



Center for Financial Stability Global Markets Workshop

Barbara Novick, Vice Chairman

November 29, 2018



BLACKROCK®

Index strategies remain relatively small

Indexed assets – including mutual funds, ETFs and institutional portfolios – account for less than 18% of all global equities

Size of Global Equity Markets by Market Cap (US \$bn) ⁽¹⁾

Year-end 2016	67,905
Year-end 2017	83,290
<i>% change Y-o-Y</i>	22.7%

Global Equity ETFs as a % of Global Equity Markets ⁽²⁾

Year-end 2016	4.0%
Year-end 2017	4.5%

Global Index Equity Mutual Funds by Market Cap US \$bn) ⁽³⁾

Year-end 2016	2,324
Year-end 2017	2,955
<i>% change Y-o-Y</i>	27.2%

Global Index Equity Mutual Funds as a % of Global Equity Markets ⁽³⁾

Year-end 2016	3.4%
Year-end 2017	3.5%

Total Global Equity Index Strategies (ETFs, Index Mutual, & Separate Accounts) by Market Cap US \$bn) ^{(1) (2) (3) (4)}

Year-end 2016	11,854
Year-end 2017	14,459
<i>% change Y-o-Y</i>	22.0%

Total Global Equity Index Strategies (ETFs, Index Mutual, & Sep Acc) as a % of Global Equity Markets ^{(1) (2) (3) (4)}

Year-end 2016	17.5%
Year-end 2017	17.4%

Sources: World Federation of Exchange Database (data as of November 2017), Simfund (data as of Nov 2017), Broadridge (data as of Nov 2017), iShares (data as of Nov 2017), McKinsey (data as of year-end 2016). 1) World Federation of Exchange Database. 2) iShares. 3) Simfund, Broadridge. 4) McKinsey, BlackRock.

ETFs have acted as shock absorbers during periods of market volatility

In stressed markets, ETFs can provide an additional source of liquidity through the exchange

Given the high yield market environment and closure of TFCIX in Dec. 2015, high yield ETFs experienced significant trading volume

- On Dec. 11, 2015, high yield bond ETFs traded in aggregate volume of \$6.1 billion on exchange while high yield bonds traded \$9.5 billion¹
- Exchange trading in high yield ETFs was nearly 65% of the size of total OTC trading in high yield bonds²

Following increased volatility in Feb. 2018, high yield ETFs provided liquidity and pricing transparency

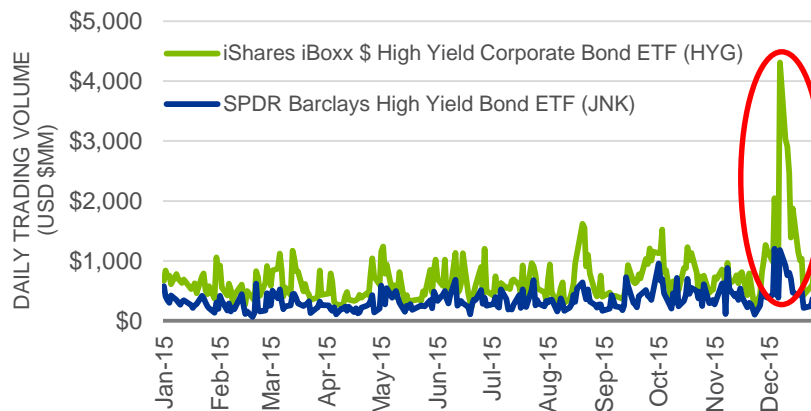
- Secondary trading volume in the iShares iBoxx \$ High Yield Corporate Bond ETF (HYG) was elevated in early 2018 through February 14, averaging \$1.5 billion per day and reaching as high as \$4 billion
- HYG's "primary" market activity accounted for just 1.45% of total over-the-counter (OTC) high-yield cash bond volume³

1) Source: MarketAxess, FINRA TRACE. Excludes 144A trading volumes. Data as of 12/11/2015; accessed on 1/11/2016.

2) Does not include high yield ETF trading volume as part of OTC trading volume. High yield bond ETF trading volumes were 29.8% of total trading volumes including ETFs.

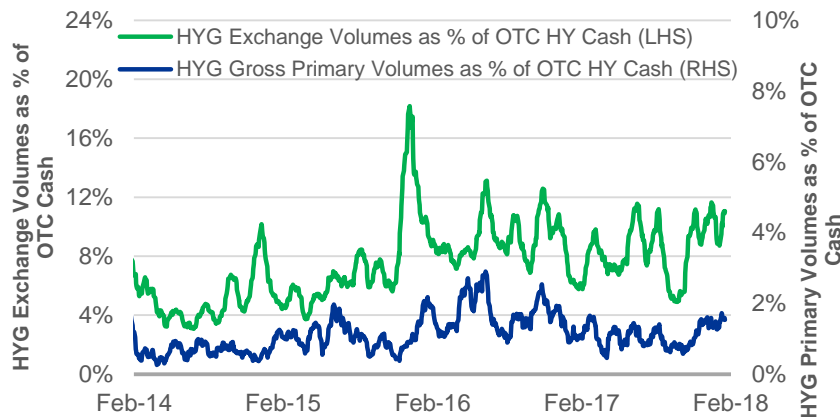
Examples provided for illustrative purposes only. The data contained herein are not necessarily all-inclusive and are not guaranteed as to accuracy. Past performance is not a reliable indicator of future performance.

High Yield ETF Trading Volume in Dec. 2015



Source: Bloomberg, BlackRock, as of 12/31/2015

HYG – 20 Day Rolling Volumes as % of OTC High Yield Cash Activity



3) Source: Bloomberg, BlackRock, SIFMA as of 2/14/2018. 144a HY OTC volumes included.

Misunderstandings have created concerns about the impact of index investing on individual securities

The impact of ETF flows on individual securities or sectors has been cited as a contributor to volatility

- In fact, the possible impact of flows on underlying trading specific securities is quite small

Case Study: Apple Inc. (AAPL) in July 2017

- Apple is the largest market cap company in the world
- In July 2017, we saw large inflows into ETFs
- Apple was held by 331 ETFs globally
- \$65.9 billion of Apple stock was traded
- 95% of the stock's trade volume was not directly related to ETF flows

Specifically, we calculated the imputed impact of daily flows into all 331 ETFs over the month of July 2017, with the conservative assumption that the underlying stock was traded in proportion to its weight in each ETF that included it as a constituent. If AAPL was 3% of a fund that saw total flow of \$100 million (defined the sum of absolute daily flows over the 22 trading days in July), we would impute \$3 million of associated create/redeem activity. This estimate is an upper bound on the amount of primary market activity induced by flows because in reality, market makers will typically wait more than a day or so to net out buys and sells before trading the underlying. We estimate the maximum primary market create/redeem activity as 5.11% of AAPL's ADV in July 2017 using the approach outlined by Madhavan. See Ananth N. Madhavan, Exchange Traded Funds and the New Dynamics of Investing, Oxford University Press (2016) at Chapter 15 (discussing the approach utilized for this analysis). The top five contributing ETFs are: QQQ, with contribution of 2.52%; SPY, with contribution of 0.88%; IVV, with contribution of 0.27%; XLK, with contribution of 0.24%; and DIA, with contribution if 0.13%. The remaining 326 ETPs contribute around 1.06% to Apple's ADV. (Data from this analysis is from Bloomberg and Morningstar, as of August 1, 2017).

Potential challenges of applying macroprudential tools to market finance

We believe the application of macroprudential policies in stressed markets is likely to cause investors to retreat when their participation might otherwise be stabilizing

Liquidity Buffers

- Can provide false confidence about the liquidity of a fund
- Cash drag on fund performance
- Procyclical outcomes if required to replenish buffer

Capital Flow Management Measures

- Euphemism for capital controls
- May inhibit price discovery and natural price adjustments
- May introduce market distortions and impact investor confidence

Mandatory Leverage Limits

- No single measure can accurately quantify leverage for all types of funds
- Important to factor in sources and terms of funding as well as fund redemption terms

Redemption Gates and Suspensions

- Mutual funds only represent a minority of financial assets
- Creates fundamental fairness questions
- Could result in selling of direct investments not subject to redemption gates

Margin and Haircuts

- Could reduce the attractiveness of SFT or derivatives transactions, impacting liquidity and the efficiency of markets
- Could have procyclical impact

For more information, see BlackRock, *ViewPoint*, Macroprudential Policies and Asset Management (Feb. 7, 2017), available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-macroprudential-policies-and-asset-management-february-2017.pdf>.

Potential risks to US financial system worth evaluating today

Future of LIBOR

Fallback provisions in legacy contracts, basis risks

Cybersecurity

Special focus on market plumbing

Bank STIFs

State-chartered banks should update investment guidelines using OCC framework

Bondholder Rights

Protection for individuals in mutual funds and pension plans

Pension Underfunding

Counterparty risk as well as pressure on PBGC

Brexit

Importance of a smooth transition, avoiding market fragmentation

CCPs

Resiliency, not just recovery and resolution

Important notes

This presentation represents the views of BlackRock and is intended for educational purposes to discuss topics related to public policy matters and issues helpful in understanding the policy and regulatory environment. The information in this publication should not be construed as research or relied upon in making investment decisions with respect to a specific company or security or be used as legal advice. It should not be construed as research. Any reference to a specific company or security is for illustrative purposes and does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities, or an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer. This material may contain 'forward-looking' information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass.

The opinions expressed herein are as of November 2018 and are subject to change at any time due to changes in market, economic or other conditions. The information and opinions contained herein are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, but are not necessarily all inclusive and are not guaranteed as to accuracy or completeness. No part of this material may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written consent of BlackRock.

This publication is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. This material is for use in the US only. This material contains general information only.

©2018 BlackRock. All rights reserved. BLACKROCK is a registered trademark of BlackRock. All other marks are property of their respective owners.