asset class. In this case, it'll be replaced with the [iShares Broad USD High Yield Corporate Bond ETF](#), he said.

Investors Exit

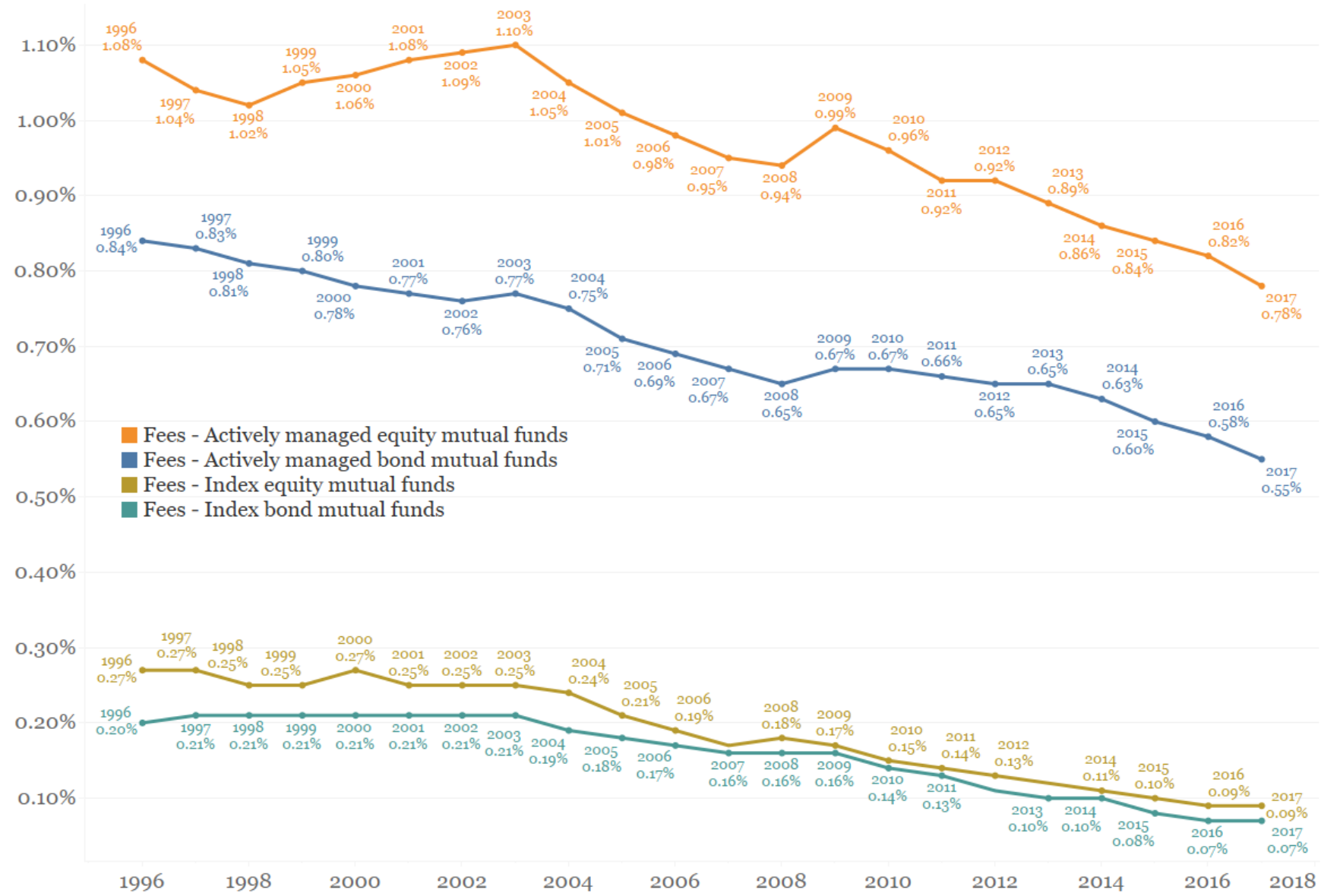
Assets in the iShares 0-5 Year High Yield Corporate Bond ETF plunged this week.

Assets



Source: FactSet

Mutual Fund Fees



Data Source: Investment Company Institute

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

•**The Wall Street Journal – (February 26, 2019)**
Vanguard Ups the Ante in an ETF Race to Zero

The ETFs, with combined assets of more than \$134 billion, include funds that invest in international stocks and bonds. The biggest is the \$62 billion Vanguard FTSE Emerging Markets ETF, which will cost \$12 a year for every \$10,000 invested. That is down from \$14, making it cheaper than a competing ETF from BlackRock Inc.'s BLK Shares Core lineup. In addition, 43 Vanguard mutual funds are also reducing fees. The price cuts were disclosed in new regulatory filings Tuesday. "A broader and broader base of investors are using ETFs, and that's pushing more assets into these funds," said Rich Powers, head of ETF product management at Vanguard. As the funds grow, economies of scale allow Vanguard to pass savings along to investors, he said. Vanguard's move is the latest in an escalating fee war in ETFs, where the cheapest funds typically raise the most money. Filings due within the next week for eight other Vanguard ETFs, with a total of almost \$440 billion in assets, could show additional fee cuts.

•**ETF.com – (February 25, 2019)** **First 'Zero Fee' ETF Filed**

Someone in ETF-land has finally won the race to zero—but it wasn't by an issuer anyone expected. On Monday, online personal financial services company Social Finance, Inc. (SoFi) filed for the industry's first (effectively) zero-fee ETFs. The information became available in SoFi's latest filing for the four funds, two of which appear to be very close to launching. The products include three growth funds and a fund focused on the "gig economy," and are all SoFi-branded funds:

•The SoFi 500 ETF (SFY)

The SoFi Next 500 ETF (SFYX)

The SoFi 50 ETF (SFYF)

The SoFi Gig Economy ETF (GIGE)

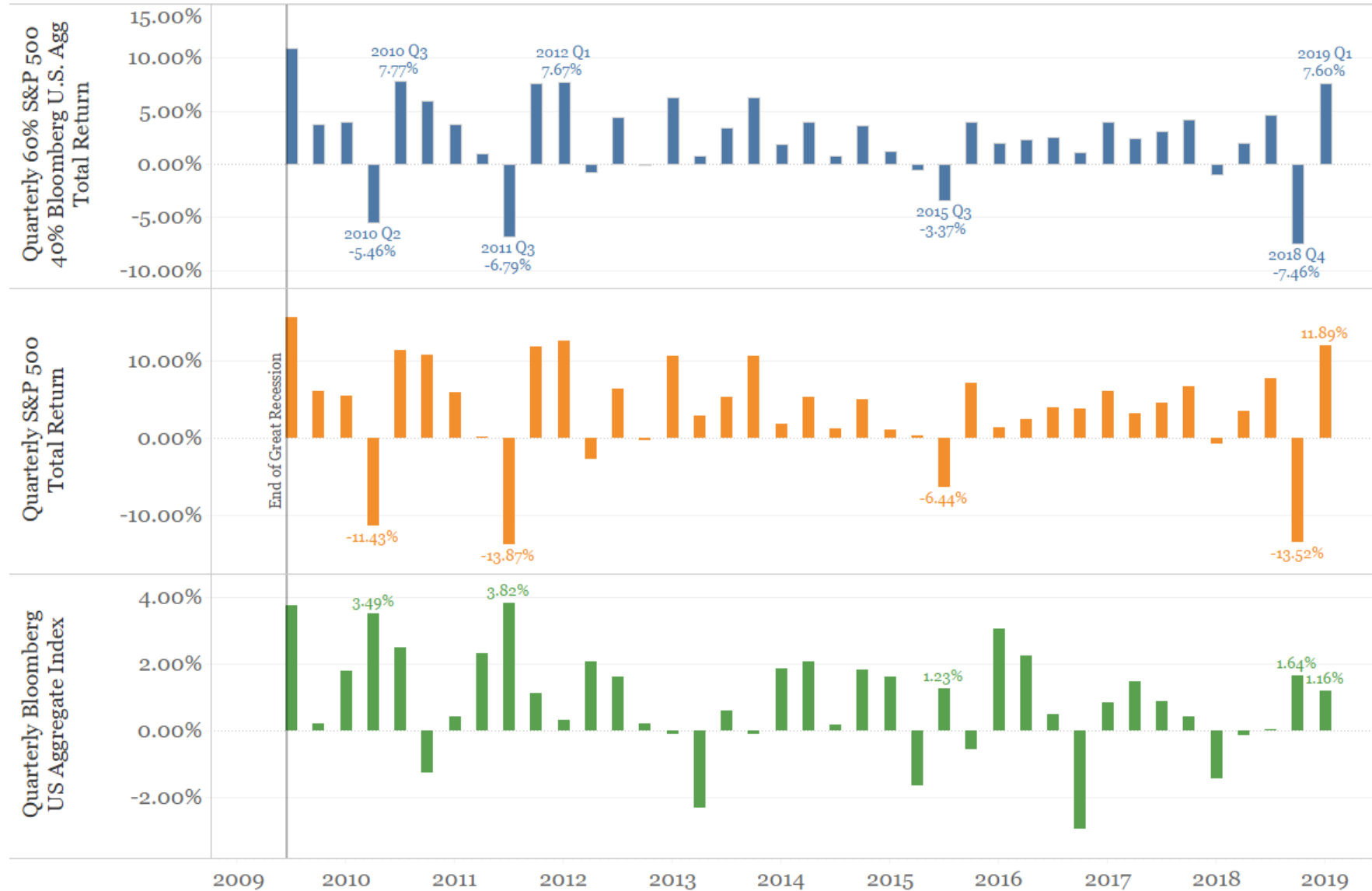
The first three funds will list on the NYSE Arca, while GIGE will list on Nasdaq.

•**Quartz – (March 1, 2019)** **Fintech firms like SoFi and Robinhood offer "free" stock trading. What's the catch?**

Online lender Social Finance is rolling out a slew of new features, from commission-free brokerage to zero-fee exchange-traded funds and crypto trading. But buying and selling securities, of course, is not free. So how does SoFi plan to make money? One way startups can offer cut-rate prices is by burning through venture capital money, like Uber. For brokerage services, there's also the Robinhood model, which makes money from interest on customer deposits, charging traders who buy stocks with borrowed money (margin), and selling clients' stock orders to the market makers who handle the trades (payment for order flow).

The 60/40 Portfolio Got Crushed in Q4

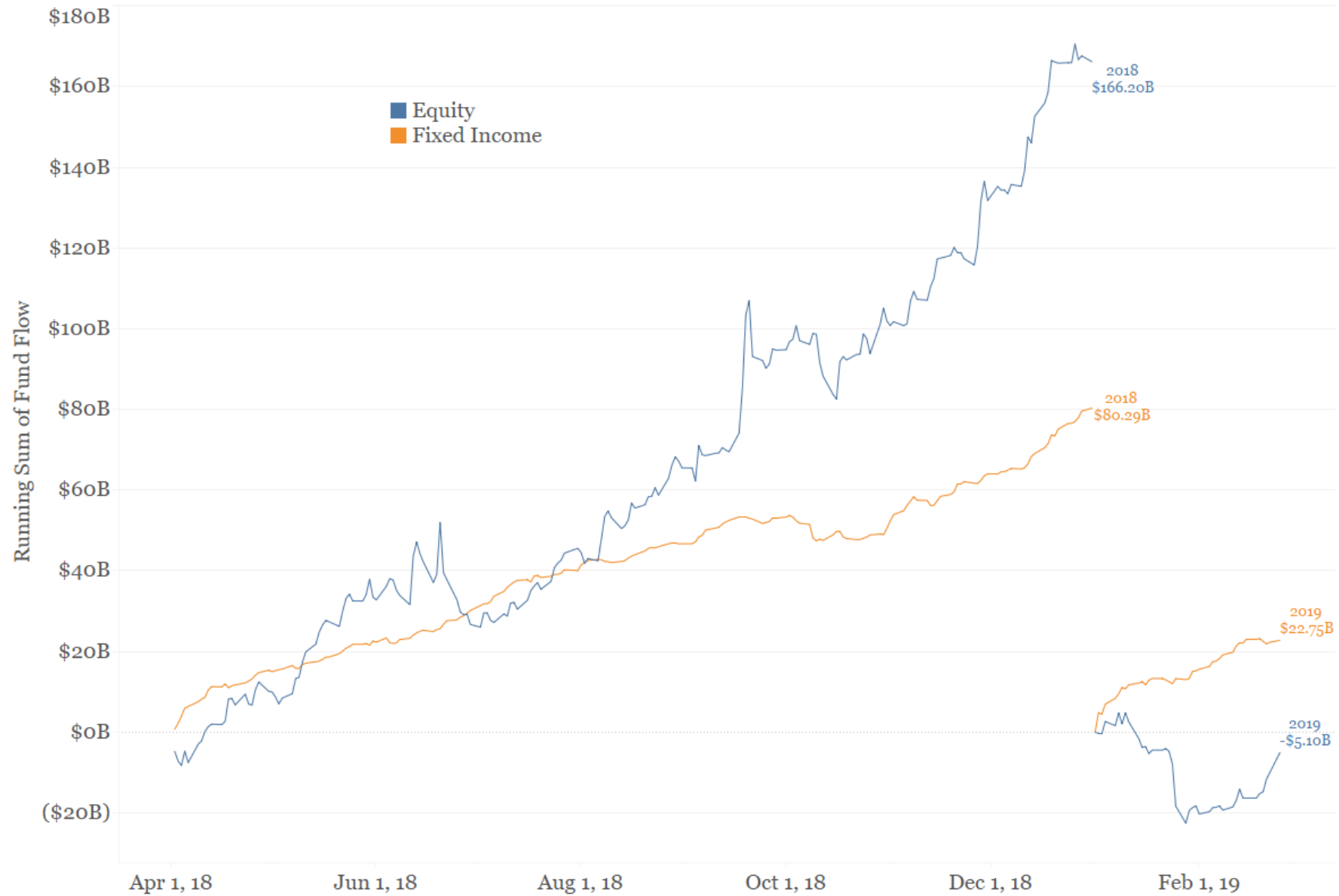
Quarterly Total Return Since The End of the Great Recession



Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Equity v Fixed Income Cumulative Flows

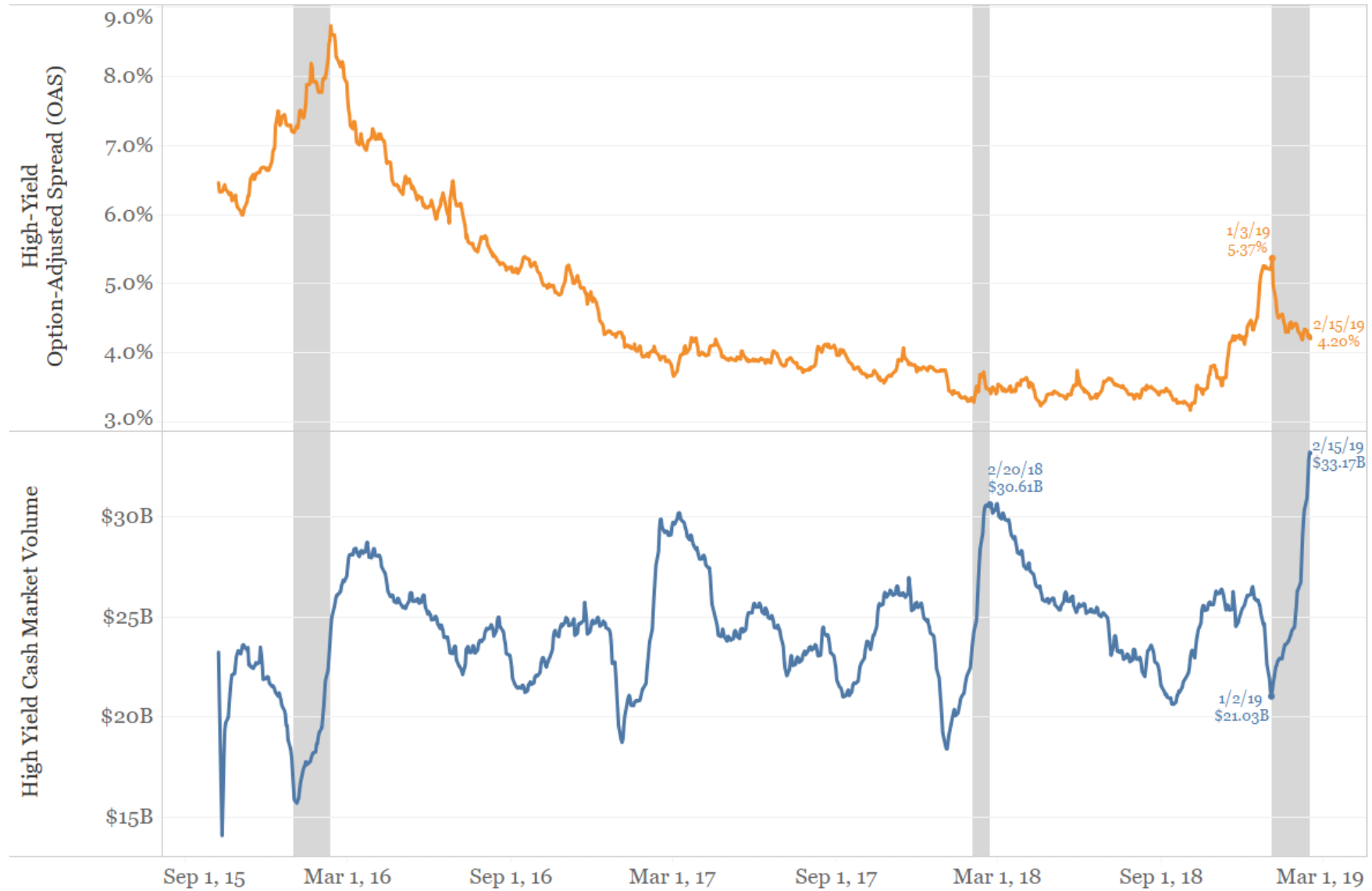


Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

This Time Volume Falls When Spreads Widen

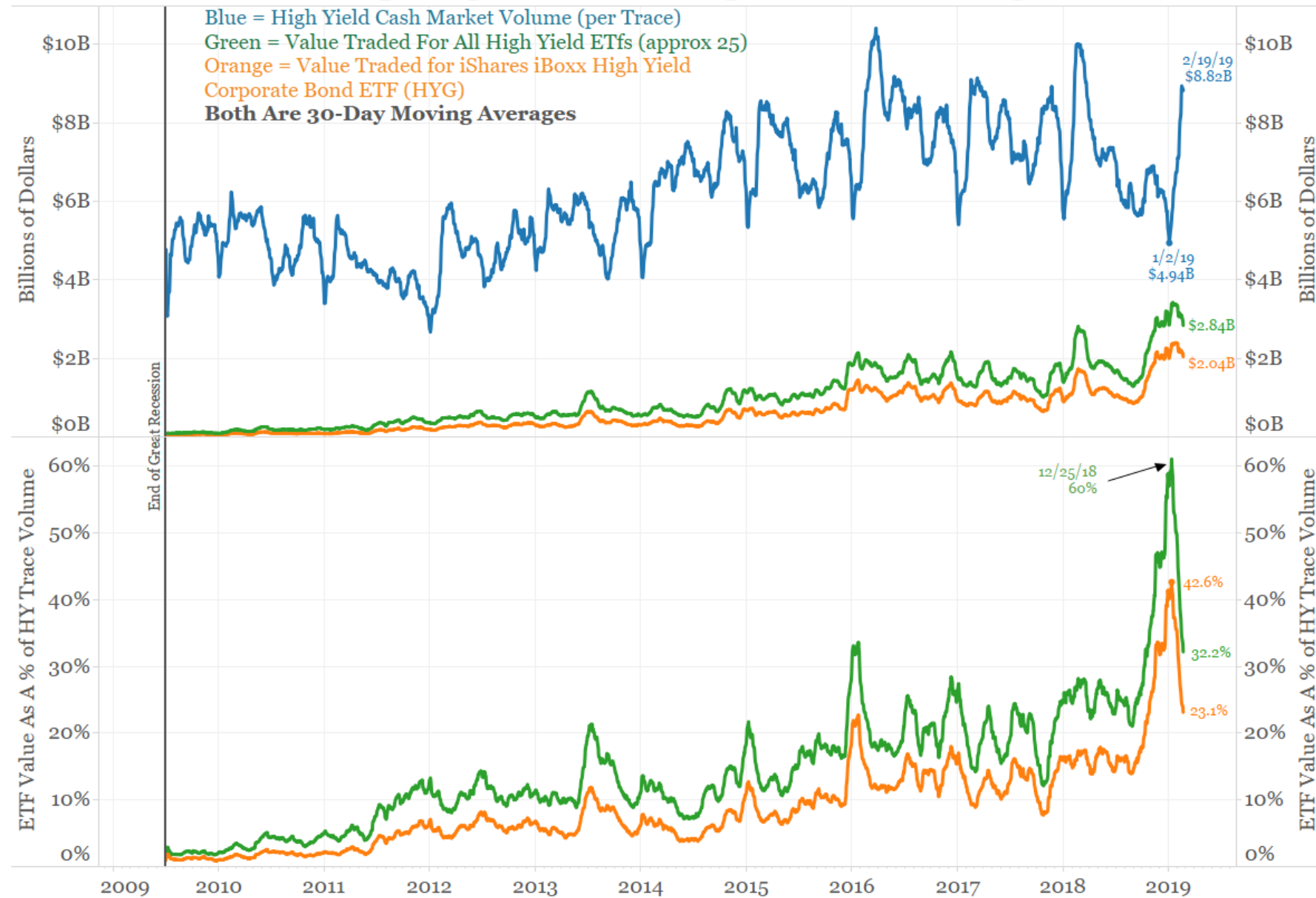
Volumes Are 30-Day Moving Averages



Data Source: Bloomberg, FINRA Trace

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Comparing HY ETF Trading To All HY Trading

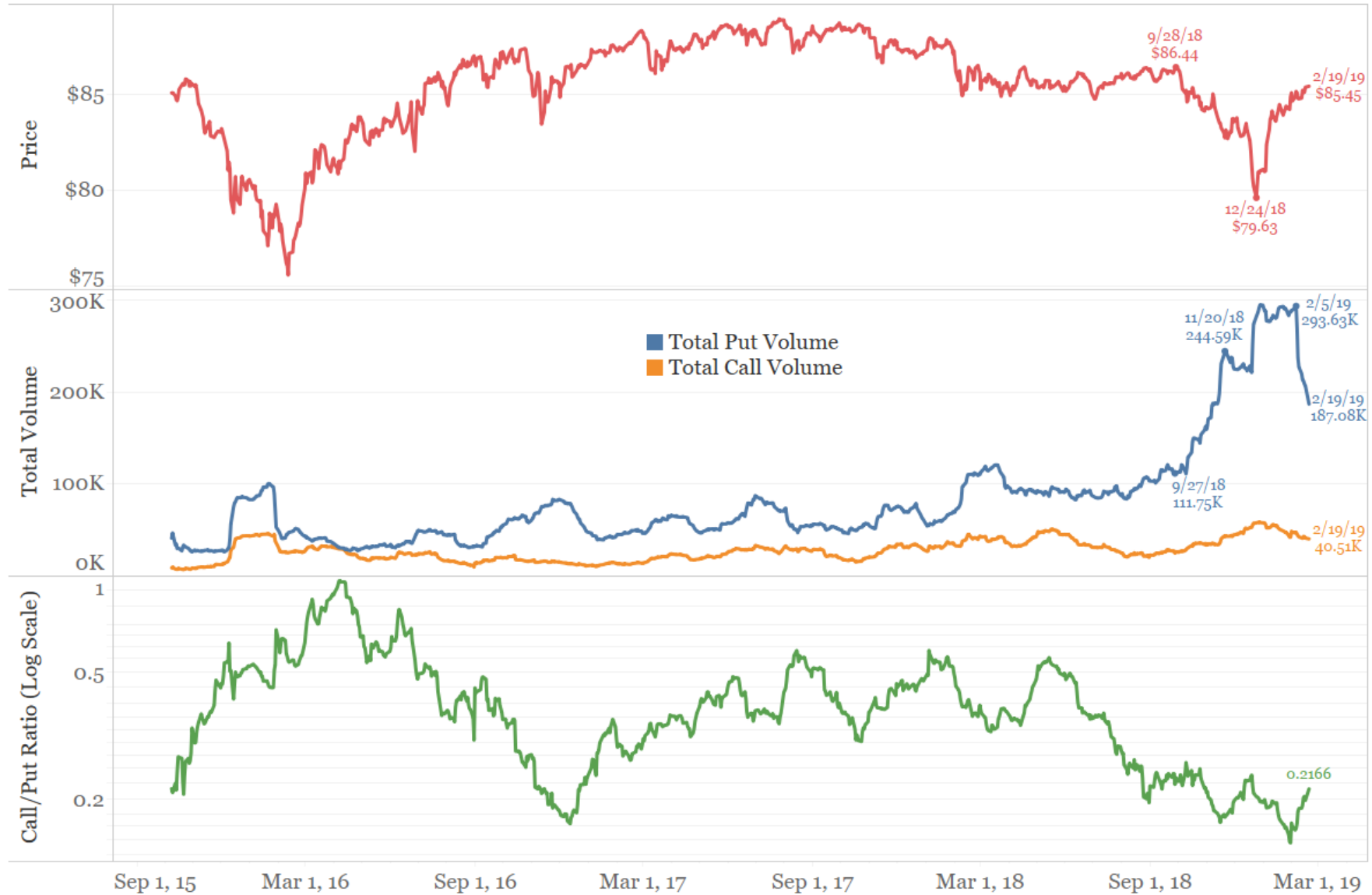


Data Source: Bloomberg, BlackRock, FINRA Trace

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

iShares iBoxx High Yield Corporate Bond ETF - Volume

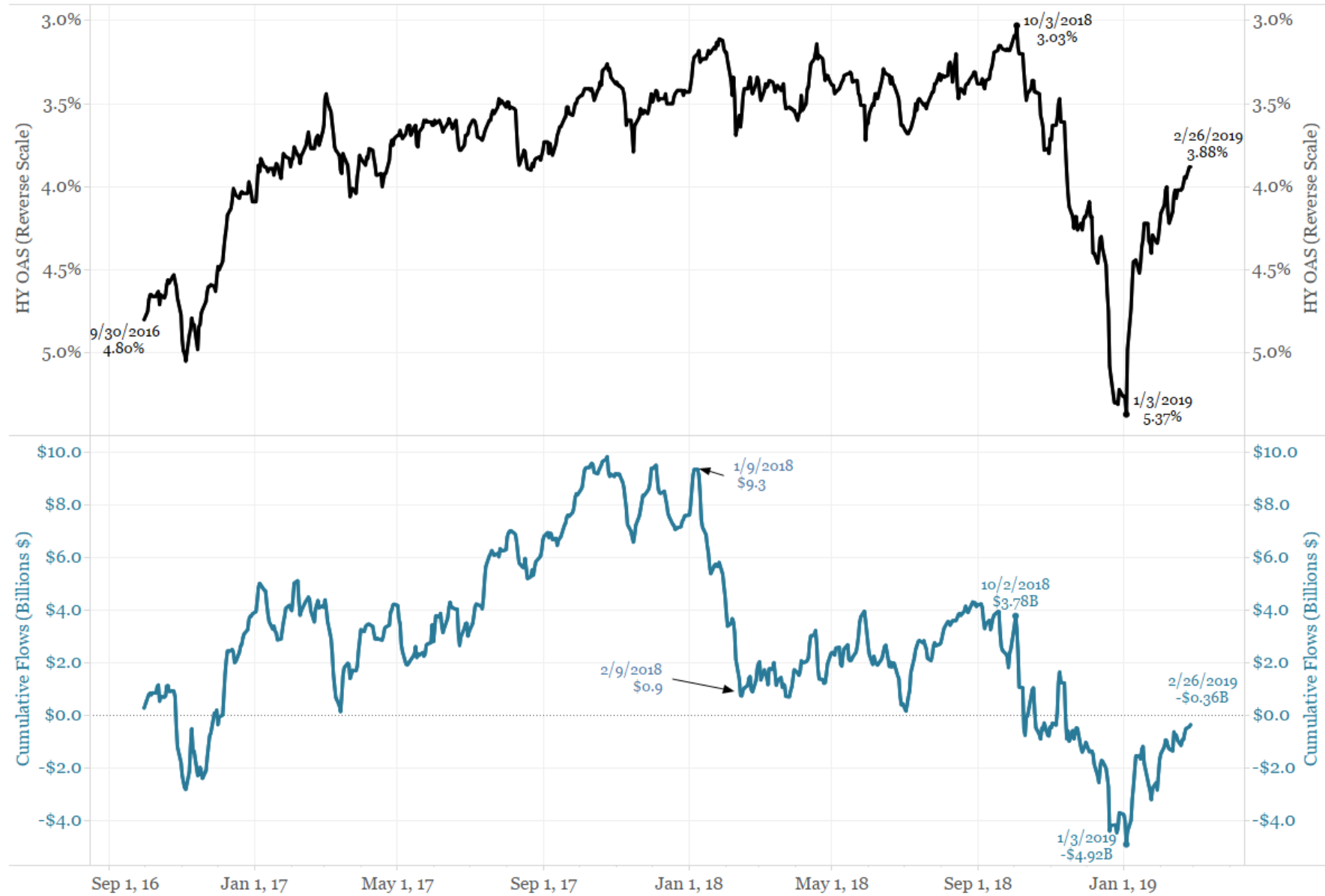
Rolling 30-Day Average



Data Source: BlackRock, CBOE, Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

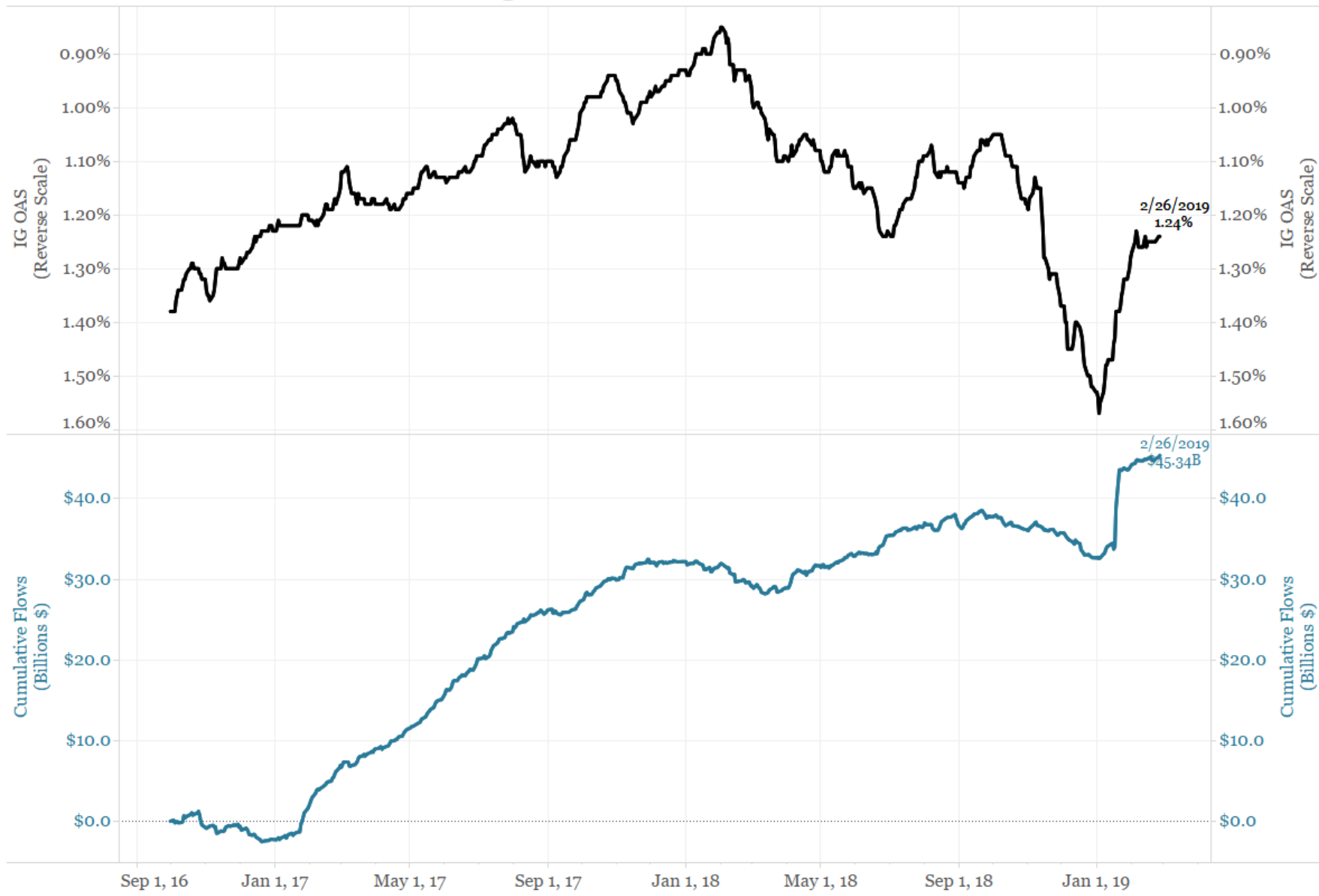
Long High Yield ETFs



Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

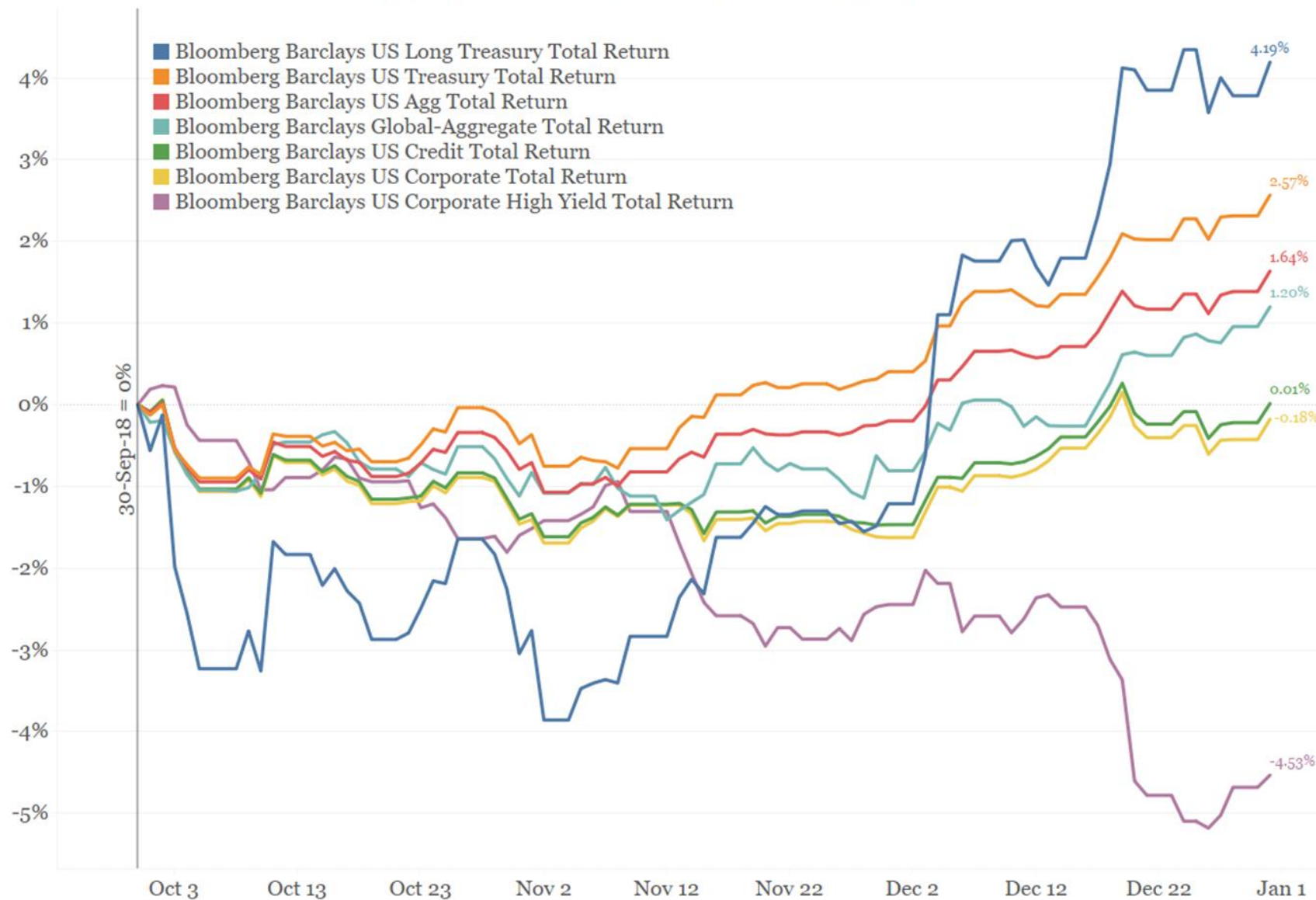
Long Investment Grade ETFs



Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Q4 2018 Fixed Income Total Returns

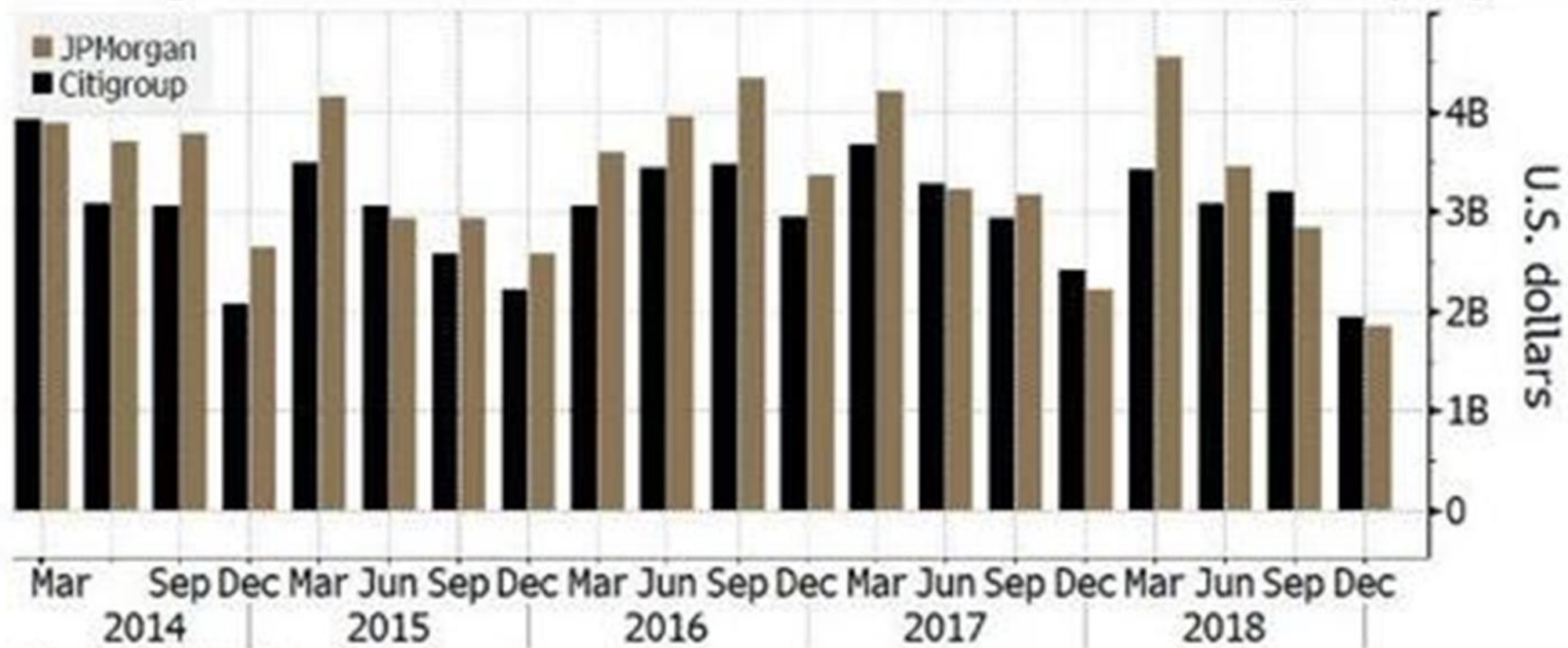


Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

FICC

JPMorgan fixed income markets revenue trailed Citigroup again



Source: Bloomberg

JPM US Equity (JPMorgan Chase & Co) JPM FICC Monthly 16JAN2014-15JAN2019 Copyright© 2019 Bloomberg Finance L.P. 15-Jan-2019 07:29:46

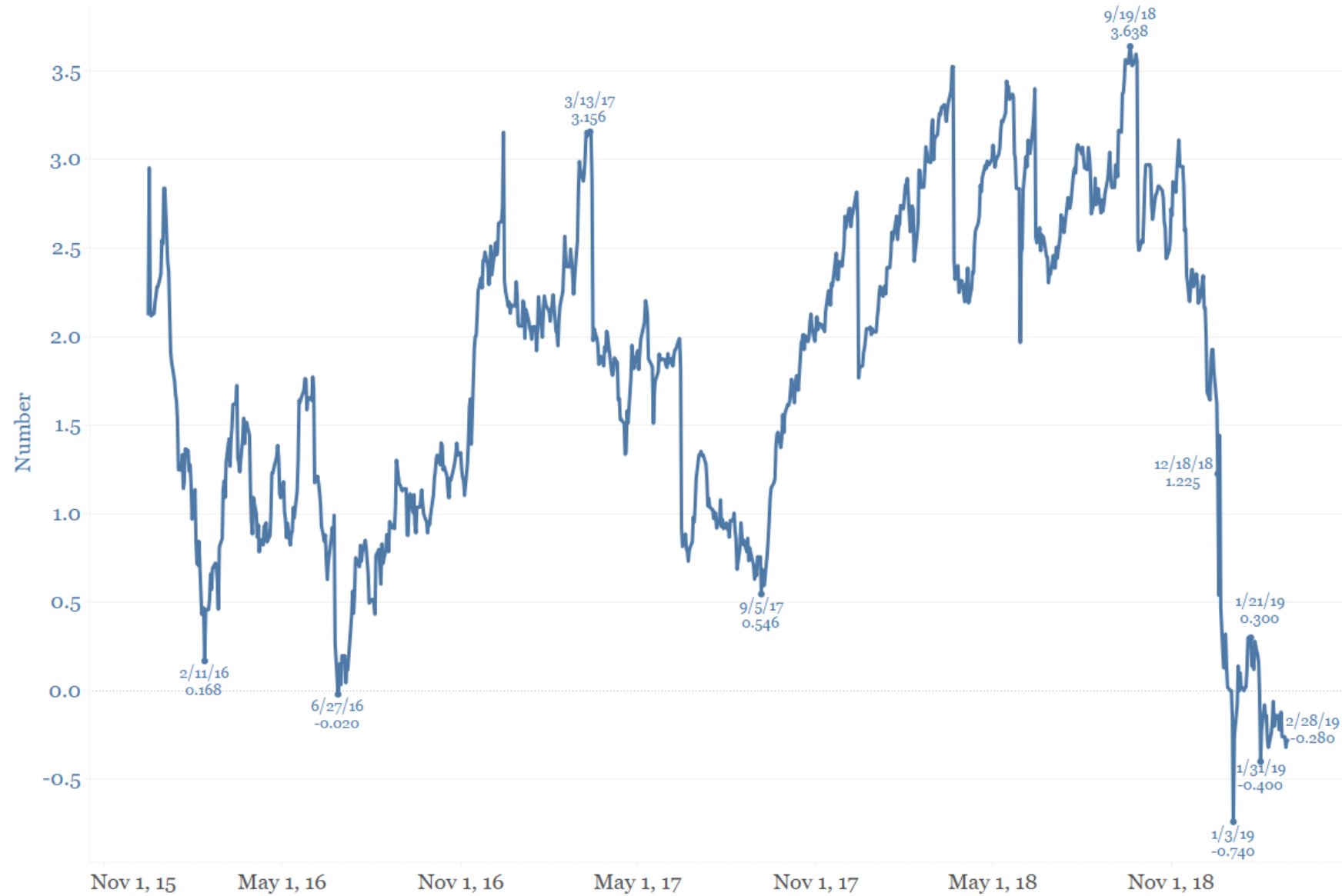
10-Year Treasury Note Forecasts



Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved

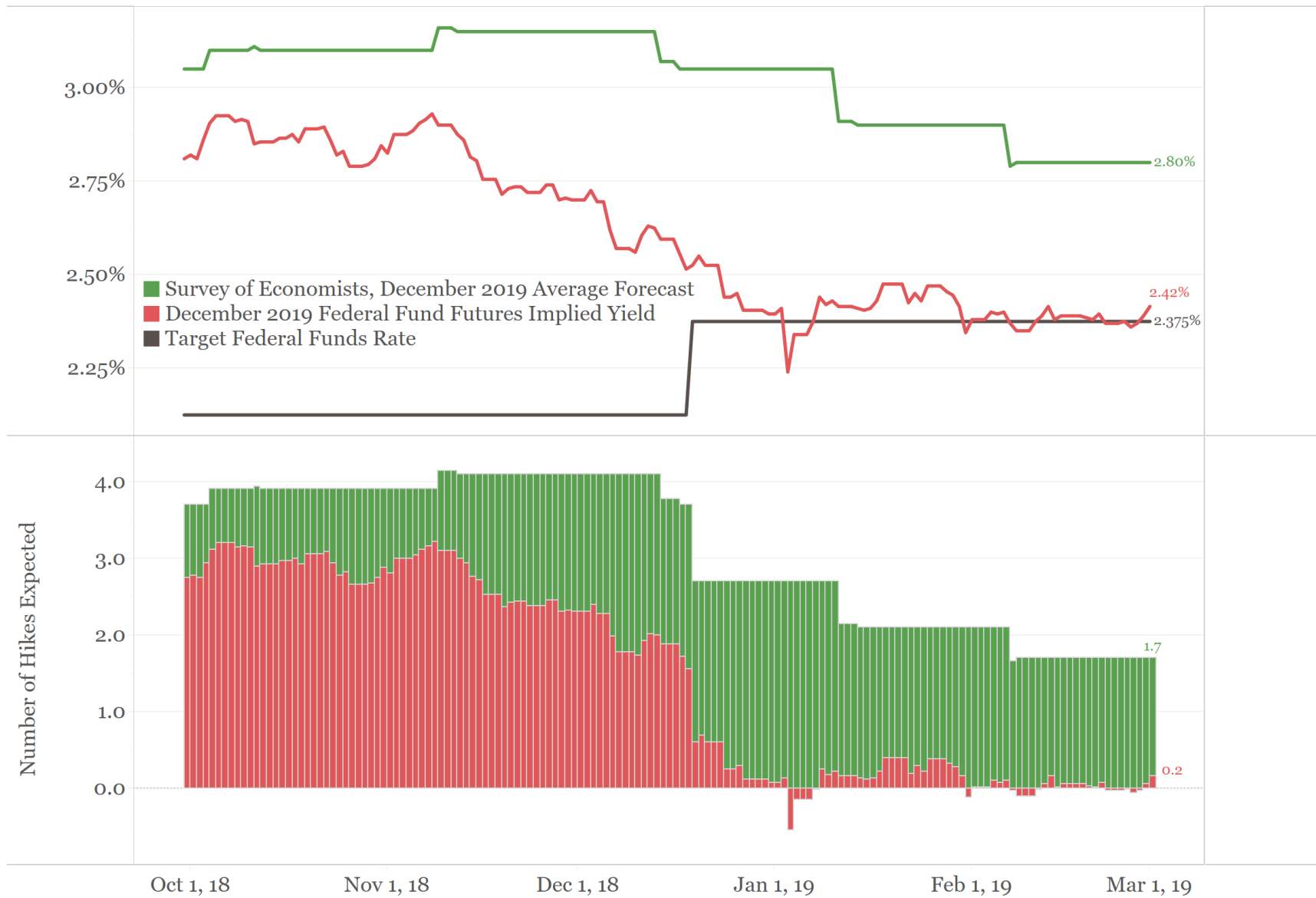
Hikes Priced In Over The Next 12-Months



Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com>

What Is Expected At Year End?



Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

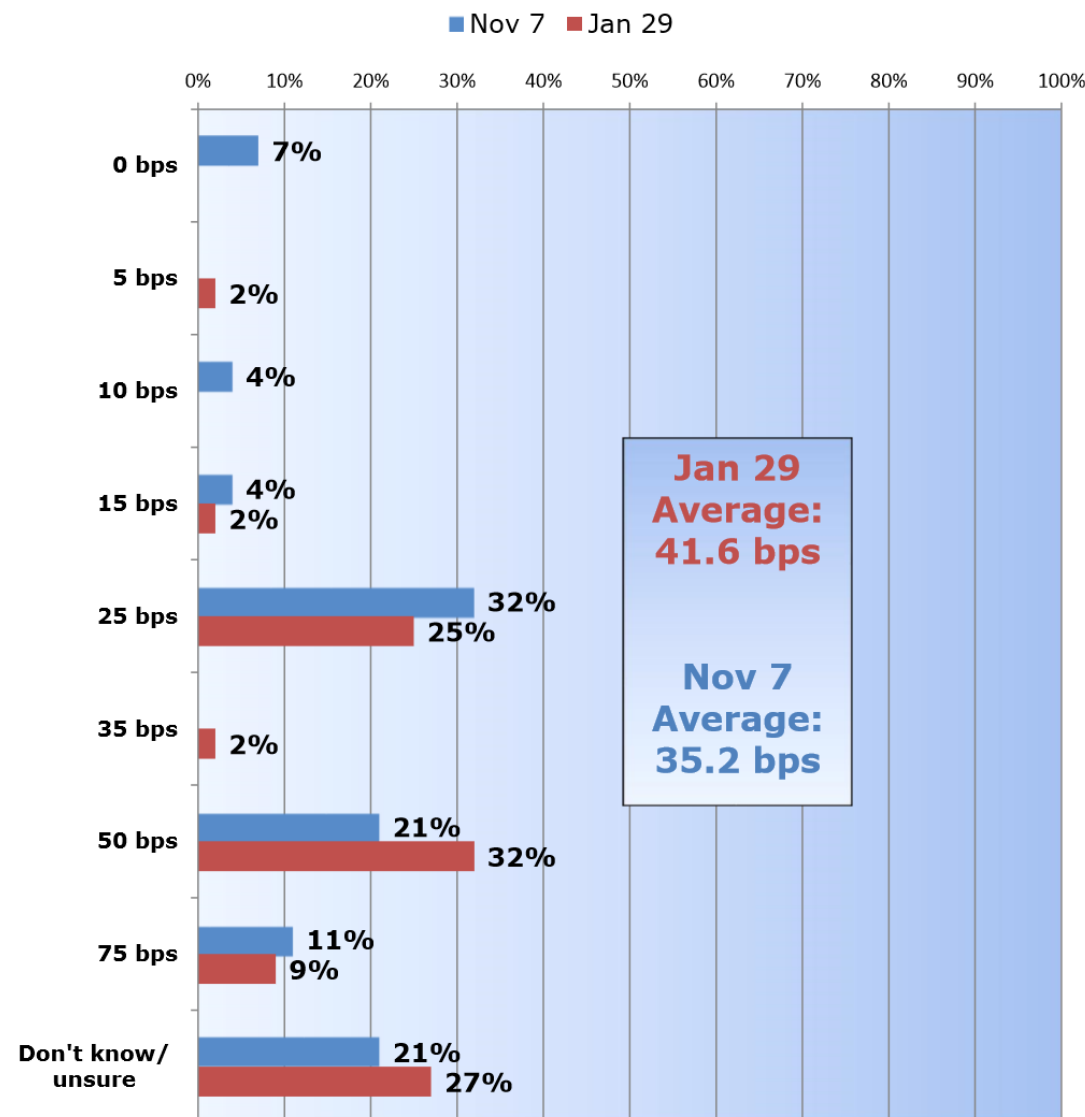
Kansas City Federal Reserve

May 10, 2017

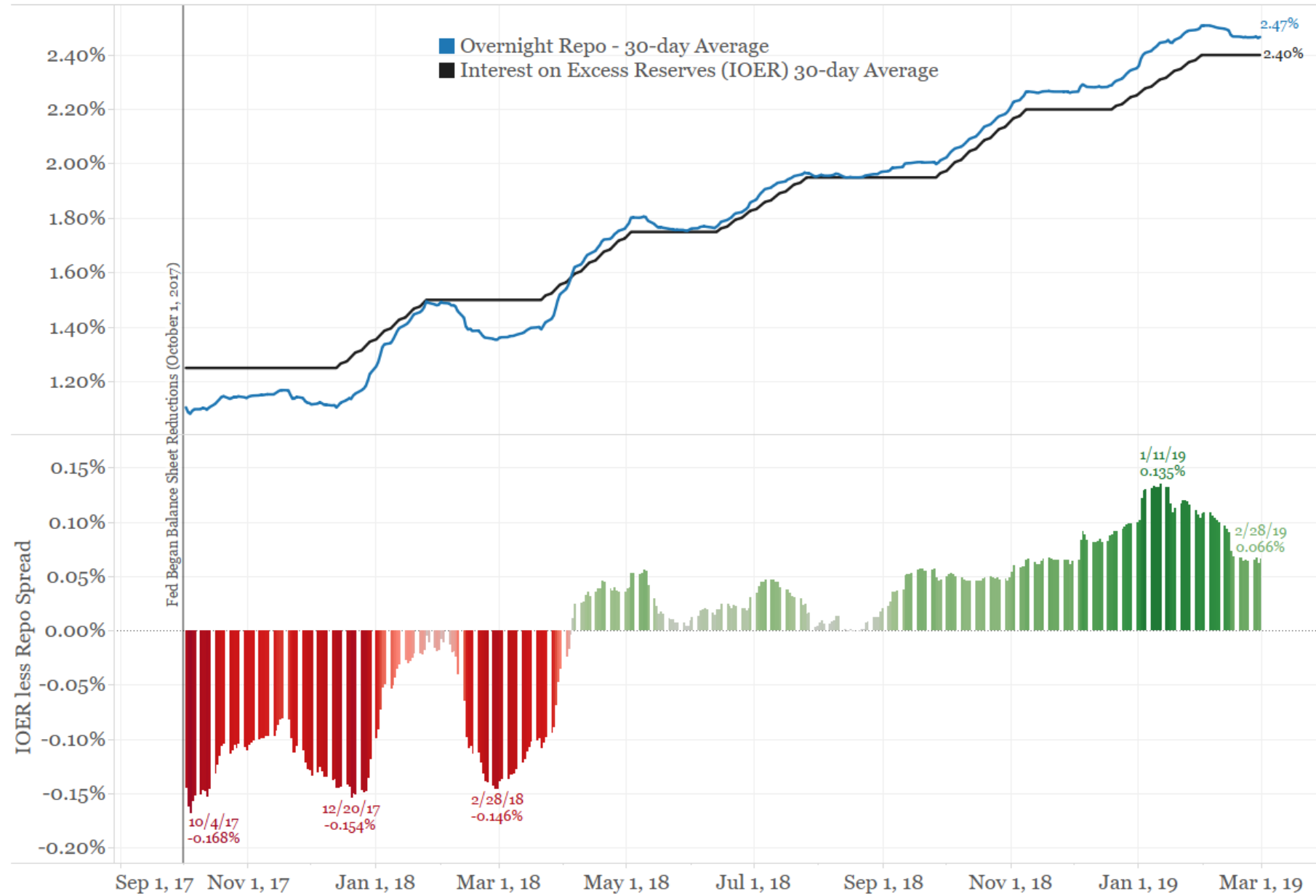
Forecasting the Stance of Monetary Policy under Balance Sheet Adjustments

The Federal Reserve's balance sheet holdings can affect broad financial conditions, including interest rates. In this way, monetary policy accommodation provided through the balance sheet may, to a modest extent, substitute for changes in the target federal funds rate. *Specifically, we find a \$675 billion reduction in the Fed's balance sheet over a two-year horizon is about equivalent to a 25 basis point hike in the funds rate.*

7. If the Fed reduces its balance sheet by \$600 billion this year, it would be roughly equivalent to hiking the Federal Funds Rate by:



Interest on Excess Reserves vs Overnight Repo

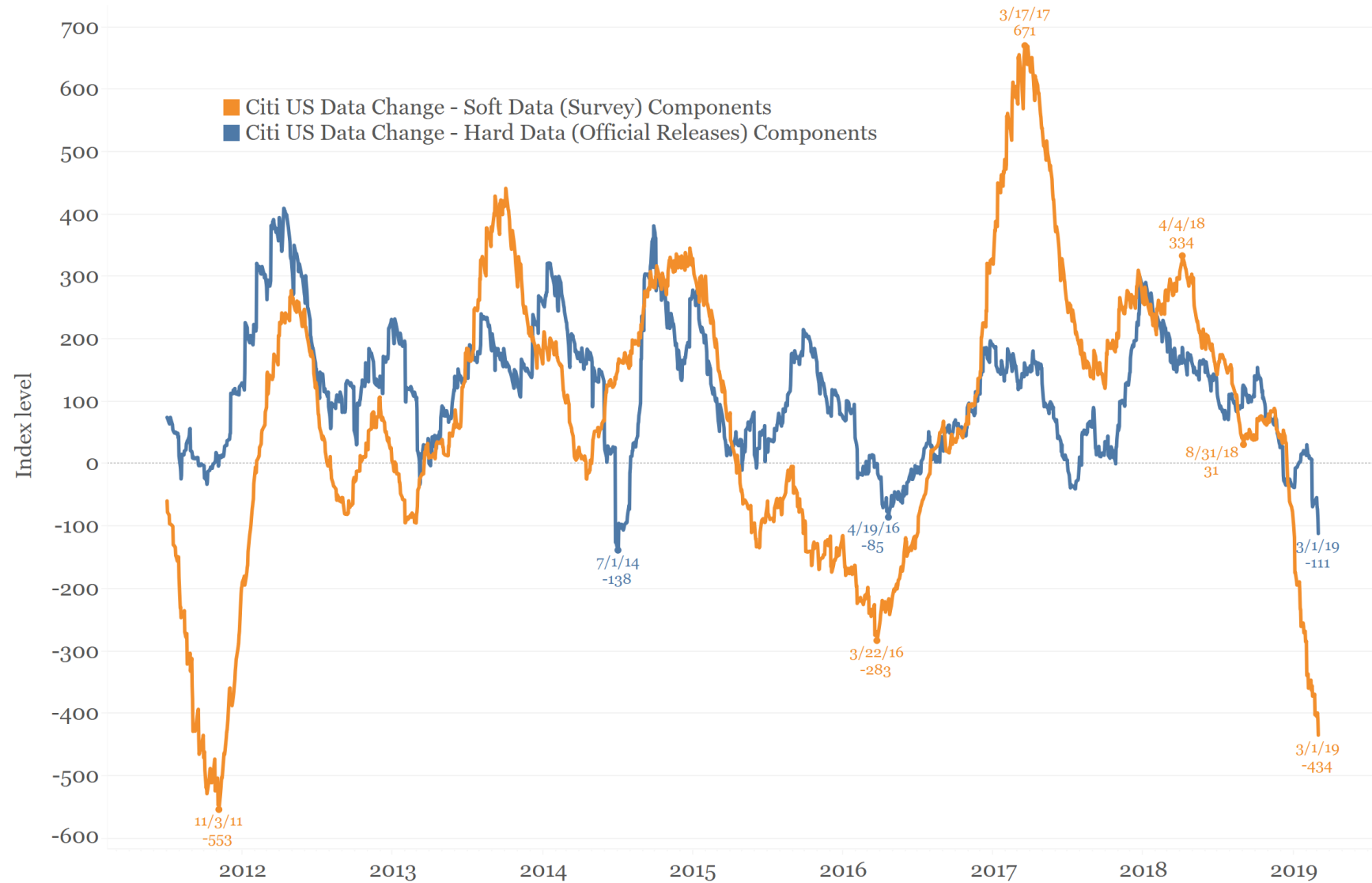


Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Survey-Based Data Collapsing

Citi US Data Change Indices



Data Source: Citigroup, Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

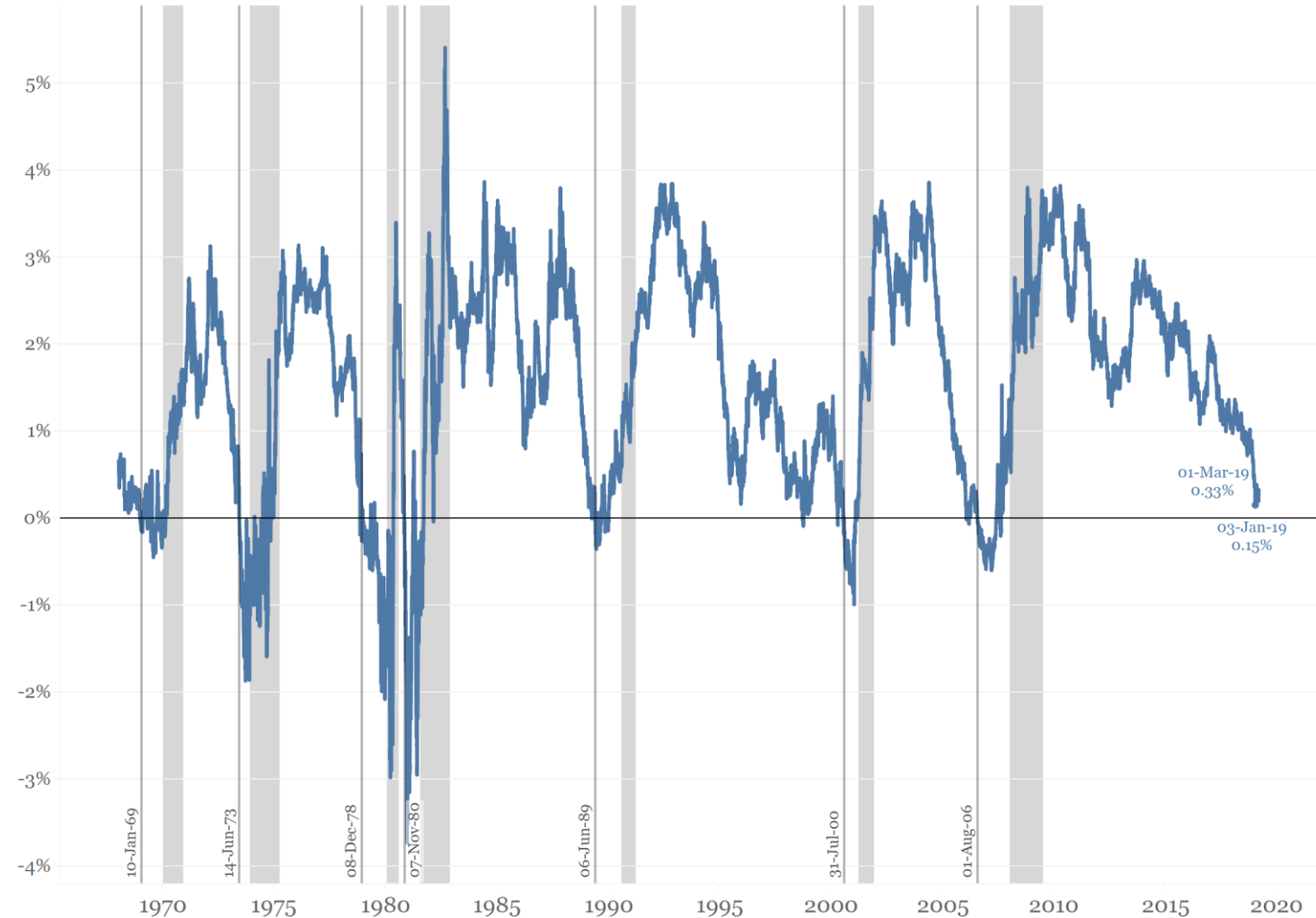
How Long Until The Recession?

When the 3M/10Yr Curve Inverts For 10 Straight Days

Date of Inversion	Date of Next Recession	Days to Next Recession
1/10/1969	Dec-69	325
6/14/1973	Nov-73	140
12/8/1978	Jan-80	389
11/7/1980	Jul-81	236
6/6/1989	Jul-90	390
7/31/2000	Mar-01	213
8/1/2006	Dec-07	487
Average		311

Yield Curve Inversions Lead Recessions

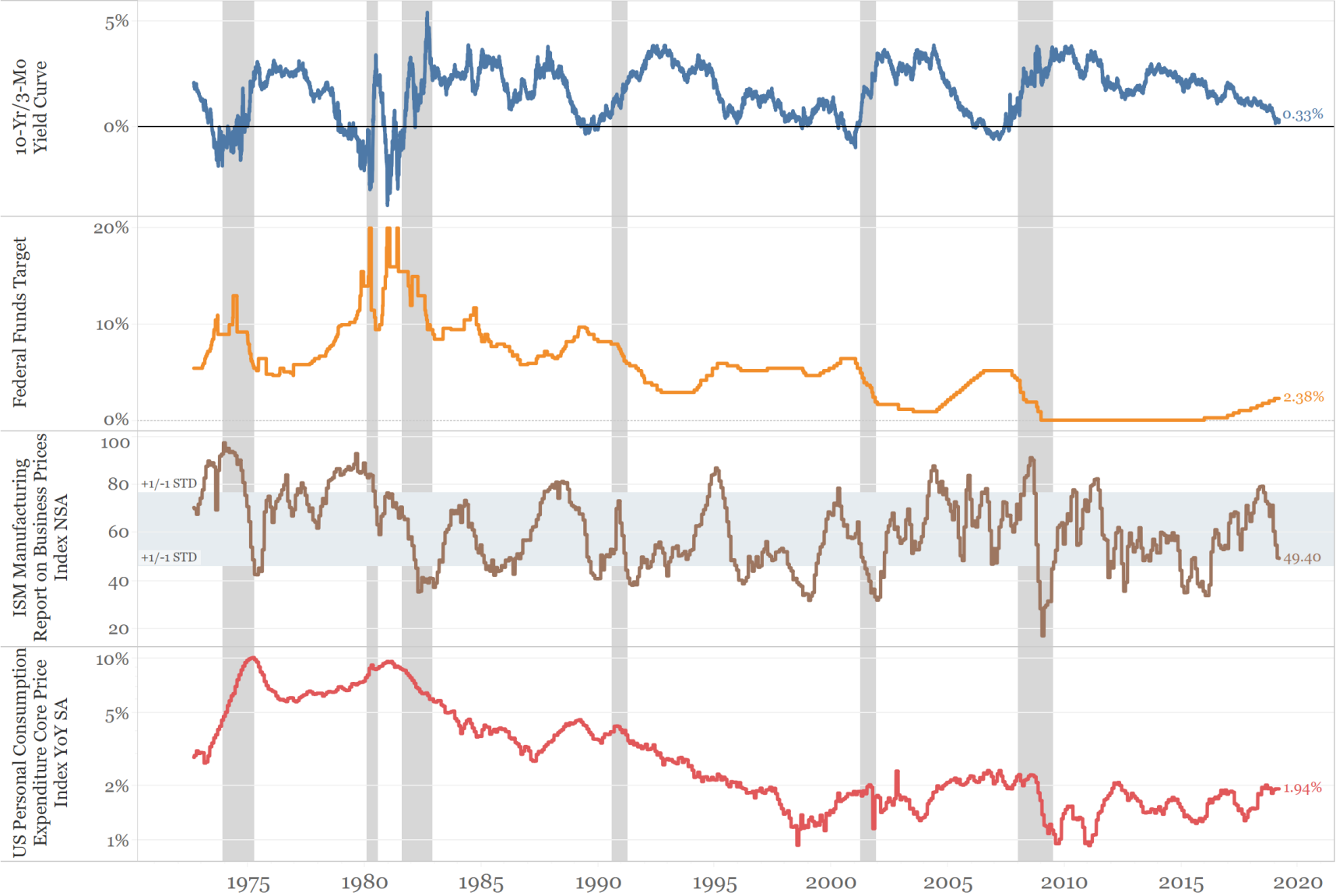
10-Year less 3-Month Yield Curve



Data Source: Federal Reserve and Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

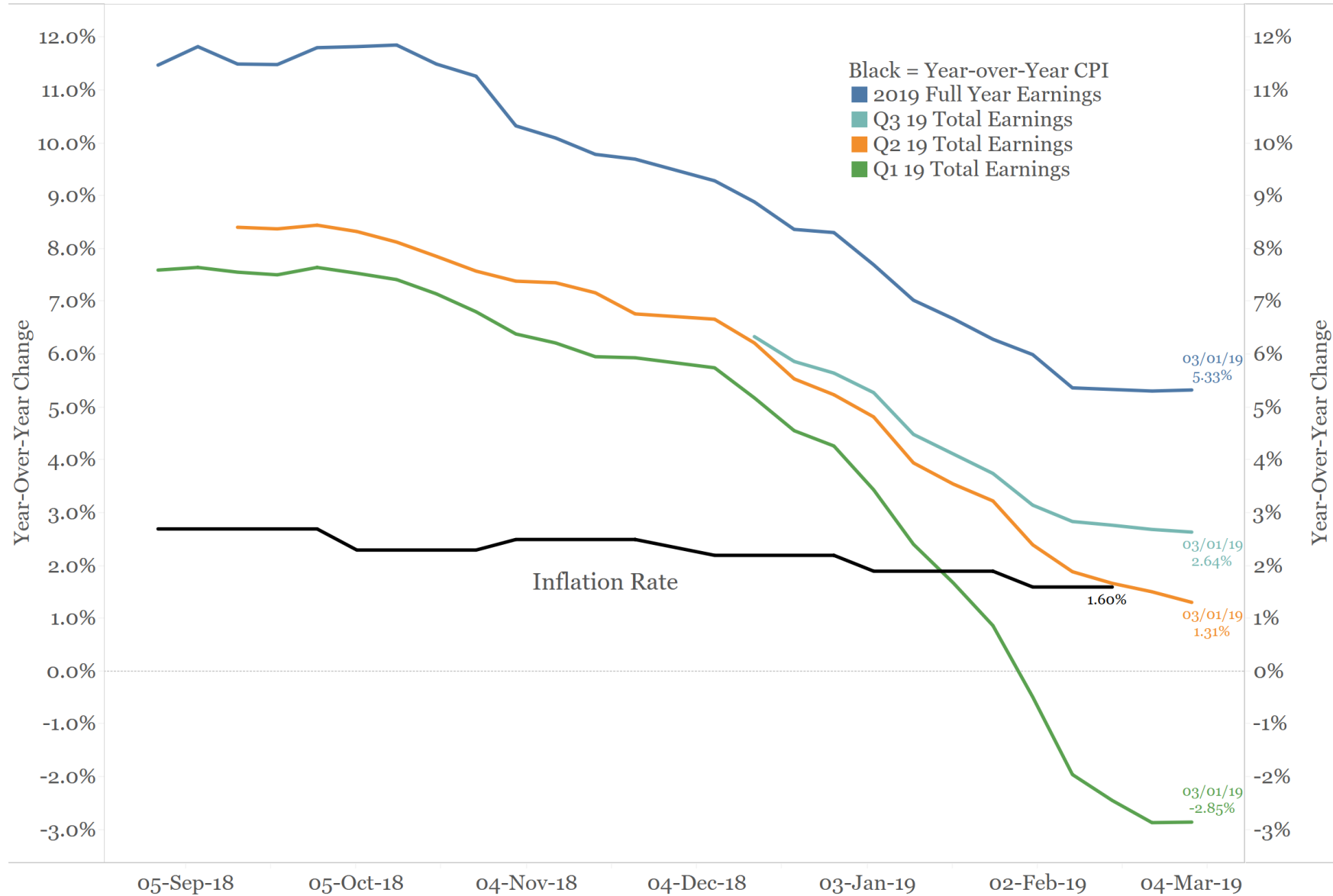
Why Does The Yield Curve Invert?



Data Source: Federal Reserve and Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

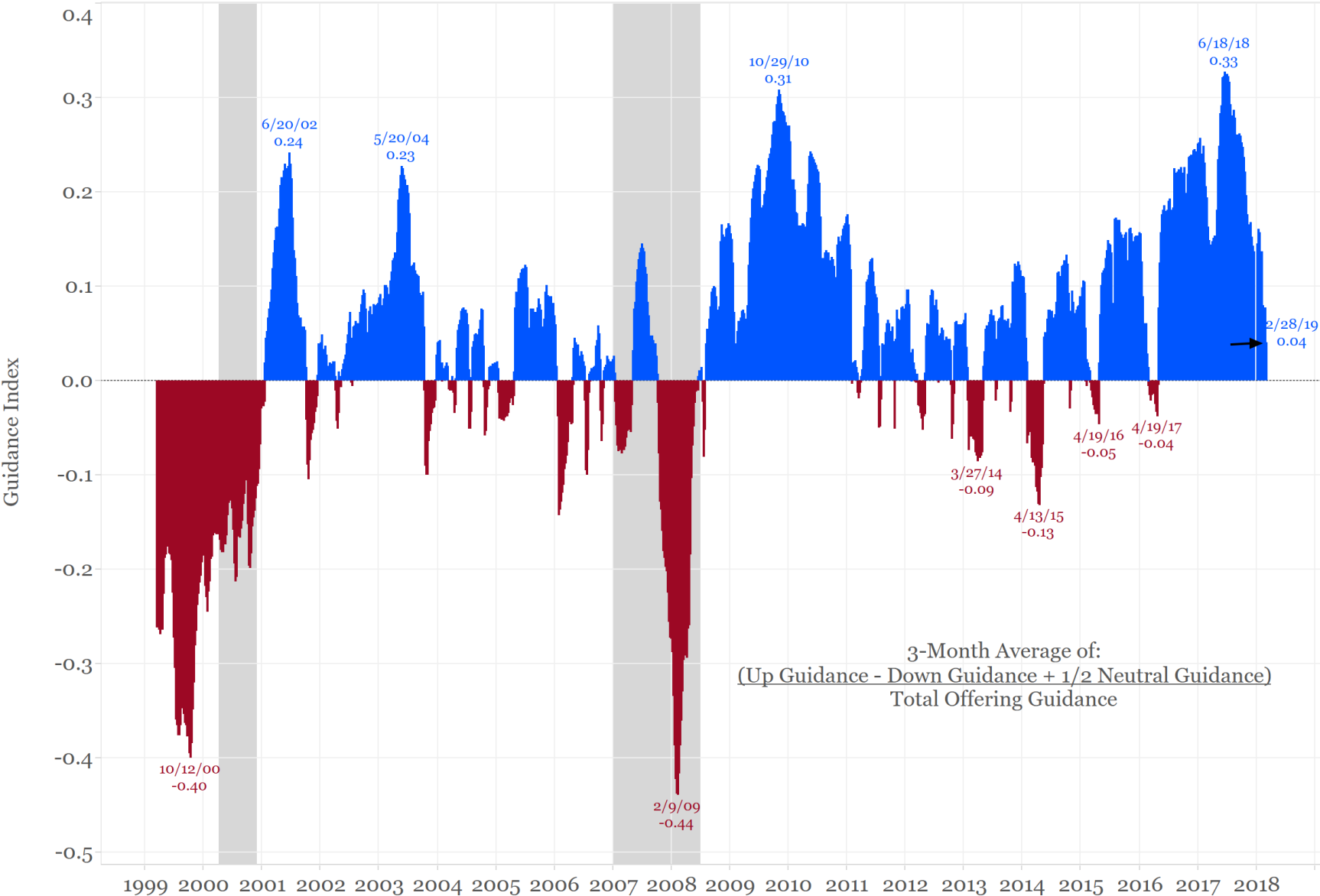
2019 S&P 500 Operating Earnings Expectations



Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Company Offered Guidance Index



Data Source: Bloomberg

© 2019 Bianco Research, L.L.C. All Rights Reserved
<https://www.biancoresearch.com/>

Bianco Research L.L.C.

550 W Washington Blvd
Suite 201
Chicago, IL 60661

Phone: (847) 304-1511
Fax: (847) 304-1749
e-mail: research@biancoresearch.com
<http://www.biancoresearch.com>

For more information about the contents/ opinions contained in these reports:

President (847) 756-3599
James A. Bianco jbianco@biancoresearch.com

Analysts (847) 304-1511
Greg Blaha gblaha@biancoresearch.com
Ryan Malo rmalo@biancoresearch.com

For subscription/service Information:

Arbor Research & Trading, Inc.
Director of Sales & Marketing (800) 606-1872
Max Konzelman Max.Konzelman@arborresearch.com

Arbor Research & Trading, L.L.C

1000 Hart Road, Suite 260
Barrington IL 60010

Phone: (847) 304-1550 Fax: (847) 304-1595
e-mail: inforequest@arborresearch.com
<http://www.arborresearch.com>

Domestic - For more information about Arbor Research & Trading and its services:

New York Sales Office

10 East 40th Street 13th Floor
New York, NY 10174
Edward T. McElwreath ed.mcelwreath@arborresearch.com
Phone (212) 867-5326 Fax (212) 370-1218

International - For more information about Arbor Research & Trading and its services:

London Sales Office

2nd Floor
1-2 Broadgate
London
EC2M 2QS
Phone 44-207-100-1051
Neil Tritton neil.tritton@arborresearch.com
Ben Gibson ben.gibson@arborresearch.com

Chicago Sales Office

James L. Perry james.perry@arborresearch.com
Phone (847) 304-1560 Fax (847) 304-1595

Geneva Sales Office

Rich Kleinbauer rich.kleinbauer@arborresearch.com
Phone (41) 22 565-2480