

## MEMORANDUM

To: File No. S7-15-18

From: Joel Cavanaugh  
Division of Investment Management

Date: July 22, 2019

Re: Meeting with Representatives of Nasdaq

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On July 17, 2019, representatives of the Securities and Exchange Commission (“SEC”) participated in a meeting with representatives of Nasdaq. The SEC representatives present in-person were Sarah ten Siethoff, Jacob Krawitz, Daniele Marchesani, Kay-Mario Vobis, Joel Cavanaugh, and Matthew DeLesDernier. The Nasdaq representatives present in-person were Jonathan Cayne, Phillip Mackintosh, Vannyda Kong, Yolanda Goettsch, Steve Oh, Carlos Pelaez, and Edward Coughlin.

The participants discussed, among other things, the SEC’s proposal relating to exchange-traded funds.

Information provided by Nasdaq in connection with this meeting is set forth in Annex A.

ANNEX A



# ETP Markets: What the data shows

July 17, 2019

# How much do ETPs trade per day?

**37M** trades occur each day in the U.S. Equity Market

Average Daily \$ Volume

**\$357B**

Average Daily Volume

**7.3B**

ETPs represent **28%** of total value traded and **20%** of total volume

ETP Average Daily \$ Volume

**\$100B**

ETP Average Daily Volume

**1.5B**

Note: Data based on Full-Year 2018, ETP metrics based on Bloomberg defined ETPs for the FY 2018, Trade data from SIP

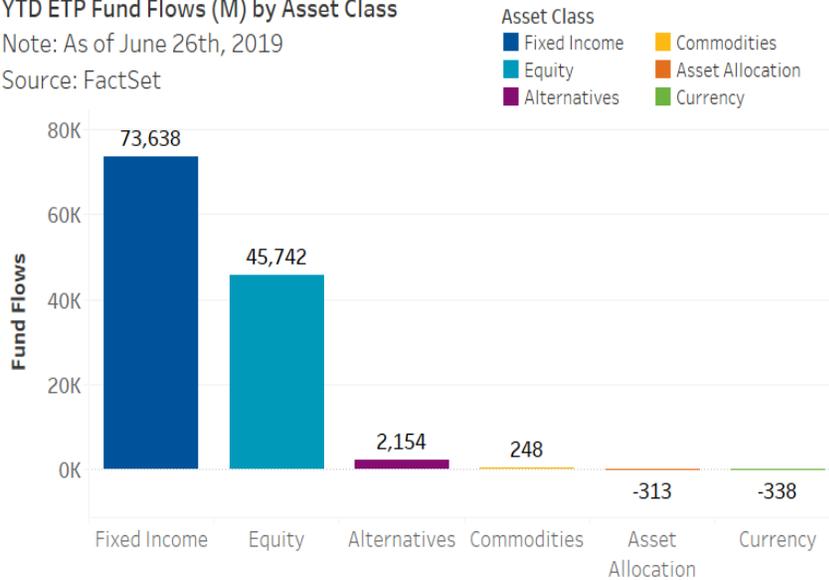
# 2019 Fund Flows: Active is Gaining

About 2/3<sup>rds</sup> of 2019 Equity ETF inflows are NOT index weighted

YTD ETP Fund Flows (M) by Asset Class

Note: As of June 26th, 2019

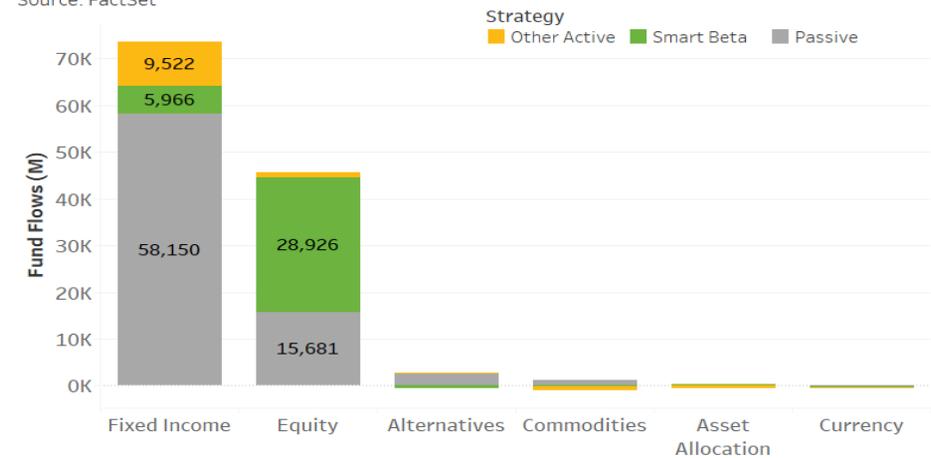
Source: FactSet



YTD Fund Flows (M) by Strategy

Note: Based on fund flows through June 26th, 2019; Smart Beta includes Dividend, Low Volatility, Currency Hedged, Growth, Value, Multi-Factor, ESG, Fundamental, and Momentum; Passive includes Vanilla only; Other includes remaining strategies

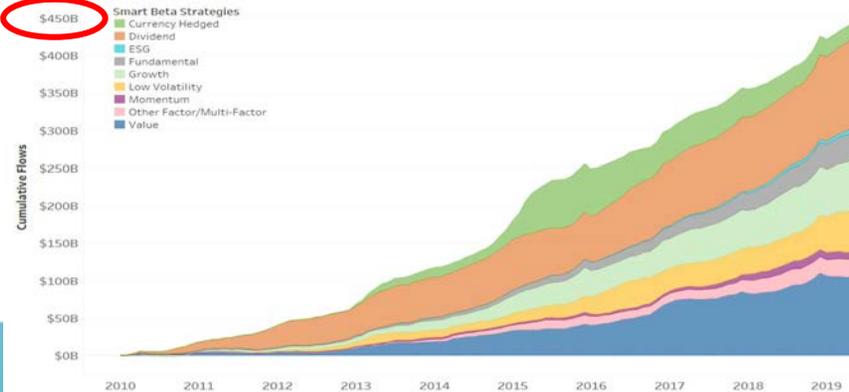
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ETP Smart Beta Cumulative Flows

Note: Smart Beta limited to strategies including Currency Hedged, Dividend, ESG, Fundamental, Growth, Low Volatility, Momentum, Other/Multi-factor, and Value

Source: Credit Suisse





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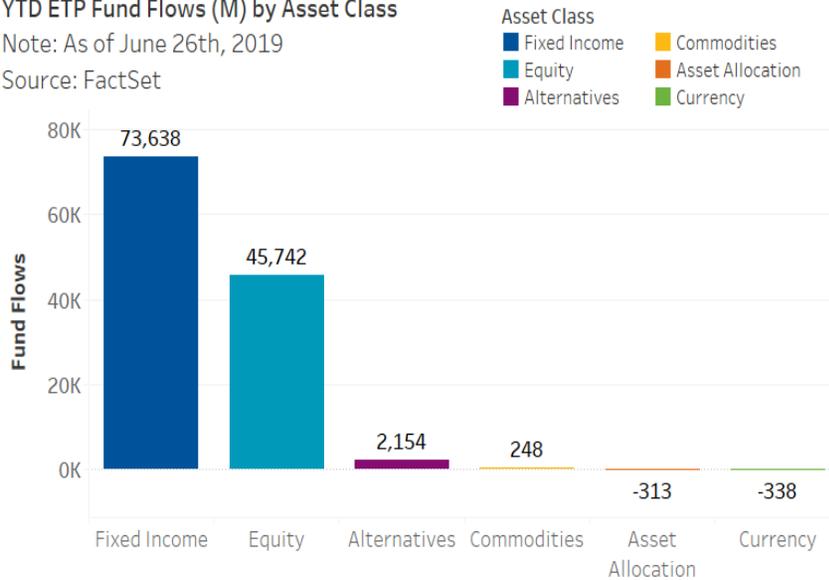
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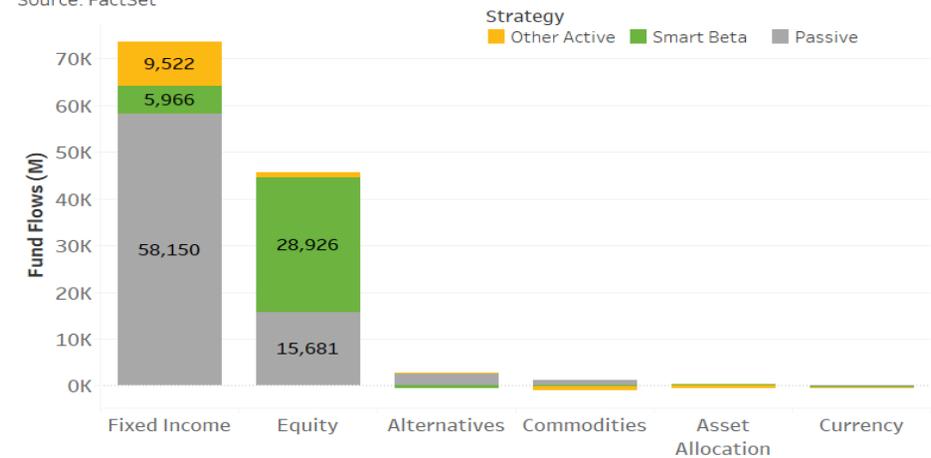
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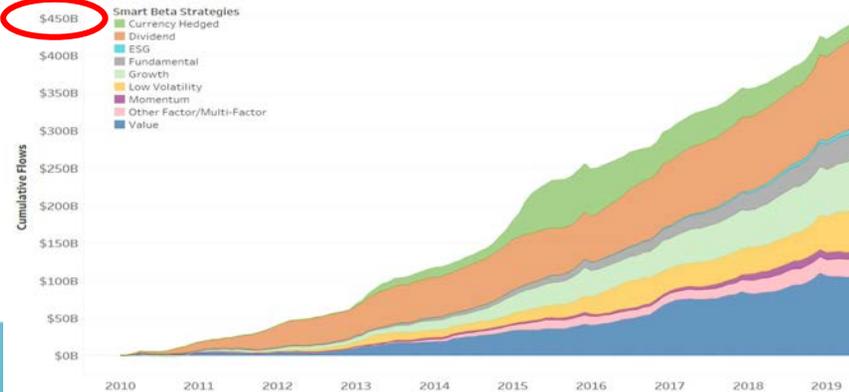
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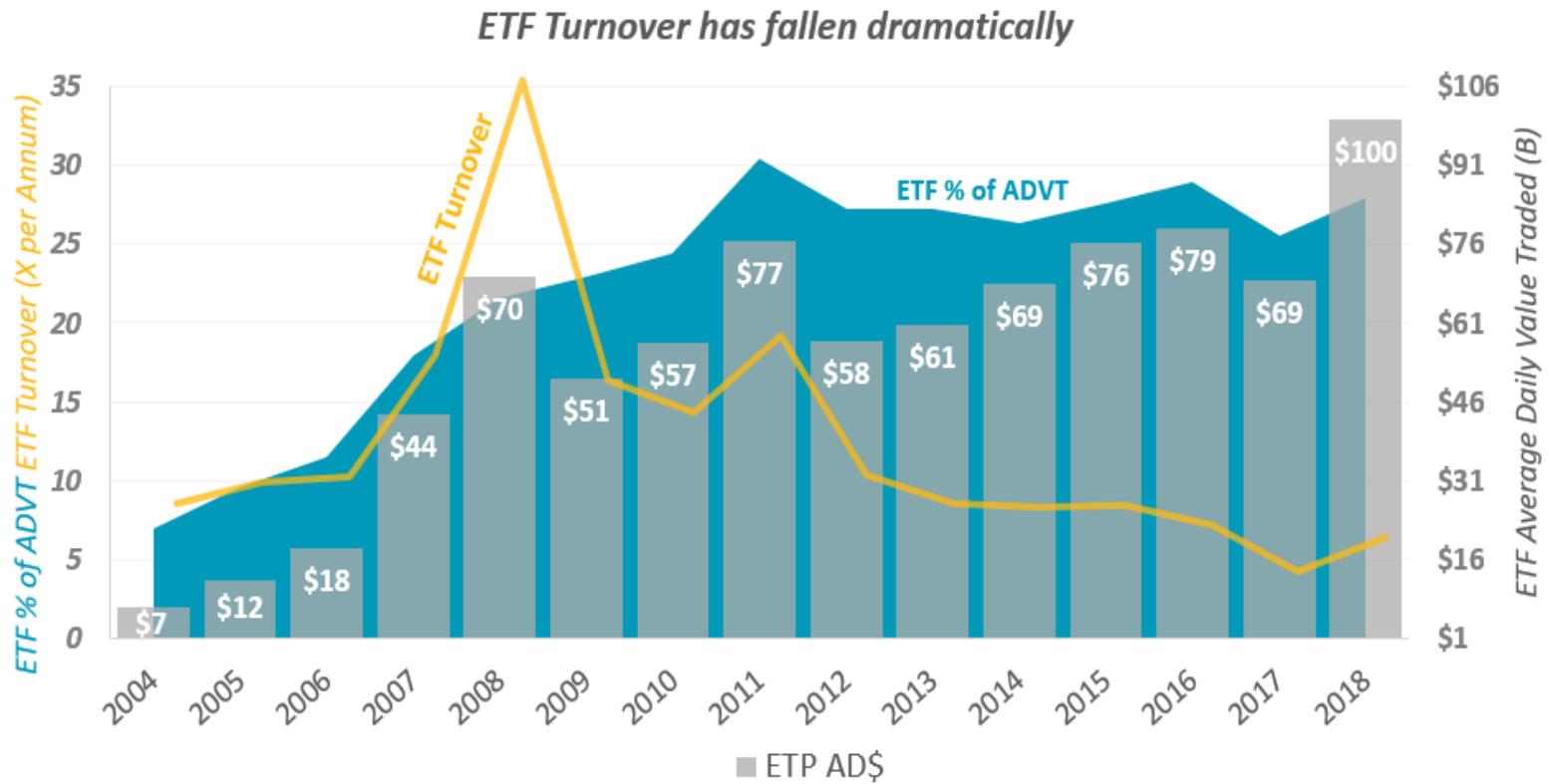
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Source: Credit Suisse



# ETP Trading up while Turnover is down

Evidence that new ETP buyers are holding longer term



Sources: Rosenblatt, Credit Suisse

# The economics of flexible creations

## ETF cost and revenue matrix

Payer and Receiver

Cost	Issuer	Market Maker	Investor	Custodian
Holding costs	Inventory x MER (can be up to 90bps/annum)	Inventory x MER (can be up to 90bps/annum) (1)	Holding x MER (can be up to 90bps/annum)	
Hedging		Inventory x stock loan (can be up to 200bps/annum) (1)		
Trading costs		Commissions or ETF spread Underlying spread	Spread costs: from 4 to 20bps	
Creation costs	From \$250 to over \$5,000 per create	From \$250 to over \$5,000 per create		
Trade Settlement	Maybe to \$2-10 per ticket (so \$1000 - \$5000 for a 500 stock ETF)	Maybe to \$2-10 per ticket (so \$1000 - \$5000 for a 500 stock ETF)		Maybe \$2-10 per ticket (so up to \$5000 for a 500 stock ETF) - for the MM trades AND the issuer create
Swap or other funding costs (mostly on levered products)		Finance charges (LIBOR + 25?)	Finance charges (LIBOR + 25?) Note this is not an explicit charge, it affects the return of the fund...	
	NET RECEIVE MER (Pass thru creation cost)	NET PAY Inventory and seed, receive trading spreads	NET PAY	NET RECEIVE

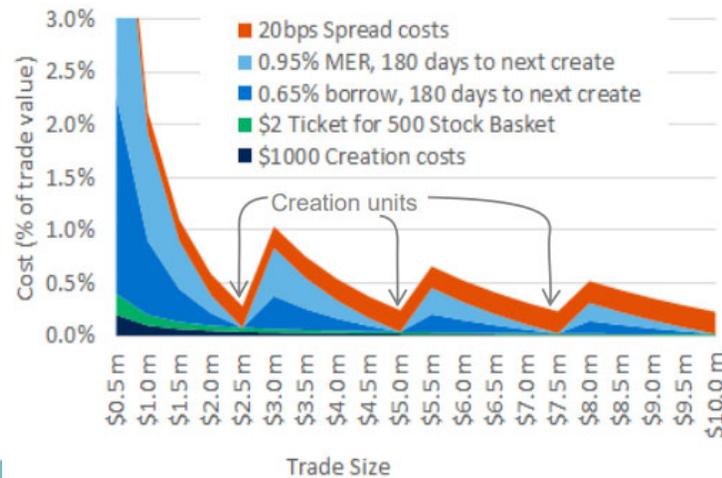
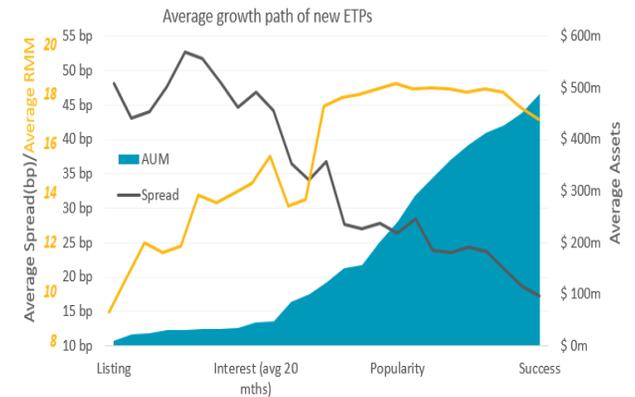


Exhibit 7: Smaller, less liquid ETFs have wider spreads and higher borrow costs.

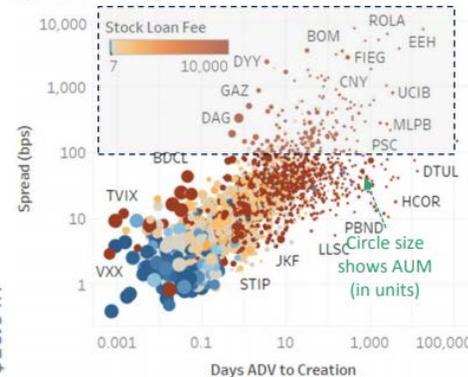
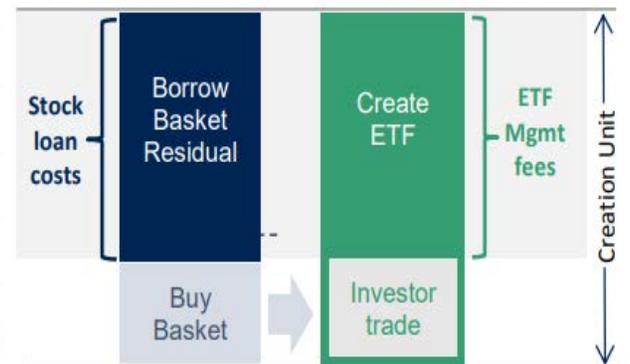


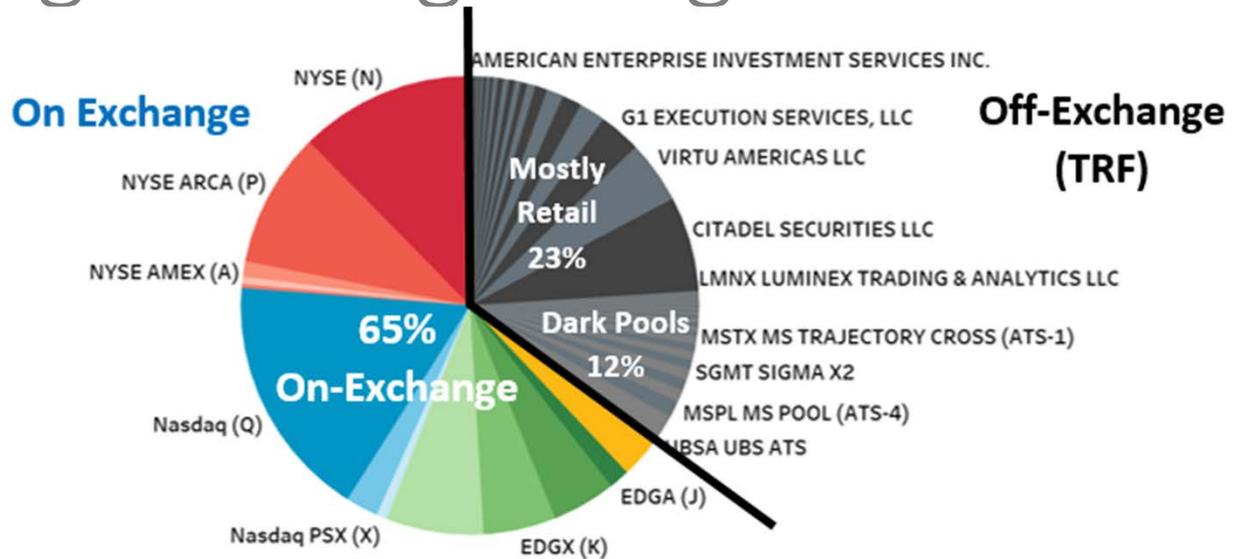
Exhibit 9: When an ETF needs to be created.



Source: VIRTU estimates; Sized by AUM

# Off exchange trading is large in ETFs

Marketwide →



## ETFs

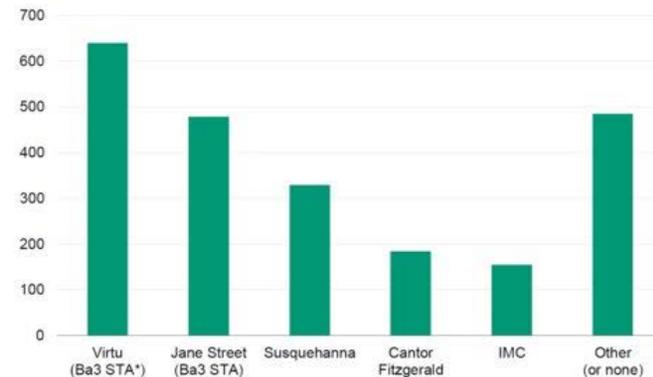
ETFs Spread vs. ADVT

Data as of Sept. 28th, 2018



Source: Nasdaq Economic Research, SIP data, FINRA ATS data (for Oct-Nov 2018)

Tech-enabled trading firms dominate the ETF market making space  
Number of equity and fixed income ETFs by lead market maker



Note: Other (or none) includes all other market makers, as well as ETFs with no lead market maker; VFH Parent LLC, Ba3 stable is Virtu's debt issuing entity.

Source: NYSE, Nasdaq, Cboe, Moody's Investors Service